Medio-Passives within a Formal Typology of Voice

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The present paper discusses medio-passives formed with a SE-reflexive element in Romance, Mainland Scandinavian and Slavic languages (also called SE-passives). All the languages under consideration have actually two passives, a canonical, periphrastic passive and a medio-/SE-passive. Crucially, while canonical passives always license *by*-phrases, SE-passives in the Romance languages and in most West and South Slavic languages reject *by*-phrases. SE-passives in the Mainland Scandinavian languages and in East Slavic languages (plus Bulgarian), on the other hand, do allow *by*-phrases. Further, the SE-element involved in the formation of SE-passives is known to be syncretic, i.e. multifunctional, in that it is also involved in the formation of canonical reflexive verbs and anticausative verbs. Three questions are then central in my discussion: What is the relation between the different uses of SE-elements in reflexive verbs, anticausatives and passives? How can a language have two morphologically different but semantically identical passives? And why do canonical passives always license *by*-phrases while SE-passives do so in some but not all languages? Finally, I discuss why only SE-passives in Romance restrict their theme argument to be 3rd person, while such a restriction is not found in the Scandinavian and Slavic languages.

1. Introduction[1]

Many Romance, Germanic and Slavic languages have two morphologically different passives. All of these languages have a periphrastic passive formed with a passive auxiliary and a verbal participle, illustrated with a French example in (1). I will call such passives 'canonical passives' below. In addition, all Romance languages and the majority of the Scandinavian and Slavic languages have a so-called 'medio-passive' or 'SE-passive', where an ordinary active verb co-occurs (or morphologically combines) with a SE-reflexive element (a SE-anaphor in the terminology of Reinhart & Reuland 1993), either a clitic or an affix. This is illustrated with the French example in (2). As is well known, the SE-reflexive element used in medio-passives is not a specialized passive morpheme but it is involved in so-called Voice syncretisms. It is canonically used to form semantically reflexive verbs, as in (3), and anticausative verbs, as in (4). I will use the shorthand '*SE-passive*', '*SE-reflexive verb*' and '*SE-anticausative verb*' to refer to these main interpretations of transitive verbs combining with a SE-element (on generic middles, see fn. 15).

(1) Trois maisons ont été louées (par des touristes) hier. (*canonical passive*)
three houses have been rented by some tourists yesterday
'Three houses were rented (by some tourists) yesterday.'

(2) Trois maisons se sont louées (*par des touristes) hier. (*SE-passive*)
three houses SE are rented by some tourists yesterday
'Three houses were rented (by some tourist) yesterday.'

(3) Jean s' est lavé. (*SE-reflexive verb*)
Jean SE is washed
'John washed (himself).'

(4) Le verre s' est cassé. (*SE-anticausative verb*)
the glass SE is broken
'The glass broke.'

Both examples in (1) and (2) involve a passive syntax in that the internal patient or theme argument triggers verbal agreement and is marked with nominative case and they both express an ordinary passive meaning involving an implicit external argument (both license agentive adverbs, instrumental phrases and allow control into purpose

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clauses). However, they differ in one respect: while canonical passives license optional *by*-phrases to make overt the implicit external argument, French SE-passives are incompatible with *by*-phrases. This difference holds in basically all modern Romance languages, in particular in French (e.g. Fellbaum & Zribi-Hertz 1989), Italian (e.g. Cinque 1988, D'Alessandro 2007), Spanish (e.g. Mendikoetxea 1999, Mac Donald to appear) and Portuguese (e.g. Naro 1976).[2] In Romanian, too, SE-passives are hardly ever used with *by*-phrases at least in spoken language (p.c. Gianina Iordăchioaia, Alexandru Nicolae).[3]

Since strings of the type in (2) do not license *by*-phrases in Romance, some authors actually rejected a passive analysis, despite the agreement and case properties just mentioned (e.g. D'Alessandro 2007 for Italian, who proposes an analysis as a particular version of an impersonal active construction). I will not follow this line of argumentation. In fact, I will propose to reconcile the absence of *by*-phrases in Romance sentences as (2) with a passive analysis.

The absence of *by*-phrases in SE-marked strings such as (2) is not universal. SE-passives in the Mainland Scandinavian languages productively license *by*-phrases just as their canonical, periphrastic counterparts (e.g. Engdahl 1999, 2006) and the same holds for SE-passives in the East Slavic languages (Russian, Belarusian and Ukrainian; Siewierska 1988; Fehrmann et al. 2010) as well as in in Bulgarian and Upper Sorbian (Fehrmann et al. 2010). I illustrate this with the Russian examples in (5a, b), a canonical passive and a SE-passive, respectively.

(5) a. Dom byl postroen (rabočimi). (canoncial passive, Babby 1975)
house was built workers.INSTR
'The house was built by the workers.'

b. Dom stroit-sja (rabočimi). (SE-passive, Babby 1975)
house build-SE workers.INSTR
'The house is being built by the workers.'

All other West and South Slavic languages (Czech, Slovak, Slovenian, Bosnian, Croatian, Serbian), on the other hand pattern with Romance and reject *by*-phrases in their SE-passives (Siewierska 1988; Fehrmann et al. 2010).[4]

This paper pursues two related main goals. First, I propose a theory of the morpho-syntax of passives and its interaction with compositional semantics that captures that a language can have two morpho-syntactically different, but semantically identical passives. A crucial aspect will be a particular understanding of the syncretism between SE-passives and SE-anticausatives as well as the connection of these two verbal construals to canonically reflexive verbs. I will assume that there is only one element SE specified in the lexicon of a particular language (but see fn. 19 for *se/si* in impersonal active constructions). My proposal builds on much previous literature, in particular on the theory of canonical passives and *by*-phrases in Bruening (2012), the theory of medio-passives in Alexiadou & Doron (2012) and the theory of SE-marked anticausatives in Schäfer (2008a); Alexiadou et al. (2015).

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[2] Some instances of Romance SE-passives with *by*-phrase are reported in the literature, e.g. for Canadian French (Authier & Reed 1996), Italian (Cinque 1988: fn. 11) or Spanish (where most examples of SE-passives with *by*-phrases occur in juridical texts; Real Academia Española 2010: 41.6). Naro 1976 reports some Portuguese SE-passives with *by*-phrases from the 16th century. In spoken language at least, speakers from all these Romance languages generally reported to me that they reject *by*-phrases in SE-passives and they always proposed to use a canonical passive instead. Even if (some) Romance speakers accept (some) SE-passives with (some types of) *by*-phrases, there is clearly a categorical difference between canonical passives and SE-passives in Romance with respect to the availability of *by*-phrases.

[3] However, Romanian seems to be exceptional within the Romance language family in that SE-passives with *by*-phrases are well attested in written texts. Still, even these *by*-phrases are not fully productive in comparision to canonical passives, one clear restriction being that they basically introduce only quantifictional DPs (Cornilescu & Nicolae 2015). I will not analyze this (in my opinion rather particular) case of variation within Romance. Within the proposal developed below, either there is a semantic alternative to connect *by*-phrases to the morpho-syntactic structure of SE-passives that does not involve 'saturation' of the agent variable (perhaps related to the optionally complex Romanian *by*-phrase *de (catre)* (from towards)), or Romanian is developing a second SE-element (specification) of the type used in East Slavic languages and Bulgarian, a D-element without φ-features (see below).

[4] German, Dutch and Icelandic as well as Polish lack SE-passives although they use SE-morphemes in reflexive verbs as well as in (a subset of their) anticausative verbs (though see Wood (2015: 6.3) on a particular modal construction in Icelandic that involves *st*-marked agentive verbs, has a passive interpretation and licenses *by*-phrases. Polish has an impersonal *si*-construction with accusative object). Under the analysis presented below, these languages lack a particular type of Voice-head crucially involved in the formation of SE-passives, i.e. this variation follows from the (non-)availability of functional lexical items.

Second, I investigate how this theory could account for the differences in the licensing of *by*-phrases identified above, i.e. for the observation that canonical passives generally license *by*-phrases while SE-passives do in some, but not in all languages.[5] Since the theory proposed is a theory about passives at the interface between (morpho-)syntax and semantics, I investigate the hypothesis that the restriction on the licensing of *by*-phrases in SE-passives originates exactly there. In particular, I will build on the observation that SE-elements slightly differ in their morpho-syntactic make-up across languages/language families. This proposal builds on insights by Wood (2014, 2015) about Icelandic *st*-marked verbs.

As an alternative to my proposal, one might consider the rejection of *by*-phrases in Romance SE-passives a stylistic effect or relate it to a competition between the two passives.[6] However, the first strategy leaves unexpected that Romance speakers reject *by*-phrases in SE-passives rather categorically. The second strategy leaves unexplained why competition should actually effect the absence of *by*-phrases in one of the two passives and why it is always the SE-passive but never the canonical passive that avoids *by*-phrases. I will argue that this asymmetry can be derived from the morpho-syntactic properties of the SE-reflexive element at the syntax-semantics interface.

The paper is organized as follows: I will first review the syntactic and semantic properties of SE-reflexive and SE-anticausative verbs, stressing that the use of SE-reflexive morphemes in these constructions is a case of syncretism (same morpho-phonological item, but different semantic and syntactic function) (section 2). This lays the ground for section 3, where I review the theory of SE-anticausatives in Schäfer (2008a) and Alexiadou et al. (2015). These authors argue that the interpretation of SE is a case of allosemy in that it depends on syntactic context. In SE-reflexive verbs, SE is locally c-commanded by DP and it acts as a bound object variable, in SE-anticausatives, SE lacks a c-commanding antecedent and it acts as 'argument expletive' merged in the specifier of an expletive Voice projection. In section 4, I propose a typology of Voice heads that allows subsuming SE-marked medio-passives under the syntax of SE-anticausatives while, at the same time, upholding the standard semantics for passives. While the Voice-head in SE-passives is not expletive but introduces an existentially bound agent variable, its specifier is expletive as in SE-anticausatives. Further, this typology allows to derive the existence of two morpho-syntactically distinct passives and lays the ground for an explanation as to why SE-passives in Romance reject *by*-phrases while canonical passives license them. The typology also predicts the existence of medio-passives of the type found in Greek, which involve so-called *non-active* morphology and license *by*-phrases. (Section 4 builds basically on Schäfer (to appear)). Building on these results, I provide in section 5 an explanation as to why SE-passives in the Mainland Scandinavian languages and in the East Slavic languages allow *by*-phrases. I will defend the idea that the relevant SE-morphemes in these languages are not subject to allosemy but are 'lexically born' as argument expletives. Section 6 discusses some further evidence for the concept of a 'lexically born' argument expletive from the domain of object drop/object expletivization and I critically discuss some semantic effects that might be suggested to correlate with this concept. In section 7, I turn to an analysis of the 3rd person restriction on the theme argument which is found in Romance SE-passives but neither in Mainland Scandinavian nor in Slavic SE-passives. Section 8 concludes.

2. Semantic and syntactic properties of SE-reflexive and SE-anticausative verbs

Languages with a SE-passive use the same SE-element in SE-reflexive and SE-anticausative verbs (In the Mainland Scandinavian languages discussed in section 5, the marker of SE-passives is morphologically different but obviously related to the SE-element used in reflexive verbs). In order to be able to derive this syncretism, I will in this section point out the conclusions of some recent literature discussing the semantic and morpho-syntactic properties of reflexive and anticausative verbs. For reasons of space, I refer the reader to the literature cited for the details of the argumentation and I only report the relevant conclusions.

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[5] There might be language particular restrictions on *by*-phrases. For example, *by*-phrases in Icelandic canonical passives introduce only human DPs (though it is arguably the implicit argument variable, not just the *by*-phrase, that must be human; see e.g. Jónsson 2003). This opens the possibility that a passive rejects *by*-phrases (or shows particular restrictions on its *by*-phrase) simply because the language under consideration lacks an appropriately lexicalized preposition of the type of English *by*. The lack of *by*-phrases in SE-passives asks for a fundamentally different analysis, as the comparison with canonical passives shows. I argue that it must be derived within the morpho-syntactic properties of the SE-passive itself.

[6] In the Mainland Scandinavian and the East Slavic languages, SE-passives are restricted to particular Tenses and/or imperfective Aspect, so that the two passives do not always compete (Scandinavian) or even seem to be in complementary distribution (East Slavic; though see Levine 2010 for qualification). This lack of competition could be seen as decisive for the licensing of *by*-phrases in the SE-passives of these languages (p.c. Berit Gehrke). I will not further discuss, let alone derive such distributional restrictions on passives.

The French examples from the introduction involving a SE-reflexive and a SE-anticausative verb are repeated in (6b) and (7b). Their corresponding transitive-disjoint and transitive-causative versions are given in (6a) and (7a). The semantics of the verbs in these a-examples are given in (6a') and (7a'). Both are transitive verbs introducing separate variables for their external and internal argument. I call these arguments *agent* and *patient* in the case of 'wash'. Verbs like 'break' that undergo the causative alternation do not restrict their external argument to human agents but allow non-human causers. I subsume both thematic relations under the term *causer*. The internal argument of 'break', I call *theme*. (The difference between *patient* and *theme* is meant to reflect a difference in event complexity between the two verbs: 'wash' denotes a simple event, while (anti-)causatives like 'break' denote a change in a property state of their internal argument. This event complexity is not reflected in (6) and (7) (but see (81) and (82) below).

(6) a. La mère a lavé Jean. (transitive-disjoint)
the mother has washed John
'The mother washed John.'
a'. [[laver]] = λxλyλe [wash(e) ∧ AGENT(e, y) ∧ PATIENT(e, x)]
b. Jean s' est lave. (SE-reflexive)
Jean SE is washed
'John washed.'
b'. [[se laver]] = λxλe [wash(e) ∧ AGENT(e, x) ∧ PATIENT(e, x)]

(7) a. Jean/La tempête a cassé le verre. (transitive-causative)
John/the storm has broken the glass
'John/the storm broke the glass.'
a'. [[casser]] = λxλyλe [break(e) ∧ CAUSER(e, y) ∧ THEME(e, x)]
b. Le verre s' est cassé. (SE-anticausative)
the glass SE is broken
'The glass broke.'
b'. [[se casser]] = λxλe [break(e) ∧ THEME(e, x)]

Despite their identical morphological shape, the SE-reflexive verb in (6b) and the SE-anticausative verb in (7b) differ semantically, most importantly for our purposes here in the number of argument variables. Just like their transitive-disjoint counterpart, SE-reflexive verbs are *semantically transitive* predicates with an external and an internal θ-role, which are, however, both assigned to the same entity (cf. 6b'). The SE-element in (6b) then either works as a reflexivizer or as a subject-bound variable in object position (an anaphor). SE-marked anticausatives, on the other hand, differ from their transitive-causative counterparts in that they are *semantically intransitive* predicates with an internal θ-role only (cf. 7b'). This difference, which is actually the broadly-held standard assumption about these two verb classes, has been reinforced for Romance, Germanic (including Scandinavian) and Slavic languages in Schäfer & Vivanco (2015, to appear) (see also Horvath & Siloni 2011; 2013; Alexiadou et al. 2015). These authors affirm with a number of tests that the transitive-causative counterpart of SE-anticausatives logically entails the SE-anticausative (i.e., the use of (7a) entails the use of (7b)), while the transitive-disjoint counterpart of a SE-reflexive verb does not entail the SE-reflexive verb (the use of (6a) does not entail the use of (6b)). These different entailment relations follow from the presence vs. absence of an external argument variable in the semantic representations in (6b') and (7b'). Crucially, these entailment relations rule out the simplest account imaginable for the syncretism between SE-reflexive and SE-anticausative verbs according to which the SE-element acts as a reflexivizer (or bound object variable) even in anticausatives (cf. Chierchia 2004; Koontz Garboden 2009). According to such a proposal, an example like (7b) would express that the glass was the causer of its own breaking. But if this was true, then the use of (7a) would not entail the use of (7b).

Despite their identical morphological shape, the two verb classes also differ syntactically. SE-reflexive verbs have the structure in (8): They are *syntactically transitive* with the nominative DP being the external argument (*agent*) and the SE-reflexive being the internal argument (*patient*), the latter being semantically bound by the former. Some configurational tests showing this work only in German where a nominative DP can stay in situ (see Schäfer 2008a; Pitteroff & Schäfer 2014), but evidence can also be found within Romance. Doron & Rappaport Hovav (2007) and Sportiche (2014) provide evidence that the SE-element in Romance reflexive verbs should not be analyzed as a reflexivizer but as a bound variable in object position. In particular, these elements allow to compute alternatives to the actual bearer of the internal θ-role under focus or in the context of focus sensitive operators (cf. Schäfer 2012a for German, see Spathas 2010 for general differences between reflexivizers and anaphors/bound variables in the context of focus sensitive operators). This in turn means that the SE-element indeed is a syntactic

argument which saturates the internal θ-role, i.e. it acts as a bound anaphor in object position which is subject to Principle A of the binding Theory (Chomsky 1981) and is interpreted as a bound variable.[7]

(8) $[_{TP}\ T\ [_{VoiceP}\ DP_{AGENT}\ \textit{Voice}\ [_{vP}\ v\ SE_{PATIENT}\ ]]]$ (SE-reflexive)

SE-anticausatives, on the other hand, have the syntax in (9). While these verbs are semantically inchoative (only a *theme*-role is present), they are syntactically transitive, too, in that the SE-reflexive is merged in an argument position (before it undergoes clitic-movement (Romance), pronominal movement (Germanic) or attaches to the verb (East Slavic)). In particular, the nominative DP is the internal argument (*theme*) and the SE-reflexive is merged in the external argument position (Spec,VoiceP). This can be seen best in German where the nominative DP can stay in situ (i.e. in object position) and the transitivity of the verbal phrase can be diagnosed reliably by auxiliary selection (*have*) (Steinbach 2000; Schäfer 2008a; Pitteroff & Schäfer 2014; Alexiadou et al. 2015), but evidence can be derived within other languages, too (pace e.g. Labelle 2008; Fehrmann et al. 2014): Since SE behaves the same with SE-reflexive and SE-anticausatives verbs morpho-syntactically and since there is semantic evidence that SE in the former class of verbs first merges in (or, depending on your theory of clitics, relates to) an argument position (see above), it is the null hypothesis that it merges in an argument position with anticausatives, too.[8]

(9) $[_{TP}\ T\ [_{VoiceP}\ SE_{EXPL}\ \textit{Voice}\ [_{vP}\ v\ DP_{THEME}\ ]]]$ (SE-anticausative)

SE-anticausatives then provide a mismatch in syntactic vs. semantic transitivity. SE is syntactically an external argument, but since SE-anticausatives lack an external θ-role, SE is not a thematic/semantic argument of these verbs. Instead, SE is semantically inert and acts as 'argument expletive' in anticausatives, as indicated by the subscript EXPL in (9) and discussed in detail below (see also Wood (2014, 2015) for the Icelandic SE-clitic *-st*).[9]

3. Active, passive and expletive Voice

The structure of SE-anticausatives in (9) provokes a number of theoretical questions. First, since the SE-reflexive is merged as the highest DP in Spec,VoiceP, how come that Principle A of the Binding Theory (Chomsky 1981) is not violated? Second, how can a SE-reflexive (i.e. an element that is canonically interpreted as a bound variable) become expletive? Finally, what about Case? In SE-anticausatives, the internal argument is marked with nominative and the

[7] Consequently, SE-reflexive verbs are not unaccusative**,** even though they select '*be*' and trigger participle agreement in Romance (see in particular Sportiche 2014; pace McGinnis 2004 among many others). *Be*-selection and participle agreement as well as the seemingly intransitive behavior of SE-reflexive verbs under French causative *faire* (Kayne 1975) must then follow from other properties of these predicates (for the same conclusion, see e.g. Doron & Rappaport Hovav 2007, Sportiche 2014, and, within the Theta System framework Marelj & Reuland 2016), arguably the interaction of (i) an agreement relation between the external argument and the internal argument variable (i.e. SE; cf. 3.1) with (ii) clitic-movement of this agreeing internal argument. Note that there are a number of Italian dialects where SE-reflexive clitics do not trigger *be*-selection in perfect tense (Manzini & Savoia 2001; 2007).

