

## RESEARCH

# The properties of perfect(ive) and (eventive) passive participles: An identity approach

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This paper sheds light on the properties of perfect(ive) and (eventive) passive participles on the basis of a discussion of the issue of past participial (non-)identity. In fact, as there is no evidence for the substantial non-identity of the two forms, a principled case is made for the identity of past participles in passive and perfect periphrases based on diachronic as well as synchronic considerations. While the historical predecessors of past participles boil down to deverbal adjectives that combine argument structural effects (the absence of an external argument) as well as aspectual properties (resultativity), synchronic data indicates that the contribution of the reanalysed eventive past participles is still two-fold: (i) the (syntactic) suppression of an external argument (if present), and (ii) aspectual properties that render a given situation perfective iff the underlying predicate denotes a simple change of state. This accounts for the interpretations of past participles when combined with semantically vacuous auxiliaries (BE and BECOME): passive properties arise if (i) applies and (ii) thus cannot impose perfectivity (the eventive passive), and perfect properties ensue if (ii) applies but (i) does not (the BE-perfect in languages showing auxiliary alternation). The perfect auxiliary HAVE, on the other hand, may overtly license an argument that would otherwise remain suppressed and contributes relevant perfect properties (posteriority) so that combinations with HAVE elicit active perfect interpretations (where perfectivity may but need not come about via implication).

**Keywords:** past participle; passive; periphrastic perfect; auxiliary; underspecification; identity

## 1 Introduction

The morphophonological identity of past participles used to form passive and perfect periphrases in Germanic and Romance evokes the possibility of being mirrored by substantial syntacticosemantic identity. In other words, the formal uniformity of the inflectional marker raises the question of past participial (non-)identity: are the forms in question – say *written* in *Malin has written a letter* and *A letter was written by Malin* – just accidentally homophonous yet grammatically distinct (as proposed *inter alia* by Drijkoningen 1989; Bierwisch 1990; and Aronoff 1994) or should the shallow identity rather be taken seriously in terms of reflecting substantial past participial identity (as suggested *inter alia* by Hoekstra 1984; Roberts 1984; Toman 1986; vanden Wyngaerd 1988; Ackema 1999; Ackema & Marelj 2012; Breul & Wegner 2017; and Wegner 2019). While traditional grammar implicitly seems to have favoured the former view, what immediately supports the lack of a substantial distinction between passive and perfect(ive)<sup>1</sup> participles is their

<sup>1</sup> The notation “perfect(ive)” is used here to point to the terminological issues that pertain to past participles employed in perfect configurations. While “perfect” indicates that the participial form conveys perfect *tense*, locating an event on a temporal axis so that at least some part of it lies in the past, “perfective” suggests that it comprises *aspect*, which entails that the event has come to an end (see Comrie 1976; 1985). The present

historical development: the two items have the same diachronic source, namely a deverbal adjective that is interpreted in a resultative fashion (cf. Ackema 1999: 145f., 150f.; Łęcki 2010: 149f.). However, simply taking this at face value and drawing the conclusion that past participles are still grammatically identical is of course too hasty and neglects the potential influence of grammaticalisation on the forms at hand. The diachronic identity thus certainly need not be retained synchronically and hence does not suffice to settle the issue at hand in a conclusive fashion. Nevertheless, it is striking that some core properties of the diachronic predecessor still shine through in modern instances of past participles: an argument structural as well as an aspectual effect.

Based on both diachronic as well as synchronic evidence, the present paper makes a principled case for the identity of past participles. This eventually serves to bring forth novel insights regarding the grammatical properties of past participial formatives, which may be shown to amalgamate the suppression of an external argument (if present) and the contribution of aspectual properties (rendering simple changes of state, and only those, perfective). Due to these two characteristics, the precise grammatical contribution of a past participle in a given syntactic configuration is strongly contingent on both the properties of the underlying predicate (in terms of the presence or absence of an external argument, i.e. [ $\pm$ EA]), and a simple change of state, i.e. [ $\pm$ sCoS]) as well as the contribution of the immediate functional context, *viz.* the auxiliary. These ingredients ultimately induce a compositional approach to the formation of passive and perfect periphrases.

In order to put forth a proper theory on the basis of the most relevant empirical domains, the present paper is structured as follows. Section 2 briefly discusses the empirical reality of the shallow identity of past participles in passive and perfect configurations by taking into consideration some supposedly challenging instances of past participial polymorphy. Section 3 then turns to evidence in favour of an identity approach by considering the specific properties of diachronic predecessors as well as the insights to be gained from synchronic bare occurrences and divergent realisations of past participial items. This points to some basic characteristics that may be attributed to past participles. Based on these considerations, section 4 lays out a novel approach to the identity of (eventive) passive and perfect(ive) participles, which ultimately bears some implications for the (manifold) determinants of auxiliary selection and the intricate properties of past participles. Finally, the fifth section draws some conclusions and points to natural extensions of the present theory to domains potentially relevant for future research.

## 2 Homophony and polymorphy

The main claim of the present paper rests upon the formal identity of past participles in passive and perfect periphrases whose empirical reality can easily be retrieved from the Germanic and Romance examples in (1) and (2).

- (1)
- a. John is (being) kissed by Mary.
  - b. *German*  
Johann wird von Maria geküsst.  
John becomes by Mary kissed
  - c. *Italian*  
Gianni viene baciato da Maria.  
John comes kissed by Mary  
'John is (being) kissed by Mary.'

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paper eventually speaks out in favour of an aspectual view, which is however crucially contingent on event structure.

- (2) a. Mary has kissed John.  
 b. *German*  
 Maria hat Johann geküsst.  
 Mary has John kissed  
 c. *Italian*  
 Maria ha baciato Gianni.  
 Mary has kissed John  
 ‘Mary has kissed John.’

While the examples at hand differentiate passive and perfect constructions in terms of the auxiliary that is employed (passive BE/BECOME/COME vs. perfect HAVE), there is no morphological distinction on the basis of the participial auxiliary.

The assumption of a consistent morphological exponent is, however, immediately put into question by the parameterised availability of past participial (object-)agreement.<sup>2</sup> Whereas the West Germanic languages always employ an invariant past participle in the formation of passive and perfect periphrases, North Germanic and Romance languages typically resort to specific agreement markers (see, e.g. Kayne 1989; Belletti 2006; D’Alessandro & Roberts 2008; Áfarli 2009), as observable in the examples in (3) and (4).

- (3) *Icelandic*  
 a. Jón var kysstur.  
 John.M was kissed.M  
 ‘John was kissed.’  
 b. Þær voru kysstar.  
 They.PL were kissed.PL  
 ‘They were kissed.’  
 c. Jón hefur kysst María.  
 John has kissed Mary  
 ‘John has kissed Mary.’

- (4) *Spanish*  
 a. María fue besada por Juan.  
 Mary.F was kissed.F by John  
 ‘Mary was kissed by John.’  
 b. María ha besado a Juan.  
 Mary has kissed to John  
 ‘Mary has kissed John.’

In contrast to the invariant participles in HAVE-perfect configurations like (3c) and (4b), those in passive contexts agree with their displaced internal arguments, as (3a), (3b) and (4a) show.

Although the occurrence of agreement morphology at first sight points to a substantial distinction between passive and perfect(ive) participles, where only the former ever seem to exhibit overt  $\phi$ -feature agreement with the internal argument, this potentially challenging assumption may easily be debunked. In fact, both perfect periphrases formed

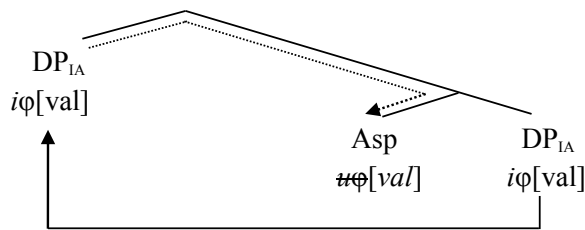
<sup>2</sup> An anonymous reviewer remarks that it is not intuitively clear why the availability of agreement would provide evidence against the identity of past participles. While this, as we will see shortly, may indeed be shown to dissolve into an independent syntactic reflex, a principled distinction in the behaviour of passive and perfect(ive) participles in this respect could in principle point to a difference in the grammatical properties of the two forms. Showing that there is no such distinction (moderately) adds to the identity view proposed in the present paper.

with the auxiliary BE as well as those headed by the auxiliary HAVE occasionally exhibit agreement morphology on the past participle, as observable in (5) and (6).<sup>3</sup>

- (5) *Italian* (Friedemann & Siloni 1997: 71)  
 Cornelia è \*arrivato/ arrivata.  
 Cornelia.F is arrived/ arrived.F  
 ‘Cornelia has arrived.’
  
- (6) a. *Italian* (Franco 1994: 247)  
 Gianni l’ ha \*mangiato/ mangiata.  
 John it.F has eaten/ eaten.F  
 ‘John has eaten it.’
  
- b. *French* (Bjorkman 2011: 155)  
 La maison que les filles on peint/ peinte.  
 the.F house.F that the girls have painted/ painted.F  
 ‘The house that the girls have painted.’
  
- c. *French* (Rowlett 2007: 226f.)  
 Quelles maisons avez-vous repeintes?  
 which.PL houses.PL have-you repainted.PL  
 ‘Which houses did you repaint?’

The BE-perfect in Italian in (5) as well as the Italian and French exponents of a HAVE-perfect in (6) clearly show that there is no general ban on the occurrence of overt agreement morphology on perfect(ive) participles. Rather, these data point to an independent source: only if the internal argument is displaced out of the participial domain, agreement morphology overtly manifests on the past participle (cf. Belletti 2006: 495; Bjorkman 2011: 155f.; see also Kayne 1989).<sup>4</sup> The sketchy representation in (7) serves to illustrate this: the internal argument locally values  $u\phi$  on the Asp-head and its copy is merged outside of the participial domain, namely in a position from which it asymmetrically c-commands the  $u\phi$  it has valued in the first place (as indicated by the dotted arrow).

- (7) Past participial (object-)agreement:  
 overt spell-out of  $u\phi[val]$  under  $i\phi$  (asymmetrically) c-commanding  $u\phi$



Regardless of the specific conditions on the overt manifestation of participle agreement, the hypothesis of an overarching morphophonological identity of (eventive) passive and perfect(ive) participles is not challenged by these data.

