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The categorial, argument structural and aspectual indeterminacy of past participles: A holistic approach

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Abstract: The present paper argues that all kinds of verbal and adjectival instantiations of past participles have a common core: a participial head associated with an argument structural effect, on the one hand, and an aspectual contribution, on the other. The former amounts to the suppression of an external argument (if present), which existentially binds the semantic role associated with this argument, and the latter renders simple event structures with change-of-state semantics (and only those) perfective. Based on these ingredients (and the contribution of the auxiliary HAVE, if present), it is not just possible to account for how past participles elicit periphrastic passive as well as perfect configurations, but crucially also for their bare (i. e. auxiliaryless) occurrences in a range of distributions: stative passives, stative perfects, absolute clauses, pre- and postnominal occurrences, and adverbial clauses. These, in turn, differ in their properties on the basis of (a) the presence of a stativising PredP, (b) the availability of an adjectival head that triggers λ -abstraction of an internal argument, and (c) the complexity of the underlying verbal structure in terms of the availability of vP. This eventually allows for a ‘holistic’ approach to the flexibility of past participles that delineates a common core supplemented by distinct functional surroundings.

Keywords: past participle, periphrastic perfect, eventive passive, stative passive, stative perfect, adnominal participle

1 Introduction

The eponymous characteristic of participial forms is that they take part in (lat. *participare*) two distinct categories, namely verb and adjective (cf. Valentin 1994: 33). This led to the long-standing special status of the participle as a mixed category (cf. Davidson 1874: 336; Eisenberg 1994: 86; Marillier 1994: 19). In the generative

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tradition, this special status is usually taken to dissolve into a derivational relation of an inherently verbal participle that gains adjectival properties by virtue of taking up an adjectival affix (see *inter alia* Lieber 1980, 1983; Bresnan 1982: 23 f., 28 ff.; Rapp 1997: 185). In any framework based on (some version of) the ‘principle of containment’¹ this raises the question of what is the common core of the broad variety of distinct participial instantiations.

This issue is particularly pressing with respect to past participles, since even periphrastic – most prototypically verbal – instantiations occur in two grammatically quite distinct contexts: analytic passive and perfect formations.² Regardless of their apparent grammatical distinctions, proponents of the identity of these forms have suggested that there is reason to consider them passive forms with a flexible aspectual contribution. Active properties are imposed by the auxiliary HAVE (see e. g. Roberts 1984, 1987; Hoekstra 1984, 1986; van den Wyngaerd 1988; Ackema 1999; Ackema and Marelj 2012) and the precise aspectual properties are informed by the properties of the verb (see Savova 1989: 68 ff.; Breul and Wegner 2017) and/or a contribution of the perfect auxiliary (see e. g. Iatridou et al. 2001: 220 f.; Klein 1999: 73; Wegner 2019a, 2019b). These insights raise the question of whether the two-fold grammatical characteristics of past participles also shine through in bare (i. e. auxiliaryless) contexts. The present paper sets out to show that they do, both in “verbal” instantiations like adverbial and postnominal occurrences as well as in “adjectival” realisations like prenominal cases and the stative passive (as well as other predicative configurations).

Although there is a bulk of literature on most of the configurations including past participles, these are not straightforwardly compatible with an account highlighting a common core. In fact, previous approaches to the structure of verbal and adjectival participles like Embick (2004), Sleeman (2011, 2014) and Alexiadou et al. (2014) rely on distinct aspectual heads and stipulate that these combine with distinct *v-* or Voice-heads to account for their distinct properties. Additionally, these typically do not take into consideration participles in perfect periphrases but restrict their attention to ‘passive’ participles. Based on the properties of past

1 The principle of containment holds that “the analysis and structures proposed for a form must also be contained within the analysis of any structure derived from that form” (cf. Harley 2009: 320).

2 I simply follow the convention of referring to the participial items in passive and perfect periphrases as well as their auxiliaryless counterparts (such as *kissed* in *The girl was kissed*, *The boy has kissed the girl* and *the boy kissed by the girl*) as ‘past’ participles. It should be pointed out, though, that this term should not be taken to imply that all (or any) of these participles contribute past tense semantics. The semantically neutral term ‘second participle’ (as opposed to the ‘first’ or ‘present’ participle), prevalent in German linguistics, is more appropriate.

participles in English and German and building on compatible claims from previous theories (such as the relation between argument/event structure and aspect as well as the role of stativity), the present paper proposes a unified account of distinct participial occurrences: it attempts to account for the whole range of participial occurrences on the basis of a scale of three types of participles (eventive verbal, eventive adjectival and resultative adjectival) that all share a common core. This sheds light on the characteristics of the distributions in which the participial forms occur, as their properties are derived from a single formative that interacts in intricate ways with its functional context (both above as well as below). Furthermore, it has the welcome effect of exposing that the categorial indeterminacy of past participles is merely one of syntactic category, where the underlying lexical category is always verbal (V+v) and adjectival properties solely stem from its functional embedding while retaining some verbal core (see Rauh 2017 on lexical vs. syntactic categories). While this follows naturally in an antilexicalist³ account, the verbal base is decisive for the unifying characteristics.

To lay out a ‘holistic’ approach to the properties of past participles in languages in which they are formally identical, the second section presents two core properties of past participial morphology and shows how these account for periphrastic instantiations and the stative passive. While these constitute the verbal and the adjectival pole, the third section turns to a number of categorially mixed cases: adnominal cases in Section 3.1 and adverbial ones in Section 3.2. The fourth section works out some theoretical implications and the final section provides some concluding remarks.

2 The verbal and the adjectival pole

The long-standing mystery of whether passive and perfect(ive) participles in periphrases are substantially distinct (see *inter alia* Drijkoningen 1989; Bierwisch 1990; Aronoff 1994) or rather boil down to one and the same set of grammatical properties (see *inter alia* Roberts 1984; Toman 1986; Ackema 1999; Ackema and Neeleman 2008; Breul and Wegner 2017; Wegner 2019a, 2019b) may be resolved by considering synchronic as well as diachronic evidence concerning the character-

³ The term antilexicalist is used here to refer to approaches like First Phase Syntax (see Ramchand 2008) and Distributed Morphology (see Harley and Noyer 1999) based on ‘syntax-all-the-way-down’, i. e. proclaiming that the notion of ‘word’ is redundant as even word formation has a syntactic reality.

istics of past participles in languages that do not distinguish them morphologically.⁴ In terms of the latter it is striking that perfect(ive) and passive participles have the same source: the two stem from a deverbal adjective that is interpreted in an anticausative and resultative fashion prior to its reanalysis as a verbal form (cf. Ackema 1999: 145 f.; Broekhuis to appear).⁵ This need not mean that identity is synchronically retained, but it is striking that both an argument structural as well as an aspectual effect may still clearly be observed. While the argument structure of periphrastic uses gained a lot of attention in approaches based on the absorption of accusative case and/or the external theta-role (see e. g. Rouveret and Vergnaud 1980; Roberts 1984, 1987; Hoekstra 1984, 1986; van den Wyngaerd 1988; Jaeggli 1986; Baker et al. 1989; Åfarli 1989), the aspectual contribution is only rarely accounted for in identity approaches (however, see Savova 1989; Breul and Wegner 2017; Wegner 2019a, 2019b).

The properties in (1) mark an attempt to combine the most fruitful ingredients of previous approaches to the diathetic flexibility of past participles as well as a sufficiently flexible perfect(ive) contribution.⁶ In fact, (1-a) acknowledges theta-absorption in that participial morphology is only compatible with a variant of *v* that introduces an empty argument and (1-b) observes that perfectivity only comes about with specific decompositional ingredients (event structure). These two-fold properties instantiate the core features of past participial morphology.

- (1) a. diathetic contribution: suppression of an external argument (if present) in the sense that only a variable (*pro*) may be introduced syntactically, which triggers existential binding unless bound locally
- b. aspectual contribution: simple changes of state (i. e. anticausative and unaccusative predicates only containing BECOME, henceforth V_{COS})

⁴ North Germanic and Romance languages make a shallow distinction in terms of agreement, but this can be traced back to independent configurational factors rather than a substantial distinction between the two kinds of participles (cf. Belletti 2006: 495; Bjorkman 2011: 155 f.). Hence, it is not surprising that the prediction that agreement morphology only surfaces with passive participles occasionally breaks down, e. g. in BE-perfects and HAVE-perfects that feature object-preposing (cf. Wegner 2019a: ch. 2.4). Additionally, there are some exceptions to the pervasive morphological identity of passive and perfect participles(ive), e. g. Swedish (see Wegner 2017).