[8] For further morphological evidence that SE-marked anticausatives have the canonical external argument position (Spec,VoiceP) syntactically filled, see Wood (2015) for Icelandic and Medová (2012) for Czech.

[9] The analysis of SE in anticausatives as an expletive external argument makes clear predictions about the semantic relation between marked and unmarked anticausatives found in many languages as well as anticausatives and their causative counterparts. As Schäfer 2008a, Martin & Schäfer 2014 and Alexiadou et al. 2015 argue in detail, the presence vs. absence of SE in anticausatives is not related to any *consistent* semantic effects. In particular, there are, within and across languages, no consistent meaning differences between marked and unmarked anticausatives (pace e.g. Labelle 1992 for French or Folli 2002 for Italian) and both marked and unmarked anticausatives do not differ in event-complexity from their causative counterparts (see also Pylkkänen 2008). The existence of two morphologically different classes of anticausatives is, therefore, not motivated by different semantics but by considerations of iconicity ("mark the unexpected use"; cf. Haspelmath 1993 et seq.; Schäfer 2008a; Alexiadou et al. 2015 and references there for a discussion of the observation by Haspelmath and colleagues that verbs forming marked and unmarked anticausatives tend to differ in the ratio of their transitive to their anticausative uses; roughly, the former are more often used as causatives, the latter more often as anticausatives). However, whether an *individual* anticausative verb in an individual language is marked or unmarked is an idiosyncratic, i.e. lexical property which needs to be stored for each verb. The latter is highlighted by occasional occurrence of SE-marked 'internally caused' verbs, i.e. unaccusatives lacking a transitive version, e.g. in Icelandic (p.c. Jim Wood).

SE-reflexive in Spec,VoiceP is marked with accusative (cf. Dobrovie-Sorin 1998, 2005 or Schäfer 2008a, 2012a for arguments that SE has Case). This distribution of structural Case is unexpected in nominative-accusative languages and cannot be derived within standard Case theories.

To answer these questions, the morpho-syntactic properties of SE and their effects at the interfaces need to be clarified. I will mainly concentrate on the first two questions. Concerning Case, Schäfer (2008a, 2012a, b) and Alexiadou et al. (2015) proposed the dependent Case algorithm in (12) below, which derives the canonical distribution of structural Case in nominative-accusative languages as well as the unexpected distribution of structural Case in (9). For reasons of space I must refer the reader to the literature just mentioned for a detailed discussion of Case in SE-anticausatives (and constructions involving SE more generally).

Before I turn to the morpho-syntactic analysis of SE-reflexives and SE-anticausatives, note first that nothing (inherent to the lexical item SE or to the grammatical system in general) can prevent SE from being merged in Spec,VoiceP. An obvious case are ECM-constructions as in (10), where SE starts out as the subject of the embedded verb. Of course, SE receives a θ-role (agent of *open*) and finds a local c-commanding antecedent (*Jean*) in the derivation of (10). SE-anticausatives differ in both respects, but they are grammatical nevertheless, i.e. they neither violate the θ-criterion nor Binding Principle A. I will derive the reasons for this in the next two subsections.

(10) Jean se voit ouvrir la porte.
John SE sees open the door
'John sees himself open the door.'

3.1 Deriving SE-reflexive verbs - Anaphoric Binding via AGREE

Many scholars suggested that (local) anaphoric binding is grounded in a syntactic AGREE-relation between a DP-antecedent and an anaphoric variable (e.g. Fanselow 1991; Burzio 1991, 1998; Reuland 2001, 2011; Chomsky 2006; Kratzer 2009; Rooryck & Vanden Wyngaerd 2011; Schäfer 2008a, 2012a, b). The locality of anaphoric binding derives then from the locality of AGREE, i.e. Phase Theory (Chomsky, 2001, 2006).[10] Following a particular strand of this idea, I assume that an anaphoric variable is totally underspecified for φ-features: it is a set of a categorial D-feature and unvalued φ-features {D, uφ} (cf. Burzio 1991, 1998; Kratzer 2009). DPuφ is active and probes the tree *upwards* for a c-commanding antecedent which can value its unvalued features under AGREE as in (11a) (on upward-probing, see e.g. Baker 2008; Bjorkman 2011; Wurmbrand 2013; Zeijlstra 2013 a.o.). This AGREE-relation is evaluated at the CI-interface to compute the *semantic* value of the variable as in (11b) (e.g. Reuland 2001, 2011). At the PF-interface, this AGREE-relation is evaluated to compute the *morphological* form of DP~~uφ~~ (cf. 11c) (e.g. Schäfer 2008a and, in particular the elaborated DM-account in Rooryck & Vanden Wyngaerd 2011: chapter 2). Note that referential pronouns (e.g. the nominative subject antecedent in (11c)) come from the lexicon with valued φ-features and, therefore, do not probe.[11]

[10] Note that even if AGREE is allowed to fail (cf. Preminger 2014), an unbound SE-anaphor would be filtered out as a violation of the θ-criterion in the account developed below.

[11] My analysis, therefore, assumes that the morpho-phonological forms of 1st and 2nd person pronouns or clitics (*me*, *te* in (11c)) are ambiguous between referential pronouns and anaphoric variables. When they lack a local valuator, they must start the derivation with valued φ-features, when they have a local valuator, they can start the derivation with unvalued φ-features. It should be mentioned that such an ambiguity has been rejected e.g. by Fanselow (1991) or Burzio (1998) (see also Reuland 2001, 2011) because it was correctly considered to make the Binding Principles A and B tautological. Fanselow and Burzio propose that locally bound pronouns and anaphors are in competition, and a locally bound pronoun is possible exactly if the anaphor is unavailable, for example, because it is restricted to be 3rd person. (Reuland (2001, 2011) who does not assume such a competition seems to wrongly predict locally bound 1st and 2nd person pronouns in Slavic; cf. (63a)). However, the above criticism only holds in theories that take 'anaphor' and 'pronoun' to be axiomatic concepts (such as Chomsky's (1981) Binding Theory). More recent proposals (as the one presented above) derive the property to be a pronoun or an anaphor from the φ-feature content of the respective element. The theory-internal circularity does not arise then.

Whether *me* and *te* are ambiguous or not is thus an empirical question. In my opinion, it is one main lesson from argument structure phenomena such as SE-anticausatives (and SE-middles) that such an ambiguity indeed holds. As mentioned, SE in anticausatives is semantically inert, i.e. expletive. Below, I will propose to derive this from its status as a DPuφ. Crucially, *me* and *te* replace SE in Germanic and Romance anticausatives (and middles; see section 6) if the nominative theme DP is 1st or 2nd person, i.e. *me* and *te* are expletive ME and TE in anticausatives, too. As far as I can see, this result would be impossible to derive under the assumption that *me* and *te* are obligatorily

(11) a. DPφ <-- AGREE <-- DP~~uφ~~ (Syntax)
b. λxλe[agent(e, x) & verb(e) & patient(e, x)] (CI-interface)
c. je <-- *me* / tu <-- *te* / il <-- *se* (PF-interface)

I follow the idea that Voice heads come with a set of unvalued φ-features that get valued by the closest DP under *m-command*.[12] That is, Voice prefers goals in its specifier over goals in its complement. The valuation of Voice drives the computation of dependent case (Schäfer 2008a, 2012a, b; Alexiadou et al. 2015) as formulated in the Case algorithm in (12). ((12a, b) will become important for Case in SE-anticausatives and SE-passives.)[13]

(12) a. A DP is realized at PF with dependent Case (ACC) if a different DP has valued the accessible phase head (Voice) via AGREE.
b. A DP that is not realized with dependent Case appears with default Case.
c. Inherent/lexical Case takes precedence over default and dependent Case.

Turning to the concrete example involving a SE-reflexive verb in (13a), the arrows in the corresponding tree in (13b) reflect the two AGREE relations (A-movement of the nominative DP and clitic-movement of SE are left out). Voice and SE are probes and they are both valued by the external argument DP. SE is interpreted as a variable bound by its c-commanding valuator and it is realized with the φ-features of its valuator. Since SE is not involved in the valuation of Voice, it gets dependent case due to (12a) and the external argument gets default case due to (12b). Finally, I assume with Legate (2005) and Marantz (2007) that there is a further AGREE relation between T and Voice that transmits the φ-features of the nominative DP (i.e., the DP that valued Voice) to T.

(13) a. Jean se peint.
John$_{NOM}$ SE$_{ACC}$ paints

---

specified as referential pronouns (DPφ). (This question how 1st and 2nd person pronominal forms can appear as makers of anticausatives and middles, is typically neglected in the literature. Note that Frisian (as English) lacks the phonological form 'SE'. In this language, the pronominal form 'him' is used to mark naturally reflexive verbs with a 3rd person subject. Reuland (2001, 2011) proposes a particular explanation (based on Case) why Frisian 'him' can be locally bound even though it is a fully specified pronoun for him. Crucially, however, 'him' also marks a small subset of anticausatives in Frisian (e.g. *De doar iepenet him* ('The door opens'); similarly, 'move', turn' or 'bent' optionally appear with 'him'; Jarich Hoekstra, p.c). If these 'him'-marked anticausatives are really semantically inchoative (not reflexive; see Schäfer & Vivanco (to appear) for tests), then Frisian 'him' must be PF-ambiguous, too. As discussed below, the version as DPuφ allows it to be expletive in the relevant syntactic context.

Note finally that, in the present theory, (the phonological forms of) pronouns are still in competition with (the phonological form of) SE, but this competition is located at the PF-interface, which resolves it in a partly language particular way. Locally c-commanded DPφ ('He$_i$ washes him$_i$') and DPuφ ('He$_i$ washes SE$_i$') are also in competition and the latter wins due to the general preference of syntactic operations over semantic operations to derive a particular interpretation (see Reuland 2001, 2011 for extensive discussion).

[12] I assume the definition of AGREE in (i) from Müller (2009):

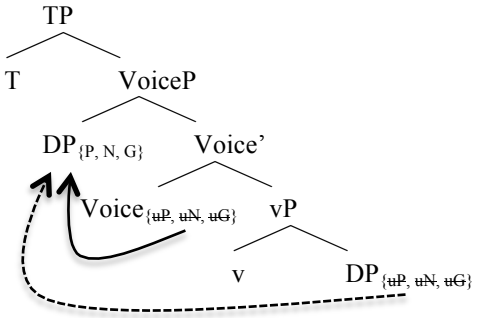
(i) *AGREE:* α agrees with β with respect to a feature bundle Γ iff (a), (b), and (c) hold:
a. α bears a probe feature [*F*] in Γ, β bears a matching goal feature [F] in Γ.
b. α m-commands β.
c. There is no δ such that (i) and (ii) hold:
(i) δ is closer to α than β.
(ii) δ bears a feature [F] that has not yet participated in Agree.

δ is closer to α than β if the path from δ to α is shorter than the path from β to α. The path from X to Y is the set of categories Z such that (a) and (b) hold: (a) Z is reflexively dominated by the minimal XP that dominates both X and Y. (b) Z dominates X or Y. ... The length of a path is determined by its cardinality. It follows that the specifier and the complement of a head qualify as equally close to the head; and that the specifier of a head is closer to the head than a category that is further embedded in the complement of the head.

[13] See Schäfer (2012a) for a slight update of (12a) that would allow capturing impersonal SE-passives. The crucial property of impersonal (SE-)passives is the lack of a nominative DP that values verbal agreement. Instead, a repair mechanism such as default agreement must value Voice and DPuφ. The instantiation of default agreement suffices to trigger ACC on any DP in the same local domain, in the case of impersonal SE-passives, on SE.

'John paints himself.'

b.

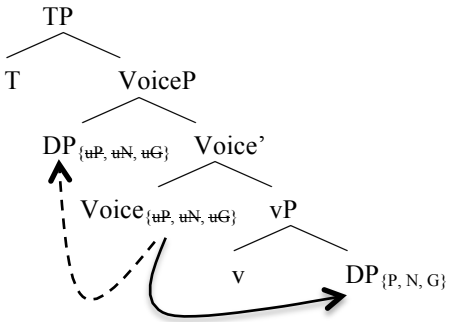


3.2 Deriving SE-anticausative verbs - The formal derivation of expletive SE

(14b) shows the derivation for the example sentence in (14a) involving a SE-anticausative verb. (A-movement of the nominative DP and clitic-movement of SE are left out in (14b)).

(14) a. La porte s' ouvre.
the door$_{NOM}$ SE$_{ACC}$ opens
'The door opens.'

b.



The theme DP merges in object position and DPuφ merges in Spec,VoiceP. Voice probes its m-command domain and agrees with DPuφ. However, since both have unvalued features, no valuation takes place (cf. AGREE as feature sharing, Frampton & Gutmann 2000; Pesetsky & Torrego 2007). Voice, therefore, further probes its m-command domain until it agrees with the object DP. This DP values the φ-features of Voice, and since Voice is in an agreement relation with DPuφ, it values, in addition, the φ-features of DPuφ. Note that all unvalued features are thereby valued and the derivation does not crash. In particular, DPuφ turns into DP~~uφ~~ and survives the formal derivation although it lacks a c-commanding DP antecedent; we face a loophole in the traditional Principle A of the Binding Theory.

Next, the outcome of this derivation has to be interpreted at the interfaces. At PF, DP~~uφ~~ will be realized with the φ-features of the DP that (indirectly) valued it (cf. 11c), i.e. the internal argument DP. Furthermore, the Case algorithm in (12a, b) predicts nominative for the internal argument DP and accusative for DP~~uφ~~ in Spec,VoiceP. However, since DP~~uφ~~ lacks a c-commanding antecedent (it is valued, but not c-commanded by the internal argument DP), it cannot be translated into a (bound) variable at the CI interface. Since DP~~uφ~~ lacks any inherent meaning, it remains, therefore, without any denotation and, in turn, cannot realize a θ-role. It is semantically inert, i.e. expletive.

To conclude, (14b) derives a transitive syntax, where only the internal argument has semantic denotation while the external argument does not, exactly how we characterized SE-anticausatives. However, there is still an important aspect missing in the theory of SE-anticausatives. While I derived that an unbound SE-element can survive the syntactic derivation and remain without θ-role (expletive), we still need some further ingredient in order to avoid a violation of the θ-criterion on the side of Voice. To make this problem explicit, consider the transitive agentive verb *peindre* (to paint). In (15), this verb combines with SE, but it receives only the reflexive interpretation, which I derived from the syntactic structure in (15A) (identical to (13b) above), not an anticausative interpretation which would derive from the syntactic structure in (15B) (identical to (14b) above). However, nothing seems to prohibit that *peindre* enters this anticausative syntax. As discussed above for (14b), such a derivation would come out as syntactically well formed under the assumptions made in this paper, as all unvalued features get valued. Nevertheless, the anticausative reading is not available.

(15) Jean se peint

John SE paints
A: [$_{TP}$ T [$_{VoiceP}$ DP Voice [$_{vP}$ v SE]]]
'John paints himself.'
B: [$_{TP}$ T [$_{VoiceP}$ SE Voice [$_{vP}$ v DP]]]
'#A picture of John emerges via painting.'

The reason is, of course, that 'painting'-events are conceptualized as necessarily involving an agent (cf. e.g. Levin & Rappaport Hovav 1995; Reinhart 2000, Alexiadou et al. 2015). The Voice head combining with such a verb must introduce an agent role, but the unbound SE-reflexive in Spec,VoiceP lacks a denotation and, therefore, cannot realize this agent role. As a consequence, the computation of the semantics of the derivation in (15B) should lead to a violation of the θ-criterion.

To see this in detail, consider the semantic derivation of (15B) in (16a-e). (16a) provides the meaning of the vP. The meaning of $Voice_{agent}$ in (16b) combines with the former via event identification (Kratzer 1996). Next, DPuφ is merged in Spec,VoiceP. This DP will first agree with Voice, and afterwards, Voice will agree with the internal argument DP. I propose that when DPuφ agrees with Voice, it thereby is forced to saturate the open agent slot introduced by Voice; this is indicated in (16d) by replacing the lambda bound agent variable x with the variable y_{SE}. But since DPuφ is not valued by a c-commanding antecedent in (15B/14b), y_{SE} remains unbound. As a consequence, we end up with the agent role not being realized by a DP with denotation.[14] (16e) is filtered out at the CI-interface as a violation of the θ-criterion.[15]

(16) a. [[vP]] = λe [paint(e) & PATIENT(e, Jean)]
b. [[$Voice_{agent}$]] = λxλe [AGENT(e, x)]
c. [[Voice']] = [λxλe [AGENT(e, x)]] [λe [paint(e) & PATIENT(e, Jean)]]
= λeλx [AGENT(e, x) & paint(e) & PATIENT(e, Jean)]
d. [[VoiceP]] = [λeλx [AGENT(e, x) & paint(e) & PATIENT(e, Jean)]] (y_{SE}) =
λe [AGENT(e, $\mathbf{y_{SE}}$) & paint(e) & PATIENT(e, Jean)]
e. [[TP]] = * (y remains unbound -> the agent role is not successfully realized)

Since Voice introduces an external argument role, we correctly filter out an anticausative derivation of agentive verbs. Verbs undergoing the causative alternation (e.g. *ouvrir* (to open) in (14)), on the other hand are special in that they denote events that can be presented either with or without a (semantic) external argument (e.g. Haspelmath 1993; Levin & Rappaport Hovav 1995; Reinhart 2000; and in particular Rappaport Hovav 2014). For anticausatives then, expletive SE in Spec,VoiceP is no harm. But in order to avoid, technically, a violation of the θ-criterion on the side of Voice, we must introduce a further type of Voice head, *expletive Voice*, in order to derive SE-anticausatives.