A further morphological distinction may be found in Embick’s (2003; 2004) division between stative participles, on the one hand, and eventive as well as resultative participles, on the other. In fact, there is a number of verbs that exhibit a different participial

<sup>3</sup> Note that at least the former observation carries over to North Germanic, where the Nynorsk BE-perfect exhibits agreement morphology on the past participle: *Gjestene er nett \*kome/komne*. (‘The guests have just arrived.’, lit. the.guests are just arrived/arrived.AGR).

<sup>4</sup> Whether participle agreement actually becomes overtly manifest in a given construction featuring displacement is subject to substantial parametric variation across the varieties of Romance (cf. Gavarró 2018: 10).

realisation depending on whether they denote core adjectival properties (in prenominal occurrences and copula constructions) or allow semantic recourse to a verbal event (as in proper passive periphrases, the resultative constructions commonly referred to as “stative passives”, or in adnominal distribution). The attestable allomorphy – though not as neat as these cases suggest (cf. Bruening 2014: 384) – is observable in the examples in (8) (cf. Embick 2003: 152; 2004: 358).

- (8)
- a. The ship is sunken. (vs. sunk)
  - b. The boy is shaven. (vs. shaved)
  - c. The girl is blessed. (vs. blessed)
  - d. The door is open. (vs. opened)

The question that naturally arises with respect to stative participles – especially once we take into consideration that these correlate in a straightforward fashion with bare adjectival morphology, as in (8d) – is whether they should be grouped with participles in the first place. The fact that stative participles are restricted to denoting a state and arguably do not comprise any eventive properties suggests that they should rather be analysed as (lexicalised) instances of adjectives just etymologically related to past participles.<sup>5</sup> In any case, these occurrences clearly do not challenge the assumption of participial identity as they do not in any way concern the distinction between passive and perfect(ive) participles. In fact, the dividing line is usually drawn between distinct kinds of passive participles, where perfect(ive) participles are neutrally treated as forms that are formally identical with resultative and eventive passive cases (cf. Embick 2004: 359fn4). Eventually, the relevant dimension encoded by the morphological distinction is one concerning the amount of event structure: stative participles lack recourse to an event, which is present in (eventive and resultative) passive as well as perfect(ive) participles.

While the previous cases of polymorphy do not challenge the identity of past participles in Germanic and Romance, this is certainly not a language universal. In fact, languages that encode a proper distinction between passive and perfect participles on the basis of inflectional morphology may easily be found, e.g. in the Slavic family. South Slavic languages like Bulgarian and Slovenian, for instance, employ substantially distinct forms, as observable in the Bulgarian examples in (9).

- (9) *Bulgarian* (Broekhuis & Migdalski 2003: 2f.)
- a. Paulina e proč-e-l-a knigata.  
Paulina.F be read-PRF.PTCP-F the.book  
‘Pauline has read the book.’
  - b. Knigata e proč-tan-a ot Ivan.  
the.book be read-PASS.PTCP-F by Ivan  
‘The book is read by Ivan.’

What is particularly striking with respect to these cases is that the auxiliary employed in such cases is one and the same, namely a rough equivalent of BE. Furthermore, the grammaticalisation of a proper HAVE-perfect in Macedonian and Kashubian – two Slavic languages that once made use of substantially distinct passive and perfect participles just like Bulgarian – seems to induce the loss of a morphological distinction (see Migdalski 2006: 132). Eventually, then, there certainly are languages that make use of substan-

<sup>5</sup> Embick (2003: 148; 2004: 363) derives these from the direct combination of a stative Asp-head (Asp<sub>s</sub>) with a root, which raises the question of what this aspectual head has in common with, say, its resultative counterpart (Asp<sub>r</sub>). As an anonymous reviewer points out, this arguably boils down to merely categorising a root.

tially distinct participles, but these are arguably parametrically distinct from the identity languages discussed in the present paper.<sup>6</sup>

As we have just seen, there is no evidence against the morphophonological identity of participial forms in passive and perfect periphrases. The overarching shallow identity, however, still need not necessarily point to a substantial grammatical identity but may just be accidental. While proponents of this view need to account for why this accidental homophony is so pervasive, the next section provides some diachronic as well as synchronic evidence against it by identifying a set of basic properties. This is anything but a trivial task though given the eponymous participial characteristic of always taking part in larger constructions. This holds true in the case of perfect and passive periphrases, but crucially also – though to different degrees – in those cases in which they occur without an auxiliary: adnominal distributions (*the written letter* or *the letter written by Malin*), adverbial clauses (*Arrived at the station, the train came to a complete halt* or *The bomb defused, he returned to his comrades*), as well as the stative passive (*The house is built*) and the stative perfect (*The girl has her eyes covered*). In fact, the core properties of the participles may well be veiled behind the specific properties of their constructional embedding not just in periphrases but crucially also in “bare” contexts (where there may for instance be an adjectival head).

### 3 The basic properties of past participles

Immediate though non-conclusive support for the substantial identity of (eventive) passive and perfect(ive) participles comes from their historical development out of a common source (cf. Dal 1952/2014: 128ff.; Mitchell 1985: 12, 280ff.; Schrodtt 2004: 9ff.). In fact, both stem from a deverbal adjective that attributes a resultative property to a nominal referent. This may be seen in the Old High German and Old English examples in (10) and (11).

(10) *Old High German* (Schrodtt 2004: 9ff.; Kuroda 2015: 170)

- a. arslagan uuirdit Christ  
slaughtered become Christ  
'Christ will become (a) slaughtered (one).'
- b. uuir uuárun íó firlórane ioh súntono biiládane  
we were ever lost and sins.GEN loaded  
'We were once lost and loaded with sins.'

(11) *Old English* (Ringe & Taylor 2014: 435f.)

- þam oðrum þe hiora dæl getynedne hæbben  
to-the others who their part.ACC enclosed.ACC have  
'the others who have their part (in a state of having been) enclosed'

In all of those cases, the result of a change of state is attributed to a referent. In fact, the ingressive use in (10a) features the copula BECOME, which conveys a transition on the basis of attributing a resultative state to the subject (cf. Musan 1998: 124; Eckardt 2011: 391). The copula BE in (10b) lacks the meaning of a transition, but also attributes the resultative state to the referent in question (cf. Abraham 1992: 3f.). The main verb HAVE in (11) in turn conveys the interpretation of possessing an object and it is this possessee

<sup>6</sup> Germanic comprises an odd man out with respect to the lack of substantial polymorphy, namely Swedish, which morphologically encodes a distinction between supines (perfect participles) and past participles (passive participles) somewhat reminiscent of the Slavic cases at hand. See Wegner (2017) for some considerations regarding the parameterisation of past participial (non-)identity with a special focus on this contrast.

that is attributed the resultative state denoted by the deverbal adjective (cf. Łęcki 2010: 149f.; Ringe & Taylor 2014: 435f.).

As part of the grammaticalisation process of proper participial periphrases, the deverbal adjectives in question are reanalysed as verbal past participles (and lose their agreement morphology in some or all of their periphrastic uses as a consequence).<sup>7</sup> While participle formation was first restricted to transitive (causative) predicates, the proper grammaticalisation of past participles soon led to an analogical extension to intransitive (first unaccusative, then unergative) predicates (cf. Öhl 2009: 296; Łęcki 2010: 149f.). However, the adjectival predecessors of proper verbal past participles are still functional in the modern instantiations of the two languages. Accordingly, the characteristic properties of the participial occurrences in (10) and (11) are directly mirrored in the stative passive in (12) and the stative perfect in (13).<sup>8</sup>

- (12) a. *German*  
 Das Essen ist (\*von Peter) gekocht.  
 the meal is by Peter cooked  
 ‘The meal is (in the resultative state of having been) cooked.’
- b. The meal is cooked (\*by Peter).
- (13) a. *German*  
 Malin hat die Augen (\*von Marie) verbunden.  
 Malin has the eyes by Mary tied  
 ‘Malin has her eyes covered (i.e. her eyes are in the resultative state of having been covered).’
- b. Malin has her eyes covered (\*by Mary).

In both of those stative cases, the participial contribution to the clausal interpretation is its denotation of a resultative property, which is attributed to the subject of the copula BE in the stative passive and the object of the possessive main verb HAVE in the stative perfect. The core properties that the diachronic as well as synchronic “stative” uses thus lay bare are the following: (i) a transitive predicate is deprived of its external argument (in favour of a simple change of state that lacks grammatical recourse to the cause), (ii) the resultative state (of the simple change of state) is attributed to the referent that the participial adjective modifies.<sup>9</sup>

Synchronically, although the reanalysis of the stative precursors certainly triggered some changes, the contribution of eventive past participles in the two periphrastic contexts is still two-fold: (i) an argument structural effect in passive cases, and (ii) a temporal

<sup>7</sup> Note that an anonymous reviewer points out that this view does not straightforwardly extend to Romance, since Latin, as a historical predecessor of the Romance languages, exhibits eventive passive participles, which are assumed to be verbal. This has also been brought to my attention by Josep M. Fontana (p.c.), who concludes that passive and perfect(ive) participles should thus not be taken to have the same diachronic source in Romance, if we assume that perfect periphrases stem from deverbal adjectives and their passive counterparts are based on eventive participles to begin with. While this discussion shows that a lot more is to be said about the diachrony of participial periphrases (potentially also with respect to Germanic), passive and perfect(ive) participles may still be taken to have evolved from the same form: the initial form is just the eventive passive participle. This form is subject to adjectivisation before regaining its (eventive) properties (at the expense of adjectival characteristics) in the context of the auxiliiation of HAVE, which induces an active (perfect) interpretation.

<sup>8</sup> The English stative passive readings in (12b) and (13b) are ambiguous between a stative (adjectival) and an eventive (verbal) reading, where the BY-phrase is only illicit in the latter case. This ambiguity vanishes in German, where the passive auxiliary *werden* differs from the copula *sein*.