⁵ An alternative view, as suggested by the occurrence of verbal passives alongside adjectival ones from the start in Latin, is this: the eventive passive was the initial form whose adjectival counterpart served as the starting point for the grammaticalisation of the periphrastic perfect. As this bears on the auxiliation of HAVE to the effect that the participle regains verbal properties, this view does not necessarily challenge past participial identity.

⁶ See Wegner (2019a: ch. 3) for an overview of approaches to the grammatical (non-)identity of past participles.

are rendered perfective, whereas all other predicates (e. g. featuring DO/ACT or CAUSE[BECOME], i. e. v/V) remain imperfective

These simple ingredients allow us to account for the properties of verbal and adjectival instantiations in a straightforward manner. Previous accounts typically focussed either on periphrastic (verbal) passive and perfect configurations or on distinctions between verbal and adjectival passives. The present approach takes a broader perspective showing that the core properties are attested for both prototypically verbal as well as adjectival instantiations.

2.1 Eventive verbal instantiations

Approaches to the diathetic identity of passive and perfect participles claim that the distinctions between the periphrastic passive in (2) and its perfect counterpart in (3) may be traced back to the perfect auxiliary HAVE.

- (2) a. *Golf was played (by Thilo).*
 b. *Golf wurde (von Thilo) gespielt.*
 Golf became by Thilo played
 ‘Golf was played (by Thilo).’
- (3) a. *Thilo has played golf.*
 b. *Thilo hat Golf gespielt.*
 Thilo has golf played
 ‘Thilo has played golf.’

Under this view, the participle in (2) and (3) is passive in the sense that the external argument (EA) of the transitive predicate is suppressed, although this only shines through in the analytic passive. In (2), the EA (i. e. the Agent-DP *Thilo*) is existentially bound, where the optional realisation of an agentive BY-phrase may introduce a referent that is semantically associated with this suppressed argument. The variant in which there is no BY-phrase that determines the value of the EA may give rise to the LF-representation in (4) disregarding tense (see also Rothstein 2001: 142). This is mirrored in the syntactic structure in (5), in which the participial head (Asp) combines with a variant of *v* that introduces a covert argument.⁷

⁷ Not taking a stand on whether roots can take arguments (see e. g. Harley 2014 and Alexiadou 2014), I assume that they are bundled with categorisers when entering the syntactic derivation. Note that *V* is often given as the categoriser *v* and *v* as VoiceP in antilexicalist work (see e. g. Sleeman 2011, 2014; Alexiadou et al. 2014). While we can neglect these terminological differences

(4) $\llbracket \text{Golf was played} \rrbracket = \exists x. \exists e [\text{play}(e) \ \& \ \text{Agent}(e, x) \ \& \ \text{Theme}(e, \text{golf})]$

(5)

In contrast to approaches stipulating that the participial morpheme absorbs case as well as the external semantic role (and thus essentially behaves like an argument, cf. Åfarli 1989: 102), the selectional relation might suffice to account for the passive properties at hand. In line with (1-a), there is an unsaturated argument in Spec, v (pro) which is existentially quantified and prevents v from assigning accusative case.⁸ This intentionally leaves the passive auxiliary BE/BECOME⁹ out of the picture (as opposed to claiming that it occupies v) with respect to encoding passive properties, as we will encounter bare participles that clearly show the same passive characteristics (cf. Wanner 2009: 18).

The active properties in (3) stem from the perfect auxiliary HAVE, which provides an overt value for the variable (otherwise) taken care of by existential binding. The overt argument either locally binds the empty subject or a dedicated operation (like Ackema and Marelj's 2012 θ -merger) associates the two. In either case,

here, it is important to point out that both v and V are taken to contribute to the expression of event structure in the present paper.

8 Whether it suffices for the argument to be semantically associated with the properties of v or whether it properly has to be instantiated as a covert syntactic object is controversial. Proponents in favour of its presence adduce phenomena like control into purpose clauses and subject-oriented modification (see Sternefeld 1995: 68; see also Baker, Johnson & Roberts 1989), which arguably does not, however, provide conclusive evidence (see Bhatt and Pancheva 2006/2018). Also, the nature of the variable is far from clear, as both PRO as well as pro do not seem to fit well (cf. Farkas 1988; Landau 2010, 2013). As this intricate discussion exceeds the scope of the present paper, let us assume that there is a syntactic variable in the tradition of Epstein (1984), Rizzi (1986), and Borer (1998), acknowledging that the nature of this variable is still mysterious and setting aside the question of how exactly this variable triggers existential binding and prevents v from assigning case for the time being.

9 BECOME is used here for auxiliaries restricted to passive periphrases (e. g. *werden* in German, *venire* in Italian, *bli/blive* in Norwegian and Danish). This is to be distinguished from the atomic predicate BECOME.

the auxiliary is responsible for the active properties, as in (6) and (7) (disregarding tense).¹⁰

(6) $\llbracket \text{Thilo has played golf} \rrbracket = \exists e[\text{play}(e) \ \& \ \text{Agent}(e, \text{Thilo}) \ \& \ \text{Theme}(e, \text{golf})]$

(7)

This leaves the aspectual impetus of the participle which has to be flexible enough to allow for imperfectivity with passive cases but should also elicit perfect(ive) properties in (some) perfect contexts. Previous approaches tried to derive this from the interaction of the participial morpheme with verbal aktionsart.¹¹ We will build on the intuition that the verbal properties are constitutive but add the potential contribution of the auxiliary HAVE to the mix (see also Wegner 2019a, 2019b). As indicated in (1-b), proper perfectivity is taken to come about only in a particular event structural context, namely with simple changes of state, i. e. if there is V_{COS} (BECOME) but no v (CAUSE). This is most straightforwardly observable with unaccusatives in languages that exhibit auxiliary alternation in the perfect (BE vs. HAVE), as in the German sentence *Thilo ist verschwunden* ‘Thilo has disappeared.’ The semantics of perfectivity and how it syntactically comes about is sketchily represented in (8) and (9).¹²

¹⁰ The formula in (6) suggests that existential closure of the implicit argument is prevented by the syntactic introduction of an overt argument by HAVE. Alternatively, we could resort to the weaker claim that existential binding applies but the variable is later associated with the overt argument ($\exists x[\text{Agent}(x) \ \& \ \text{Thilo} = x]$).

¹¹ See Savova (1989: 68 ff.) for an account based on precedence of the beginning of the event but not necessarily the end and Breul and Wegner (2017: 44) for the claim that a participial post-time state is foreshadowed but does not yet hold at the present. These approaches share that they rely on implication to account for why passive events are not (entirely) located in the past, whereas the perfect is typically subject to anteriority. The present approach attempts to circumvent this by resorting to the contribution of HAVE.

¹² The difference between accomplishments and achievements in the sense of Vendler (1967) is whether the event leading up to the state is part of the decomposition: while the achievement

- (8) $\llbracket \text{verschwunden} \rrbracket = \lambda y. \lambda t. \lambda e. \exists s [\tau(e) \subset t \ \& \ \text{BECOME}(e, s) \ \& \ \text{disappeared}(s) \ \& \ \text{Theme}(s, y)]^{13}$

(9)

Based on the direct interaction between Asp and V_{CoS} – without any intervening vP – perfectivity comes about, as formalised by assuming that the time of the situation/event ($\tau(e)$) is included within topic time (t) (TSit and TT in Klein 1994). This has as its consequence the instantiation of a result state (s), which is existentially bound. Upon combining with T, the semantically vacuous auxiliary BE gains inflectional properties and topic time (t) is related to utterance time (t_u ; e. g. $t_u \subseteq t$ for present tense). Additionally, since no other operator intervenes – unlike in cases that we will turn to below – the event variable (e) is existentially bound by combining with T (see Beavers and Koontz-Garboden 2020) or by default at clause-level (see Heim 1982; Higginbotham 1985).¹⁴ This derivation eliciting perfectivity is restricted to unaccusative predicates (*angekommen* ‘arrived’, *gestorben* ‘died’, *verrosted* ‘rusted’ etc.) in periphrastic configurations.