3.3 A typology of Voice

[14] Crucially, A-movement of the object DP to a c-commanding position as in (i) cannot derive a semantic antecedent for SE in Spec,VoiceP. Since VoiceP is a phase, movement out of VoiceP has to lead through the outer specifier of VoiceP. But an outer specifier cannot semantically bind an inner specifier, as this is a case of empirically well-motivated *'Lethal Ambiguity*' (McGinnis 2004):
(i) [$_{TP}$ *T* [$_{VoiceP}$ DP_i [$_{VoiceP}$ $SE_{(*i)}$ *Voice* [$_{vP}$ *v* t_{DP}]]]] (lethal ambiguity)
Note that according to (i) an unaccusative analysis of SE-reflexive verbs is impossible (unless one adds particular stipulations about Romance SE as in McGinnis 2004).

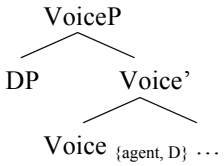
[15] Schäfer (2008a, b) argues that generic middles of agentive verbs ('*This wall SE-paints easily*') involve a derivation as in (15B/14b), however with an expletive Voice head (on expletive Voice, see below). The implicit agent of generic middles is then not represented at the level of compositional semantics but it is added on the basis of conceptual reasoning about the verbal event (cf. the treatment of middles in Kiparsky 2013; pace e.g. Bruening 2012 who ascribes them semantics similar to passives). I leave SE-marked generic middles aside in this paper for reasons of space. Note however, that SE-marked middles play an important role in the syncretism discussed in section 1 and, in particular, in the diachronic development of SE-passives out of SE-anticausatives. Arguably, SE-middles play the decisive connective link between the two, as there are no languages with SE-passives but without SE-middles while there are languages with SE-middles but without SE-passives (e.g. German, Polish). Similarly, there are no languages with SE-middles, but without SE-anticausatives, though the opposite situation exists (standard Dutch) (cf. e.g. Alexiadou et al. 2015 for further discussion of these subset relations in the domain of Voice alternations).

In section 2, I adopted that SE-reflexive verbs are syntactically and semantically transitive while SE-anticausatives are syntactically transitive but semantically intransitive/inchoative. In order to solve this mismatch, Schäfer (2008a) proposed to dissociate syntactic transitivity from semantic transitivity on the basis of the following feature specification of Voice heads (cf. Embick 2004a; see also Alexiadou et al. 2015).

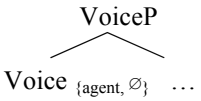
(17) a. Syntactic transitivity: Voice has a D-feature to be checked by a DP in its specifier.
b. Thematic transitivity: Voice introduces a θ-role.

If Voice heads can be formed by selecting a subset of these specifications, we predict the universal set of the four Voice heads in (18a-d) (from which individual languages select a subset):

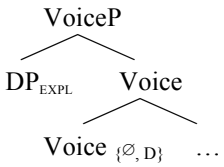
(18) a. thematic active Voice:



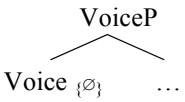
b. thematic passive Voice:



c. non-thematic (expletive) active Voice:



d. non-thematic (expletive) passive Voice:



Thematic active Voice {agent, D} in (18a) is present in all active verbs (unergatives, transitives including SE-reflexive verbs, active impersonal constructions (cf. fn. 19). It can come with different θ-roles (agent, causer, holder …), which are assigned to the DP merged in Spec,VoiceP due to the D-feature (Kratzer 1996; Alexiadou et al. 2015; Wood 2014, 2015; Wood & Marantz to appear, a.m.o.).
Non-thematic (expletive) active Voice {∅, D} in (18c) is present in SE-anticausatives (and perhaps in generic middles marked with SE; see fn. 15). This Voice head introduces a D-feature to be checked by a DP in its specifier, but it does not assign a θ-role to this DP. Wood (2014, 2015) proposes that this can best be implemented if expletive Voice denotes the identity function over predicates of events as in (19).

(19) $[[\text{Voice}_{\text{expletive}}]] = \lambda P_{s,t}.P$

The syntactic structure of the SE-anticausative in (20a) is given in (20b). The derivation runs as discussed for (14b) above. When SE is merged in Spec,$\text{VoiceP}_{\text{expletive}}$, SE agrees with Voice and, indirectly, with the nominative theme DP. Since the nominative theme does not c-command SE, SE cannot be semantically bound and, consequently, it cannot realize a θ-role. But, crucially $\text{Voice}_{\text{expletive}}$ does not provide any θ-role so that there is no harm.

(20) a. La porte s' ouvre.
the door SE opens
'The door opens.'
b. $[_{\text{VoiceP}}$ SE $[_{\text{Voice'}}$ $\text{Voice}_{\text{expletive}}$ $[_{\text{vP}}$ the door open]]]

Schäfer (2008a) proposed that in this case, SE (or more correctly, DP~~uφ~~) is translated at the CI-interface into an expletive; following Wood (2014, 2015), I assume that expletive SE also denotes the identity function (over predicates of events), as in (21).

(21) $[[\text{SE}_{\text{expletive}}]] = \lambda P_{s,t}.P$

The semantic derivation of (20a, b) is given in (22a-c). The meaning of the vP in (22a) combines in (22b) with the identity function over events introduced by $\text{Voice}_{\text{expletive}}$ and in (22c) with the identity function over events denoted by $\text{SE}_{\text{expletive}}$. The outcome is an ordinary inchoative/unaccusative event undergone by the theme DP.[16]

(22) a. [[vP]] = λe [open(e) & THEME(e, the door)]
b. [[Voice']] = ($\lambda P_{s,t}.P$) (λe [open(e) & THEME(e, the door)]) (19 + 22a)
= λe [open(e) & THEME(e, the door)]
c. [[VoiceP]] = ($\lambda P_{s,t}.P$) (λe[open(e) & THEME(e, the door)]) (21 + 22b)
= λe [open(e) & THEME(e, the door)]

Note that no other DP than SE/DPuφ could check the D-feature on $\text{Voice}_{\text{expletive}}$: Locative expletives like English *there* are not DPs and cannot check the D-feature of Voice. Pronominal expletives like English *it* have φ-features and will, therefore, be interpreted as referential in Spec,VoiceP. Merged in the specifier of $\text{Voice}_{\text{expletive}}$, they will lead to a violation of the θ-criterion because a DP with denotation needs a θ-role.

Recent work in Distributed Morphology has developed the idea that there is *allosemy* at CI just as there is allomorphy at PF: The meaning of functional material is determined by its context (Marantz 2009, Wood 2014, 2015, Myler 2014, Wood & Marantz to appear). The concept of allosemy allows to make more precise what happens with SE/DP~~uφ~~ at the CI-interface. This is formulated in the translation procedure in (23):

(23) **SE at the CI-interface**: A DP~~uφ~~ is translated into a or b:
a *a variable* (to be bound by a c-commanding antecedent) iff it can saturate a local argument slot.
b *an expletive* (i.e. the identity function over predicates of the type of its complement) iff there is no local argument slot to be saturated (and if it lacks a c-commanding antecedent).[17]

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[16] Recall that I do not represent the complex event structure of change-of-state verbs in the semantic formulas. As discussed in Schäfer (2008a) and Alexiadou et al. (2015), verbs forming anticausatives marked with SE have the lexical requirement that they must combine with a Voice projection, be it thematic or expletive (see also fn. 9). Verbs forming unmarked anticausatives (e.g. all English anticausatives or a subset of anticausatives in Romance, Scandinavian or Slavic languages) can, but do not have to combine with Voice. In the causative use, Voice is present for semantic reasons, in anticausatives, expletive Voice is absent due to economy considerations ('do not merge semantically empty structure if it is not needed for formal convergence').

[17] Concerning the brackets in (23b), Schäfer (2008a) argues that German 'unintentional dative causers' provide a case where a local c-commanding DP-antecedent prohibits the translation of SE (located in $\text{Spec,VoiceP}_{\text{expletive}}$) into an expletive. Such cases / constellations need to be investigated in more detail. A similar case might involve SE-anticausatives embedded under ECM verbs like *see* or *let*. In German, the order of the nominative DP and the SE-expletive is, in principle, free (cf. (ia, b)). Crucially, the present theory states that (ia) is the base order, and (ib) is derived from (ia) by movement of the theme (either A-movement to Spec,TP or scrambling out of VoiceP).

(i) a. als [$_{\text{VoiceP}}$ sich [$_{\text{vP}}$ die Tür öffnete]]
when SE the door opened
'when the door opened.'
b. als [die Tür$_i$ [$_{\text{VoiceP}}$ sich [$_{\text{vP}}$ t_i öffnete]]]
when the door SE opened
'when the door opened.'

When embedded under ECM-verbs, the base order in (iia) only allows for a reading where the matrix subject semantically binds the SE-reflexive, which in turn denotes the agent of the causative verb *öffnen* (cf. the French example in (10)). In order to derive the anticausative reading, the nominative theme must move to the left of SE (iib). In Schäfer (2008a), I suggested that an anticausative derivation of (iia) is out because SE finds a local c-commanding antecedent and, therefore, cannot be translated into an expletive/identity function. The derivation, then, goes through only if thematic, active Voice is involved. In (iib), the intervention of the theme DP, which cannot semantically bind SE (cf. fn. 14) makes it impossible for the matrix subject to valuate and semantically bind the SE-reflexive, so that the semantically reflexive interpretation is impossible. The derivation goes through only with non-thematic Voice.

(ii) a. Hans sah [$_{\text{VoiceP}}$ sich [$_{\text{vP}}$ die Tür öffnen]]
John saw SE the door open
'*John saw the door opening/how the door opened.'
'John saw himself open the door.'
b. Hans sah [die Tür$_i$ [$_{\text{VoiceP}}$ sich [$_{\text{vP}}$ t_i öffnen]]]

Thematic passive Voice {agent, ∅} in (18b) was assumed in Schäfer (2008a) to be the general passive Voice head (à la Kratzer 1996). This head introduces a θ-role for the external argument, but it lacks a D-feature. As a consequence, the external argument must remain implicit, but it can be taken up via a *by*-phrase. However, Alexiadou et al. (2015)) argue that this Voice head derives only so-called medio-passives found in Greek (cf. (24)) or Hebrew (cf. also Doron 2003, Alexiadou & Doron 2012; Spathas et al. (2015)). I will turn to Greek medio-passives (as well as to canonical passives) in more detail below.

(24) O Janis katijori-thike (apo ti Maria). (Greek medio-passive)
the John accused-NACT by the Mary
'John was accused (by Mary).'

Finally, *non-thematic (expletive) passive Voice* {∅, ∅} in (18d) is the Voice head for marked anticausatives in Greek as in (25). This Voice head is expletive, as it does not introduce a θ-role. As expletive active Voice in (18c), it denotes the identity function in (19). Different from expletive active Voice, (18d) does not project a specifier. (Since Greek lacks SE-reflexives, it could not fill the specifier with an argument expletive).

(25) To pani skis-tike (apo mono tu). (Greek marked anticausative)
the cloth tore-NACT by alone its
'The cloth tore by itself.'

Note that both, thematic passive Voice in (18b) and expletive passive Voice in (18d) are realized with non-active morphology (NACT) in Greek. Following Embick (1998, 2004a), NACT-morphology follows from the PF spell-out rule in (26), which states that Voice heads that lack a specifier receive the spell-out 'NACT' in Greek.

(26) Voice -> Voice[NACT]/ ___No DP specifier (Greek)

As a side remark, note that despite their morphological identity in Greek, anticausatives can clearly be differentiated semantically from passives because they lack an implicit external argument. This can be diagnosed with the *by*-itself test applied in (27) (for a detailed discussion of this test as diagnosing the presence vs. absence of an implicit external argument, see Alexiadou et al. 2015, Schäfer & Vivanco to appear).

(27) a. To pani skis-tike (apo mono tu). (NACT-anticausatives)
the cloth tore-NACT by alone its
'The cloth tore (by itself).'
b. O Janis katijori-thike (*apo monos tu). (NACT-passive)
the John accused-NACT by alone his
'John was accused (*by himself).'

4. SE-passives and canonical passives within an updated typology of Voice

So far, I have posited only one element SE/DPuφ and differences between SE-reflexives and SE-anticausatives followed from differences in syntax, which, in turn triggered differences at the CI-interface. This respects a general consensus in the literature on SE to keep the inventory of SE-elements as small as possible. In this section, I turn to an analysis of SE-passives and, in particular, to an explanation for the observation repeated below for French that

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John saw the door SE open
'John saw the door opening/how the door opened.'
'*John saw himself opening the door.'

Finally, Schäfer (2012a) discusses passives of reflexive verbs in German (cf. (iii)) and Icelandic as cases where SE saturates the internal θ-role but lacks a c-commanding DP antecedent (and is valued by a mechanism of default agreement), and where SE is not translated into an expletive. Such an unbound SE can be interpreted only in the very specific context of inherently and naturally reflexive or reciprocal predicates.

(iii) weil [$_{\text{VoiceP}}$ Voice$_{\text{pass}}$ [$_{\text{vP}}$ sich gewaschen] wurde]
as SE washed was
'as one/people washed oneself/themselves.'

SE-passives in Romance do not license *by*-phrases (with the partial exception of Romanian mentioned in fn. 3), while canonical passives do license them.

(28) Trois maisons se sont louées (*par des touristes) hier. (SE-passive)
three houses SE are rented by some tourists yesterday
'Three houses were rented (by some tourist) yesterday.'

(29) Trois maisons ont été louées (par des touristes) hier. (canonical passive)
three houses have been rented by some tourists yesterday
'Three houses were rented (by some tourists) yesterday.'

Arguably, the morpho-syntactic and semantic role of the SE-morpheme in SE-passives is similar to the one in SE-anticausatives. SE-passives are clearly not semantically reflexive, and their nominative DP is arguably merged as the internal argument. This leaves the external argument position for SE. In contrast to SE-anticausatives, however, SE-passives involve an implicit external argument, as can be diagnosed by the licensing of agentive adverbials and purpose clauses, cf. (30).

(30) L' interview s' est interrompue après cinq minutes délibérément/pour manger un morceau.
the meeting SE is stopped after five minutes deliberately for eat a piece
'The meeting was stopped after five minutes deliberately / in order to eat something.'

Revisiting the typology of Voice-heads introduced in (18a-d) above shows that it falls short of capturing passives. It cannot explain the morphological difference between SE-passives in (28) and canonical passives in (29) as there is available only one passive Voice-head introducing an implicit external argument. Furthermore, SE-marked medio-passives actually do not fit into this typology: (18c) provides Spec,VoiceP for SE, but it wrongly predicts the absence of an implicit agent. (18b) provides an implicit agent, but no specifier position for SE.

To capture SE-passives, I propose to update the typology of Voice-heads. As before, syntactic transitivity is encoded via a D-feature on Voice (31a). 'Thematic transitivity' in (17b) is replaced by 'semantic transitivity' in (31b), however. (31b) makes explicit reference to an argument variable, either one to be saturated in the course of the later derivation, or an existentially bound one.

(31) a. Syntactic transitivity: Voice has a D-feature to be checked by a DP in its specifier
b. Semantic transitivity: Voice can introduce a semantic argument either as a *variable to be saturated* later on, or as an *existentially bound variable*.[18]

[18] There is an ongoing discussion about the correct linguistic representation of implicit external arguments of passives. While I assume with e.g. Bruening (2012) that the implicit argument is present only at a semantic level as an existentially quantified variable, many authors suggested that it is syntactically projected as an empty category (similar to *pro* or *PRO*). Under the latter perspective, we should see implicit agents being involved in processes that are arguably syntactic in nature. If such processes cannot be identified, a semantic treatment of implicit external arguments is at least feasible, perhaps even favorable (cf. Bhatt & Pancheva 2006). In fact, Bhatt & Pancheva (2006) discuss the whole bundle of classic phenomena where implicit arguments enter linguistic relations (e.g. agentive adverbs, control into purpose clauses, secondary predication, ...) and conclude that none of them proves that the agent is projected in syntax; a semantic treatment of all these phenomena is feasible. Collins (2005) develops a theory of the English passive where the implicit external argument is syntactically projected in the canonical external argument position as a *pro*. His argument from anaphoric binding was refuted in Schäfer 2012a; implicit external arguments of passives do not antecede reflexive pronouns as would be expected if they were *pro* in Spec,VoiceP. Landau (2010) developed an argument based on partial control in favor of a syntactic representation of the implicit external argument of passives; later work by Pearson (2015), however, showed that partial control can find a purely semantic treatment (see also Landau 2015). Finally, MacDonald (to appear) argues that Spanish SE-passives involve a syntactically projected *pro*-subject. However, cross-linguistic as well as language internal evidence suggests that the examples underlying his claim are not SE-passives but SE-anticausatives with body-part themes. To conclude, I know of no current argument that forces the assumption that the implicit argument in passives is syntactically projected. However, case assignment, verbal agreement as well as semantic arguments argue against such a view (e.g. the implicit agent cannot be bound or controlled and does not scopally interact with quantifiers; cf. Bhatt & Pancheva 2006; Bruening 2012; Alexiadou et al. 2015).

Since Voice heads may also lack a D-feature or an argument variable, we predict the universal set of six Voice heads in (32). The brackets at the right hand side preview in which constructions the heads will be involved (see below); 'short/long passive' means passive with(out) a *by*-phrase).

(32) a. open active Voice: {λxλe[AGENT(e, x)], D} (active & canonical passive)
b. e-bound passive Voice: {λe∃x[AGENT(e, x)], ∅} (short Greek NACT-passive)
c. expletive active Voice: {∅, D} (SE-anticausative)
d. expletive passive Voice: {∅, ∅} (Greek NACT-anticausative)
e. e-bound active Voice: {λe∃x[AGENT(e, x)], D} (short SE-passives)
f. open passive Voice: {λxλe[AGENT(e, x)], ∅} (long Greek NACT-passives)

The ultimate characterization of the above Voice heads takes place via the feature combination in the second row. The terminology in the first row is just instrumental. Nevertheless, I should comment on this terminology, in order to avoid confusion as much as possible. Note first that the distinction between 'active' and 'passive' Voice heads is based on a syntactic property, not on a semantic property. Voice heads with a D-feature are 'active', and Voice heads without D-feature are 'passive'. Semantically, passives are characterized by existential quantification of the variable introduced by Voice (this holds for short passives; on long passives, see below). I use the term 'e(xistentially) bound' for Voice heads that encode passive semantics. Consequently, a Voice head can be syntactically active, but semantically passive (cf. (32e)). 'Expletive' refers to Voice heads which do not introduce any variable but denote the identity function over events (the semantic type of their syntactic complement). Finally, 'open' Voice heads introduce a variable that needs to be saturated or bound in the course of the ongoing derivation.

The first four Voice heads in (32a-d) correspond to the four Voice heads in (18a-d) in that they derive without any changes a) active sentences, b) Greek medio-passives (without *by*-phrase), c) SE-anticausatives and d) Greek-style marked anticausatives. The heads in (32e) and (32f) are new, however.