<sup>9</sup> Note that these characteristics also shine through in co-predicative uses (*This song seems well-written, The window remained broken*) and absolute clauses (*The dragon slain, the knight took his rest*).

or aspectual contribution in perfect cases. Turning first to the former, what distinguishes the adjectival predecessors from the reanalysed eventive past participles is that the latter are supplemented by a CAUSE<sup>10</sup> and hence allow for semantic recourse to a fully-fledged event structure.<sup>11</sup> This concurs with the grammatical presence of an external argument. Nevertheless, there synchronically is only one context in which an external argument may syntactically be realised as an overt part of the argument structure of the underlying predicate: the periphrastic perfect formed with the auxiliary HAVE. In all other eventive occurrences of past participles, the external argument (if there is one in the argument structure of the underlying predicate) is bound to remain implicit, unless introduced independently by an adjunct BY-phrase. This is in line with the comparison of the HAVE-perfect in (14) and the eventive passive, BE-perfect as well as bare uses in (15).

(14) John has seen Mary.

(15) a. Mary was seen (by John).

b. *French*

Le train est arrivé.  
the train is arrived  
'The train has arrived.'

c. *German*

das dem Mann (von Malin) gegebene Buch  
the the.DAT man by Malin given book  
'the book given to the man'

d. the man given the book/the book given to the man (by Malin)

e. Carried by his mother, the boy felt safe.

Based on these observations, it is anything but far-fetched to acknowledge the special role of the perfect auxiliary HAVE in perfect periphrases. While eventive past participles generally allow for semantic recourse to an external argument (if there is one in the properties of the underlying predicate), the presence of HAVE plays a vital role in terms of licensing this argument syntactically. This is not surprising given the traditional claim that auxiliaries retain some of the functional properties of their main verb predecessors: possessive HAVE is transitive and thus brings with it the ability to license an external argument, unlike the copula BE which bears an unaccusative argument structure to begin with (cf. Rouveret & Vergnaud 1980: 193). Postponing the theoretical implications of this observation to the next section, we may tentatively maintain that the past participial morpheme bears the argument structural contribution in (16) and the perfect auxiliary HAVE plays a special role in the denotation of an active reading in terms of its contribution in (17).

(16) Past participle (argument structure): the (syntactic) suppression of an external argument (if there is one) (see e.g. Haider 1984: 23; 1986: 3; Grimshaw 1990: 109)

<sup>10</sup> Minor capitals are used here to indicate that this refers to a semantic ingredient. In fact, it is implicitly assumed that an event may be decomposed into distinct "phases", i.e. intervals at which Dowty's (1979) atomic predicates hold. While the event structural ingredient in the case of a CAUSE is taken to concur with the availability of an external argument, we will remain rather agnostic about whether event and argument structure are expressed by the same or different functional heads.

<sup>11</sup> Abraham (2000: 152f.) even claims that passive properties synchronically stem from supplementing an adjectival element with verbal properties.



- (17) The perfect auxiliary HAVE (argument structure): syntactically licensing the (suppressed) external argument (see e.g. Toman 1986; Cowper 1989; Ackema & Marelj 2012)

Based on these considerations regarding the basic properties of the past participle in an identity approach, while the reanalysis of the deverbal adjective reintroduces the predicate's causative phase and with it the semantic presence of an external argument (if present in the properties of the predicate), it is the auxiliating of HAVE that eventually enables a proper active interpretation.

This tentative outlook promises to grasp the passive characteristics of past participles and also paves the way to account for the fact that they vary between a passive and an active interpretation. A principled approach to the identity of past participles also has to account for the contribution of perfect semantics, though. In other words, an identity approach has to be able to account for the fact that all perfect periphrases manage to evoke perfect meaning, but it also has to grasp that passive instantiations remain devoid of any temporal or aspectual effect (cf. Wanner 2009: 28). Only very few approaches try to account for this on the basis of a flexible aspectual characteristic attributed to the participial morpheme (see Savova 1989 and Breul & Wegner 2017 for periphrases and Lübke & Rapp 2011 for attribute instances) and we will return to these in the next section. What is *a priori* clear is that the aspectual contribution of the past participial affix in Germanic and Romance has to be set apart from the overt morphological manifestation of (im)perfectivity in aspectual languages like the Slavic exponents Bulgarian or Russian. The latter explicitly encode the (un)boundedness of an eventuality (cf. Iatridou et al. 2001: 208ff.) and may (or may not) combine this with passive as well as active forms whose perfect time span is arguably determined by perfect participial morphology. Crucially, while the expression of (im)perfectivity may apply regardless of the particular properties of the underlying eventuality in such aspectual languages,<sup>12</sup> the aspectual effect brought in by past participles in Germanic and Romance seems to be strongly contingent on event structure. In fact, what will be argued in the next section in some more detail is that the past participial morphology may only autonomously impose perfectivity on the basis of a single kind of eventuality: a simple change of state, i.e. one that lacks grammatical recourse to a causer as introduced by an external argument. This is claimed to be denoted by unaccusatives, whereas all other kinds of predicates (transitives and unergatives of any kind) demand additionally support. Based on these considerations, which will be shown to account for auxiliary alternation (the BE-perfect typically being formed with unaccusatives) and the required imperfectivity of passives below, let us just tentatively assume that the past participle bears as its second basic ingredient the denotation of event-structure sensitive perfectivity, as spelled out in (18).

- (18) Past participle (aspect): rendering simple changes of state perfective (i.e. enforcing the termination of the underlying event to the effect of eliciting a result)

This raises the question of how a perfect interpretation may be derived from participial periphrases that are event structurally more elaborate than just denoting a simple change of state.<sup>13</sup> There are two possibilities in this respect. The first one is that the periphrasis

<sup>12</sup> Iatridou et al. (2001: 209f.) show that there is a third possibility, namely a neutral participle which is contingent on the properties of the underlying predicate in that it only combines with accomplishments and activities.

<sup>13</sup> Note that this necessarily holds for passive predicates as these are bound to include a causative phase, something we will return to in the next section.

does not include any other ingredient that could help out in terms of conveying a perfect interpretation. This characteristically holds true for passive periphrases, which are formed with semantically vacuous auxiliaries like BE and BECOME and remain imperfective. The alternative option comes forth in configurations with HAVE. The perfect reading conveyed by past participial periphrases headed by the perfect auxiliary HAVE might partly (or fully) stem from the perfect auxiliary (cf. Klein 1999: 73; Iatridou et al. 2001: 220f.). This diachronically fits the grammaticalisation of the HAVE-perfect: while the reanalysis of the past participle leads to the suppression of an external argument and thus accounts for its passive function, the auxiliating of HAVE licenses the external argument syntactically and provides the relevant ingredients to evoke a proper perfect interpretation.

Empirical support in favour of a relevant perfect semantic contribution of the auxiliary HAVE may be drawn from participial periphrases that are morphologically deviant in one of two respects: either what is expected to be realised as a past participle occurs as an infinitival (plain) form or an infinitival form unexpectedly takes on participial morphology. The former phenomenon, which will be discussed first, crops up in West Germanic verbal clusters as well as contexts of VP-preposing in English. Verbal clusters of the relevant kind are usually discussed under the heading of *Infinitivus pro Participio* (IPP) (see, e.g. Vanden Wyngaerd 1996; Hinterhölzl 1998; Schmid 2002), whereas those of VP-preposing are occasionally termed “Perfect Participle Paradox” (PPP) (see Oku 1996; Urushibara 1997; Breul 2014). Some examples of each kind are provided in (19) and (20).

(19) *German*

- a. dass Malin ihn hat tanzen \*gesehen/sehen  
that Malin him has dance see.PTCP/ see.INF  
'that Malin has seen him dance'
- b. dass er sie hat schlafen \*gelassen/lassen  
that he her has sleep let.PTCP/ let.INF  
'that he has let her sleep'

- (20) a. We thought someone would fail the exam, and fail it plenty of people have.
- b. Mary was not sure how he managed to persuade her, but manage he has.

Crucially, the lack of participial morphology in these cases bears no consequences for the LF-interpretation as proper perfect periphrases. While the IPP-cases are often treated as the consequence of some kind of morphological “rescue mechanism” that serves to deal with an overly complex configuration (cf. Hinterhölzl 2009: 209ff.), the PPP has recently been analysed as an effect of the application of “impoverishment” (cf. Breul 2014: 462f.).<sup>14</sup> What is quite striking about both of these phenomena is that they are restricted to periphrases headed by the perfect auxiliary HAVE. Accordingly, passive cases exhibiting infinitival forms like those in (21a) and (22) are just as ungrammatical as perfect periphrases headed by the auxiliary BE, as in (21b).

(21) *German*

- a. \*dass sie schlafen lassen wurde  
that she sleep let.INF became
- b. \*dass er stehen bleiben ist  
that he stand remain.INF is

<sup>14</sup> The term PPP is actually misleading as it does not appear to be an independent phenomenon, but may be analysed as an instance of the IPP where there is just a different trigger (preposing rather than a verbal cluster).

(22) \*They could not be sure whether anyone would see her, but see she was.

Accordingly, there is no passive instantiation of the PPP (cf. Breul 2014: 453) and the same holds for passive as well as BE-perfect occurrences of the IPP (cf. Haider 2003: 104; Vogel 2009: 312). This correlation may be taken to bear some insights for the compositional contribution of participles and their auxiliaries even under a PF-analysis. While an operation at PF should of course not bear any LF-consequences – in line with the observation that the interpretations of periphrases exhibiting the IPP and the PPP are identical to their “regular” counterparts (if available) – the externalisation component may nevertheless be taken to underlie general restrictions regarding the recoverability of information: only operations that do not impede the availability of the information morphosyntactically encoded by the expression at hand are licit. With respect to the PF-deletion of morphological cues, according to Breul (2014: 465f.) an impoverished form may only substitute a properly inflected one if this does not endanger the recovery of the meaning that is associated with it.<sup>15</sup> This entails that only perfect periphrases formed with the help of the auxiliary HAVE bear properties that serve to signal a perfect interpretation, whereas BE and BECOME apparently do not suffice to convey the interpretation in question and thus require the overt presence of participial morphology.<sup>16</sup> In the tradition of Breul (2014: 465), we may tentatively derive from this that the relevant perfect information is compositionally located on the perfect auxiliary HAVE as well as the participle or on the perfect auxiliary alone.