In all other cases – unergatives (*gehustet* ‘coughed’, *gesungen* ‘sung’ etc.) and (di-)transitives (*gebaut* ‘built’, *gesehen* ‘seen’, *gegeben* ‘given’ etc.), including those in (2) and (3) – the participle does not grammatically encode (“strong”) perfectivity in line with (1-b), as the event structure is too complex (to be explicated in some more detail below). This naturally accounts for why all passive participles remain imperfective: they cannot be simple changes of state (BECOME without an external CAUSE), as they have to be derived from predicates that bring in an

lose boils down to $[\text{BECOME}(e, s) \ \& \ \text{lost}(s)]$, *build* is more complex in that it consists of $[\text{build}(e) \ \& \ \text{BECOME}(e, s) \ \& \ \text{built}(s)]$.

¹³ An anonymous reviewer points out that this analysis is a bit circular and points to Piñón (2011) for an analysis based on being out-of-sight. I will abstract away from such complications for the purposes of the present paper.

¹⁴ In terms of a stepwise composition, the denotation of the lexical verb *verschwinden* $\lambda y. \lambda e. \lambda s [\text{BECOME}(e, s) \ \& \ \text{disappeared}(s) \ \& \ \text{Theme}(s, y)]$ first combines with the argument *Thilo* to form $\lambda e. \lambda s [\text{BECOME}(e, s) \ \& \ \text{disappeared}(s) \ \& \ \text{Theme}(s, \text{Thilo})]$. This VP is then composed with the perfective aspectual contribution, which results in $\lambda t. \lambda e. \exists s [\tau(e) \subset t \ \& \ \text{BECOME}(e, s) \ \& \ \text{disappeared}(s) \ \& \ \text{Theme}(s, \text{Thilo})]$. Upon combining with T, we end up with $\exists t. \exists e. \exists s [t_u \subseteq t \ \& \ \tau(e) \subset t \ \& \ \text{BECOME}(e, s) \ \& \ \text{disappeared}(s) \ \& \ \text{Theme}(s, \text{Thilo})]$.

EA with a sufficient amount of Proto-Agent properties (cf. Dowty 1991). Such imperfective passive participles are introduced by a semantically vacuous auxiliary (BE or BECOME) to be anchored temporally, fixing t_u .¹⁵ Likewise, the imperfective properties hold for participles in perfect configurations based on unergatives and (di-)transitives. This is where the temporal contribution of the auxiliary HAVE comes in. While it is regularly attributed an argument structural effect, its temporal contribution is only rarely acknowledged, although it gains support from impoverishment phenomena (cf. Breul 2014: 465; Wegner 2019a: ch. 2.5), the appearance of the future auxiliary *habere* in Latin (cf. Roberts and Roussou 2003: 49) and contrastive considerations (see Iatridou et al. 2001: 220 f.).

HAVE (unlike BE) conveys perfect properties: it imposes a Perfect Time Span (PTS) upon the situation denoted by the past participle. This is in line with Iatridou et al.'s (2001: 212) disentanglement of the (un)boundedness expressed by the verbal base (via the participle) and a higher aspectual head setting up the perfect interval. This interval does not encode anteriority but merely extends backwards in time from a given topic time (cf. Iatridou et al. 2001; Pancheva 2003). This is flexible enough to account for the perfect interpretations that arise with HAVE-perfects and does not require perfectivity to be hard-coded on the participle. Accordingly, adding the relevant contribution of HAVE ($\lambda t. \exists t' [T_{pts}(t', t)]$) to the formula in (6) to account for the perfect in (3) results in the semantic formula in (10-a) (following Pancheva's 2003: 285 formalisation of a PTS as mapping t' to t , where t is the final subinterval of t') and incorporating tense gives us (10-b).

- (10) a. $\llbracket \text{Thilo have played golf} \rrbracket = \lambda t. \lambda e. \exists t' [T_{pts}(t', t) \ \& \ \text{play}(e) \ \& \ \text{Agent}(e, \text{Thilo}) \ \& \ \text{Theme}(e, \text{golf})]$
 b. $\llbracket \text{Thilo has played golf} \rrbracket = \exists t. \exists e. \exists t' [t_u \subseteq t \ \& \ T_{pts}(t', t) \ \& \ \text{play}(e) \ \& \ \text{Agent}(e, \text{Thilo}) \ \& \ \text{Theme}(e, \text{golf})]$

Given that perfectivity is not hard-coded, the relation between $\tau(e)$ and t is determined by implication on the basis of the aktionsart of the underlying predicate (and thus intentionally not included in the formulae above): e. g. $\tau(e) \subset t$ in *John has built a house* but $t \subseteq \tau(e)$ in the case of a Universal Perfect like *She has loved him since 1986*, where adverbial modification suggests that the eventuality still holds (cf. Rothstein 2008: 150 f.).¹⁶ This entails that the perfect semantics of im-

¹⁵ We will not discuss any parametric contrasts like the occurrence of impersonal passives derived from unergative predicates in German but not in English, as these stem from factors independent of passivisation.

¹⁶ See Pancheva (2003: 285 f.) for the individual semantic formulae of the PTS and viewpoint aspect. Iatridou et al. (2001) and Pancheva (2003) assume that both ingredients are always gram-

perfective participles introduced by HAVE is different from perfective participles: the former are more flexible since perfectivity is not grammatically encoded and the perfect semantics stem from the PTS, whereas the latter are perfective but there is no necessity for encoding a PTS.

HAVE-only languages like English (and Icelandic or Spanish) obscure the contribution of the auxiliary by generalising HAVE to all perfect contexts:¹⁷ HAVE occurs not only with transitive and unergatives, where it licenses an EA and introduces a PTS, as in (11), but also with unaccusatives as in (12), where it raises the internal argument (IA).

- (11) a. *Thilo has won the game.*
 b. *Thilo has laughed.*
- (12) a. *Thilo has arrived.*
 b. *Thilo has disappeared.*

This is unexpected given that (1-b) elicits a perfective reading, but unproblematic since HAVE may still encode a PTS, even if this is not a necessity for eliciting a perfect interpretation. The denotation of HAVE-perfects formed from unaccusatives is given in (13).

- (13) $\llbracket \text{Thilo has disappeared} \rrbracket = \exists t. \exists t'. \exists e. \exists s [t_u \subseteq t \ \& \ T_{\text{pts}}(t', t) \ \& \ \tau(e) \subset t' \ \& \ \text{BECOME}(e, s) \ \& \ \text{disappeared}(s) \ \& \ \text{Theme}(s, \text{Thilo})]$

Languages exhibiting auxiliary alternation in the perfect, however, do not spell out the PTS in case the participle autonomously denotes perfectivity: the German examples in (14) are identical to their transitive and unergative counterparts in (11), but those to (12) in (15) differ in that they resort to BE and hence lack a PTS, evoking the semantics in (8).¹⁸

matically encoded: one Asp-head introduces a PTS and another Asp-head determines viewpoint aspect on the basis of the predicate's aktionsart. The present approach deviates from this by assuming that one ingredient is enough to impose a perfect reading: (i) in the presence of a PTS, the precise viewpoint aspect is derived by implication from the verbal properties (HAVE-perfect), (ii) in the presence of perfectivity, there is no need to introduce a final subinterval (BE-perfect).

¹⁷ In the case of English, this is in lack of a suitable alternative, given that passive *weorpan* 'become' dropped out of use, which meant that BE had to step in and could not form perfect periphrases (cf. Ackema 1999: 137 ff.).

¹⁸ There are some well-attested parametric distinctions in terms of (manner of) motion and anti-motion verbs, which more or less readily take BE as their perfect auxiliary (e. g. only with directional modifiers in Dutch, never in French, and only with a lexicalised subset or with directional modifiers in German). We will not go into this here but these seem to be lexicalised for denoting simple changes of location without EAs, i. e. as unaccusatives.

- (14) a. *Thilo hat das Spiel gewonnen.*
 Thilo has the game won
 ‘Thilo has won the game.’
 b. *Thilo hat gelacht.*
 Thilo has laughed
 ‘Thilo has laughed.’
- (15) a. *Thilo ist angekommen.*
 Thilo is arrived
 ‘Thilo has arrived.’
 b. *Thilo ist verschwunden.*
 Thilo is disappeared
 ‘Thilo has disappeared.’