4.1 SE-passives in Romance

E-bound active Voice {λe∃x[agent(e,x)], D} in (32e) allows capturing SE-passives. The external argument variable is existentially bound, but the D-feature forces to project a specifier. An unbound, expletive SE-reflexive is the only DP that can merge there without a violation of the θ-criterion. So while the Voice head in SE-passives differs from the Voice head in SE-anticausatives in that it is not expletive, the specifier it projects must be expletive, too, as it cannot saturate any argument variable (cf. 23b).

The structure of the short SE-passive in (33a) is then (33b). When SE merges in Spec,Voice$P_{e\text{-bound-active}}$ to check the D-feature, Voice agrees first with SE, but no valuation can take place. Voice further probes its c-command domain and gets valued by the internal argument DP. SE gets valued, thereby, indirectly, too, exactly as in the case of SE-anticausatives. Since the agent variable of Voice is existentially bound, SE cannot saturate it. According to the translation mechanism in (23), SE is translated into an expletive. The semantic derivation of (33b) is given in (34a-c). First, Voice introducing an existentially bound external argument combines with the vP via event identification (34b), and afterwards the SE-expletive denoting the identity function over events takes this meaning as its input, returning exactly the same meaning (34c). The result is a standard passive meaning.

(33) a. Trois maisons se sont louées hier. (short SE-passive)
three houses SE are rented yesterday
'Three houses were rented yesterday.'
b. [$_{VoiceP}$ SE Voice$_{e\text{-bound-active}}$ [$_{vP}$ rent three houses]]

(34) a. [[vP]] = λe [rent(e) & PATIENT(e, three houses)]
b. [[Voice$_{e\text{-bound-active}}$']] = [λe∃x [AGENT(e,x)]] (λe [rent(e) & PATIENT(e, three houses)])
= λe∃x [AGENT(e,x) & rent(e) & PATIENT(e, three houses)]
c. [[Voice$P_{e\text{-bound-active}}$]] = ($\lambda P_{s,t}.P$) (λe∃x[AGENT(e,x) & rent(e) & PATIENT(e, three houses)])
= λe∃x [AGENT(e,x) & rent(e) & PATIENT(e, three houses)]

In order to understand why SE-passives in Romance cannot introduce a *by*-phrase, I will first discuss how Bruening (2012) treats canonical passives with and without *by*-phrases.[19]

4.2 Canonical Passives

Bruening (2012) (as Embick 2004b; compare also Kiparsky 2013) proposes that canonical passives as in (35a) are not ultimately build on the level of Voice but involve a higher projection. They have the structure in (35b) where a Passive projection (Pass) merges on top of a specifier-less VoiceP.[20/21/22] Looking at the typology above, *open passive Voice* {λxλe[agent(e,x)], ∅} in (32f) seems to be exactly this type of Voice head (but see the discussion in the next subsection). Since it lacks a D-feature, it cannot combine with a DP to saturate its open variable slot.

(35) a. Three houses were rented. (short canonical passive)
b. $[_{TP}$ T $[_{PassP}$ Pass $[_{VoiceP}$ $\text{Voice}_{\text{open-passive}}$ $[_{vP}$ v $\text{DP}_{\text{patient}}$]]]]

The semantics of *Pass*, given in (36), impose existential quantification over the open argument slot introduced by the Voice head in (36). (37a-c) provide the semantic steps of first combining the vP with the Voice head (via event identification) and the result with Pass (via functional application).

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[19] I only discuss SE-passives of transitive verbs (but see. fn. 13). Across languages, there is the strong tendency that impersonal passives reject *by*-phrases even if the corresponding personal passive allows them (for reasons not understood). With impersonal canonical passives, there is still variation, however. While German canonical impersonal passives license *by*-phrases relatively easily (e.g. Schäfer 2012a), *by*-phrases are rather hard to get in impersonal canonical passives in Icelandic (e.g. Jónsson 2003) and they are rejected in the Mainland Scandinavian languages (Engdahl 2006). For impersonal SE-passives, on the other hand, the effects seems to be without exception. Therefore, it is often difficult to keep apart impersonal SE-passives from so-called 'impersonal *se/si*-constructions', which are available in many Romance and Slavic languages. Impersonal *se/si*-constructions of transitive verbs involve default (or, more correctly, impersonal) agreement and, with transitive verbs, they trigger accusative case on the internal argument DP. Besides these morpho-syntactic differences, the agent in impersonal se/si-constructions is also interpreted slightly differently than the agent in SE-passives (cf. Cinque 1988, Dorbovie-Sorin 1998; D'Alessandro 2007;). I assume that impersonal se/si-constructions involve ordinary active Voice and an impersonal pronominal clitic '*se/si*' is merged in Spec,VoicP where it saturates the external argument variable (Napoli 1973, Dobrovie-Sorin 1998, Zribi-Hertz 2008 and others). This nominative clitic is lexically valued with impersonal φ-features (just as German '*man*' or French '*on*') and receives, therefore nominative case. Impersonal *se/si* developed as a re-interpretation of *SE*-passives in structures without overt manifestation of case and agreement (cf. Naro 1976; Burzio 1992; notably, this suggests that Polish should once have had and then lost a SE-passive, as it is described as a language without SE-passive SE but with impersonal SE-construction). To conclude, I assume two different elements '*se/si*' with identical phonological form, one with unvalued φ-features and one with valued/impersonal φ-features. We face diachronic homonymy of two lexical items with fudamentally different feature-specification (morpho-syntactially unvalued in the context of e-bound Voice vs. valued as impersonal ponoun in the context of open active Voice) but almost identical semantic outcome.

[20] This assumption has the immediate benefit in explaining why only SE-/medio-passives are involved in syncretisms of the type discussed in the present paper. If SE-/medio-passives, SE-reflexive and SE-anticausative verbs (as well as generic middles) are derived within VoiceP, but canonical passives are derived by a projection above VoiceP, then it basically follows that the latter are not syncretic with any of the former. This does not mean that canonical passives cannot be involved in syncretisms. Indo-European canonical passives are typically built with participles that are often syncretic with participles used in adjectival passives and in the perfect.

[21] I will not go into the morphological properties of canonical passives. Note, however, that the morpho-syntactic difference between canonical passives and medio-passives cannot be equated to analytic vs. synthetic passive morphology. As Doron 2003 and Alexiadou & Doron 2012 show, Hebrew has two passives that are both synthetic and where one behaves like the Greek medio-passive (e.g. it is syncretic with reflexive and anticausative verbs and not fully productive) and the other like canonical passives (not syncretic and fully productive).

[22] The structural distinction between canonical passives and SE-/medio-passives opens a further analytical option (Kiparsky 2013). Observe that Pass c-selects for VoiceP in Bruening's theory. SE-/medio-passives, on the other hand basically *are* VoicePs. If the selectional restriction of Pass could be lifted, it might also apply to projections introducing internal arguments, thereby deriving passives of unaccusatives (cf. Kiparsky 2013 for such a suggestion).

(36) [[Pass]] = $\lambda f_{e,st}\, \lambda e[\exists x.f(x)(e)]$ (Bruening 2012:23)

(37) a. [[vP]] = λe [rent(e) & PATIENT(e, three houses)]
b. [[$\text{VoiceP}_{\text{open-passive}}$]] = (λxλe[AGENT(e,x)]) [λe[rent(e) & PATIENT(e, three houses)]]
= λxλe [AGENT(e,x) & rent(e) & PATIENT(e, three houses)]
c. [[PassP]] = (λfe,st λe[∃x.f(x)(e)]) [λxλe [AGENT(e,x) & rent(e) & PATIENT(e, three houses)]]
= λe∃x [AGENT(e,x) & rent(e) & PATIENT(e, three houses)]

Note that the semantic application of Pass in (36) to the specifierless Voice head (32f) in the last step of (37) provides exactly the meaning that is lexically specified in the e-bound-active Voice head in (32e) used for SE-passives (and in the e-bound medio-passive Voice head in (32b) used for Greek medio-passives). Consequently, the meaning derived in (37a-c) is identical to the meaning of SE-passives derived in (34a-c). This means that the Voice head producing SE-passives (and the one producing Greek medio passives) *bundles together* the functions of the two heads involved in canonical passives, where the lower *Voice*-head introduces the agent variable and the higher *Pass*-head existentially binds this variable (consider the concept of 'bundling' in Pylkkänen 2008). This difference will be crucial in explaining the (non-)licensing of *by*-phrases in the two types of passives. I turn to the treatment of *by*-phrases in canonical passives in the theory of Bruening (2012) in the next section.

4.2.1 Canonical passives and *by*-phrases

According to Bruening (2012), the external argument slot in long canonical passives such as (38) is not existentially bound, but it is immediately saturated by the DP inside the *by*-phrase. This view allows replacing the vague terminology of much literature that 'the *by*-phrase takes up the implicit argument of passives' with a compositional treatment of *by*-phrases: the complement of *by is* the external argument semantically, though not syntactically.

(38) Three houses were rented *by the tourists.* (long canonical passive)

Bruening proposes that *by*-phrases in canonical passives adjoins to the same specifierless VoiceP involved in short canonical passives; the structure is shown in (39). The meaning of *by* in (40) allows the DP inside the PP to saturate the open argument slot of Voice. Afterwards, a semantically empty variant of *Pass* merges; we call it here $Pass_{expl(etive)}$ and, following Bruening (2012) we assign to it the meaning of the identity function over events, too, as in (41). The full semantic derivation of a long canonical passive is given in (42a-e).

(39) $[_{TP}$ T $[_{PassP}$ $\text{Pass}_{\text{expl.}}$ $[_{VoiceP2}$ $[_{PP}$ by the tourists] $[_{VoiceP1}$ $\text{Voice}_{\text{open-medio-passive}}$ $[_{vP}$ rent three houses]]]]]

(40) [[by]] = $\lambda x \lambda f_{e,st}.\lambda e.f(e,x)$ (Bruening 2012:25)

(41) [[$\text{Pass}_{\text{expl.}}$]] = $\lambda P_{s,t}.P$ (Bruening 2012:25)

(42) a. [[vP]] = λe [rent(e) & PATIENT(e, three houses)]
b. [[VoiceP_1]] = [λxλe [AGENT(e,x)]] [λe [rent(e) & PATIENT(e, three houses)]]
= λxλe [AGENT(e,x) & rent(e) & PATIENT(e, three houses)]
c. [[PP]] = $(\lambda x \lambda f_{e,st}.\lambda e.f(e,x))$ (the tourists) = $\lambda f_{e,st}.\lambda e.f(e,$ the tourists)
d. [[VoiceP_2]] = $(\lambda f_{e,st}.\lambda e.f(e,$the tourists)) [λeλx[AGENT(e,x) & rent(e) & PATIENT(e, three houses)]]
= λe [AGENT(e, the tourists) & rent(e) & PATIENT(e, three houses)]
e. [[PassP]] = $(\lambda P_{s,t}.P)$ (λe [AGENT(e, the tourists) & rent(e) & PATIENT(e, three houses)])
= λe [AGENT(e, the tourists) & rent(e) & PATIENT(e, three houses)]

Since *Pass* is expletive in passives like (38/39) where a *by*-phrase saturates the agent slot, the question remains why it has to merge obligatorily (note that the derivation is formally and semantically complete already at the level of VoiceP_2). Bruening (2012) proposes that a formal requirement is involved. He assumes that canonical passives actually involve the open active Voice head in (32a), whose c-selecting D-feature can be checked either by a subject DP merged in its specifier (in active clauses) or, in the absence of such a DP, by the Pass-head merged on top of it

(whether *Pass* is semantically active (36) or expletive (41)).[23] For reasons of space, I have to refer the reader to Bruening (2012) for the technical details. Note that if we follow this assumption, the Voice head in (32f) is still needed to derive long medio-passives in Greek, as discussed in the next section.[24]

Alternatively, we could keep the Voice head (32f) for canonical passives and relate the obligatory presence of Pass to the typological observation by Haspelmath (1990) that, across languages, passives are always morphologically marked. This seems to be a functional/iconic requirement, but it is unclear how to enforce it formally. In SE-passives, the SE-element satisfies the requirement. Greek satisfies it via the spell-out rule in (26) producing non-active morphology. And the particular morphological shape of canonical passives is arguably connected to the presence of Pass (see fn. 21). So it might be that Pass must merge in (39) in order to make passive formation visible. Descriptively, the following would have to hold:

(43) Phonologically overt Pass must merge on top of VoiceP iff (i) VoiceP lacks a specifier and (ii) $Voice_0$ lacks a phonological spell-out.

(43) is a (cross-modular) stipulation and it is not meant as a solution but as a description of a problem that awaits further research. Note that the proposal by Bruening that Pass can check the D-feature of Voice must add a similar stipulation in order to capture Haspelmath's generalization that, across languages, Pass always receives a phonological exponent (contrary to other functional heads, e.g. ordinary active Voice).

4.3 Greek medio-passives with and without *by*-phrase

Greek has only one passive, which characterizes as 'medio-passive' as it is syncretic with reflexive and anticausatives verbs (and generic middles) (e.g. Kaufmann 2001; Alexiadou & Doron 2012; Alexiadou et al. 2015; a.o.).[25] An example without *by*-phrase is given in (44a). The syntactic structure in (44b) involves *e-bound-passive Voice* ({λe∃x[agent(e,x)], ∅}) in (32b), which combines with the meaning of the vP as in (45b).

(44) a. O Janis katijori-thike. (short medio-passive)
the John accused-NACT
'John was accused.'
b. $[_{TP}$ T $[_{VoiceP}$ $Voice_{e\text{-}bound\text{-}passive}$ $[_{vP}$ accuse the John]]]

(45) a. [[vP]] = λe [accuse(e) & PATIENT(e, John)]
b. [[$VoiceP_{e\text{-}bound\text{-}passive}$]] = (λe∃x[AGENT(e,x)]) [λe [accuse(e) & PATIENT(e, John)]]

[23] This proposal allows it to capture nicely that canonical passives are productive in that basically every verb introducing an external argument in active clauses can also form a canonical passive (modulo the independent ban on impersonal passives in many languages) (see also Kiparsky 2013). SE-/medio-passives, on the other hand, often show gaps in that not every verb that appears in the active can form such a passive (cf. Alexiadou et al. 2015; Doron 2003, Alexiadou & Doron 2012 for Greek and Hebrew). Without going into details, this difference can be derived under the assumption that lexical idiosyncrasies can only be stated inside of the VoiceP-phase. Individual verbs might be idiosyncratically restricted to combine only with active Voice, but not with other Voice heads. But once an individual verb combines with active Voice, the phase boundary of VoiceP makes any (anti-)selectional interaction between the verb and PassP impossible (see Alexiadou & Doron 2012 and Alexiadou et al. 2015 for discussion).

[24] Following Bruening's proposal that Pass can check a D-feature on Voice might lead to problems for the derivation of SE-anticausatives proposed above, because, without further ado, the job done by expletive SE could equally be fulfilled by expletive Pass. We would need to stipulate that D-features on Voice are preferably checked by specifiers and a higher Pass head can do so only if Voice is thematic. This suggests that we are still missing some important insight. As far as I can see, however, it is the role of Pass that needs to be further considered. (See the next section as to why there is no danger that expletive SE could merge in the specifier of VoiceP1 in (39), thereby making merge of expletive Pass superfluous.) Wood (2013) suggests that Pass always existentially quantifies the agent variable introduced by Voice and that the *by*-phrase only restricts this variable (cf. Chung & Ladusow 2004). However, *by*-phrases can also involve quantifiers and I cannot see how these could just restrict a variable (cf. also the case of Romanian in fn. 3). I must leave the problem to future research.

[25] The passive-anticausative syncretism in Greek was discussed in section 3 (cf. also (32a-f)). The passive-reflexive syncretism in Greek is discussed in Spathas et al. (2015). For the passive-middle syncretism, see Lekakou (2005).

= λe∃x[AGENT(e,x) & accuse(e) & PATIENT(e, John)]

Greek medio-passives license *by*-phrases cf. (46a) (though there are restrictions on the type of DP inside of the PP; p.c. Artemis Alexiadou). These long medio-passives must involve *open passive Voice* {λxλe[agent(e,x)], ∅} in (32f) as this is the only Voice head that does not project a specifier but allows the *by*-phrase adjoined to VoiceP to saturate the external argument slot. (46b) provides the syntax of long medio-passives, (47a-d) gives the semantic derivation.

(46) a. O Janis katijori-thike apo ti Maria. (long medio-passive)
the John accused-NACT by the Mary
'John was accused by Mary.'
b. [$_{TP}$ T [$_{VoiceP2}$ [$_{PP}$ by Mary] [$_{VoiceP1}$ Voice$_{open\text{-}passive}$ [$_{vP}$ accuse the John]]]]

(47) a. [[vP]] = λe [accuse(e) & PATIENT(e, John)]
b. [[VoiceP1]] = (λxλe[AGENT(e,x)]) [λe [accuse(e) & PATIENT(e, John)]]
= λxλe [AGENT(e,x) & accuse(e) & PATIENT(e, John)]
c. [[PP]] = (λxλf$_{e,st}$.λe.f(e,x)) (the Mary) = λf$_{e,st}$.λe.f(e, the Mary)
d. [[VoiceP2]] = (λf$_{e,st}$.λe.f(e, the Mary)) (λxλe [AGENT(e,x) & accuse(e) & PATIENT(e, John)])
= λe[AGENT(e, the Mary) & accuse(e) & PATIENT(e, John)]

Since VoiceP in short and long medio-passives lacks a specifier, the Greek PF-spell-out rule in (26) applies in both cases and produces NACT-morphology.

4.4 Romance SE-passives and the absence of *by*-phrases

Recall the derivation of the short SE-passives repeated in (48). Voice$_{e\text{-}bound\text{-}active}$ existentially binds the agent role and projects a specifier, where expletive SE merges. The semantic derivation is repeated in (49a-c).

(48) a Trois maisons se sont louées hier. (short SE-passive)
three houses SE are rented yesterday
'Three houses were rented yesterday.'
b [$_{VoiceP}$ SE Voice$_{trans\text{-}medio\text{-}passive}$ [$_{vP}$ rent three houses]]

(49) a. [[vP]] = λe [rent(e) & PATIENT(e, three houses)]
b. [[Voice$_{e\text{-}bound\text{-}active}$']] = (λe∃x[AGENT(e,x)]) [λe [rent(e) & PATIENT(e, three houses)]]
= λe∃x[AGENT(e,x) & rent(e) & PATIENT(e, three houses)]
c. [[Voice$_{e\text{-}bound\text{-}active}$]] = (λP$_{s,t}$.P) [λe∃x[AGENT(e,x) & rent(e) & PATIENT(e, three houses)]]
= λe∃x[AGENT(e,x) & rent(e) & PATIENT(e, three houses)]

With the background of Bruening's (2012) theory about the semantic integration of *by*-phrases into passives, we can now turn to the question about why Romance SE-passives prohibit *by*-phrases (cf. 50).

(50) Trois maisons se sont louées (*par des touristes) hier. (long SE-passive)
three houses SE are rented by some tourists yesterday
'Three houses were rented (by some tourists) yesterday.'