This argument gains some additional support from the exceptional placement of the auxiliaries in (23) (as well as (19) above).

(23) *German*

- a. dass Malin das Buch hat lesen können  
that Malin the book has read can.INF  
'that Malin has been able to read the book'
- b. dass Malin das Buch wird lesen können  
that Malin the book will read can.INF  
'that Malin will be able to read the book'

Although the syntax of German canonically demands finite predicates to be placed in the final position of an embedded clause (i.e. the T-position, into which the finite element moves, is head-final), there are two contexts in which this requirement may be suspended: verbal IPP-clusters embedded under perfect *haben* ('have'), as in (23a), and those embedded under future *werden* ('will'), as in (23b). In the tradition of Bærentzen (2004: 137f.) as well as Eisenberg et al. (2001: 257f.), this possibility might have to be traced back to the unifying characteristic of the perfect and the future auxiliaries in question, namely

<sup>15</sup> This is in line with Chomsky's (1965: 138) broader claim relating to (discourse) ellipsis: “only recoverable deletions are permitted”.

<sup>16</sup> This is not the only possible conclusion that may be drawn from the divergent realisations of past participles. In fact, the perfect auxiliary might merely serve as a signal for a perfect interpretation. However, the assumption that such a signalling function comes about by convention alone is highly questionable, i.e. there should rather be a substantial contribution in order for an element to be a proper “signal” for a construction of a certain kind. Furthermore, attempts of reducing the relevant contribution of HAVE that eventually allows for the recovery of a proper interpretation to its argument structural effect of licensing an external argument (see (16)) are bound to fail, as the following example (retrieved from <http://www.langijo.com/langijo/category/in-the-kitchen-x-the-first-bundle-of-rhubarb>) shows:

- (i) This dessert was made out of the desire for the warm weather to just arrive. And arrive it has.

While there is no need to license an external argument, the presence of HAVE renders the PPP available.

their relevant temporal contribution. In fact, preposing the auxiliary may serve to provide relevant temporal information to the parser as soon as possible in the absence of other morphological cues.<sup>17</sup>

What should not go unmentioned in the context of the IPP, however, is that Dutch exhibits some potentially challenging cases. In fact, while it also strictly bars the formation of passive periphrases without participial morphology,<sup>18</sup> some verbs are able to occur in infinitival form in perfect periphrases with BE, as in (24) (see also Haider 2010: 291).

(24) *Dutch*

- a. Arjen is gaan zwemmen.  
Arjen is go.INF swim.INF  
'Arjen has started to swim.'
- b. Arjen is komen werken.  
Arjen is come.INF work.INF  
'Arjen has started to work.'
- c. Arjen is blijven staan.  
Arjen is remain.INF stand.INF  
'Arjen has continued to stand.'

These verbs, however, crucially are not proper main verbs in the traditional sense anymore, but rather have come to be (re)analysed as aspectual verbs (cf. Broekhuis & Corver 2015: 1020ff.), as observable in the interpretations one may gain from these cases.<sup>19</sup> Their aspectual core may be argued to readily allow for the conventional association with perfective properties, which is why semantic recoverability is not endangered despite the fact that the (semantically vacuous) perfect auxiliary does not introduce relevant perfect semantics.<sup>20</sup>

Further support for the semantic contribution of HAVE as opposed to BE and BECOME may be drawn from the closely related phenomenon *Participium pro Infinitivo* (PPI) (see e.g. den Dikken & Hoekstra 1997; Wiklund 2001; Wurmbrand 2012), which may be seen as a morphologically opposed counterpart to the IPP. Just like the IPP, the PPI occurs in verbal clusters, though rather in North Germanic languages (apart from the West Germanic exponent Frisian). As the Norwegian example in (25) makes clear, PPI-clusters include a superfluous piece of participial morphology on a form that is expected to occur as an infinitive (and may often optionally do so).

<sup>17</sup> An anonymous reviewer suggests that rather than the selection of HAVE as opposed to BE/BECOME, what matters for whether or not the IPP comes about is the order in the verbal cluster, which reflects whether the perfect auxiliary has as its complement a predicate that is part of a cluster. While ordering indeed seems to be a salient factor (especially in Dutch), the intricate picture that presents itself is manifold, where the nature of the auxiliary may still be one of several relevant factors.

<sup>18</sup> Many speakers of Dutch do apparently allow for a passive case when they marginally accept (and then force) the IPP in contexts with *laten* ('let') and BE: *?Het huis is laten schoonmaken* ('People let the house be cleaned.', lit. the house is let.INF clean-make) (see Coopmans 1985). Den Dikken (2018) holds the infinitival morphology responsible for taking up passive properties in such cases, which could then also be taken to (exceptionally) grant recoverability. Thanks to an anonymous reviewer for pointing me to this interesting example.

<sup>19</sup> An anonymous reviewer wonders why *lassen* ('let') in (21a) does not allow for the IPP, then, claiming that it is also an aspectual verb. A reason for this may be that German aspectual verbs are not lexically associated with perfective properties unlike their Dutch counterparts, for which this will be assumed in the following.

<sup>20</sup> What is interesting here is the correlation with verbs of motion and anti-motion, which are well-known for posing exceptions to regular patterns of auxiliary alternation in languages like Dutch, German and Italian. The unifying factor between these and the aspectual verbs of Dutch may boil down to the conventional (or lexical) association of perfective properties, namely an endpoint, which triggers a proper perfect interpretation.

- (25) *Norwegian* (Wiklund 2001: 201)  
 Jeg hadde villet lest/ lese boka.  
 I had want.PTCP read.PTCP/ read.INF the.book  
 ‘He had wanted to read the book.’

Just like the IPP (and the PPP), the PPI is only available in periphrastic perfect configurations headed by HAVE and just like the other two cases of divergent realisations, this phenomenon remains without any semantic effect whatsoever. Hence, the previous argument may easily be transposed to these contexts in that the relevant perfect contribution primarily seems to be derived from HAVE, whereas the superfluous participial morpheme does not autonomously (and erroneously) denote a perfect(ive) interpretation. In fact, the participle only appears to be autonomously responsible for a passive or perfect interpretation in periphrases with BECOME or BE, respectively. These thus do not give rise to the PPI, as this might endanger the proper semantic recoverability of the configuration at hand.

Eventually, then, we may tentatively derive the relevant perfect semantic contribution of HAVE in (26).<sup>21</sup>

- (26) The perfect auxiliary HAVE (aspect): contributing relevant semantic properties for the interpretation of a perfect interpretation, either autonomously or alongside the relevant contribution of the past participle

While the precise compositional contribution will be discussed in the next section, let us conclude the present section by mentioning two further arguments in favour of the attribution of relevant perfect properties to the auxiliary HAVE. One of these concerns the auxiliation of HAVE as an auxiliary denoting future tense in Latin. In fact, Roberts & Roussou (2003: 49) describe the grammaticalisation of future tense in the history of Romance as consisting of three stages: (i) reanalysis of the main verb *habere* “as a future auxiliary comparable to *will* in Modern English”, (ii) reanalysis of *habere* as a syntactic affix, (iii) “reanalysis of the syntactic affix as a lexical affix”. The consequences of the first phase, which is most relevant for the present purposes, may be seen in the Late Latin examples in (27).

- (27) *Late Latin* (Benveniste 1968: 90; Tekavčić 1980: 237)  
 a. in nationibus a quibus magis suscipi habebat.  
 among nations by which most to-be-accepted had  
 ‘Among nations by which the most was to be accepted.’

<sup>21</sup> An anonymous reviewer claims that BE should also be analysed as a proper perfect (rather than aspect-neutral) auxiliary on the basis of Dutch examples like those in (ii) and (iii).

(ii) Het huis is dagenlang doorzocht door de politie.  
 the house is days-long through-searched by the police  
 ‘The house has been searched by the police for days.’

(iii) Dat boek is jarenlang genegeerd door de critici.  
 that book is years-long ignored by the critics  
 ‘That book has been ignored by the critics for years.’

This shows an interesting parametric contrast between perfect passives in German and Dutch: while the former demands the overt presence of *worden* (‘been’), the latter may omit *geworden* (‘been’). However, such cases do not provide conclusive counter-evidence against the semantic vacuity of BE. Rather, this may well just be an instance of ellipsis where the combination of a past participle that is clearly passive with the auxiliary BE is sufficient to recover the (simple change of state) properties associated with the elided auxiliary. Note further that assuming BE to be aspectual is problematic in the wake of examples like the one in footnote 18.

- b. et quod sum, essere abetis  
and that I-am, to-be habere-2PL  
'And what I am, you will be.'

The example in (27a) from the early third century AD includes a periphrasis made up out of a passive infinitive and the auxiliary HAVE, which conveys a future interpretation on the basis of introducing (deontic) modal meaning (cf. Roberts & Roussou 2003: 51). In a similar vein, (27b) comprises an example from the seventh century which shows that the use of a future auxiliary spread to further contexts, most importantly active intransitives (cf. Roberts & Roussou 2003: 52). Crucially, such periphrases denote future tense (cf. Bourciez 1967; Benveniste 1968; Tekavčić 1980) and the only viable source for this is the auxiliary HAVE.<sup>22</sup> Though admittedly not particularly pressing, this analogy shows that the auxiliiation of HAVE is generally capable of attributing temporal properties to the auxiliary and thus tentatively points to the availability of relevant perfect properties on synchronic instantiations of HAVE.