This predicts that the amount of possible interpretations is restricted for unaccusative predicates, which is borne out in the sense that they only elicit experiential (e. g. with (*schon*) *oft* ‘often’) or resultative perfects depending on whether we focus on the perfective eventuality or on its result (cf. Broekhuis 2020: 24). They crucially never permit universal readings, though (consider the ungrammaticality of modifiers like (*schon*) *immer* ‘always’): this perfect interpretation is restricted to atelic events formed with the help of a PTS and may never come about if perfectivity is grammatically encoded. Experiential readings, on the other hand, may be derived by the presence of a perfective event or a PTS alike, because they simply denote that the eventuality has occurred at least once, regardless of whether this has triggered a result. With respect to the resultative perfect, being unaccusative can only be a sufficient, but not a necessary condition: transitives eliciting imperfective participles also give rise to resultative readings if there is a change of state (e. g. with achievements like *find the key* and accomplishments like *build a house*), denoting a result state with the help of the PTS.

The opposition between HAVE-only and BE/HAVE languages shows that there is substance to the claim that only simple V_{COS} are rendered perfective by participial morphology. If the lexical decomposition of events is syntactically mirrored by event structure, anticausative predicates structurally differ from more complex counterparts. Imperfective participles in passive or perfect configurations share the structure in (16), while perfective participles share the structure in (17).

(16)

(17)

In (16), the verbal event structure is fully present and the participial morpheme (Asp) takes the highest verbal constituent vP as its complement. (1-a) enforces existential binding of the EA unless an overt referent is licensed independently and associated with *pro*. (1-b) remains without any overt semantic effect since Asp only has immediate scope over *v*,¹⁹ which is tied to atelic subevents like CAUSE and DO.²⁰ If Aux is occupied by BE or BECOME, *v*'s open argument (*pro*) is existentially bound. The IA raises to Spec, T to attain structural case. If, however, HAVE steps in, it licenses the open argument as an overt EA in its specifier position and contributes a PTS. This accounts for the syntactic structure of eventive passives (with BE/BECOME) and the HAVE-perfect.

The perfective case in (17) differs considerably: the anticausative nature of unaccusatives is grasped by virtue of the lack of vP.²¹ Since the aspectual head

¹⁹ In a similar vein, see McFadden and Alexiadou (2010: 412) for the claim that transitives and unergatives are incompatible with a resultative aspectual head. Also, see Lübke and Rapp (2011: 271) for the claim that 'weak perfectivity' does not terminate the event, which holds for events with Dowty's (1979) subinterval property.

²⁰ Note that this presupposes (contra Dowty 1979) that transitive achievements like *break* and *find* contain a CAUSE, which is introduced by *v* on top of BECOME and thus renders what is in the scope of Asp atelic. While the precise semantic nature of the EA in such cases is debatable, this argument has to be introduced in *v*.

²¹ Alexiadou et al. (2006) assume that both causative as well as anticausative predicates bear an abstract CAUS-head, which establishes a causal relation between causing event and result

thus has immediate scope over V_{CoS} , the event is rendered perfective according to (1-b).²² This event structure is at the core of the perfective participle, whose IA is raised out of VP to receive case in Spec, T.²³

The central ingredient of this approach is the idea that the aspectual contribution is only sufficient to encode perfectivity if it directly combines with (i. e. takes immediate scope over) an event that merely denotes the transition into a (result) state anyway. On the basis of the heterogeneous (telic) nature of V_{CoS} , Asp is able to denote that the event (in its entirety) is included within topic time ($\tau(e) \subset t$) and this allows it to instantiate the result state. If, on the other hand, Asp directly combines with an event structural ingredient that introduces a homogeneous situation and thus exhibits the subinterval property (like atelic v), the aspectual contribution cannot ensure that further subevents of the same kind do not come about (i. e. the event may still coincide with topic time, $\tau(e) \subseteq t$). Hence, perfectivity is not grammatically encoded and a result state does not come about (unless the interaction of a PTS and a complex telic event brings this about via implication). While an approach simply based on telicity or aktionsart fails to grasp that passives of complex telic events (e. g. accomplishments like *build*) are imperfective, a more fine-grained account based on immediate scope seems to do the trick. Crucially, non-identity approaches can simply claim that there are two distinct aspectual heads, say Asp_{PFV} and Asp_{IPFV} , which differ in their selectional requirements for V_{CoS} and v/V , respectively. An identity approach with just a single (flexible) Asp-head does without these stipulations: there is a semantic motivation for the lack of imperfective readings with V_{CoS} as well as the lack of a perfective denotation on the basis of other (typically more complex) types of events (unless imposed externally).²⁴

state, in addition to a particular kind of Voice-head (introducing an EA, agentivity and manner). This is taken to account for the fact that there are languages in which the causative variant is morphologically derived as well as those in which the anticausative counterpart is derived (cf. Alexiadou et al. 2006: 191). The present approach holds against this as the absence of a causative phase (and the simplification of the eventuality) bears consequences for denoting perfectivity.

22 The fact that past participles of unaccusatives seem to bear the properties of perfective rather than passive participles has already been acknowledged by Levin and Rappaport (1986: 654), who conclude that “a deeper understanding of the properties of the perfect and passive participles and the relation between them will shed light on this question”. This is exactly what identity approaches to passive and perfect(ive) participles strive for.

23 Burzio’s (1986) generalisation is acknowledged by assuming that the verbal domain may only assign accusative case if the EA is properly licensed as an overt argument.

24 This strong dependency on event structural ingredients in denoting perfective aspect sets Germanic (and Romance) languages apart from Slavic languages like Bulgarian, where (im)perfectivity is (overtly) expressed regardless of the properties of the verbal base. Nevertheless, there

The present section has shown that the properties in (1) – building on previous approaches for the argument structural effect and fleshing out the aspectual contribution with a scope-based account – grasp the behaviour of past participles in perfect and passive periphrases. In all of these, the verbal event is fully present, although differences pertain to the amount of event structure introduced by the respective predicates. The specific passive or perfect reading stems from the interaction of the participial properties in (1) with the event structure below and the functional configuration above. The auxiliaries fulfil purely grammatical purposes (semantically dissociated from their main verb counterparts): *BE* and *BECOME* just inflect for finiteness, whereas *HAVE* may additionally license an overt *EA* and convey a *PTS*. In addition to the distinct properties of verbal participles in periphrases, there is a second dimension of difference. In fact, rather than the identity of past participles in periphrases, “[t]he most heavily debated matter concerning participles is their hybrid nature: they exhibit both verbal and adjectival properties” (Helland and Pitz 2012: 103).

2.2 Stative adjectival instantiations

In contrast to periphrastic verbal uses, adjectival participles are traditionally taken to have given up most of their eventive properties. This is most clearly observable in stative passives.

- (18) a. *The house is built.*
 b. *The boy is (sloppily) combed.*
- (19) a. *Das Haus ist gebaut.*
 the house is built
 ‘The house is built.’
 b. *Der Junge ist (schlampig) gekämmt.*
 the boy is (sloppily) combed
 ‘The boy is (sloppily) combed.’

As already noted by Haider (1986: 32fn6), the term ‘stative passive’ is a misnomer because the participial elements in these cases are not subject to (1-a): there is no implicit *EA*. In fact, the *EA* is completely absent (see Kratzer 1994, 2000). Apart from the absence of *BY*-phrases and event-related modification, this can be shown with two standard diagnostics: disjoint reference and control into purpose

is also room for ‘neutral’ aspectual markers here, which are, in fact, contingent on event structure (cf. Pancheva 2003: 296).

clauses. First turning to the former, (18-b) and (19-b) allow for reflexive readings, i. e. the boy could (but need not) be the agent of the event that led to the resultative state. This interpretation is absent in eventive passives which exhibit the disjoint reference effect (see Kratzer 1994), as observable in (20-a), since German (unlike English) distinguishes the eventive and the stative passive in terms of whether *werden* or *sein* is used. Due to homonymy, the English example in (18-b) allows for a stative reflexive as well as an eventive passive reading, but the reflexive reading is observable in prenominal instantiations like the one in (20-b) (cf. Section 3.1).

- (20) a. *Der Junge wurde gekämmt.*
 the boy became combed
 ‘The boy was combed.’
 b. *the (sloppily) combed boy*

The second diagnostic, i. e. control into purpose clauses, elicits the opposition in (21), where the homonymy in English once more necessitates resorting to German.