In order to license a *by*-phrase, we would need a Voice head that introduces a variable but does not existentially bind it so that the *by*-phrase can saturate it. The typology in (32) provides exactly two such heads repeated below:

(51 = 32) a. open active Voice: {λeλx[AGENT(e, x)], D}
f. open passive Voice: {λeλx[AGENT(e, x)], ∅}

If we use $\text{Voice}_{\text{OPEN-PASSIVE}}$ in (51/32f), SE cannot merge due to the absence of a D-feature.[26] If we use $\text{Voice}_{\text{OPEN-ACTIVE}}$ in (51/31a), a DP must merge in Spec,VoiceP. If we merge a referential DP (*Jean*), we derive an ordinary active sentence (as e.g. in 13a). Assume we merge SE, instead, and afterwards, we adjoin a *by*-phrase, as indicated in the structure in (52). When SE is merged in Spec,VoiceP, Voice will agree with SE, but no valuation takes place. Voice probes the internal argument DP, which values Voice as well as SE. Since (52) survives the formal syntactic derivation, the problem with *by*-phrases in SE-passives must be semantic in nature.

(52) $[_{\text{TP}}$ T $[_{\text{VoiceP2}}$ $[_{\text{PP}}$ by the tourists] $[_{\text{VoiceP1}}$ SE $\text{Voice}_{\text{open-active}}$ $[_{\text{vP}}$ rent three houses]]]]

The semantic derivation of (52) is given in (53a-e). In (53b), vP and Voice combine via event identification. Next, SE has to be integrated. Crucially, even though SE lacks a c-commanding antecedent, it acts as a semantic argument; due to the CI-translation mechanism in (23), SE is translated into a variable, which, in turn, saturates the agent slot of Voice as indicated in (53c). However, since SE lacks a c-commanding antecedent in (52), it remains semantically unbound. Consequently, the agent role is not realized by a DP with denotation. This yields a violation of the θ-criterion in (53e). Furthermore, SE in Spec,VoiceP intervenes between Voice and the *by*-phrase adjoined to the VoiceP. The latter, thereby comes too late to saturate the agent slot. Consequently, the complement DP of *by* cannot be semantically integrated into the verbal event in (53e) and violates the θ-criterion, too.[27]

(53) a. [[vP]] = λe [rent(e) & PATIENT(e, three houses)]
b. [[Voice']] = ($\lambda x \lambda e$[AGENT(e,x)]) [λe [rent(e) & PATIENT(e, three houses)]]
= $\lambda x \lambda e$ [AGENT(e,x) & rent(e) & PATIENT(e, three houses)]
c. [[VoiceP1]] = [$\lambda x \lambda e$ [AGENT(e, x) & rent(e) & PATIENT(e, three houses)]] (y_{SE})
= λe [AGENT(e, $\mathbf{y_{SE}}$) & rent(e) & PATIENT(e, three houses)]
d. [[PP]] = [$\lambda x \lambda f_{e,st}.\lambda e.f(e,x)$] (the tourists) = $\lambda f_{e,st}.\lambda e.f(e,$ the tourists)
e. [[VoiceP2]] = [$\lambda f_{e,st}.\lambda e.f(e,$ **the tourists**)] [λe [AGENT(e, $\mathbf{y_{SE}}$) & rent(e) & PATIENT(e, three houses)]]

To conclude, *by*-phrases are ungrammatical in Romance SE-passives due to a minimality effect. The SE-morpheme merged in Spec,VoiceP intervenes between the *by*-phrase and the Voice head, so that the *by*-phrase cannot saturate the agent role. Furthermore, the SE-reflexive, which saturates the agent role, lacks a semantic antecedent. As a consequence, the structure violates the θ-criterion twice. Canonical passives, on the other hand, allow *by*-phrases (at least) across all Germanic, Romance and Slavic languages. However, SE-passives outside of Romance sometimes differ in that they do license *by*-phrases. I will discuss this variation in the next section.

Let me end this section with two short comments. The first is on word order restrictions in Romance SE-passives. It has been argued on the basis of data from European Portuguese that the nominative patient in eventive SE-passives cannot occupy the canonical subject position (Spec,TP) (Raposo and Uriagereka 1996, Dobrovie-Sorin 2007). If the patient is located in Spec,TP, only a generic middle reading obtains (Dobrovie-Sorin 2007, Cabredo-Hofherr and Dobrovie-Sorin 2010). As far as I can see, this restriction does not hold in other Romance languages. For example, while French eventive SE-passives tend to leave the nominative DP inside vP and movement of this DP to Spec,TP tends to trigger a generic middle-reading, these tendencies are not without exceptions. In particular, movement to Spec,TP does not necessarily make an eventive interpretation impossible (see the examples in Zribi-Hertz 2008). Cornilescu & Nicholae (2015) show that animate DPs fail to occupy Spec,TP in Romanian SE-passives while inanimate DPs can. I will not try to account for such word order restrictions or tendencies in SE-passives. In the above account, the SE-expletive in Spec,VoiceP does not block (by intervention) A-movement of the nominative DP because it lacks inherently valued φ-features. Whether in particular languages or contexts A-movement of the nominative DP to Spec,TP can, must or must not take place is left to independent, eventually language particular properties (cf. Zribi-Hertz 2008 for French; Cornilescu & Nicholae 2015 for Romanian).

[26] At best (see the discussion at the end of 4.2), we can derive a canonical passive with *Pass* on top of $\text{Voice}_{\text{OPEN-PASSIVE}}$; this is possible, of course, in Romance, both, with and without *by*-phrases. If canonical passives build on $\text{Voice}_{\text{OPEN-ACTIVE}}$, then (51/32f) is simply not available in Romance, arguably due to the lack of the spell-out rule in (26) in combination with the descriptive generalization in (43).

[27] Note that a DP inside of the *by*-phrase cannot bind (i.e. agree with) SE in Spec,VoiceP (though it could, in the absence of SE, saturate the argument slot in Voice). It is an empirical fact that SE-reflexives cannot be bound out of PPs. Furthermore, since the DP inside of the *by*-phrase lacks a θ-role, binding would not provide a proper semantic antecedent for the reflexive.

The second comment relates to the interpretation of the implicit external argument in passives. Speakers in all languages discussed in this paper seem to share the clear intuition that the implicit external argument of SE-passives has to be human; it cannot be a non-human entity such as a natural force. This intuition is further corroborated in languages where the medio-passive licenses *by*-phrases (e.g. Greek and some of the languages to be discussed in the next section) as only human *by*-phrases are possible. Canonical passives in most languages do not show this restriction (but see fn. 5 on Icelandic canonical passives). While this difference between the two passives suggests that they are indeed derived in different morpho-syntactic ways, nothing in the present account explains it.

5. SE-passives in Mainland Scandinavian and Slavic languages

A view beyond Romance shows that the ban on *by*-phrases in SE-passives is not universal. SE-passives in the three Mainland Scandinavian languages license *by*-phrases (e.g. Engdahl 1999; 2006; Lundquist 2015) as exemplified with Swedish in (54). SE-passives in the three East Slavic languages also license *by*-phrases as exemplified with Russian in (55) and so do the SE-passives in Bulgarian exemplified in (56) (and Upper Sorbian) (Fehrmann et al. 2010). In the remaining South and West Slavic Slavic languages, however, SE-passives reject *by*-phrases, as I will discuss and exemplify below (and Polish lacks SE-passives; for passives across Slavic languages, see e.g. Siewierska 1988).

(54) Han misshandlade-s (av två män). (Swedish)
He manhandled-SE by two men
'He was manhandled (by two men).'

(55) Dom stroit-sja (rabočimi). (Russian)
house build-SE workers.INSTR
'The house is being built by the workers.'

(56) Fabrikata se stroi (ot čuždestranna firma). (Bulgarian)
factory SE builds by foreign company
'The factory is being built (by a foreign company).'

How can this variation be reconciled with the proposal developed in the last section that Romance SE-passives reject *by*-phrases because the SE-element blocks the *by*-phrase from saturating the agent variable provided by Voice? I will argue that the relevant SE-elements in SE-passives licensing *by*-phrases simply cannot saturate θ-roles. As a consequence, these SE-elements do not intervene between Voice and a *by*-phrase adjoined to VoiceP for the purpose of saturation, and the *by*-phrase can saturate the agent variable successfully.

More concretely, these SE-elements are not subject to allosemy (cf. the CI-translation rule in (23a, b) which translates SE either into a variable or into an expletive), but they are "lexically born" as argument expletives denoting the identity function, irrespectively of their syntactic and semantic context. The reason why they cannot denote variables is that these SE-elements lack all kind of φ-features, i.e. even unvalued φ-features, which are the syntactic basis for semantic anaphoric binding (cf. section 3.1).[28]

The mainland Scandinavian languages carry the evidence for this proposal on their sleeve. As exemplified in (54) above for Swedish, these languages use the morpheme *-s* (called "reflexive verbal suffix") to form SE-passives, which shows a number of particular properties. First, Tense morphology intervenes between the verbal stem and the *-s* morpheme, suggesting that this morpheme should not be analyzed as reflecting a Voice head (as Greek NACT-

[28] I hereby follow the work by Wood (2014, 2015), who shows that the Icelandic reflexive verbal affix *-st* is "born" as an expletive (though he does not use this terminology), in contrast to the SE-reflexive pronoun *sig*. However, Wood argues that Icelandic *-st* does not totally lack φ-features but has a reduced set of φ-features. His argument for the presence of a reduced set of φ-features does not, as far as I know, carry over to Mainland Scandinavian *-s* and East Slavic *-sja* discussed in this section. In any case, Wood (2014, 2015) also suggests that the reduced set of φ-features is the reason why Icelandic *-st* cannot enter AGREE-driven anaphoric binding and, in turn, cannot saturate.

Icelandic *-st* is mainly used in anticausatives, as Icelandic lacks a productive SE-passive (but see fn. 4). As the *-s* morpheme in Mainland Scandinavian SE-passives (see below), *-st* is not used in canonical reflexive contexts. However, *-st* is used in a particular, restricted set of semantically reflexive constructions, where it is merged in an argument position and, thereby, „delays" argument saturation (Wood 2014, 2015; cf. 'semantic bundling' below); these semantically reflexive uses of Icelandic *-st* are similar (but not congruent) to reflexive uses of East Slavic *-sja* discussed below.

morphology) but origins in a DP position (cf. Wood 2014, 2015 for the same conclusion about Icelandic *-st*). For the purpose of SE-passives, this is Spec,VoiceP.[29] Second**,** the Scandinavian languages also have a free SE-reflexive pronoun *-sig*. Crucially, as shown in (57a, b), only *sig* shows person agreement with the nominative DP while *-s* is invariant and does not inflect.

(57) a. Jag/Du/Han tvättade mig/dig/sig.
I /You/He washed ME/TE/SE
'I/You/He washed myself/yourself/himself.'
b. Jag/Du/Han skäm-s.
I /You/He shame-SE
'I am/You are/He is ashamed.'

Third, while the *-s* morpheme is historically related to the free SE-reflexive pronoun *sig*, *-s* is not a productive means to generate a reflexive meaning. Only very few verbs receive a reflexive interpretation in the context of *-s*, and they are all inherently reflexive (as the verb in (57b)). Almost all (di-)transitive verbs (naturally disjoint verbs as in (58a) as well as basically all naturally reflexive verbs as in (58b)) require the free SE-reflexive pronoun to produce a reflexive reading. Adding *-s* to these verbs necessarily generates a passive interpretation. Finally, even the majority of inherently reflexive verbs requires the free SE-reflexive pronoun (e.g. *uppföra sig* 'behave oneself'; *bege sig* 'take off', *förta sig* 'overwork oneself'; p.c. Gunlög Josefsson).

(58) a. Han hängde sig.
He hanged SE
'He hanged himself.'
b. Han tvättade sig.
He washed SE
'He washed himself.'

In section 3.1, I stated the assumption that local anaphoric binding is implemented via a syntactic AGREE relation between a DPuφ and a local, c-commanding DP with valued φ-features. The lexical entry of Scandinavian *sig* is then as in (59a); (59b, c) state its behavior at the interfaces. Depending on whether DPuφ is valued by a c-commanding antecedent or, indirectly, by a DP lower in the structure, it gets translated at the CI-interface into a bound variable or into an expletive. At PF, DP~~uφ~~ is spelled out with the φ-features of its formal valuator (the arrow in (59c) is not meant to express c-command but the direction of valuation under AGREE (probe --> goal)).

(59) a. {uφ, D} (Syntax)
b. bound variable or argument expletive (CI-interface; cf. 23a, b)[30]
c. jad <-- /*mig*/; du <-- /*dig*/, han <-- /*sig*/ (PF-interface)

The lack of productive reflexive interpretations suggests that *-s* is not a variable that φ-agrees with a c-commanding antecedent. Lack of overt agreement suggests the same (but see the discussion of Slavic below). I propose then that the Scandinavian *-s* morpheme comes from the lexicon just with a D-feature but without any φ-features as in (60a). As a consequence, it does not enter AGREE and it will never be translated at CI into a variable: *-s* is "lexically born" as an argument expletive. It gets a spell-out at PF as *-s*, which is related but not identical to the default spell-out of the element in (59a) (recall that 3rd person can be analyzed as absence of person).

I assume that the few inherently reflexive verbs combining with this *s*-morpheme are stored in the lexicon as taking (60a) as an idiomatic expletive object (actually a standard assumption about inherently reflexive verbs; but see

[29] Lundquist (2015) suggests that *-s* is a passive Voice-head and that the intervention of Tense morphology is an illusion. While this might be true for Scandinavian languages (SE-passives in Scandinavian languages would receive an analysis similar to Greek medio-passives), his ideas cannot be transferred to Icelandic or the East Slavic languages. Therefore, I stay with the conservative assumption that *-s*, just as *-sja*, is not a verbal head but origins in a DP-position/A-position. The discussion of object-drop in section 6 suggests the same.

[30] I leave aside complex reflexive pronouns in Scandinavian languages where *si*g combines with an adjectival intensifier. I do not assume that these are special anaphors but they involve *sig* from (59) to which *self* adds intensifying semantics (see. e.g. Sæbø 2009 for discussion). Intensifying semantics rule out a use as an argument expletive. English *himself* should arguably receive a different treatment as a reflexivizer (Spathas 2010, 2013).

below on East Slavic reflexive verbs formed with *-sja* which are subject to a compositionally derived reflexive interpretation - this option is available for Scandinavian *-s*, too, but, in any case, choice of *-s* is a lexical residue).

(60) a. {D} (Syntax)
b. argument expletive (CI-interface)
c. /-s/ (PF-interface)

Next, I turn to Scandinavian SE-passives.[31] The argument expletive *-s* is merged either in the specifier of *e-bound active Voice* in (32e), forming a short SE-passive, or in the specifier of *open active Voice* in (32a), forming a long SE-passive. The latter case (which lead to ungrammaticality in Romance) is illustrated again in (61a), its structure being (61b). The semantic derivation is given in (62a-e). In (62b), the meaning of vP and VoiceP combine via event identification. In the next step, the argument expletive merged in the specifier of VoiceP is added. Being an expletive lexically, it cannot interact with the argument variable introduced by Voice but it necessarily denotes the identity function over events. The argument variable, therefore, remains unchanged in (62c). Therefore, the *by*-phrase can successfully saturate the agent variable provided by Voice in the final step of the semantic derivation.

(61) a. Han misshandla-s (av två män). (Swedish)
he maltreated-SE by two men
'He was maltreasted (by two men).'
b. [$_{TP}$ T [$_{VoiceP2}$ [$_{PP}$ by two men] [$_{VoiceP1}$ SE$_{expl}$ Voice$_{open\text{-}active}$ [$_{vP}$ maltreat he]]]]

(62) a [[vP]] = λe [maltreat(e) & PATIENT(e, he)]
b [[Voice']] = (λxλe[AGENT(e,x)]) [λe [maltreat(e) & PATIENT(e, he)]]
= λxλe [AGENT(e,x) & maltreat (e) & PATIENT(e, he)]
c [[VoiceP1]] = ($\lambda P_{s,t}$.P) [λxλe [AGENT(e, x) & maltreat (e) & PATIENT(e, he)]]
= λxλe [AGENT(e, x) & maltreat (e) & PATIENT(e, he)]
d [[PP]] = (λx$\lambda f_{e,st}$.λe.f(e,x)) (two men) = $\lambda f_{e,st}$.λe.f(e, two men)
e [[VoiceP2]] = [$\lambda f_{e,st}$.λe.f(e, two men)] [λxλe [AGENT(e, x) & maltreat (e) & PATIENT (e, he)]]
= λe [AGENT(e, two men) & maltreat(e) & PATIENT(e, he)]

SE-passives in East Slavic, Bulgarian (and Upper Sorbian) must also involve a SE-morpheme born as argument expletive so that they can enter the semantic derivation in (62a-e), where the *by*-phrase saturates the agent role even though the SE-morpheme intervenes syntactically. However, the empirical picture in these languages differs partly from the one in Mainland Scandinavian.

The East Slavic languages form their SE-passive with the reflexive verbal affix *-sja*, which should also not be analyzed as a verbal head, as Tense and agreement morphology intervenes between the verbal stem and *-sja* (see section 6 for a further argument against analyzing *-sja* as a verbal head). Again, I assume that *-sja* in SE-passives is merged in Spec,VoiceP. Furthermore, *-sja* is also morphologically invariant and does not inflect for the φ-features of the nominative DP (cf. 63a). In addition to *-sja*, the East Slavic languages also have a free SE-reflexive pronoun *siebe* (the former, SE$_{PHI-}$, historically derived from the latter, SE$_{PHI+}$). A pronominal or clitic version of this free SE-reflexive actually exists in all Slavic languages, and crucially, even this free version is always morphologically invariant and does not inflect for person or number (63b).

(63) a Ja/ty/on pomyl-sja.
I/you/he wash-SE$_{PHI-}$
'I/you/he washed.'
b Ja/ty/on pomyl siebe. (emphatic)
I/you/he wash SE$_{PHI+}$
'I/you/he washed.'

In contrast to Scandinavian *-s*, *-sja* is the default form to derive the reflexive construal of naturally reflexive verbs

[31] All Scandinavian speakers can use *sig* in (59) as a marker for anticausatives, but only some speakers accept the *s*-morpheme in (60) as a marker of anticausatives (p.c. Björn Lundquist). To my knowledge, this variation has not been investigated. SE-passives, however, can only be formed with -s. For speakers rejecting *s*- in anticausatives, *s*- might be restricted to merge in the specifier of Voice only if this Voice has semantic content.

(cf. 63a); the longer form *siebe* can be used with such verbs only under an emphatic or contrastive use (63b). However, naturally disjoint predicates (e.g. *photograph oneself*) can only be reflexivized with *siebe*; the use of *-sja* would only provide a passive interpretation.