The final piece of evidence that we will consider here concerns the observation that past participles which occur in bare contexts, i.e. are not licensed by auxiliaries, occasionally vary between a perfective and an imperfective reading. In fact, what challenges the assumption that the aspectual contribution of participial periphrases may be reduced to the past participle is that the interpretation of some (but not all) bare occurrences allow the concurrency of the participial event with its sentential context. This is for instance observable in the flexible prenominal position in German and the postnominal distribution in English: *der (gerade) von Malin geschriebene Brief* (lit. the currently by Malin written letter) or *the letter (currently) written by Malin*. Even without the overt presence of an adverbial like *currently*, a simultaneity-reading may be evoked if this is contextually supported and if the participial eventuality is able to encompass what is expressed in the main clause.<sup>23</sup> The lack of an overarching temporal contribution shows once more that perfect information is not or at least not solely stored in the participial form in HAVE-perfect cases (cf. Iatridou et al. 2001: 220). In contrast to these cases, all of those bare past participles that would occur with BE-perfect periphrases in languages showing auxiliary alternation (simple changes of state), on the other hand, only ever convey a resultative reading (consider *das gerade verschwundene Mädchen* 'the girl that has just disappeared', lit. the just disappeared girl, or *the train \*currently/recently arrived at platform 9 3/4*). This is in line with the aspectual contribution set up in (18): a perfective situation may only successfully be established by the past participial contribution alone if the underlying event structure denotes a simple change of state (i.e. consists only of an atomic BECOME-predicate). This holds true for unaccusatives like *ankommen/arrive* or *verschwinden/disappear* and the intransitive variants of anticausative predicates like *zerbrechen/break* or *schmelzen/melt*. Atelic cases like *singen/sing*, *lieben/love*, *husten/cough*, *brennen/burn*, on the other hand, may not be rendered perfective. This carries over to accomplishments like *bauen/build* or *lesen/read* and the transitive variants of achievements partaking in causative alternations as the aforementioned *zerbrechen/break* or *schmelzen/melt*. The former are taken to

<sup>22</sup> The occurrence of HAVE + participle to denote a perfect reading actually predated the occurrence of the future HAVE-periphrasis (cf. Roberts & Roussou 2003: 58). However, in Late Latin it had not yet undergone auxiliiation, but rather the resultative constructions we find are stative perfect combinations of a main verb and a small clause counterpart like those in (13) (see also Roberts & Roussou 2003: 57). Crucially, the resultative reading stems from the deverbal adjective in these cases and had not yet been associated with HAVE via reanalysis.

<sup>23</sup> This, of course, leaves the question of why such cases may also denote a perfective reading, which may arguably be derived from the embedding of participial modifiers (cf. Rapp & von Stechow 2015). In fact, the adjunct status of these cases requires the contextual embedding to determine whether posteriority is to be imposed.

comprise an atelic CAUSE that evokes a change (BECOME) on the part of an incremental theme, while the latter also include an external argument associated with a CAUSE in cases like *The vase was broken by the intruder*. The same analysis may be applied to run-of-the-mill achievements that do not allow for intransitive (or anticausative) counterparts, e.g. *finden/find* and *verlieren/lose*, which feature an external argument that is held responsible for causing the change in question. In all of these cases the complexity of the event structure prevents the aspectual contribution from imposing perfectivity.<sup>24</sup> Participles of these types of predicates may thus either remain imperfective in passive periphrases or rely on the relevant contribution of HAVE in periphrastic perfect instantiations in order to denote a perfect interpretation.<sup>25</sup> An interesting conclusion that we may derive from this is that past participles which autonomously denote perfectivity are in complementary distribution with those that do not in passive periphrases: while unaccusatives cannot occur in proper passives, all other (“imperfective”) participles cannot denote a perfect situation without external help and thus do not occur in BE-perfect periphrases.<sup>26</sup>

The present section has adduced some relevant data in favour of the assumption that past participles in passive and perfect periphrases are not just accidentally homophonous but rather formed with one and the same participial morpheme. The major conclusions to be drawn from both diachronic as well as synchronic data with respect to the basic syntacticosemantic contribution of the participial head is that it (i) syntactically suppresses the external argument, and (ii) renders simple changes of state perfective. This allows for a neat complementary distribution of what the past participles contribute autonomously: past participles that properly suppress an external argument cannot autonomously express perfectivity, whereas those that can may never feature an external argument and thus are exempt from argument suppression. In other words, past participles in periphrastic passives are necessarily not simple changes of state and thus convey imperfective situations without any substantial contribution of their auxiliaries (BE/BECOME). Those in perfect periphrases, on the other hand, may either autonomously denote a perfect situation (in which case the semantically vacuous auxiliary BE is introduced in languages showing auxiliary alternation) or require the additional contribution of relevant perfect properties as brought in by HAVE.<sup>27</sup>

<sup>24</sup> While the overall events associated with predicates like *build*, *read*, *find*, and *lose* are telic, they are thus taken to include an interval of causation, which is bound to be atelic and eventually prevents the aspectual properties from rendering them perfective. However, as an anonymous reviewer rightfully points out, it is not intuitively clear why achievements like *find* and *lose* are associated with a CAUSE. In fact, Dowty’s (1979) aspect calculus suggests that achievements simply consist of BECOME. Nevertheless, the presence of a CAUSE may be justified on the basis of causative alternations (*The ice melted*, *The sun melted the ice*), where the external argument is undoubtedly associated with this predicate. Even in cases that do not partake in the causative alternation, there is room for a more abstract CAUSE (e.g. a mental predisposition of looking for or possessing something).

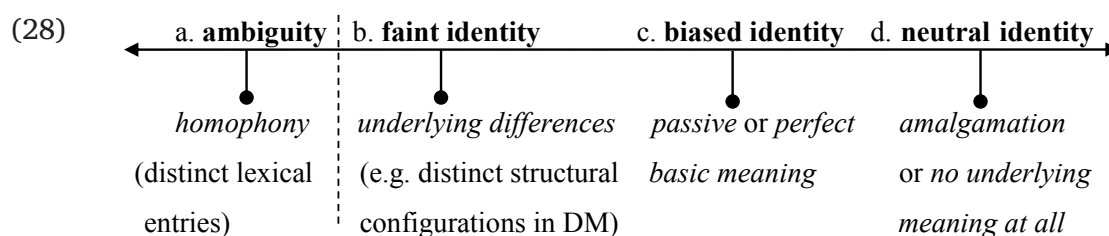
<sup>25</sup> As an anonymous reviewer remarks, bare participles of telic achievements like those formed with *find* and *lose* do not give rise to imperfective interpretations. The reason for this, however, may be found in the restrictions imposed by embedding a participial modifier: the simultaneity-interpretation (imperfectivity) is barred if what is denoted is a *punctual* change of state, which may crucially not span the situation denoted by the main clause.

<sup>26</sup> Note that there are some exceptions in this respect (cf. König & Gast 2012: 161), i.e. past participles of unaccusatives may occasionally be combined with passive auxiliaries, as in Rapp’s (1997: 134) example *In Bosnien wird weiter gestorben* (‘People keep dying in Bosnia.’). However, such exceptions seem to be subject to specific contextual constraints. In fact, the context has to force an unbounded progress-reading (cf. Primus 2011: 83ff.), which indicates that the predicate is attributed a set of properties that is distinct from an unaccusative.

<sup>27</sup> The properties introduced by HAVE may elicit a resultative sense similar to the past tense (consider causative *break* in *Die Vase wurde zerbrochen* ‘The vase was broken.’, lit. the vase became broken), but perfectivity is crucially not grammatically encoded by the past participle in these cases but rather externally imposed.

#### 4 Towards an identity approach

The previous section has shown that the empirical data neither necessitate nor support the non-identity of the participles in passive and perfect configurations. Rather, both diachronic as well as synchronic considerations suggest that there is just a single past participial marker which is underspecified in the sense that it may give rise to passive as well as perfect interpretations on the basis of its syntactic context, namely depending on the properties of the underlying predicate as well as the potential presence of an auxiliary that contributes relevant ingredients and thus manages to shift the interpretation into a specific direction. Based on the tentative ingredients in (16) and (18), the present section will lay out how the participial contribution interacts with its immediate functional environment. Before we enter this discussion, however, it is worthwhile to briefly consider the spectrum of possible approaches to the issue of past participial (non-)identity, as schematically presented in (28) (see Wegner 2019: Chapter 3 for a discussion of the main problems and merits of the distinct kinds of approaches).



While the assumption of substantial non-identity in (28a), as defended *inter alia* by Drijkoningen (1989), Bierwisch (1990), and Aronoff (1994), certainly bears the potential of providing an easy way out, it simply cannot explain why the supposedly distinct forms in question are homophonous and is not in any way supported by the empirical data put forth in the previous section. The alternative claim of proper past participial identity, on the other hand, though supported by both diachronic as well as synchronic observations, has to be able to identify a shared set of properties that may be attributed to the past participial marker. The literature has different ways in store of dealing with this issue. Approaches based on the (often implicit) assumption of what is termed faint identity in (28b) (see *inter alia* Embick 1997; 2003; 2004; Sleeman 2011; 2014) turn out to be problematic in the sense that the relevant participial contributions (diathesis, aspect) tend to be attributed to individual functional heads. In fact, the passive contribution of past participles is typically tied to a particular kind of *v*- or Voice-head and the aspectual contribution hinges on the presence of an Asp-head. This raises the question of what exactly the participial morpheme spells out, which is typically not explicitly addressed.<sup>28</sup> Accordingly, it often remains mysterious whether the passive and perfect properties are just effects of the structural configuration regardless of the properties of the participial marker or in what way the participial marker is eventually responsible for either (or both) of the relevant contributions. Subscribing to the biased identity in (28c) is no less problematic as these approaches characteristically (though often implicitly) settle for either an inherent passive (see *inter alia* Hoekstra 1984; Roberts 1984; Ackema 1999) or perfect(ive) (see *inter alia* Zagona 1991; Zeller 1994; Grewendorf 1995; Musan 1998) contribution which usually neglects the importance of its respective counterpart. This contribution, i.e. passive in tense/aspect approaches and perfect(ive) in argument structure approaches,

<sup>28</sup> If the participial affix is assumed to serve as the spell-out of combinations of functional heads that bear distinct grammatical properties, the approach should rather be grouped with non-identity approaches. However, an anonymous reviewer remarks that the morphology does not spell out such combinations of heads in these cases.



is then just shifted off to the auxiliaries. This is insufficient in both cases: approaches with a passive bias cannot account for the fact that the argument structural contribution is clearly not a necessary condition for past participle formation (cf. the grammaticality of the unaccusative past participle *disappeared*) and tense/aspect-based approaches have to associate passive auxiliaries with the capacity of blocking the aspectual contribution (which is problematic given the availability of imperfective bare past participles). Considering these drawbacks, what remains is an approach based on the assumption of neutral identity, i.e. (28d). Such approaches may generally come in two kinds, namely those that attempt to attribute the participial morpheme no relevant contribution whatsoever (see *inter alia* von Stechow 1990; 1998; Kathol 1991; 1994; Pollard 1994) as well as those that conflate ingredients of both perfect as well as passive characteristics in the past participial form (see Breul & Wegner 2017; Wegner 2019; and – rather implicitly – Klein 1999; 2010).<sup>29</sup> The former kind may be neglected, since it has to face the issues that arise for biased identity approaches yet in a much more severe manner: both contributions have to be attributed to the functional context, which raises the question of what the grammatical role of the participial marker is in the first place. The alternative way of sketching a neutral identity approach boils down to an account in which the past participial marker evokes an argument structural as well as an aspectual effect, but the precise properties of the overall configuration crucially hinge on the functional environment (auxiliary and event structure). An amalgamation approach along these lines bears the potential to account for the range of synchronic data and also takes seriously the historical development of the past participle out of a deverbal adjective that bears passive as well as resultative properties. Accordingly, the next two subsections will be concerned with the individual contributions and how they combine with their functional environment.