- (21) a. **Das Haus ist gebaut, um es zu vermieten.*
 the house is built in.order it to rent
 ‘The house is built in order to rent it.’
 b. *Das Haus wurde gebaut, um es zu vermieten.*
 the house became built in.order it to rent
 ‘The house is built in order to rent it.’

The eventive passive in (21-a) allows for control, whereas the stative passive in (21-b) is ungrammatical (see Rapp 1998). These diagnostics suggest that the EA is truly absent, although we can *conceptually* reconstruct a cause.

However, both of these tests have recently been called into question. In fact, Bruening (2014: 382) provides the data in (22) to challenge the disjoint reference effect.

- (22) a. *The children are being sorted. They’re doing it themselves.*
 b. *The children are currently being named. They’re choosing their own names.*

The eventive passives in (22) are expected to show disjoint reference, but apparently permit a reflexive reading contrary to expectation (cf. Bruening 2014: 382). This could be traced back to pragmatics, though, as the use of the follow-up clause is far from natural. Yet in a similar vein, only a subset of predicates allows for a reflexive reading in the first place, namely only those that are naturally reflexive (cf. Kemmer 1993). This holds for (18-b) and (19-b) but not for (18-a) and (19-a). Based on this complication, Alexiadou et al. (2014: 130) neglect the relevance of disjoint reference, tracing the differences between adjectival and verbal passives back to

factors other than the absence of an implicit (external) argument. However, this might be deemed premature, as the range of exceptions is relatively restricted and there is no conclusive evidence showing that conceptual knowledge is not key to the absence of a reflexive reading in most adjectival cases with naturally disjoint predicates.

Control into purpose clauses, in turn, is called into question by the data in (23) (see Alexiadou et al. 2014: 129; McIntyre 2013: 32).

- (23) a. *Die Partition ist versteckt, um ein versehentliches Löschen der Dateien zu verhindern.*
 the partition is hidden in.order an accidental deletion of.the files to prevent
 ‘The partition is hidden in order to prevent an accidental deletion of the files.’
- b. *The investigation launched by the prosecution remained limited in order to protect the police.*²⁵

While control is expected to be ruled out in adjectival cases like (21-a) and (23), this apparently only holds for the former. McIntyre (2013), Bruening (2014) and Alexiadou et al. (2014) take this as evidence for the syntactic presence of an EA. This, however, raises the question of why this is not generally possible and why an initiator is semantically only very weakly present, i. e. why there still is a clear contrast to eventive passives. As these observations thus fail to conclusively substantiate the presence of an implicit EA, we will assume that it remains absent but is conceptually reconstructed in the problematic cases,²⁶ where the control clause is controlled by a conceptually reconstructed initiator. This ties in with what has recently been claimed to account for a further set of exceptional occurrences.

What sheds further doubt upon the consistent absence of an EA is that BY-adjunction and event-related modification are sporadically possible in stative passives, as in the German examples in (24).

- (24) a. *Der König ist vom Feind besiegt.*
 the king is by.the enemy defeated
 ‘The King is defeated by the enemy.’

²⁵ This second example is not a stative passive but a configuration that elicits structurally similar properties, namely the appearance of adjectival participles in the complement of *remain*. We will return to this below.

²⁶ Note that this alternative is acknowledged by Alexiadou et al. (2014: 125), but eventually abolished in favour of an approach in which a Voice-head is always present.

- b. *Das Bild ist von da Vinci gemalt.*
the picture is by da Vinci painted
'The picture was painted by da Vinci.'
- c. *Der Brief ist mit roter Tinte geschrieben.*
the letter is with red ink written
'The letter was written with red ink.'
- d. *Die Tür war kürzlich geöffnet.*
the door was recently opened
'The door was opened recently.'

However, as shown e. g. by Rapp (1997, 1998), Maienborn (2007, 2011), and Gehrke (2015), the use of such modifiers is highly restricted in stative passives. In fact, the adverbial modifiers in (24-c) and (24-d) seem to modify a result state rather than the event itself.²⁷ The BY-phrases in (24-a) and (24-b) contain DPs that cannot be referential and they have to derive well-established kinds (cf. Gehrke 2015: 923), as the ungrammaticality of (25) makes clear.

- (25) a. **Das Bild ist von Peter gemalt.*
the picture is by Peter painted
'The picture was painted by Peter.'
- b. #*The article is written by Peter.* vs. *The article is written by Chomsky.*

Gehrke (2015: 919) traces these restrictions back to adjectivisation, where the event variable of the underlying event is existentially bound and thus the event remains in the kind domain (rather than being instantiated as a token). This allows her to derive the relevant restrictions: event-related modifiers have to be (pseudo-)incorporated into the participle in order to affect the event in the kind domain (see also Gehrke 2012, 2013). In line with this, control into purpose clauses is barred even in cases with BY-phrases, as in (26) (cf. Gehrke 2015: 905).

- (26) a. **Der König ist vom Feind besiegt, um sein Volk zu*
the king is by.the enemy defeated in.order his people to
beeindrucken.
impress
'The king was defeated by the enemy in order to impress his people.'

²⁷ This entails that the writing on the letter in (24-c) is in red ink and that the door in (24-d) previously was in the resultative state of having been opened (but is likely to be closed again now) (cf. Gehrke 2015: 901).

- b. **Das Bild ist von da Vinci gemalt, um den Papst zu beeindrucken.*
 the picture is by da Vinci painted in.order the Pope to
 impress
 ‘The picture was painted by da Vinci in order to impress the Pope.’

Comparing the examples in (23) and (26) suggests that an initiator may manifest in two ways: by conceptual reconstruction and pseudo-incorporation. While both allow weak recourse to an event leading up to the state, in neither do we get the syntactically manifest EA of a proper event (unlike in all and any eventive passives).²⁸ Hence, such cases do not prohibit the structural absence of a vP, but rather both are conceptually grounded. This accounts for the requirement for a conventionally established event kind and the weakly manifest controller in purpose clauses. Accordingly, a proper CAUSE is absent after all and the event structure of adjectival participles is anticausative (a simple V_{CoS}).²⁹ We will thus maintain that such participles are exempt from (1-a). This explicitly goes against recent trends to the contrary, but leaves the potential effect of (1-b).

Adjectival participles denote a result state of the underlying eventuality, which is a necessary requirement for the formation of a stative passive (see e. g. Laskova 2007: 132; Sleeman 2011: 1572). This is in line with Embick’s (2004) use of the term ‘resultative’ for these kinds of participles. The change-of-state semantics has to be part of the verbal structure (i. e. the V+v combination),³⁰ but it can also contextually be imposed. In fact, we may also conceptualise an atelic event in a telic fashion in contexts that strongly support this.

- (27) a. *The baby carriage is pushed.*

²⁸ Occasionally, unaccusatives give rise to passives (see Rapp 1997: 134), but the fact that these enforce an unbounded interpretation suggests that they are subject to coercion and do not challenge the claims made here.

²⁹ A reconciliation of the (restricted) presence of an EA compatible with what is proposed here may hold that v is split up into v (or Voice) and CAUS (cf. Alexiadou et al. 2006): CAUS introduces eventive properties and bears consequences for the aspectual contribution (barring direct access to the change of state), whereas v (or Voice) introduces the initiator of a result in cases in which there is reason to assume an implicit EA. This, however, requires an explanation of why the presence of v (or Voice) is restricted in different ways on different levels.

³⁰ In a similar vein, Meltzer-Asscher (2010: 2229) claims that “adjectival passives can [...] be formed only from telic verbs, which have as part of their interpretation a STATE component”. In an attempt to provide a unified approach that also captures the properties of periphrastic cases, the present paper claims that only telic verbs that denote a simple change of state (inherently or by decausativisation) give rise to a resultative interpretation.

- b. *Der Kinderwagen ist geschoben.*
 the baby carriage is pushed
 ‘The baby carriage is (in the resultative state of having been) pushed.’

These examples elicit Kratzer’s (2000) ‘job-is-done reading’ “when uttered in a factory that produces baby carriages and the workers’ job is to push baby carriages to test their wheels” (Anagnostopoulou 2003: 14). This shows that the requirement for V_{CoS} has to be met in all contexts and where it is not lexically met, the only way to form a stative passive is to impose it pragmatically. We can thus conclude that the property in (1-b) is a necessary requirement for the formation of stative passives. This conforms with the traditional demand for a result but is in need of a structural justification, as it is a genuine characteristic of these.