Since *siebe* productively behaves like an anaphor (roughly subject to Principle A), we want to treat it as a bound variable that is born with unvalued φ-features. The lack of overt agreement with its antecedent follows from a specific spell-out rule for locally valued $DP_{u\varphi}$, which is active in all Slavic languages and which relates different φ-feature specifications inherited from the antecedent to the same underspecified surface form *siebe* (cf. e.g. Rooryck & Vanden Wyngaerd 2011; see also Burzio 1998 and the discussion in fn.11). The lexical entry of *siebe* is given in (64a); (64b, c) state its behavior at the interfaces:

(64) a. {uφ, D} (Syntax)
b. bound variable (CI-interface; cf. 23a, b)
c. ja <-- /*siebe*/; ty <-- /*siebe*/; on <-- /*siebe*/ (PF-interface)

In principle, it should be possible to use *siebe* as an argument expletive, too, if it occurs in the right syntactic context. However, the East Slavic languages use *-sja* that is specialized as an argument expletive.[32] Its lexical entry and its behavior at the interfaces are provided in (65).

(65) a. {D} (Syntax)
b. argument expletive (CI-interface)
c. /*-sja*/ (PF-interface)

If *-sja* is an argument expletive lacking φ-features, we derive that it is morphologically invariant and that *by*-phrases are possible in East Slavic SE-passives (cf. the derivation in (62) above). However, this proposal triggers an immediate question. If *-sja* is born as an argument expletive, how can it be that it productively derives reflexive interpretations within the class of naturally reflexive verbs as in (63a)? An answer to this question can be found in the study of the Icelandic reflexive verbal affix *-st* in Wood (2014, 2015), which is born as an argument expletive, but, nevertheless, is involved in semantically reflexive interpretations under particular and restricted circumstances.

So far, I have assumed that expletive SE denotes the identity function over predicates of events (cf. 21). Wood (2014, 2015) proposes that the Icelandic argument expletive *-st* can alternatively denote the identity function over predicates of individuals as in (66). Simplifying, we can say that elements like Russian *-sja* (as well as Icelandic *-st*) denote an identity function which is underspecified for the event/entity opposition: these elements always pass on the meaning of their sister constituent, i.e., either a predicate of events or a predicate of of individuals as in (67). As Wood (2014, 2015) shows, this allows deriving semantically reflexive predicates in a compositional way.

(66) $[[SE_{expletive}]] = \lambda x_{e,st}.x$

(67) $[[SE_{expletive}]] = \lambda P_{e,st./s,t}.P$

The example involving the naturally reflexive verb 'wash' in (68a) has the structure in (68b) where *-sja* is merged in the object position, thereby prohibiting that a DP with semantic content is merged.

(68) a. Sergei pomyl-sja.
Sergei wash-SE
'Sergei washed (himself).'

[32] We could understand this as an economy effect which selects the morpheme with the smallest feature specification compatible with the semantic outcome. But this does not work for Scandinavian, where the argument expletive *-s* does not block the semantically underspecified form *sig* in anticausatives (cf. fn. 31). I have not investigated this difference between Scandinavian *sig* and East Slavic *siebe*; perhaps the latter is obligatorily stressed/focused (similar to Scandinavian complex reflexives). This would fit with its specialization for naturally disjoint verbs (as opposed to naturally reflexive verbs; modulo emphatic contexts), and it would make the use as an expletive impossible. I leave this question for future research. Having said this, I leave aside any formal account of the competition between simplex and complex anaphors, i.e. between *-sja* (an affix) vs. *siebe* (a pronoun) in semantically reflexive contexts in East Slavic, SE-clitis and SE-pronouns in other Slavic languages (cf. fn. 36) and SE-pronouns vs. SELF-reflexive pronouns in Scandinavian and beyond.

b. $[_{VoiceP}$ Sergei $Voice_{open\text{-}active}$ $[_{vP}$ wash SE]]

(69a-d) provide the relevant semantic derivation. In (69b), the meaning of the verb combines with the identity function over individuals provided by *-sja*. The decisive step happens in (69c), where Voice combines with the meaning of the vP via predicate conjunction.[33] In (69d), finally, the external argument saturates at the same time both, the internal argument role provided by the verb and the external argument role provided by open-active Voice.

(69) a. [[v]] = λxλe (wash(e) & PATIENT(e, x))
b. [[vP]] = ($\lambda x_{e,st}$.x) (λxλe (wash(e) and PATIENT(e, x))) (v + (66))
= λxλe (wash(e) & PATIENT(e, x))
c. [[Voice']] = (λxλe[AGENT(e,x)]) (λxλe (wash(e) & PATIENT(e, x)) (*via predicate conjunction*)
= λxλe (AGENT(e, x) wash(e) & PATIENT(e, x))
d. [[VoiceP]] = [λxλe (AGENT(e, x) wash(e) & PATIENT(e, x))] (Sergei)
= λe[AGENT(e, Sergei) & wash(e) & PATIENT(e, Sergei)]

The semantic derivation in (69a-d) produces a reflexive interpretation in the absence of a semantic reflexivizer or a bound variable.[34] Arguably, such a semantic derivation can happen only very locally involving adjacent argument slots within a phase. (69a-d) is reminiscent of the concept of "bundling" in the Theta System (Reinhart & Siloni (2005); Marelj & Reuland 2016). However, while identical in its semantic effect, the above concept differs from bundling. Under bundling, two thematic roles are united (either in the lexicon (*lexical bundling*) or in the syntax (*syntactic bundling*)) and this bundle of thematic roles is assigned under merge to the external argument position. In (69), the two thematic roles are never bundled but each is introduced in its canonical argument position. Only later on, the external argument saturates two different argument positions at the same time.

To conclude, transitive verbs combining with a SE-element might receive a reflexive interpretation in two different ways. Romance SE derives reflexive semantics via *'(AGREE-driven) anaphoric binding'*. East Slavic SE derives it via the purely semantic process in (69). In order to be able to refer to the latter process and in order to point out the relation to as well as the difference to lexical and syntactic bundling in the Theta System, I will call the process in (69) *'semantic bundling'*.

Anaphoric binding and semantic bundling are in complementary distribution in that a particular SE-element can only enter one or the other process depending on its φ-feature specification. However, different SE-elements in one language can very well enter different modes of interpretation. While Russian *-sja* triggers semantic bundling, Russian *siebe* enters anaphoric binding. Note, finally, that our treatment of *siebe* as an anaphor and of *-sja* as an argument expletive fits with the observation that only the former allows long-distance binding while the latter must be "bound" by a co-argument (i.e. be semantically bundled).[35]

All other Slavic languages besides the three East Slavic languages lack a reflexive verbal affix like *-sja* or Scandinavian *-s*. Nevertheless, Bulgarian (as well as Upper Sorbian) allows *by*-phrases in the SE-passive (Fehrmann et al. 2010). This is illustrated in (70).

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[33] More precisely, the process combines Event Identification and Variable Identification as defined in (i) (Higginbotham 1985) (cf. also Doron 2003, Kratzer 2009).
(i) Event and Variable Identification: $EV_{IDENT}(f_{<e,st>})(g_{<e,st>}) \rightarrow h_{<e,st>} = \lambda x \lambda e.\ f(x)(e) \ \&\ g(x)(e)$

[34] That Russian *-sja* is never a reflexive pronoun/anaphor but always reflects the absence of an argumental DP in syntax has already been concluded in Babby (1975).

[35] Trivially, the semantic derivation in (69) would also go through if the argument expletive *-sja* was not merged in object position. In fact, Alexiadou et al. (2014) argue that English zero-reflexive verbs of the type 'John washed' are syntactically unergative (there is no zero-anaphor in object position) and they undergo the semantic derivation in (69) without the semantically empty step in (69b). Since English lacks SE, this is not surprising. But the question then is why Russian strings of the type '*John washed*' cannot receive a reflexive interpretation? (The same holds in all other languages with SE). This must be a blocking effect. For some interface reason, semantically vacuous expletive marking must be preferred if possible, i.e. if the language makes available a suitable device. The driving force of this effect must relate to the cross-linguistic observation that reflexive interpretations prefer to be morphologically marked. Working out this competition is beyond the scope of the present paper. Marelj & Reuland (2016) present an alternative account where (68a) is derived via lexical bundling and *-sja* is merged (in a functional Case position) to absorb structural accusative case. I cannot go into details about their account, but it asks for a very particular treatment of structural case as a lexical feature and raises a number of questions, e.g. about the role of SE in impersonal passives and middles.

(70) Fabrikata se stroi (ot čuždestranna firma).
factory SE builds by foreign company
'The factory is being built (by a foreign company).'

Bulgarian SE (or dative SI) behaves then as coming from the lexicon as argument expletive lacking φ-features as in (71a).[36] Note, then, that the affixal vs. clitic status of a SE-element is not a predictor for the availability of *by*-phrases in SE-passives (as also observed by Fehrmann et al. 2010).[37]

(71) a. {D} (Syntax)
b. argument expletive (CI-interface)
c. /-se/ (PF-interface)

Finally, all remaining West and South Slavic languages (Czech, Slovak, Slovenian, Bosnian, Croatian, Serbian; Polish lacks SE-passives) behave like the Romance languages in that their SE-passives do not license *by*-phrases. This is illustrated for Czech in (72) (from Fehrmann et all. 2010).

(72) Šaty se právě šijí (*babičkou).
dress.PL SE right-now sew grandmother.INSTR
'The dresses are being made right now.'

These languages form SE-passives with the invariant clitic *se* (or *si*). Under the present analysis, these elements must enter the derivation with unvalued φ-features, as in (73). Therefore, they can be either translated into variables or into expletives, depending on context. As in all other Slavic languages, the φ-features are not reflected in phonology.

(73) a. {uφ, D} (Syntax)
b. bound variable/ argument expletive (CI-interface; cf. 23a, b)
c. 1st <-- /*se*/; 2nd <-- /*se*/, 3rd <-- /*se*/ (PF-interface)

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[36] Besides the clitic *se*, Bulgarian has two further, pronominal reflexive pronouns *sebe si* and *nego si* (cf. Schürks 2003). I assume that at least *sebe si* acts only as a bound anaphor, i.e. it starts the derivation with unvalued φ-features. However, due to their internal complexity, I refrain from providing ultimate lexical entries for these elements. Note that the three reflexive elements are not in complementary distribution in the local domain (but note that SE cannot be long-distance bound). I leave the competition between these elements aside.

(i) Ivan mrazi sebe si / nego si.
Ivan hates REFL SE/ him SE
'Ivan hates himself.'

(ii) Ivan se mrazi.
Ivan SE hates
'Ivan hates himself.'

[37] Marelj & Reuland (2016) suggest that the availability of *by*-phrases correlates with the affixal nature of the SE-element and they try to explain away the significance of *by*-phrases in Bulgarian SE-passives (they do not discuss Upper Sorbian). In particular, they argue that the preposition *ot* used as Bulgarian *by*-phrase does not take up the verb's implicit agent role but it introduces the thematic role *source*. As motivation they mention that *ot* can introduce what they call 'sources' in active as well as unaccusative clauses However, it is cross-linguistically well-attested that the preposition used as passive *by*-phrase has other uses, too. And typically, the canonical uses of such prepositions are found in the locational domain. Further, that the same preposition used as a passive *by*-phrase can introduce non-human entities/causers in unaccusative clauses has been discussed at length in Alexiadou et al. 2006; 2015; Schäfer 2012b). Bulgarian *ot* thus seems to behave just as Greek *apo* (from) which is a prototypical *by*-phrase in Greek medio-passives. An ultimate conclusion about *ot*-phrases in Bulgarian SE-passives would have to investigate whether these show a human restriction. Such an investigation is complicated by the syncretism with anticausative verbs which license non-human *ot*-phrases (cf. Alexiadou et al. 2006, 2015; Schäfer 2012b for discussion). If Bulgarian SE-passives do not license canonical *by*-phrases, then the availability of *by*-phrases in SE-passives might indeed correlate with the status of SE as an affix (though Upper Sorbian would have to be considered in detail, too). This would then suggest that the absence of φ-features on SE ultimately determines its affixal status.

To conclude, then, I suggested that the morpho-syntactic properties of the SE-element involved in SE-passives determine whether *by*-phrases are possible or not. All SE-elements have a D-feature that allows them to merge in the specifier of VoiceP. In some languages, this element comes also with a set of unvalued φ-features that need to be valued locally. In other languages, this element comes without φ-features. In the latter languages, SE can only function as an argument expletive. It cannot saturate the external argument variable introduced by Voice and, therefore, it does not prohibit the *by*-phrase adjoined to VoiceP from saturating, itself, the external argument variable. In the former set of languages, however, SE can function as an argument expletive only if it cannot saturate a variable. If Voice introduces such a variable and does not existentially bind it, the SE-element is forced to saturate this variable due to the translation mechanism in (23a, b), thereby blocking the *by*-phrase from saturating the variable. To keep the two types of SE apart, I will from now on use the terms 'SE_{PHI+}' and 'SE_{PHI-}'.[38]

This distinction between two types of SE-elements seems to be best supported in the Scandinavian languages, which have two SE-elements, one that inflects overtly, and one which does not inflect. In the Slavic languages, I argued (following insight by Burzio 1991, 1998), this distinction is blurred by a particular spell-out rule that maps the φ-feature variation of DP~~uφ~~ to one default form. This means, however, that the story presented for Slavic is motivated basically on the basis of suggestive parallelism with the Scandinavian languages. Strictly speaking, I have simply replaced the observation that SE-passives in some Slavic languages do and in other Slavic languages do not license *by*-phrases with the claim, motivated by cross-linguistic comparison, that the former have a SE-element without φ-features while the latter have a SE-element with φ-features. In the long run, we must find independent evidence within Slavic for this distinction. I will discuss two areas of potential evidence below.

6. More on object expletivization: object drop and semantic bundling

The Scandinavian and East Slavic languages share a phenomenon that supports the idea that the SE-element involved in their SE-passives is "lexically born" as an argument expletive. This phenomenon, which is called 'absolute construction' in Scandinavian (Solstad & Lyngfelt 2006; Engdahl 2006: fn. 15) and 'active objectless meaning' (e.g. Babby 1975) or 'antipassive' in East Slavic (e.g. Guhl 2010) is illustrated in (74) for Swedish and in (75) for Russian. I will use the term 'object expletivization', because the argument expletive *-s/-sja* replaces the canonical object argument. Indeed, all verbs entering the construction are canonical transitive verbs as illustrated in (76) for Russian. If these verbs combine with *-s/-sja*, as in (74) and (75), they are not interpreted reflexively but transitively in that they involve an implied direct object.[39] Crucially, the implied object cannot be taken up in an oblique phrase as illustrated in (77). Finally, this use of SE is idiosyncratically restricted in that it works only with a relatively small set of verbs. (The latter property makes an analysis as a canonical antipassive rather implausible).

(74) a. Kalle reta-s.
Kalle tease-SE
'Kalle is teasing someone.' (Solstad & Lyngfelt 2006: p. 6; ex. (10))
b. Hunden bit-s.
the.dog bite-SE
'The dog tends to bite.' (Engdahl 2006: fn. 14)

(75) b. Sobaka kusaet-sja.
dog bites-SE
'The dog bites/is fierce.' (Guhl 2010: 266; ex. (21b))
a. Krapiva žžet-sja.
nettles stings-SE

[38] At this point, I can discuss quickly the source of the cross-linguistic variation. German and Polish both have a SE-element used in anticausatives but they do not form SE-passives. Under the present account, these languages lack the Voice head in (32f). Note however, that the present account allows that a language with a SE-element of the East Slavic type lacks (32f) but has (32a); such a language should form SE-passives with obligatory *by*-phrases. However, if the main purpose of a passive is the suppression or downgrading of the external argument, it is not very plausible that a language develops this constellation.

[39] The implied object does not have to be human, contrary to what is sometimes stated in the literature. Instead, the implicit object is interpreted as being an ontologically *prototypical* internal argument of the verb, whether human or not. It is, thereby, interpreted exactly as the implicit object of verbs under object-drop (see below).

'Nettles sting.' (Babby 1975: 322; ex. (47a))

(76) a. Sobaka kusaet rebenka.
dog bites child
'The dog bites the child.' (Guhl 2010: 266; ex. (21a))
b. Èto gorčia žžet jazyk.
this mustard stings tongue
'This mustard stings/burns (my) tongue.' (Babby 1975: 322; ex. (47b))

(77) Sobaka kusaet-sja *rebenka/ *rebenku/ *rebenkom/ *rebenke.
dog.nom bite-SE child.GEN child.DAT child.INSTR child.PREP
'The dog bites (the child)' (Guhl 2010: 266; ex. (22))

For speakers of languages other than Mainland Scandinavian and East Slavic, the above use of SE is rather bizarre: Obviously, SE is somehow associated with the internal argument (as the prototypical external argument is projected and an object is missing). If SE is SE_{PHI+}, it should be interpreted as a subject-bound variable due to the rule of allosemy in (23a, b). But such an interpretation is nonsensical. And indeed, these examples are not interpreted reflexively in languages involving the lexically born argument reflexive SE_{PHI-}.

Note however, that the ultimate interpretation of these example is not bizarre at all, as basically all Indo-European languages can express the very same meaning under ordinary object drop, as in the following English examples (cf. Levin 1999, Rappaport Hovav & Levin 2001, Alexiadou et al. 2014a). (While it is true that examples of the type in (74) and (75) often denote characterizing sentences and not actual events, the same holds for the very same examples under object drop in e.g. English).

(78) a. Warning: This dog bites
b. This needle stings
c. John ate
d. Mary read

Alexiadou et al. (2014a) provide a number of arguments that the internal argument position in examples such as (78a-d) is syntactically empty as indicated in (79a). The internal argument slot of the verb has not been saturated by any DP, so that the denotation of the vP-node is of type <e,st> (79b). In order to save the derivation from a type mismatch (Voice can only combine, via event identification, with a predicate of type <s, t>), they propose that at this point Existential Closure (EC, 79c) can apply. EC closes off the open argument slot (cf. Chung and Ladusaw 2004) and derives the meaning of vP1 in (79d).[40] Afterwards, VoiceP combines with the vP1 node via event identification. The existentially closed argument slot is ontologically interpreted as a prototypical theme of the verb, in the case of *eat*, some food, in the case of *bite* something bitable (a person or an animal), in the case of *read*, some kind of text

(79) a. $[_{VOICEP}\ [_{DP}$ Mary $]\ [_{VOICE'}$ Voice $[_{vP1}$ EC $[_{vP}$ eat $]]]]$
b. [[vP]] = λxλe.eat(x)(e)
c. [[EC]] = λfe,stλe□ x. f(x)(e)
d. [[vP1]] = λe□ x. eat(x)(e)
e. [[Voice]] = λxλe. AGENT(x)(e)

[40] Alternatively, EC does not apply and a reflexive interpretation is derived via predicate conjunction as in (69); see fn. 35 on English 'John washed'. The choice between the two semantic operations is driven by world knowledge. Only verbs expressing naturally reflexive events such as *wash* or *shave* (cf. Kemmer 1993) lend themselves to a reflexive interpretation, though a derivation as in (79) is possible too, in the right context (c.f. '*John washed* (*something*)'). For other verbs, the derivation in (79) involving EC is chosen because a reflexive interpretation is conceptually unexpected. If a reflexive interpretation is, nevertheless, intended by the speaker, a heavy reflexive pronoun triggering AGREE-driven binding must be used (see Alexiadou et al. (2014a) for discussion). The formal competition between these two modes of forming reflexive interpretations is not worked out here. The point relevant here is that English *'John washed*' and '*John ate*' undergo the same semantic derivations as Russian *'John washed-sja*' and *'The dog bites-sja*'. The only difference is that English leaves the object position radically empty (arguably, because it lacks SE), while Russian merges an argument expletive there.

f. [[Voice´]] = λyλe□ x. eat(x)(e) & AGENT(y)(e)
g. [[VoiceP]] = λe□ x. eat(x)(e) & AGENT(mary)(e)

Since examples as in (74) and (75) are interpreted as their English counterparts involving object drop, they should undergo basically the same semantic derivation as object drop in (79). The only difference is that SE_{PHI-} denoting the identity function over entities is merged in the object position in (74) and (75). Nothing about the meaning of (74) and (75) is idiosyncratic, then. However, the set of verbs entering 'object expletivization' in Scandinavian and East Slavic behaves idiosyncratically in that their object position must be obligatorily filled, at least by an argument expletive. This view is further corroborated by the observation that object drop and 'object expletivization' are in complementary distribution in Mainland Scandinavian and East Slavic; verbs undergoing object drop do not allow 'object expletivization' and the other way around. This is exemplified for Russian in (80) (adapted from Guhl 2010).