#### 4.1 Argument structure

Up to this point, the argument structural flexibility of participial periphrases has tentatively been defined in terms of the suppression of an external argument (if present) by the past participle (see (16) above) and the licensing of a suppressed argument (if present) by HAVE (see (17) above). Ingredients along these lines are commonly put forth in “biased identity approaches” with a passive bias. In fact, previous approaches usually argue that either a case-feature (see *inter alia* Fabb 1984; Roberts 1984; 1985; 1987; Baker, Johnson & Roberts 1989; Broekhuis & van Dijk 1995) and/or a  $\theta$ -role (see *inter alia* Hoekstra 1984; 1986a; b; Baker 1985; Jaeggli 1986; vanden Wyngaerd 1988; Åfarli 1989) is absorbed. In accord with Burzio’s (1986) generalisation, the lack of case-assignment properties forces the lack of an external  $\theta$ -role, which may only be reinstated with the help of a suitable (transitive) auxiliary, i.e. HAVE. Ackema (1995; 1999) and Ackema & Marelj (2012) more recently grasp the argument structural contribution of HAVE by attributing the perfect auxiliary the ability of “inheriting” the semantic role that would otherwise remain unrealised (see also Toman 1986 and Cowper 1989 for ideas revolving around  $\theta$ -inheritance). This is formalised in terms of “ $\theta$ -merger” (cf. Ackema 1999: 108; Ackema & Marelj 2012: 229, 235), which allows the semantically empty  $\theta$ -role of the auxiliary to be merged with the suppressed role of the external argument.

<sup>29</sup> An anonymous reviewer remarks that a “neutral identity” approach does not significantly differ from a “biased identity” one. While it is true that exponents of the former kind (like the present approach) also hinge on the functional environment in which a given participial form is embedded, the participial form itself crucially combines (or amalgamates) aspectual and diathetic properties (or assumes that there is no such contribution at all). This is neglected in those approaches that simply shift off one or the other to the functional environment.

Turning to the specifics of the diathetic contribution of the past participle, the semantic effect of passivisation may be analysed as the existential binding or closure of the external semantic role (see *inter alia* Rothstein 2001: 142; Reinhart 2002; Wunderlich 2012: 2231). This is captured in the extended contribution of past participial morphology in (29).

- (29) Past participle (argument structure): marking the external semantic role (if there is one) for existential binding/closure, which renders it inactive for syntactic purposes

This accounts for the fact that the interpretation of a passive is semantically equivalent to its active counterpart except for the backgrounding of an agent, which results in the foregrounding of the patient (cf. Haspelmath 1990: 60f.). This may be traced back to the semantic presence of an existential quantifier ( $\exists$ ), which binds the variable of the external argument and thus makes sure that this argument remains semantically present despite its syntactic absence.<sup>30</sup>

Crucially, the operation in (29) is formulated in a way that ensures that it is not a necessary condition for the formation of past participles (if there is no external argument, the operation remains without any effect). It is a necessary condition for the formation of passive periphrases, though, as the examples in (30) show.

- (30) a. *Danish*  
       \*Han blev forsvundet  
       he became disappeared
- b. *German*  
       \*Hier wird angekommen  
       here becomes arrived

The operation in (29) is nonetheless no sufficient condition for the proper formation of passive constructions. Rather, there are semantic as well as syntactic restrictions on the formation of passive periphrases.

- (31) a. \*The letter was contained
- b. *German*  
       \*150 Euro wurden gekostet  
       150 euros became cost

- (32) a. \*It was danced
- b. *Norwegian*  
       Det vart sunge.  
       there was sung  
       ‘People were singing.’

The examples in (31) show that it is semantically not sufficient for an external argument to be present, but rather this argument has to bear a sufficient amount of Proto-Agent properties (cf. Dowty 1991), which may thus be formulated as a necessary condition for the application of existential binding/closure in passivisation.<sup>31</sup> Apart from such semantic

<sup>30</sup> The syntactic absence may, of course, be made up for by the preposition *BY*, which is capable of introducing an argument to be associated with the existentially-bound external role.

<sup>31</sup> An anonymous reviewer argues that this is dubious on the basis of passives like those in (iv)–(vi).

(iv) This terrible customer service cannot be borne any longer.

(v) The Emperor was feared by all his subjects.

(vi) The operation was undergone by seven patients, and was successful in five cases.

constraints, the examples in (32) show that there are also syntactic restrictions regarding the formation of impersonal constructions. While Norwegian allows for a passive configuration that does without the realisation of an explicit argument, this is barred in English. This may be tied to the parameterised availability of default  $u\phi$ -valuation, which serves to instantiate a third person singular value on T in the absence of an explicit argument (cf. Ruys 2010; Schäfer 2013: 354). Even though additional aspects (potentially related to EPP-features) might have to be taken into consideration to fully grasp the parameterisation of impersonal passives,<sup>32</sup> this clearly shows that there are syntactic restrictions on passivisation.

Approaches proclaiming the syntactic absence yet semantic presence of the external argument may assume that the specific participial contribution boils down to (33).

- (33) Past participle (argument structure): When a past participial affix attaches to a verb, it marks the verb's external semantic role (if there is one), i.e. the  $\theta$ -role to be assigned to an argument in Spec, v in an active counterpart, for existential binding. This triggers existential binding/closure at LF if the argument bears a sufficient set of Proto-Agent properties and renders the external  $\theta$ -role inactive for syntactic purposes by means of making the associated feature-value unavailable.

According to this formalisation, attaching the participial affix to a verbal stem has an effect on the availability of the external role. While this prevents the proper licensing of the external argument in Spec, v, the auxiliary HAVE (and, in a similar way, the preposition BY) may step in and retrieve the associated  $\theta$ -role in order to assign it to an argument in its local domain, which prevents existential binding/closure. This is grasped by (34).

- (34) The perfect auxiliary HAVE (argument structure): HAVE retrieves the external role of its complement if this role is marked for existential binding and assigns it to an argument in its specifier position.<sup>33</sup>

This stipulates some means of retrieving the marked  $\theta$ -role, reminiscent of Ackema & Neeleman's (2012)  $\theta$ -merger.

What has often been used to criticise approaches based on the syntactic absence of the external argument, however, is that they cannot properly deal with the fact that passives

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The external arguments in question need not be proper agents, though. It suffices for them to meet some of the requirements that let the pendulum swing towards the agent (rather than patient) end of the spectrum in these cases. In (v), the fact that the external argument in the BY-phrase is an experiencer suffices to do so and in (iv) and (vi) an active decision seems to be carried out (see Breul & Wegner 2017: 33f. for an additional argument based on contextually shifting the interpretation so as to attribute Proto-Agent properties to an external argument).

<sup>32</sup> As pointed out by an anonymous reviewer, an explanation based on the availability of default  $u\phi$ -valuation alone seems to be challenged by configurations with secondary subjects like those in (vii)–(ix).

- (vii) [That John smokes] worries/\*worry Mary.  
 (viii) [Under the bed] is/\*am/\*are a good hiding place.  
 (ix) [Red] is/\*am/\*are better for the cover I think.

Despite the fact that the subjects in these cases are not nominal, third person singular agreement comes about.

<sup>33</sup> An anonymous reviewer takes issue with this assumption in the context of predicates partaking in causative alternations (e.g. *break* and *sink*). Most relevant for our purposes is that the transitive variants of these predicates comprise an external argument, which is either subject to existential binding or may overtly be licensed by HAVE. The presence of this argument and an associated CAUSE-predicate thus predicts that these transitive predicates are licit for passivisation and form their active perfect with HAVE in languages making use of auxiliary alternation. We will not enter the intricate discussion of whether the encoding of the external argument differs substantially from what we find with transitive predicates that do not have intransitive (anticausative) counterparts.

control into purpose clauses, as in (35a), and allow for subject-oriented modifiers, as in (35b) (cf. Sternefeld 1995: 68; see also Baker, Johnson & Roberts 1989).

- (35) a. The house was built to sell it.  
b. The price was decreased willingly.

While these phenomena do not necessarily provide conclusive evidence against a purely semantic approach (see Bhatt & Pancheva 2006/2018),<sup>34</sup> they at least raise the possibility of the syntactic presence of an argument even in passive cases. This argument is bound to remain implicit (*pro* or *PRO*), but then has to be controlled by an overt argument introduced in the local domain of *HAVE* (or introduced in a *BY*-phrase).

- (36) Past participle (argument structure, alternative version): If a predicate includes an external semantic role, the participial head requires the syntactic insertion of a variable (*pro*/*PRO*) carrying that role (e.g. by means of selecting a passive variant of *v*/*Voice*). The presence of the variable triggers existential binding/closure if the external semantic role bears a sufficient set of Proto-Agent properties, unless it is locally bound by an independently licensed argument with a non-distinct semantic role.

In a nutshell, the participial head requires the external argument to remain implicit in the sense that a null category has to be inserted, e.g. in terms of forcing the selection of a passive *v*/*Voice*-head introducing such an element. This should lead to the existential quantification over the open argument (cf. Bruening 2014: 385).<sup>35</sup>

If the perfect auxiliary *HAVE* is around, it has to be able to introduce an argument with non-distinct semantic properties that serves as the local controller of the implicit argument (*pro*/*PRO*), as formally laid out in (37).