We need to account for the requirement of a resultative state and an event that remains in the kind domain. Furthermore, the participles in stative passives are adjectival in the sense that they establish an interpretive relation to an argument that is licensed independently by a copula (see e. g. see Lenz 1993; Rapp 1997, 1998; Zimmermann 1999; Maienborn 2007). The presence of the two functional projections AP and PredP accounts for these characteristics.

(28)

The verbal base of participles in stative passives structurally resembles unaccusatives: there is a V_{CoS} in the absence of a v -layer. This ensures that Asp denotes perfectivity according to (1-b), whereas (1-a) cannot apply. The participial configuration serves as the complement of an adjectival head (A), which semantically triggers λ -abstraction of the open IA of V (see Meltzer-Asscher 2012: 178). To be precise, following Bruening (2014: 385), this argument is introduced as a λ -abstractor that is attracted by the A-head to move to Spec, A. This leads to the attribution of a property to an overt referent, which – following Bowers (1993) – we assume to be licensed by a predication head (Pred). With this much in

place, there are two candidates for existentially binding an event kind: A and Pred. Rather than following Gehrke (2015: 919) in attributing this to the A-head, we will hold Pred accountable to allow for adjectival participles whose events do not remain in the kind domain (see mixed cases below). Pred serves as a stativiser and establishes a predicative relation by licensing an overt referent (cf. Pross 2018: 243). A, on the other hand, merely accounts for the ‘externalisation’ of the IA (see Borer 1984; Levin and Rappaport 1986). As a clausal core (i. e. after moving to T), Pred receives the default spell-out of a copula (BE) to spell out finiteness in languages like English and German, whereas A remains covert (see Kratzer 1994).

The syntactic structure in (28) translates into the LF-representation in (29) for *The house is built* (disregarding tense), incorporating Gehrke’s (2011 et seq.) event kind (e_k).³¹

$$(29) \quad \lambda t. \exists s. \exists s_k. \exists e_k [\tau(e_k) \subset t \ \& \ \text{BECOME}(e_k, s_k) \ \& \ R(s_k, s) \ \& \ \text{built}(s) \ \& \ \text{Theme}(s, \text{the house})]$$

The main contrast between this stative passive and an eventive counterpart is that the event is not instantiated as a token, but rather bound off by Pred, which forces it to remain a kind. Existentially closing λe_k (as $\exists e_k$) has the effect of backgrounding the eventive semantics and thus foregrounding the consequent state. Gehrke (2015: 919 f.) assumes that it is the lack of Asp in AP (which she attributes the stativising function) that prevents the event kind from becoming a token. This is taken to be sufficient to ensure that a result state comes about, as instantiated by Carlson’s (1977) realisation relation R (cf. Gehrke 2019: 222). However, this is incompatible with the properties in (1) – none of which would then apply – and arguably challenged by the observable aspectual semantics. Without an aspectual ingredient in the semantic representation of stative passives the question arises of what assures that the change of state has come into being at t .³² We arguably cannot generally base this on the presence (and realisation) of the state, as this also needs to be taken care of in verbal counterparts (where it need not lead to a result reading). Also, we cannot tie this to foregrounding the state via forcing the event

³¹ This representation deviates from Gehrke’s (2011, 2012, 2013, 2015, 2019) seminal work in terms of the presence of perfectivity, but also with respect to neglecting the role of an initiator of the event kind and the absence of a building event (kind) leading up to the state incorporated in some of these accounts. See the discussion below for a reconciliation of these deviations with the general idea behind a kind-based approach.

³² In other words, what assures that the event has approached its end so that the consequent state holds, if we define a BECOME-relation in the sense of Beavers and Koontz-Garboden (2020: 35): “at the end of the event the state holds of the individual and prior to that point in the event the state did not hold”.

to remain in the kind domain in an identity-approach, as this is incompatible with the semantics of verbal participles (where we clearly also find an aspectual contribution). Rather, we have to stipulate that Asp is exempt from the general ban on spatiotemporally locating an event kind proclaimed e. g. in Gehrke (2019: 220).³³ In fact, this ban may be restricted to temporally relating topic time and utterance time, whereas relating event time and topic time to the effect of triggering a result state is licit. In other words, determining that an event comes to an end prior to topic time (in order to derive a resultative state) does not properly locate it in space and time, hence the availability of adverbial modifiers like *fertig* ‘ready’. Accordingly, as hinted at in Section 2.1, we will simply follow the traditional assumption that it is T (rather than Asp) that existentially binds the event variable. This is taken to instantiate the event, unless existentially bound before, in which case only the state is instantiated.³⁴

The requirement for stativity and the absence of *v* leaves the question of how it is occasionally possible to introduce event-related modifiers and *BY*-phrases nonetheless, as in (24). The special restrictions on these (non-referential, well-established kinds) indicate that the association with the purported event and its EA is in no way direct. Gehrke (2015: 919) assumes that the event and argument structure are properly introduced in core syntax (as $\text{build}(e_k)$ and $\text{Initiator}(e_k, x_k)$), but restricts both to the kind domain to account for their peculiar properties. This is incompatible with the present approach unless we stipulate that these ingredients are not relevant for the composition of perfectivity (in the sense that *v* remains invisible to Asp if it remains in the kind domain). To acknowledge the purported incompatibility of a CAUSE with a perfective participial contribution, we rather have to assume that pseudo-incorporating a modifier or initiator does not structurally introduce any (atelic) event structure: both ingredients merely follow from semantic reconstruction (reminiscent of Meltzer-Asscher 2011: 94) and thus

³³ If it turns out to be true that it is enough for a state to be around, another possible reconciliation is this: we could rephrase the contribution in (1-b) to existentially binding that state, but this cannot be contingent on backgrounding the event as a kind then, i. e. nothing should have to be said about the event that triggers the result state. Rather, the participle has to be able to instantiate the result regardless of whether the event remains a kind or is instantiated as a token. This might be done with an operator that explicitly denotes that the state is a result.

³⁴ The assumption that events are kinds until they are instantiated as tokens (see Carlson 2003; Gehrke 2019) requires a reconsideration of the representations in Section 2.1 if we take seriously that events are always introduced as kinds, where instantiating them boils down to replacing a kind with an existentially closed token. Accordingly, the denotation of *play* is actually $\lambda e_k[\text{play}(e_k) \ \& \ \text{Agent}(e_k, x) \ \& \ \text{Theme}(e_k, y)]$ which results in $\exists e[\text{play}(e) \ \& \ \text{Agent}(e, x) \ \& \ \text{Theme}(e, y)]$ or rather $\exists e. \exists e_k[\text{play}(e) \ \& \ \text{Agent}(e, x) \ \& \ \text{Theme}(e, y) \ \& \ R(e_k, e)]$ in a proper sentence (i. e. upon combining with T).

do not structurally interfere with the aspectual scope. In fact, event-related modifiers like *mit roter Tinte* ‘with red ink’ modify the event kind (e_k) of the change of state without actually requiring the presence of *v*. Hence, the interpretation of these modifiers pertains to the result state but does not allow strong(er) recourse to the event that triggered it. Something similar holds for the initiator of the result like *vom Feind* ‘by the enemy’ or *by Chomsky*, which does not introduce a proper CAUSE, but rather modifies the event kind to the effect that the result that comes about from the change of state is taken to have been initiated by it via reconstruction. Such reconstructed components of the event still have to remain in the kind domain, hence the observable requirements on potential modifiers, but they do not necessitate *v*. While this admittedly leaves many questions to be answered, the precise mechanics of pseudo-incorporation are arguably still too mysterious to impose a strict requirement for a parallel composition in the context of verbal and adjectival passives.³⁵ This potential reconciliation of an account based on event kinds and an identity approach based on perfectivity as contingent on the absence of *v* certainly needs to be fleshed out in future work. For the time being, however, it shall suffice to point out that there is room for a reconciliation.