(80) a. Mal'čik čitaet(*-sja).
boy reads SE
'The boy is reading.'
b. Sobaka kusaet*(-sja).
dog bites SE
'The dog is fierce.'

There seems to be an interesting difference between object drop and 'object expletivization' that corroborates the claim that the latter process involves an argument expletive merged in the canonical object position. As Levin (1999) and Rappaport Hovav & Levin (2001) discuss, object drop is possible only with mono-eventive verbs such as *sweep* in (81) but not with bi-eventive verbs (i.e. verbs expressing a change-of-state) such as *break* in (82). Rappaport Hovav & Levin (2001) derive this difference from their Argument Realization Principle in (83):

(81) a. John swept (the floor)
b. [x ACT <sweep> y] (mono-eventive verb; a.k.a. 'non-core transitive verb')

(82) a. John broke *(the vase)
b. [[x ACT] CAUSE [y BECOME <broken>]] (bi-eventive verb; a.k.a. 'core transitive verb')

(83) Argument Realization Principle (Rappaport Hovav and Levin 2001: 779):
There must be one argument XP in the syntax to identify each sub-event in the event structure template

The y-variable in (81b) can remain without syntactic realization because the only event predicate ACT is identified already by the subject DP. In (82b), however, the y-variable cannot remain without syntactic realization because the subject DP is associated with a different subevent than the y-variable. If the internal argument would be dropped, (83) would be violated as the subevent associated with the y-variable would lack syntactic identification.

Note in this connection that the verbs that trigger idiosyncratically 'object expletivization' instead of object drop as in (74) and (75) involve mono-eventive verbs. However, Say (2005) shows that 'object expletivization' is actually a productive process in Russian (at least in spoken language). He provides an extended set of examples where the object is replaced with *-sja* and cannot appear as an additional oblique. However, in contrast to the examples of the type in (75), the object needs to to be contextually salient. Interestingly, basically all his examples involve bi-eventive verbs expressing a change-of-state. I illustrate this with the following examples involving 'close' (Say 2005: 267; ex. (26)-(29); glosses due to Daniil Bondarenko (p.c.)):

(84) a. Nu davaj, Lenka, zakryvaj-sja.
well come.on, Lenka, close.2PERS.SG.IMPER-SE
'Well, Lenka, close it!'
(*Door*; the addressee stands in the doorway of a flat from which the speaker has just come out).
b. Xorošaja xozjajka zakryvaet-sja rafinirovannym.
good housewife close.3PERS.SG-SE refined.INSTR
'A good housewife closes her jars with refined (oil).'
(*Jar*; = 'Uses refined oil for impermeabilisation of the jars'; registered in a TV-advertisement of refined oil).
c. Uže zakryvat'-sja pora.

already close.INF-SE time
'It's already time to close.'
(Computer programme; = 'it is time to close/stop the computer programme').

d. Nu ˇcto, zakroem-sja.
well what, close.FUT.1PERS.PL-SE
'Well then, let's close our cards.'
(Playing cards; in a card game, in which cards could be either 'opened' or 'closed', that is, kept unshown to other players).

Note that the above examples would be ungrammatical under object drop (cf. *'Well, Lenka, close!'). The principle in (83) derives this, as '*close*' is a bi-eventive verb whose resultative subevent needs syntactic identification by a DP. The very same principle, together with the assumption that *-sja* is an argument expletive, can, however, explain why the Russian examples are grammatical. *-Sja* is merged in the canonical object position of a bi-eventive verb where it identifies the resultative event syntactically.

Two properties follow immediately. First, as mentioned, the missing object must be contextually salient with 'object expletivization' of bi-eventive verbs but not with mono-eventive verbs. We can derive this from the observation that mono-eventive verbs provide much more information about the ontological properties of their internal argument than bi-eventive verbs (Levin 1999). As can be seen in the event decompositions in (81b) and (82b), the internal argument of mono-eventive verbs is actually an argument of the verbal root (this is reflected in (79) in that the internal argument is not an argument of a thematic predicate (*patient* or *theme*; cf. Levin 1999), but directly of the verbal root, while the internal argument of bi-eventive verbs is not an argument of the root but of the internal sub-event. So while the former verbs have ontologically prototypical objects, the latter don't. Therefore, the prototypical ontological properties of the object of mono-eventive verbs can be reconstructed under existential closure, but the object of bi-eventive verbs must be contextually bound.

Second, while 'object expletivization' with mono-eventive verbs is idiosyncratically forced by a particular set of mono-eventive verbs that force syntactic projection of their internal argument position, such a restriction does not seem to hold with 'object expletivization' of bi-eventive verbs, i.e. the latter construction is, in principle, productive (modulo contextual licensing). This is so as in the latter case simply no syntactic alternative exists. Ordinary object drop would not be possible due to (83).

To conclude, that object drop can be marked by SE in Mainland Scandinavian and East Slavic languages, corroborates the claim the relevant SE-elements in these languages are "born" as argument expletives (SE_{PHI-}). And as I have argued above, it is this status as a "born" argument expletive that makes *by*-phrases in the SE-passive of these languages possible. Finally, all Slavic languages that do not license *by*-phrases in their SE-passive do not have object expletivization (e.g. Médova 2009).[41] While this correlation is suggestive, it is, however, not a perfect one. Bulgarian

[41]Some authors argue that all Slavic languages have 'object expletivization' (e.g. Fehrmann et al. 2010; see also Marelj & Reuland 2016: fn. 13). However, clear cases of 'object expletivization' in Scandinavian and East Slavic do not allow the internal argument to appear in an oblique phrase (cf. 77). This is not the case with the alleged cases of object expletivization provided for West and South Slavic languages in the literature (cf. i-iii). I would argue that SE in the examples below works as a bound anaphor. Note that at least examples of the type in (i) and (iii) exist in the Romance and Germanic languages, too (pace Rivero & Sheppard 2003).

(i) Devojčice se štipaju (sa dečacima).
girls SE pinch with boys.INST
'The boys pinched each other/someone/(with the girls)' (Serbian, p.c. Boban Arsenijevic; cf. Fehrmann et al. 2010:207; ex. (11))

(ii) a. Direktor podpisal dogovor.
director signed contract
'The director signed the contract.'

b. Direktor podpisal-sja (pod dogovorom).
director signed-SE under contract.INSTR
'The director signed (the contract).' (Russian; Fehrmann et al. 2010:208; ex. (12 a, b))

(iii) a. Chłopiec trzymał gałąź.
boy held branch
'The boy held the branch.'

b. Chłopiec trzymał się gałęzi.
boy held SE branch.GEN

SE-passives license *by*-phrases but the language lacks object expletivization (p.c. Todor Koev).[42]

We might hope to find more stringent evidence for the difference between SE_{PHI-} and SE_{PHI+} at the semantic side, in particular in the domain of semantic reflexivity. In semantically reflexive contexts, only SE_{PHI+} is interpreted as an anaphoric variable; SE_{PHI-} lacks any semantic content but just reflects the application of semantic bundling. However, I will conclude below that no straightforward semantic difference between binding and bundling (i.e. SE_{PHI+} and SE_{PHI+}) has been identified so far in the literature.

The absence of long-distance binding mentioned above for East Slavic *-sja* is only compatible with the idea that *-sja* reflects semantic bundling because independent reasons could make long-distance anaphoric binding of a potential anaphor *-sja* impossible, for example the morphological property of being an affix (which might block (covert) movement into a higher locality domain).

Marelj & Reuland (2016) argue for a partition of Slavic SE similar to the one I suggest here in that they assume that East Slavic SE is involved in (however lexical) bundling while South and West Slavic SE involves AGREE-driven anaphoric binding. These authors, then, face a similar problem as me, i.e. "how to distinguish lexical bundling from a syntactic operation effecting reflexivization" (Marelj & Reuland (2016:189). They hypothesize that bundling can derive only a sloppy interpretation under object deletion while syntactic binding should be able to produce a sloppy and a strict reading. This is suggested by the English contrast in (85) vs. (86) (cf. Sells et al 1987).

(85) John washed more often than Mary
  a. 'John washed himself more often than Mary washed herself.'
  b. *'John washed himself more often than Mary washed John.'

(86) John defends himself better than Mary
  a. John defends himself better than Mary defends herself
  b. John defends himself better than Mary defends John

However, as they also mention, SE in e.g. Serbo-Croatian (see 87 below from Sells et al. 1987) and French (see Labelle 2008), which they analyze as bound anaphors, allows only a sloppy reading. They try to derive the absence of a strict reading from the clitic nature of SE in Serbo-Croatian and French. However, even German SE in (88), also analyzed as a bound anaphor by Marelj & Reuland, also only allows a sloppy reading even though it is not a clitic and can be focused. This suggests that syntactically driven binding, at least if it involves a SE-reflexive, simply does not produce a strict reading (though see Sportiche (2014) for a strict reading of French SE in the context of the focus sensitive operator 'only'). In any case, the topic is too intricate in order to make any prediction about the status of SE as SE_{PHI+} or SE_{PHI-} at the present time.

(87) Petar se branio bolje nego Ana.
  Peter SE defended better than Ana.NOM
  a. Peter defends himself better than Ana (defends herself). (Sloppy)
  b. *Peter defends Peter better than Ana (defends Peter). (Strict)

(88) Maria verteidigt sich besser als der Hans
  Mary defends SE better than the. NOM John
  a. Mary defends herself better than John (defends himself). (Sloppy)
  b. *Mary defends Mary better than John (defends Mary). (Strict)

As an alternative test to discriminate between binding and bundling, Marelj & Reuland (2016) discuss proxy readings (in so-called Madame Tussauds contexts; Jackendoff 1992). They predict that bundling should never allow for proxy readings (correctly, in my view) while syntactically driven binding always should (the latter seems to be empirically wrong). Based on the contrast in (89a, b), they argue that the Dutch SE-reflexive *zich* is involved in lexical bundling while the heavy reflexive *zichzelf* must be involved in syntactically driven anaphoric binding.

'The boy held on to the branch.' (Polish; Fehrmann et al. 2010:208; ex. (13 a, b))

[42] One way to account for this formally could be to propose that Bulgarian SE is ambiguous between SE_{PHI+} and SE_{PHI}, and that the latter is restricted to merge only in particular specifier positions (e.g. Spec,VoiceP). Cf. Wood (2014, 2015), who argues that such c-selectional idiosyncrasies exist in the case of the Icelandic argument expletive *-st*, which can merge in the specifier of VoiceP and PP but not in the specifier of ApplP or in a verb's object position.

(89) Upon a visit in a wax museum:

a.	Plotseling	begon	Ringo	zich	te ontkleden.	(no proxy reading)
b.	Plotseling	begon	Ringo	zich-zelf	te ontkleden	(proxy reading available)
	suddenly	began	Ringo	SE(-SELF)	to undress	

'All of a sudden Ringo started undressing (himself)'.

English behaves similarly in that only the anaphor *himself* allows a proxy-reading while a zero reflexive does not.

(90) (Upon a visit in a wax museum):
a. All of a sudden Ringo started to undress/undressing (no proxy reading)
b. All of a sudden Ringo started undressing himself (proxy reading available)

However, both the English and, in particular, the Dutch case could very well find an alternative explanation.[43] It is well known that Dutch SE-reflexive and English zero-reflexive verbs are possible only with naturally reflexive predicates (Kemmer 1993). Crucially, as Geurts (2004) discusses for Dutch and Alexiadou et al. (2014) discuss for English, natural reflexivity is not fully determined at a lexical level but it is context dependent. The absence of a proxy reading in (89a) and (90a) follows immediately if it is understood that 'undressing x' is a naturally reflexive event but 'undressing x owns statue' is not.

German as well as the Romance and East and West Slavic languages do not restrict SE to naturally reflexive verbs. However, here the picture involving proxy-readings is by far not so clear as the theoretical distinction between bundling and binding would have it. Marelj & Reuland report that Czech and French SE allow a proxy reading for SE (cf. Labelle 2008 for French). However, German SE, which they also analyze as being an anaphor, does not (and, in my view, does not even license it in the context of the intensifier *selbst* (self)).

(91) Plötzlich hat Ringo angefangen, sich (selbst) auszuziehen. (no proxy reading)
suddenly has Ringo started SE (SELF) un.to.dress
'All of a sudden Ringo started undressing (himself).'

Further, Marelj & Reuland report that most Serbo-Croatian, Italian and Spanish speakers either reject a proxy reading with simple SE, or at least prefer the heavy reflexive to derive a proxy reading. In conclusion, then, it seems fair to say that languages where SE is involved in syntactically driven anaphoric binding (under both the present approach as well as under the approach by Marelj & Reuland) do not necessarily allow a proxy reading for SE. This, however, means that we have not yet found any semantic test that allows determining whether SE in a language is SE_{PHI+} or SE_{PHI-}. Hopefully, future research will identify such tests or modify our view on the tests above.[44]

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[43] Note that under the present approach Dutch SE is not SE_{PHI-} as it inflects for φ-features of its antecedent. Dutch SE is then identical to German SE in involving binding; however, only German SE can be stressed.

[44] A further test is proposed in Doron & Rappaport Hovav (2007) for French (cf. i), which was applied to German in Schäfer (2012a) (cf. ii). As Doron & Rappaport Hovav point out, bundling and binding make different predictions about whether it should be possible to focus the two θ-roles of a reflexive verb independently of the other with the help of an intensifier. The ambiguity in (i) and (ii) then suggest that French and German SE involve binding. (To my knowledge, this test has not been applied to any Slavic languages, yet.).

(i) Jean-Pierre s'est dénoncé lui-même.
Jean-Pierre SE is denounced him-self
(a) 'Jean-Pierre denounced himself, it was not others who denounced him.'
(b) 'Jean-Pierre denounced himself, he did not denounce others.'

(ii) Morgens wäscht sie sich immer/erst mal selber.
at.morning washes she SE always/first-of-all self
(a) agent focus: She washes herself, no-one else washes her. (context: She is a disabled patient.)
(b) theme focus: She washes herself, she washes no-one else. (context: She is a nurse.)

Note that the intensifier *selbst* in (ii) is not adjacent to SE. This shows that we are really investigating the properties of SE, not the properties of a complex reflexive pronoun. Note however, that even under adjacency German *sich selbst* should not be analyzed as a morphological unit, i.e. as a complex reflexive pronoun as there is no context where *sich selbst* is possible while simple *sich* is not (cf. also the discussion around (91)).

Dimitriadis & Everaert (2014) argue that this test shows that Dutch SE is involved in Bundling, cf. (iii) where no patient focus is available. However, there exists the alternative explanation that the Dutch intensifier *zelf* can be

7. Person restrictions

SE-reflexive and SE-anticausative verbs in Romance freely allow 1st and 2nd person nominative themes (provided that SE is replaced by a 1st or 2nd person object clitic). Eventive Romance SE-passives, on the other hand, have been claimed to show a person restriction in that the theme can only be 3rd person. It turns out to be rather intricate to validate this claim and further research is definitely necessary.[45] Nevertheless, I will tentatively argue that the restriction is in fact valid and I will suggest a way how it could be derived within the present theory of SE-passives.

While 1st and 2nd person themes are indeed out in Romance SE-passives, the problem is that SE-marked strings often reject a passive interpretation even for 3rd person. The examples below in (92a, b) involve the naturally reflexive verb 'wash', and such verbs make a reflexive interpretation so prominent that a passive interpretation is blocked (cf. Zribi-Hertz 2008):

(92) a. Tu t'es lavé avec du savon
You TE are washed with of.the soap
'You washed (yourself) with soap.'
*'You were washed with the soap.'

b. Jean/Il s'est lavé avec du savon
Jean/he SE is washed with of.the soap
'John/He washed (himself) with soap.'
*'John/He was washed with the soap.'

It should be possible to overcome this problem if the nominative DP is assigned properties that make a reflexive event implausible as in (93), where the theme is non-human, and in (93b), where, by world knowledge, the human theme lacks the relevant agentive properties.

(93) a. La voiture s'est lavée avec du savon
the car SE is washed avec of.the soap
#'The car washed (itself) with soap.'
'The car was washed with soap.'

b. Le nouveau-né s'est lavé dans la baignoire
the newborn SE is washed in the tub
#'The newborn washed (herself) in the tub.'
'?The baby was washed in the tub.'

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associated with Dutch *zich* only under adjacency. That is, it could be that the availability of the complex reflexive pronoun *zichzelf* blocks the association of *zelf* with *zich* in (iii).

(iii) In de ochtend wast hij zich eerst zelf
in the morning washes he SE first self
a. agent focus = He washes himself, no-one else washes him.
b. *patient focus = He washes himself, he washes no-one else.

[45] The existence of a person constraint on SE-passives is sometimes stated too hastily. One common mistake involves a confusion of passive SE and impersonal SE (cf. Dobrovie-Sorin 2016 for this point). In Romance SE-passives, the SE-marker would arguably have to co-vary in φ-features with the nominative theme (cf. generic middles below), while in impersonal SE-constructions, the SE-marker is invariable and the theme must be accusative. It is then expected, independently of any person restriction, that strings as in (i) are ungrammatical: In order to form a SE-passive, the SE-element would have to agree in φ-features with the nominative theme, and in order to form an impersonal se-construction, the theme would have to be an accusative pronoun and verbal agreement would have to be default.