- (37) The perfect auxiliary *HAVE* (argument structure, alternative version): *HAVE* syntactically introduces an argument that locally controls an implicit argument, i.e. a variable carrying an external semantic role (*pro*/*PRO*), and thus manages to introduce an explicit manifestation of the suppressed argument.

This alternative version based on the syntactic presence of a variable that is obligatorily controlled in the context of *HAVE* raises numerous questions. Apart from the mysterious nature of *pro*/*PRO* it is unclear how even quirky (dative) subjects in languages like Icelandic may readily be realised as specifiers of *HAVE* and then control *pro*/*PRO*. This suggests that an approach based on a mechanism allowing the auxiliary to retrieve the suppressed role as in (34) is to be preferred. Such an approach is in line with the observation that the auxiliating of *HAVE* (which allowed the transitive main verb to take secondary predicates

<sup>34</sup> Thanks are due to an anonymous reviewer for pointing out that adverbs may properly be dealt with by an agentive event variable and the licensing of *PRO* is not necessarily called for in purpose clauses, which do not constitute cases of obligatory control (see Farkas 1988; Landau 2013).

<sup>35</sup> As an anonymous reviewer points out, numerous questions remain with respect to how this open argument is supposed to be syntactically represented: assuming that what we have is *PRO* is problematic in the sense of requiring us to enforce obligatory control in *HAVE*-perfects. In passive contexts, it is subject to existential closure, which is unexpected given that *PRO* is usually not restricted in this sense and should allow for an arbitrary interpretation in cases like those in (31), where existential closure is not available. The same arguably also holds for *pro*, whose properties are still mysterious (see the discussion in Landau 2010). Apart from this, the variables are also expected to be subject to case-assignment and it is not clear how they license *BY*-phrases.

and discard its possessive semantics) diachronically led to the proper licensing of the external argument.

This suffices to grasp the diathetic properties of passive and perfect periphrases. Adopting the variant in (33) and (34), according to which the suppressed argument need not be syntactically introduced as a variable but is only semantically present, we may thus turn to the second side of the coin, namely their aspectual properties. These may now be attributed to the same participial item that affects the realisation of the external argument in terms of syntactically suppressing it.

#### 4.2 Aspectual properties

In contrast to their passive counterparts, many of the approaches that fall under the heading of biased identity argue that the past participle brings with it a contribution based on tense (anteriority, see *inter alia* Belitschenko 1980: 376; Ballweg 1988; Zeller 1994: 81, 89ff.; and Musan 1998: 121ff.) or aspect (perfectivity, see *inter alia* Zagona 1991; Grewendorf 1995: 83; Giorgi & Pianesi 1997: 39; Weber 2002; Remberger 2006: 124; and Soare 2007: 190). This is, however, not flexible enough if we take the assumption of substantial past participial identity seriously. In fact, neither the German periphrastic passive *Der Brief wird gelesen* (lit. the letter becomes read) nor its English counterpart *The letter is (being) read*<sup>36</sup> contribute a perfective interpretation. This poses a major problem for tense/aspect-based approaches and – even though it is occasionally acknowledged (see, e.g. Grewendorf 1995: 83fn9 and Musan 1998: 123f.) – is not properly dealt with by these. In other words, these accounts are simply not flexible enough to be tenable in identity approaches.<sup>37</sup>

Thus, those (very) few approaches that have taken the identity of passive and perfect participles seriously usually resort to a more flexible temporal or aspectual contribution. Savova (1989: 68ff.) for instance bases her approach on “precedence”, which is taken to solely establish the anteriority of the beginning of the event and holds aktionsart properties responsible for whether or not it eventually comes to an end. In a similar vein, though focussing on an aspectual contribution, Breul & Wegner (2017: 44f.) suggest that past participles denote a “post-time state” (in the tradition of Vennemann 1987 and Klein 1994; 2000). This allows for a flexible approach in that “a past participle as such does not specify whether [the situation continues to last during the post-time of some of its subphases] or whether the situation has ended” (Breul & Wegner’s 2017: 45). While both approaches successfully impose a higher degree of flexibility, they seem to leave too much to implication and do not account for the substantial contribution that should be attributed to the perfect auxiliary HAVE. The present approach attempts to deal with these shortcomings.

As hinted at before, the main claim of the present approach to the aspectual contribution of the past participle is that it is fundamentally distinct from overt perfective markers in aspectual languages in terms of being restricted to denoting a perfective reading iff the underlying predicate is sufficiently simple as well as sufficiently telic. In fact, the aspectual contribution of past participles, tentatively sketched in (18), has to grasp which kinds

<sup>36</sup> What renders things somewhat obscure in English is the ambiguity of BE + past participle constructions which may give rise to eventive passives (auxiliary + past participle) as well as resultative constructions commonly referred to as stative passives (copula + adjectival past participle). Note that the latter vanishes once we add a present participial layer and is less salient in the past tense (*The letter was read*).

<sup>37</sup> An inflexible perfective contribution is not even tenable in non-identity approaches, as this fails to account for the imperfectivity of the Universal Perfect, as in *Jack has loved Becky since he first laid eyes on her*.

of events may be terminated by the participial morphology and which may not. This is addressed in (38).

- (38) Past participle (aspect, final version):
- a. Simple changes of state (featuring the atomic predicate BECOME) are properly rendered perfective, whereas atelic states and events (e.g. DO) as well as those comprising an atelic cause (i.e. CAUSE[BECOME]) remain imperfective.<sup>38</sup>
  - b. Although an aspectual effect is also imposed upon the imperfective situation in terms of ending a sub-eventuality, this does not suffice to conclude the overall eventuality (cf. Lübke & Rapp's 2011: 281f. weak perfectivity).

The aspectual contribution of the past participial morpheme may thus still be close to its diachronic ancestor. To be precise, the straightforward correlation that may be worked out is that the deverbal adjectives which solely occur in stative constructions, like the ones in (12) and (13) as well as those in co-predicative and absolute uses (see footnote 9), denote a result, but only ever do so if no CAUSE is introduced. In these cases, the external argument is not just suppressed, but altogether absent in the event structure (as indicated by the impossibility of BY-phrases introducing a referent in stative passive and stative perfect contexts).<sup>39</sup>

As an (implicit) external argument was introduced on the past participle as part of the reanalysis of the deverbal adjective towards a proper verbal participle, the resultative component is not sufficient anymore to impose perfective properties on transitive predicates. Hence, HAVE had to become an auxiliary that would not just provide an explicit referent for the implicit external argument, but also provides relevant perfect properties (cf. Klein 1999: 73; Iatridou et al. 2001: 220f.). These may not be reduced to the aspectual contribution of perfectivity, though, as this fails to grasp the Universal Perfect and leads to redundancy in the expression of perfectivity in unaccusative contexts, which are subject to (38a). Rather, the relevant perfect semantic contribution by HAVE should be more flexible in terms of establishing a perfect time span (cf. Iatridou et al.'s 2001 perfect operator) or precedence in the sense of Savova (1989). Accordingly, we will assume that the contribution imposed by the perfect auxiliary HAVE boils down to what is formulated in (39).

- (39) The perfect auxiliary HAVE (aspect): HAVE denotes the posteriority of Topic Time (TT) with respect to the Time of the Situation (TSit) (cf. Klein 1992; 1994), which may but need not evoke the termination of TSit depending on the value elicited by (38) (although this is the default reading regardless of whether the participle conveys perfectivity).

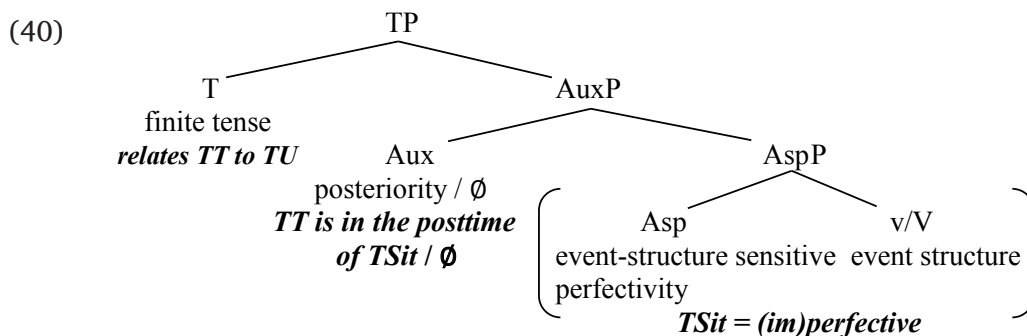
The sum of the operations in (38) and (39) eventually boils down to a somewhat more explicit version of previous approaches, most importantly Savova's (1989) flexible precedence (which does not impose a right boundary) and Breul & Wegner's (2017) post-time

<sup>38</sup> Note that simply emphasising on telicity does not do the trick here, since it predicts that telic transitives like *release (a prisoner)* and *write (a book)* are always perfective, contrary to fact (cf. *The prisoner is (being) released*). Rather, we have to zoom in on more intricate event structural properties. The underlying assumption here is that the aspectual head is only weakly perfective in the sense that it only affects its immediate complement, i.e. the topmost ingredient, e.g. the CAUSE, which is necessarily atelic (quite unlike the BECOME it embeds). This is why it fails to impose perfectivity upon any event structure featuring an atelic CAUSE.

<sup>39</sup> While this view has recently been called into question by McIntyre (2013), Bruening (2014) and Alexiadou et al. (2014) on the basis of some exceptions, these may well have to be traced back to independent influences (as in the case of accounting for the occasional allowance of BY-phrases with the help of pseudo-incorporation, cf. Gehrke 2012; 2013; 2015).

state (which leaves the determination of whether or not TSit is concluded entirely up to implication).

Before we turn to some examples of how these assumptions account for perfect periphrases and their auxiliary selection as well as the imperfectivity of passive data, let us consider how these ingredients interact with one another as well as the underlying event structure. The relevant ingredients are represented in (40) (see also Wegner 2019: 254).