Another contrast between participles in stative passives and eventive configurations concerns the range of possible predicates: while a verbal substructure is present in stative passives, it need not be one that may also receive an independent verbal spell-out. Rather, it may also be decausative, i. e. a predicate conceptually associated with transitive properties but grammatically deprived of an EA (see Härtl 2003).³⁶ As observable in (30), there is a constraint on non-derived anticausatives in English, whereas German allows for stative passives based on unaccusatives, although it is difficult to adduce clear-cut examples given the homonymy with the BE-perfect (cf. Rapp 1997: 172; Wunderlich 1997: 24 f.). In cases in which a target state – rather than a resultant state (see Parsons

³⁵ If it turns out to be true that elements that are supposed to be incorporated have to be introduced in core syntax first, as an anonymous reviewer remarks, a possible alternative is to assume that the properties of *v* in adjectival participles differ from its counterpart in verbal participles in that it does not introduce any event structure affecting the denotation of perfectivity. For instance, rather than projecting a kind of *v* that introduces both the EA as well as the atelic CAUSE, the variant of *v* in adjectival participles might be restricted to the former.

³⁶ The distinction between anticausatives and decausatives is occasionally marked by a stem alternation in pairs like *versunken* and *versenkt* ‘sunk’, where the latter is conceptually associated with an EA. Alexiadou et al. (2014: 123) take this to stem from a difference with respect to the presence of VoiceP in the latter, claiming that both are equally bi-eventive. We will rather maintain that there are two entries that differ in whether they are conceptually associated with a CAUSE, although this cannot be introduced syntactically in adjectival passives.

1990: 234 f.; Kratzer 2000: 385) – is conveyed, adverbial modification by *immer noch* ‘still’ does the trick, though.

- (30) a. **The girl is (still) disappeared.*
 b. *Das Mädchen ist (immer noch) verschwunden.*
 the girl is (still) disappeared
 ‘The girl is still (in the resultative state of having been) disappeared.’

In any case, the verbal substructure is impoverished (lacking vP) and has to consist of a verbal head that denotes something along the lines of Dowty’s (1979) BECOME (V_{COS}).³⁷

The structure in (28) and its semantics in (29) is not restricted to stative passives. It also arises in other stative (or stativised) contexts with a covert Pred, e. g. the stative perfect with main verb HAVE in (31) and as the complement of *seem/remain* in (32).

- (31) a. *Sie hat die Augen verbunden.*
 she has the eyes tied
 ‘She has her eyes covered.’
 b. *She has her eyes covered.*
 (32) a. *This song seems well-written.*
 b. *The window remained broken.*

The latter context is an oft-cited instance of a diagnostic distinguishing verbal and adjectival participles (see Wasow 1977). Further diagnostics for the adjectival nature of these participles may be found in *un*-affixation in (33) and adjectival compounding in (34).

- (33) a. *The letter is unopened.*
 b. *The issue remains unresolved.*
 (34) a. *This area is densely populated.*
 b. *Die Flasche ist leergetrunken.*
 the bottle is drunk.up
 ‘The bottle has been drunk up.’

³⁷ In decausative cases, the resulting verbal structures are thus reminiscent of unaccusatives. In Rappaport Hovav & Levin’s (1998) terms: result roots are arguments of BECOME. Embick (2004) grasps this by attributing a [FIENT]-property to the *v*-head. In a similar vein, Beavers and Koontz-Garboden (2020) assume v_{become} .

We are thus clearly dealing with adjectival items. The fact that the EA is manifest neither syntactically nor semantically prevents it from undergoing λ -abstraction or externalisation (cf. Levin and Rappaport 1986: 654). Hence, the IA is the only argument licit for attaining a property in adjectivisation. This naturally accounts for the general requirement for the presence of an IA: predicates lacking an IA are barred from adjectival formation.

- (35) a. **The boy is slept.*
 b. **The girl is run.*

Arguments marked for lexical case may also partake in externalisation and thus give rise to stative passives, but only if the AP-external noun carries the exact case that the underlying verb is associated with via its theta-grid. Otherwise, a case mismatch ensues between the AP-external noun and the λ -abstractor. The predicates in (36) thus only give rise to adjectival participles if the overt argument is dative or genitive, but not if it is nominative.

- (36) a. *Dem Jungen ist geholfen.* vs. **Der Junge ist geholfen.*
 the.DAT boy.DAT is helped the.NOM boy is helped
 ‘The boy is (in the resultative state of having been) helped.’
 b. *Der Opfer ist gedacht.* vs. **Die Opfer ist*
 the.GEN victims is commemorated the.NOM victims is
gedacht.
 commemorated.
 ‘The victims are (in the res. state of having been) commemorated.’

Additionally, the English examples in (35) do not meet the requirement for a resultative state due to their atelic nature: the participles are not perfective given the absence of a simple V_{COS} . The same at first sight also holds for the German examples in (36), but reminiscent of the ‘job-is-done reading’ in (27), a V_{COS} is imposed pragmatically in an effort to denote a result state, as the formation of a stative passive would otherwise fail.³⁸

The present approach differs from previous accounts in one central respect: rather than stipulating distinct participial heads to account for the diverse grammatical properties of the configurations they occur in, it naturally accounts for

³⁸ Thanks are due to an anonymous review for pointing out that the ungrammaticality of prenominal cases like **der geholfene Junge* (the.NOM helped boy) and **die gedachten Opfer* (the.NOM commemorated victims) does not carry over to stative passives. The former are ungrammatical because the overt noun receives structural case, which prevents the participle’s λ -abstraction from being associated with an argument carrying lexical case.

these with a single Asp-head. In fact, the analyses in (37), (38) and (39) assume that there is a specific kind of resultative/stative head (in (b)) responsible for the peculiarities of adjectival participles, which differs from the head associated with verbal (passive) participles (in (a)).

(37) Embick (2004)

(38) Sleeman (2011, 2014)

(39) Alexiadou et al. (2014)

These approaches raise questions that are typical for antilexicalist accounts: (i) why are the independent heads incapable of eliciting the same effects with other functional complements, i. e. why are only those templates possible (e. g. Asp_R+v[FIENT]), and (ii) why should the participial heads themselves be the source for the grammatical distinctions if there is clear evidence for independent adjectival properties? An identity approach based on (1) emphasising the functional environment of the participial head denies the assertion questioned in (ii) and does without the stipulation in (i): Asp only elicits perfectivity if there is a V_{COS} in the absence of v (and thus also EA) and the stativising function of PredP

evokes a result state. This impoverished participial structure is the only licit configuration compatible with stative interpretations, i. e. all stative passives (and stative perfects) are based on (28). Hence, verbal and adjectival participles differ in the sense visualised in (40).

(40)

In line with our holistic aspiration, rather than stipulating distinct grammatical contributions in terms of voice and aspect, the grammatical contrasts are based on functional structure above (PredP and AP) as well as below (vP or V_{CoS}) the participial head (Asp).

What appears to challenge the applicability of (1) is the occurrence of so-called ‘stative participles’ (see Embick 2003, 2004), as in (41).

- (41) a. *The ship is sunken.* (vs. *sunk*)
 b. *The organ is shrunk.* (vs. *shrunk*)
 c. *The boy is shaven.* (vs. *shaved*)
 d. *The girl is blessèd.* (vs. *blessed*)
- (42) a. *The door is open.* (vs. *opened*)
 b. *The gate is closed.* (vs. *closed*)

These do not exhibit resultative properties, but rather boil down to pure adjectives. As pointed out by Embick (2003: 152, 2004: 358), this is indicated by their marked morphology (allomorphy) in English: a specific spell-out distinguishes underived adjectives from adjectival participles. This finds support in the opposition between lexemes that overtly distinguish bare adjectives and adjectival participles in (42-a) and those that do not in (42-b). The syntactic structure of underived adjectives is given (43).³⁹

³⁹ Embick (2003: 148, 2004: 363) uses Asp here, namely a stative Asp_S as opposed to a resultative Asp_R, as he is not concerned with generalisations like those in (1) but assumes that a participial head is also used in stative constructions. Note though that the allomorphy attested in English is often not as neat as one might assume on the basis of the opposition in (41) (cf. Bruening 2014: 384).

(43)

As these do not have a verbal base, it is not surprising that they do not exhibit a result nor allow for a passive interpretation. They just denote a simple state and although they may historically be derived from Asp, they do not feature a resultative core anymore.⁴⁰ Hence, they can be neglected in the discussion of the diverse occurrences of past participles.