(i) a. *In televisione si vedo spesso io. (Italian, taken from D'Alessandro 2007: 89)
in television SE see.1.sg often I
b. * Desde aquí se vemos (nosotros) (Spanish, taken from Mendikoetxea 2008:313)
from here SE see.1PL we

A second mistake involves the presentation of ungrammatical examples with 1st/2nd person themes such as (ia)) without further checking whether a human 3rd person theme would make a passive interpretation available (cf. 92b).

Note however that (93b), under its passive interpretation, still sounds slightly odd to French speakers even though the competing reflexive interpretation is implausible. (In fact, Zribi-Hertz (2008) argues that even pragmatically implausible reflexive interpretations can block passive interpretations in French and she also proposes an explanation as to why this blocking effect should be stronger in French than in other Romance SE-passives.)

Dobrovie-Sorin (2016), building on unpublished work by Giurgia (2015), mentions that Romanian SE-passives disallow even third person themes if these themes would require clitic-doubling and differential object marking by the preposition *pe* when construed as objects of the corresponding active verb. Similarly, Mendikoetxea (2008) suggests that 3rd person themes are unacceptable in Spanish SE-passives if they would receive differential object marking by the preposition *a* in active clauses.

To conclude, while 1st and 2nd person themes are arguably not allowed in Romance SE-passives, there are also restrictions on 3rd person themes. The question remains then whether there is really a morpho-syntactic person restriction on SE-passives (to which further restriction about 3rd person themes would have to be added) or whether the rejection of 1st and 2nd person themes should be subsumed under more general semantic or ontological restrictions on the theme of SE-passives. If the theme in SE-passive is not allowed to be human, definite or perhaps specific (properties that trigger differential object marking or enforce a reflexive interpretation), the person restriction could be subsumed under such a restriction.

As an argument in favor of a purely morpho-syntactic person constraint it was mentioned that generic Middles can be found with 1st or 2nd person themes (cf. Zribi-Hertz 1982, 2008; Postal 1989; Rezac 2011: 303; Dobrovie-Sorin 2016). Examples are given in (94):

(94) a. Si tu étais une chemise, tu te vendrais mal.
if you were a shirt, you TE would.sell badly
'If you were a shirt, you would seel badly.' (Postal 1989: 105)

b. Je me range n'importe où, je me transporte facilement, je vous suis indispensable.
'I can be stowed anywhere, I transport easily, I am indispensable to you.
(Suitcase speaking in an advertisement.) (French, Zribi-Hertz 1982: 363)'

c. Vous allez voir, je me transporte facilement, je suis la perle de paralytiques.
'You will see, I transport easily, I am the pearl of paralytics.'
(A wounded person to her rescuers.) (French, Zribi-Hertz 1982: 365)

Dobrovie-Sorin (2016) argues that all counterexamples to the person restriction in the literature involve generic middles. This could suggest that SE-passives and generic middles differ fundamentally in their morpho-syntactic properties (e.g. Dobrovie-Sorin 2007; see also below). Alternatively, a semantic explanation could be pursued. SE-passives are eventive and generic middles are stative and generic/dispositional. These semantic properties might interact with the general semantic restrictions on themes in SE-passives of the type mentioned above (cf. Zribi-Hertz 2008, see also Rezac 2011: 303 for suggestions into this direction).

While semantic and ontological constraints arguably restrict the theme in SE-passives, carefully constructed minimal pairs suggest that there is indeed (a residue of) a morpho-syntactic person constraint (data due to Fabienne Martin (p.c.)). Note first that French lacks differential object marking, which seems to somehow trigger the unavailablility of many potential SE-passives in Romanian and Spanish. Recall then that a human DP with low agentive properties can make a passive interpretation available. The effect is repeated in variation in (95a). However, (95b, c) show that with 1st and 2nd person themes, the passive interpretation is still not available.

(95) a. Quand elle était bébé, elle s'est lavée dans une baignoire.
when she was baby, she SE is washed in a tub
'When she was a baby, she was washed in a tub.'
#'When she was a baby, she washed (herself) in a tub.'

b. Quand tu étais bébé, tu t'es lavée dans une baignoire.
#'When you were a baby, you washed (yourself) in a tub.'
*'When she was a baby, you were washed in a tub.'

c. Quand j' étais bébé, je me suis lavée dans une baignoire.
#'When I was a baby, I washed (myself) in a tub.'
*'When I was a baby, I was washed in a tub.'

A similar example is provided below. First, both examples in (96a, b) are not acceptable. A reflexive reading is implausible, and a passive reading is not available.

(96) a. *l'homme s'est recruté immédiatement.
the man SE is recruted immediately
'#The man recruited himself immediately.'
'*The man was recruited immediately.'
b. *tu t'es recruté immédiatement.
'#You recruited yourself immediately.'
'*You were recruited immediately.'

However, a particular context improves the passive reading for 3rd person themes (note that the theme is plural which might be relevant; further, the addition of the adverb seems to be highly relevant - see Zribi-Hertz 2008 for further examples where adverbs relating to a point of view improve passive readings). However, this improvement does not carry over to minimal pairs where the theme is 1st or 2nd person.

(97) a. Les soldats se sont essentiellement recrutés dans la province du sud.
the soldiers SE are essentially hired in the province of.the south
'The soldiers were essentially hired in the southern province.'
b. *Vous, soldats, vous êtes essentiellement recrutés dans la province.
'You soldiers, you were essentially hired in the southern province.'
c. *Nous, soldats, nous sommes essentiellement recrutés dans la province.
'We soldiers, we were essentially hired in the southern province.'

So while many questions remain open, such data suggest that Romance SE-passives show a formal person restriction that must be kept apart from any further semantic restrictions on the theme in SE-passives.

How then could such a restriction be implemented in the present theory of SE-passives? Since the same SE-element is involved in SE-reflexive verbs, SE-anticausative verbs and SE-passives (as well as SE-middles), the person constraint cannot be connected to lexical properties of this item. Furthermore, SE-anticausatives and SE-passives (and SE-middles) are identical in phrase structural terms (see section 3). Both involve an expletive DP in spec,VoiceP and the nominative theme/patient is first merged in the direct object position.

The only difference between SE-passives and SE-anticausatives lies in the semantics; only the former involve the medio-passive head in (23f) which introduces an existentially bound implicit external argument. But how should the semantic presence of an agent argument influence the morpho-syntactic features of the theme?

Before answering this question, let us see how-SE passives in Mainland Scandinavian and Slavic languages behave. While the Scandinavian languages prefer canonical passives if the theme is animate or definite, SE-passives with 1st or 2nd person theme are nevertheless possible (cf. the Swedish examples in 98; p.c. Björn Lundquist). (Note that a reflexive interpretation does not compete with a passive interpretation in Swedish).

(98) a. Jag förhörde-s av en kvinnlig polis.
I interrogated-SE by a female police.officer
'I was interrogated by a female police-officer.'
b. Du räddade-s från elden av en hund.
You saved.-SE from the.fire by a dog
'You were saved from the fire by a dog.'

Further, Medová (2009) reports that Slavic SE-passives differ from Romance SE-passives in that they do not show a person constraint. She illustrates this with Czech examples. While she acknowledges that reflexively marked strings tend to receive a reflexive interpretation in out-of-the blue contexts, she shows that passive readings with 1st and 2nd person themes can be found or triggered by particular contexts.[46]

(99) a. Tímto se prohlašujete za manžele.
this.INS SE pronounce2.PL.PRES for man.and.wife

[46] The examples in (99) involve pro-drop of the nominative theme and only agreement on the verb reflects the φ-features of the theme. With overt pronouns, word order seems to strongly influence the readings available. With pronouns in the first position, a reflexive reading is strongly favored, with the pronoun as the last element in the sentence, the passive reading is most likely triggered (Medová 2009).

'By this, you are pronounced man and wife.'

b. Vyzýv.te se, abyste se dostavil na Vojenskou správu.
call.upon2.PL SE COND2.PL SE present to military office
'You are by this summoned to present yourself at the military office.'(Czech)

To this, we can add the Russian examples of SE-passives with 1st and 2nd person themes in (100), which are web-attested (Daniil Bondarenko (p.c.)).

(100) a. Mn'e prishlo soobsh'enije o tom,
to.me came message about that,
chto ja priglashajus' na rabotu v Rizhskuju bazu tralovogo flota
that I invite. SE to job in Riga base trawl. GEN fleet.GEN
'I have received a message stating that I am invited to work at the Riga Trawl Fleet base.'

b. Ja obvin'jajus po stat'je "dacha lozhnikh pokazanij"
I accuse.GEN on article.PREP "giving false.GEN statements.GEN"
'I am accused of perjury.'

c. Itak, ch'elovek, ti prigovarivajesh'sja k dvum vekam varki v kotle!
so, human, you sentence.SE to two. DAT centuries.DAT boiling. GEN in pot!
'So, human, you are sentenced to 2 centuries of boiling in a pot!'

To conclude, the person constraint exists only in languages where SE inflects overtly for φ-features. (Recall that I assume that Czech SE is SE_{PHI+}, but that φ-feature distinctions are impoverished at PF). The empirical picture is abstracted below:

(101) a. [T [$_{VoiceP}$ SE $Voice_{e\text{-}bound\text{-}active}$ [$_{vP}$ DP_{3rd}]]] (Romance & Scandinavian & Slavic)
b. [T [$_{VoiceP}$ SE $Voice_{e\text{-}bound\text{-}active}$ [$_{vP}$ $DP_{1st/2nd}$]]] (Scandinavian & Slavic)
b'. *[T [$_{VoiceP}$ ME/TE $Voice_{e\text{-}bound\text{-}active}$ [$_{vP}$ $DP_{1st/2nd}$]]] (Romance)

I suggest deriving the ungrammaticality of (101b') along the lines of a proposal in Legate (2012, 2014) for passives in Acehnese. In Acahnese passives, the theme precedes the verb and the *by*-phrase introduced by the preposition *lé* follows the verb. Crucially, the verb is prefixed by the morpheme *di* in (102), which does not reflect the features of the raised internal argument but the *third-person familiar* features of the agent. As (103a-c) show, the prefix varies according to the person and politeness features of the agent. Note that such prefixs also appear if the *by*-phrase is absent.

(102) Aneuk nyan di-kap (lé uleue nyan). (Legate 2012: 510; ex. 43a)
child DEM 3.FAM-bite by snake that
'The child was bitten (by the snake).'

(103) a. Aneuk miet nyan meu-tingkue lé kamoe. (Legate 2012: 510; ex. (45a-c))
child small DEM 1.EXCL-carry LE 1.EXCL
'The child is carried by us.'

b. Aneuk miet nyan neu-tingkue lé droeneuh.
child small DEM 2.POL-carry LE 2.POL
'The child is carried by you.'

c. Aneuk miet nyan geu-tingkue lé gopnyan.
child small DEM 3.POL-carry LE 3.POL
'The child is carried by him/her.'

Legate argues that the prefix is not a pronoun nor is it an agreement marker in a syntactic sense, that is, it does not reflect a syntactic relationship between a functional head and an argument. (For example, in some cases a kinship term like 'father' or 'teacher' can replace the ordinary 2nd person prefix, resulting in a particularly polite second-person interpretation of the agent.) Instead, she argues, the prefix is the morphological realization of the functional head introducing the external argument, i.e. Voice in the present terminology. She further argues that the features of the prefix modify, but do not saturate the external argument variable introduced by Voice. More

technically, these features restrict the external argument variable in the sense of Chung & Ladusaw (2004). So the Voice head realized by *geu* in (103c) above introduces an external argument variable via the predicate AGENT and restricts this AGENT-predicate so that the agent variable must be 3rd person and of a rank higher than the speaker. Afterwards, the external argument variable is either existentially bound by the Voice-head or saturated by a *by*-phrase, as suggested in Bruening (2012).

Legate (2014) extends her proposal about Acahnese to the so called New Passive (or New Impersonal) in Icelandic (first discussed in Maling & Sigurjónsdóttir 2002). Without going into any details, she argues that the Voice head in this construction is also restricted, but this time the (covert) restricting features are located in the specifier of VoiceP. I will take over the idea that elements in Spec,VoiceP, in particular φ-feature bundles in Spec,VoiceP, can restrict the interpretation of the argument variable introduced by Voice.[47]

With this background, we can turn back to the structure in (101b'). The idea is that the presence of ME/TE in Spec,VoiceP restricts the variable introduced by Voice to be 1st and 2nd person. Voice itself, existentially quantifies this variable.[48] Now while there is nothing wrong with an implicit agent being restricted to be 1st or 2nd person, the problem of this structure becomes obvious if we recall that the theme in this structure is a 1st or 2nd person pronoun (that starts the derivation with fully valued φ-features). This amounts to a classical disjoint reference effect (Principle B; Chomksy 1981).[49] To see this, recall from Kratzer (1996) that canonical passives and adjectival passives differ in the presence of a disjoint reference effect. In (104a), the child cannot be the agent of the washing event while in (104b), it can. Kratzer proposed that this is so as the participle in the former case involves Voice introducing an external argument at the semantic level, while the adjectival participle lacks Voice.[50]

(104) a. The child was washed (Agent =/= theme)
b. The child is (already) washed (Agent = theme or Agent =/= theme)

On might wonder how an element that lacks inherent φ-feature specification and is supposedly interpreted as an expletive can trigger semantic restriction in (101b'). But note that even these syntactically valued φ-features of ME/TE cannot be the reason for the person restriction because the SE-elements in West and South Slavic examples of the type in (101b) get syntactically valued with 1st/2nd person, too. Instead, it must be the PF-form *me/te* that triggers restriction of the implicit argument variable. This raises non-trivial questions about the overall architecture of the interface system. I can only hypothesize here, but arguably the PF-forms *me/te* are special because they are canonically associated with one of the speech participants (see, among others, Reuland 2001, 2011 for the idea that 1st and 2nd person pronouns (for me, pronominal PF-forms) are special because they inevitably relate to speech participants).[51] Note then that 3rd person SE should never trigger any restriction of the implicit agent. Potentially, the human restriction known to hold for the implicit external argument of SE-passives might be a counter-argument in that SE restricts the implicit argument of the SE-passive to be +human. However, this does not seem to be correct as SE, in its canonical use as an anaphor, does not involve a human restriction, i.e. anaphoric binding with SE is not

[47] Legate's proposal is mainly designed to derive that the internal argument keeps accusative case in the Icelandic New Passive. Her proposal seems to predict that the implicit external argument of canonical passives differs semantically from the implicit external argument of canonical passives in Icelandic. To my knowledge, no such interpretative difference has been identified so far.

[48] One might argue that restriction has to happen before existential binding and that the constellation above implies the opposite order. I can only mention that Legate's proposal about Icelandic would face the same problem.

[49] Recall that locally pronouns are totally acceptable in Romance (*Io me video* (I see me)). However, as argued in fn. 12, I assume that the object starts as DPφu and gets the pronominal spell-out at PF.

[50] Though see McIntyre 2013 and Alexiadou et al. 2014b for complications with this argumentation. This does not, however, change the relevant point that the implicit argument introduced by Voice triggers a disjoint reference effect with respect to the theme.

[51] Why do generic middles not show a person restriction? The answer must lie in the way how the implicit agent of middles is represented. While e.g. Bruening (2012) assumes that, very similar to passives, the implicit agent in middles is a generically bound agent variable introduced by Voice, many authors assume a fundamental difference between the implicit agent in passives and middles. Schäfer (2008a, b) assumes that the Voice head in generic middles is expletive (middles are identical to SE-anticausatives at LF). The implicit agent is not semantically represented in the semantics at LF, but it is implied at a later conceptual level on the basis of world knowledge considerations about the material in the vP, in particular the agentive verb (see also Kiparsky (2013)). This implication of the agent crucially depends on the generic/dispositional semantics of middles.

restricted to human or animate DPs (e.g. Schäfer & Vivanco 2016). Furthermore, medio-passives in Greek or Hebrew do not involve a SE-marker and still show the human restriction. The human restriction is then one of the many remaining empirical and theoretical puzzles about medio-passives.

8. Conclusions

SE-reflexive elements (i.e. SE-elements involved in the formation of semantically reflexive verbs) come in two variants, either as {D, uφ} or as {D}. In Romance and in the West and South Slavic languages, SE-reflexive elements start the derivation as {D, uφ} so that they need to be valued under AGREE. If a c-commanding antecedent values them, they are translated at CI into a bound variable. If they are indirectly valued by a DP that does not c-command them, they survive the syntactic derivation, although they cannot be semantically bound. A valued but semantically unbound SE-element can, and in fact must saturate a local argument slot. If it does, a violation of the Theta Criterion arises because the argument slot is saturated by a DP without denotation. However, if there is no local argument slot available for saturation, the valued but semantically unbound SE-element is translated at CI into an argument expletive (expletive in A-positions) denoting the identity function.

In short SE-passives, the agent role is existentially bound and SE is merged in the specifier of VoiceP due to a D-feature on Voice. Consequently, SE is translated into an expletive. In long passives with *by*-phrases, the agent role on Voice cannot be existentially bound as it must be available for saturation by a *by*-phrase. SE-passives in Romance lack *by*-phrases, because SE, being merged in the specifier of a Voice, must saturate the agent slot. Consequently, the *by*-phrase cannot saturate the agent slot and remains without θ-role. And since SE lacks a c-commanding antecedent, the agent slot is saturated by a DP without denotation. The Theta Criterion is violated twice.

SE-passives allow *by*-phrases if a language develops a SE-element lacking φ-features. Such an element is lexically "born" as an expletive. Therefore, it cannot saturate an argument slot and the *by*-phrase can saturate the agent slot in Voice even though SE intervenes syntactically between Voice and the *by*-phrase. Crucially, "born" expletives can even be used to derive a semantically reflexive construal under "semantic bundling", as discussed in Wood (2014, 2015) for Icelandic *-st* and applied above to East Slavic *-sja*. In this case, they denote the identity function over entities and the subject DP saturates both the external and the internal argument variable of the verb.

Romance languages show a person restriction on the theme DP in SE-passives, because a 1st or 2nd person theme would trigger the 1st or 2nd person variant of SE, i.e. ME/TE. Being located in Spec,VoiceP, the PF-forms of ME and TE (*me* and *te*) would restrict the implicit variable to be 1st or 2nd person and a Principle B violation would arise.

The theory developed above makes a number of typological predictions: If a language uses in its medio-passive a SE-reflexive element that shows φ-agreement overtly, the medio-passive does not allow *by*-phrases. This seems to hold in Romance languages, with the complication of Romanian discussed in fn. 3. If a language uses in its medio-passive a SE-reflexive that does not show φ-agreement overtly, the medio-passive might, but does not have to allow *by*-phrases. If it does, the SE-element in this language is 'born' as an argument expletive (East Slavic and Bulgarian). If it does not (and if the language has *by*-phrases in the canonical passive), then the SE-element is lexically equipped with unvalued φ-features which are impoverished at PF (West and South Slavic). Finally, SE-elements with unvalued φ-features are supposed to enter AGREE-driven anaphoric binding, while SE-elements without φ-features reflect the application of semantic bundling. It remains to be seen whether empirical consequences of these two different processes deriving reflexive semantics can be identified.

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