The major insight to be gained from this representation is that the complex temporal/aspectual interpretation of a participial periphrasis is determined in three steps: (i) the participial head combines with and is sensitive to the event structure of the underlying predicate, where the aspectual head denotes perfectivity (hence the termination of TSit) iff the underlying event is simple enough, (ii) the auxiliary HAVE (unlike the semantically vacuous auxiliaries BE and BECOME) imposes the precedence of AspP by denoting that TT is posterior to TSit (which conveys that TSit has ended either by implication in imperfective cases or by necessity in perfective cases), (iii) the finite tense morphology on T combines with the auxiliary and thus relates TT to Utterance Time (UT). In a nutshell, the aspectual reading is compositionally evaluated based on the predicate's underlying properties, the contribution of the aspectual head and the auxiliary HAVE, whereas tense just relates the complex TT to UT without further ado.

These ingredients are mirrored in a straightforward manner in the auxiliary selection of perfect periphrases in languages resorting to auxiliary alternation. The examples in (41) are simple in the sense that only one component introduces aspectual properties.

- (41) *German*
- a. Das Mädchen ist verschwunden.  
the girl is disappeared  
'The girl has disappeared.'
  - b. Der Mann ist gestorben.  
the man is died  
'The man has died.'

Based on the properties denoted by the unaccusatives *verschwunden* ('disappeared') and *gestorben* ('died'), the past participle manages to denote perfectivity. Thus, it may form a perfect periphrasis without the compositional support of an auxiliary, which is why BE may be inserted in those languages that employ it for the formation of perfect periphrases. Since TSit is thus properly encoded as "ended", the posteriority of TT with respect to TSit may be derived by implication (cf. Grewendorf 1995: 83; Abraham 2000: 152).<sup>40</sup>

<sup>40</sup> As indicated in footnote 20, the prime exception in this context are verbs denoting a (manner of) motion (e.g. German *gerannt* 'run' and *getanzt* 'danced') or anti-motion (e.g. *gesessen* 'sat' and *gestanden* 'stood'), whose past participles seem to be lexically associated with an endpoint and conceptualised as *changes of location*.

With atelic intransitive predicates as well as transitives featuring a causative phase, as in (42) and (43), the imperfectivity of the past participle demands the introduction of the auxiliary HAVE.

- (42) *German*
- a. Feline hat geschlafen.  
Feline has slept  
'Feline has slept.'
  - b. Lena hat gearbeitet.  
Lena has worked  
'Lena has worked.'

- (43) *German*
- a. Peter hat ein Haus gebaut.  
Peter has a house built  
'Peter has built a house.'
  - b. Marie hat den Schlüssel gefunden.<sup>41</sup>  
Mary has the key found  
'Mary has found the key.'

As the past participle does not properly denote perfectivity in these cases (only a subevent, if anything, is brought to an end in the sense of Lübbe & Rapp 2011: 271), HAVE is bound to step in not just for argument structural purposes but also in order to impose the posteriority of TT with respect to TSit. The precedence of the participial situation in turn induces the interpretation that TSit has ceased via implication.

While this naturally accounts for languages with auxiliary alternation like German, Dutch and Italian, HAVE-only languages like English, Faroese and Spanish at first sight seem to pose some challenges in that they also combine HAVE with unaccusative (and hence perfective) participles, as observable in (44).

- (44) a. Lena has disappeared.  
b. The man has died.

Considering the individual contributions of HAVE and the aspectual head, however, this is unproblematic: posteriority and perfectivity are distinct contributions that are not in complementary distribution. Rather, both ingredients may be explicitly spelled out in the absence of a suited semantically vacuous perfect auxiliary (BE is reserved for passive formation in English, whereas BECOME in the form of the lexeme *weorþan* was dropped in Old English, cf. Ackema 1999: 137ff.).

An approach along these lines is thus compatible with HAVE-only languages and accounts for auxiliary selection in languages forming their perfect periphrases with BE as well as HAVE. Accordingly, the latter is not only governed by argument structure but crucially also by the need to induce relevant perfect properties. Further evidence for these assumptions does not only stem from the aforementioned imperfectivity of bare instances (consider *Pulled by three horses, the carriage quickly gains speed*), but crucially also from the perfect periphrases themselves. In fact, the Universal Perfect in English shows that atelic eventualities (mostly states but occasionally also activities) allow for the participial TSit to keep holding, as in (45).

<sup>41</sup> Note that the perfectivity that is undoubtedly conveyed by these examples is not grammatically encoded on the past participle, but rather stems from the interaction of the temporal properties of HAVE with the telic nature of the overall event.



- (45) a. Jack has loved Becky ever since he first laid eyes on her.  
 b. The church has burned since yesterday.<sup>42</sup>  
 c. *German*  
 ?Sie hat seit heute morgen geschlafen.  
 she has since today morning slept  
 ‘She has been sleeping since this morning.’

The stative occurrence in (45a) is perfectly natural, whereas it is debatable whether activities like the one in (45b) are marked. In German, both kinds are marginal, but what is striking is that the only interpretation one might retrieve from cases like (45c) is one in which the participial event is still ongoing.<sup>43</sup> This shows that perfectivity cannot be an integral part of the participle in such cases. Furthermore, it provides evidence for the assumption of posteriority as denoted by HAVE in that some sub-eventualities of the situation at hand necessarily lie in the past (the left boundary is made explicit by the adverbial modifier), whereas the participial event has not ended (as the right boundary is not fixed but rather taken to stretch into the present by implication).

This identity approach to the properties of past participial periphrases is in line with the diachronic reanalysis and analogical extension of the auxiliaries in question. HAVE was first primarily combined with past participles based on transitive predicates, although it could occasionally also occur with unaccusatives in English and Dutch (cf. Ackema 1999: 124; Łęcki 2010: 155ff.). BE, on the other hand, was used solely for the formation of perfect periphrases featuring unaccusatives, but this combination soon lost ground in English due to the generalisation of HAVE to such contexts (cf. Ackema 1999: 124; Łęcki 2010: 155ff.). According to Łęcki (2010: 163), this “is most often attributed to the heavy functional load of the auxiliary, which was already employed in other constructions like passive and, accordingly, it was confusingly ambiguous”. Other languages like German and Dutch, on the other hand, were not subject to this, as they retained a different passive auxiliary, namely BECOME, which was lost in the history of English (cf. Ackema 1999: 137ff.; Klein 2010: 1240). In either case, the HAVE-perfect was analogically extended to contexts that were not properly grasped by competing constructions, i.e. unergative predicates in both auxiliary alternating as well as HAVE-only languages.<sup>44</sup> Diachronic considerations thus provide important insights regarding the compositional make-up of participial periphrases and hence allow us to properly motivate a synchronic approach to the identity of past participles.

## 5 Conclusion

The present paper has argued in favour of the identity of past participles in passive and perfect periphrases on the basis of both diachronic as well as synchronic considerations. While the former made clear that the historical predecessors of past participial forms already combined argument structural (the grammatical absence of an external argument) as well as aspectual properties (resultativity), synchronic data shows that the con-

<sup>42</sup> See also Dowty’s (1979: 344) example *John has slept since midnight*.

<sup>43</sup> According to König & Gast (2012: 90) these are even downright ungrammatical in German. However, similar cases may easily be found (e.g. in the COSMAS-corpus *Die Verantwortlichen haben seit zehn Jahren geschlafen* ‘The people responsible have been sleeping for years.’ as well as in fictional texts like *Ein Stern namens Mama* by Karen Fessel *Hab ich etwa seit heute Morgen geschlafen?* ‘Have I really been sleeping since yesterday morning?’). In fact, their marginal status may be traced back to competing formations with present morphology and their denotation of progressive properties in German. This is also the preferred option in English, which is why an atelic progress like the one in (45b) rarely crops up as a Universal Perfect. Since the present progressive morphology is incompatible with statives, this competition-based effect is absent in cases like (45a).

<sup>44</sup> In fact, prior to the grammaticalisation of the HAVE-perfect and its analogical extension to intransitive cases, past participles of unergative predicates could not be formed at all (cf. Öhl 2009: 296).

tribution of the reanalysed eventive past participles is still two-fold: (i) the insertion of an implicit external argument to be existentially bound (unless HAVE steps in), and (ii) aspectual properties that render a given situation perfective iff the underlying predicate denotes a simple change of state. These properties properly account for the passive imperfective as well as anticausative perfective characteristics of past participles in the context of semantically vacuous auxiliaries (BE and BECOME), yet also grasp the availability of active perfect periphrases with HAVE. This perfect auxiliary has taken on the ability to license an external argument and serves to establish a perfect time span in terms of denoting posteriority.

Eventually, an identity approach along these lines provides an answer to the long-standing mystery of why perfect(ive) and passive participles receive a homophonous spell-out. At the same time it serves to uncover the intricate properties of past participial items and the auxiliaries they occur with, where the traditional assumption that BE and BECOME are empty is supported, whereas HAVE may affect the properties of perfect periphrases in crucial ways. In doing so, the present approach provides a fresh perspective on the determinants of auxiliary selection and offers novel insights concerning the interplay of aspect, argument and event structure: based on the aspectual contribution of the participial marker, perfectivity correlates with anticausativity, whereas causative properties evoke imperfectivity and thus demand additional support in order to give rise to a perfect interpretation.

What certainly deserves some attention in future research is the behaviour of bare instances, which seem to share the past participial properties, but are embedded within a range of functional contexts that impose their own restrictions. This promises to shed light on the categorial nature of past participles in their various uses and may consolidate an identity view if the underlying properties also shine through in these contexts. Furthermore, as indicated by the brief discussion of some Slavic cases above, what may turn out to be particularly worthwhile is an extension of these considerations in an attempt to uncover the parameterisation of past participial (non-)identity.

## Abbreviations

1/2/3 = first/second/third person, ACC = accusative, AGR = agreement morphology, DM = Distributed Morphology, EA = external argument, F = feminine, GEN = genitive, IA = internal argument, INF = infinitival, IPP = Infinitivus pro Participio, M = masculine, PASS = passive, PL = plural, PPI = Participium pro Infinitivo, PPP = Perfect Participle Paradox, PRF = perfect, PTCP = (past) participle, sCoS = simple change of state, SG = singular, TSit = Time of Situation, TT = Topic Time, UT = Time of Utterance

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## Competing Interests

The author has no competing interests to declare.

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