Based on what we have seen, we can draw two generalisations: (i) factoring out HAVE, eventive passive (Asp+v) and resultative (Asp+V_{CoS}) participles are in complementary distribution, and (ii) full interpretability demands one of the core properties in (1) to be functional. (i) entails that participles based on an elaborate event structure (vP) are introduced by passive BE or BECOME, whereas those based on an impoverished event structure (V_{CoS}) are introduced by a perfect BE or in an adjectival configuration, e. g. embedded under copula BE. These auxiliaries do not affect the participial properties, while the copula imposes the requirement for a state. The grammatical distinctions thus stem from the embedded event structure and the presence of a stativising PredP rather than distinct participial heads. In fact, the distinction between the stative passive and the BE-perfect in languages exhibiting auxiliary alternation stems from the presence of a stativising PredP. This evokes distinct readings (*contra* Leiss 1992: 164) in that the BE-perfect makes recourse to the participial event (token), whereas it is only weakly present as the trigger of a result state (an event kind) in the stative passive (cf. Maienborn 2007: 106; Müller 1999: 291). (ii) is closely related to these findings: past participles are either resultative (with an aspectual impetus) or passive (imposing diathetic distinctions), but never none of the two (see also Rapp and von Stechow 2015: 301).

Concluding the discussion of the verbal and the adjectival pole of participial occurrences, let us briefly dwell on the novel contribution(s) of the present paper and how these have been informed by previous accounts. Both the traditional claim of the presence of an implicit EA in verbal passive and its absence in adjectival participles have been defended and formalised by means of resorting to a v-layer with pro in eventive passive cases and its absence in adjectival

40 Further evidence for their independent standing comes from their tendency to develop specific semantic properties (see e. g. Embick 2004: 360fn6 for ‘voice reversals’), distinguishing them from their participial counterparts: consider *ein gelernter Schreiner* (‘a trained carpenter’) and *ein gestandener Spieler* (‘a seasoned player’) or Embick’s (2004: 360fn6) *a practiced thief* and *a confessed killer*.

counterparts. This was shown to naturally affect the aspectual properties of the participles in question. While previous accounts stipulated aspectual distinctions by introducing distinct functional heads (advocating grammatical non-identity), the holistic appeal of the present approach is that these are derived by a single aspectual head that interacts with its functional surrounding. In fact, we provided a scope-based account for why structures including a simple change of state (V_{COS}) elicit perfectivity in verbal (BE-perfect) and adjectival (stative passive/perfect) contexts, whereas all others remain imperfective. Building on previous analyses proclaiming the copular nature of stative passives and their restriction to event kinds, their main characteristics could be attributed to a stativising PredP (binding off the event) and an AP (externalising the IA). The next section shows that this fine-grained analysis also accounts for cases that share verbal and adjectival properties.

3 Mixed cases

Eventive verbal and stative adjectival participles constitute the two poles of a continuum of functional environments that house participial morphology. Additionally, there are more or less mixed cases. These split up into two kinds: adnominal instantiations, where the participle modifies a nominal referent, and adverbial occurrences, where it allegedly forms the core of an impoverished clause that modifies some superordinate eventuality.

3.1 Adnominal instantiations

The adnominal occurrences come in two types: prenominal and postnominal participles. Although there is parametric variation concerning the availability of these two, English allows for both and makes a clear-cut distinction: the prenominal position is reserved for adjectival participles (alongside proper adjectives) in English.

- (44) a. *the built house*
 b. *the shaved boy*
 c. *the well-written book*
 d. *the unsunk ship*

The properties of these prenominal cases are quite straightforward: they attribute a resultative state to a nominal referent and give rise to an individual level inter-

pretation. As they do not exhibit disjoint reference, show anticausative properties (like (18) and (19)) and take up adjectival morphology (like (33) and (34)), it is safe to conclude that they are equivalent to stative passives. Accordingly, these occurrences do not allow event-related modifiers and BY-phrases.⁴¹ The two major distinctions to stative passives (like (28)) are the following: the copula does not receive an overt spell-out (as it need not mark finiteness) and the externalised IA is introduced independently, which is why PredP merely modifies N, exemplified in (45).

(45)

While the prenominal position houses adjectival stative participles, the postnominal position introduces eventive participles in English.

- (46) a. *the house (currently) built by Bill*
 b. *the game (surprisingly) lost by Donald*

⁴¹ Sleeman (2011: 1572) challenges this by claiming that in addition to resultative participles, the prenominal position may also house eventive participles in English based on their compatibility with modifiers like *recently* and *carefully*. However, while there are eventive prenominal participles in German and Dutch (see below), it needs to be clear that prenominal cases in English are distinct from these. In fact, the former permit a fully-fledged eventive interpretation and allow for the whole range of event-related modifiers and BY-phrases, similar to postnominal cases in English. In English prenominal occurrences, on the other hand, event-related modification is restricted to cases like *the carefully written letter* and *the recently arrived train*. Sleeman (2011: 1575) accounts for these contrasts by claiming that the English cases have a ‘reduced internal syntactic structure’ and are ‘less fully eventive’, but still treats them as eventive rather than resultative (contrary to Embick 2004). Given that the resultative (perfective and anticausative) properties are still observable and eventivity is only weakly manifest, these cases could rather be analysed as modifiers of event kinds due to semantic reconstruction than modifiers of proper event tokens, similar to the exceptional cases in stative passives.

- c. *the girl (recently) seen by Jack*
- d. *the boy (longingly) admired by Malin*

These participles evoke stage level readings and are typically analysed as reduced relatives, i. e. impoverished CPs as in (47) in Kayne's (1994) and Cinque's (1999, 2003) terms.⁴²

(47)

According to this analysis, the participial VP is properly constructed and introduced by an empty C, whose specifier position is occupied by a copy of the participle's IA. The CP then serves as the complement of a determiner.

Cecchetto and Donati (2015) rather assume that reduced relatives are the output of a relabelling operation, where the nominal referent relabels a VP, as in (48).

(48)

While the latter analysis does without stipulating that determiners take CPs as their complements (supposedly only in reduced relatives), the two approaches share a central shortcoming: given the dual role of the IA, they both violate the θ -criterion (see Chomsky 1981) in that two roles are assigned to one and the same argument.

⁴² The structural representations in (47) and (48) have been taken over from the literature and are not attuned to the structural properties posited in the present paper. We would at least expect a vP as well as an Asp, see (49).

A potential reconciliation comes from the assumption that postnominal instances are like prenominal ones in attributing a property to a nominal referent – but without stativisation. This is represented in (49), which closely resembles (22) but lacks PredP.

(49)

As there is thus no requirement for a resultative state, there is room for vP and a proper participial event (token) comes about. This accounts for the unrestricted application of event-related modifiers and *by*-phrases in postnominal cases. The IA is once more the only argument licit for undergoing λ -abstraction as triggered by A, since the open argument of v (pro) is existentially bound in accordance with (1-a). What is attributed to the nominal referent that is co-referential with the IA of the past participle is a property that is associated with an eventive interpretation, which is what Sleeman (2014) refers to as an ‘eventive property’.⁴³ We thus end up with two kinds of adjectival participles: the resultative (Pred+A+V_{COS}), exhibiting the properties traditionally associated with ‘adjectival participles’, and the eventive property (A+v/V), a mixed category externalising the IA but denoting a full event (token).⁴⁴

⁴³ Sleeman (2014) applies the term ‘eventive property’ (only) to what she perceives to be prenominal eventive participles, claiming that postnominal cases are ‘fully eventive’. While Sleeman (2014: 180) teases the two types apart merely based on their distribution, Sleeman (2011: 1575) additionally mentions replacement by a full clause and agreement (i. e. its absence with marginal postnominals in Dutch) as distinguishing properties.

⁴⁴ Note that traditional diagnostics for ‘adjectival participles’ like *un*-affixation are only met with combinations of PredP and A. In other words, λ -abstraction is not sufficient, but rather stativisation has to apply as well.

An analysis of pre- and postnominal participles as derived adjectival items finds support in the use of proper adjectives in these positions (see Alexiadou et al. 2007: 298).

- (50) a. *the visible stars*
 b. *the stars visible*
- (51) a. *the present members*
 b. *the members present*

Similar to their participial counterparts, prenominal occurrences of derived and non-derived adjectives as in (50) and (51) are restricted to individual level readings, whereas those in postnominal distribution exhibit stage level readings (see Carlson 1977; Higginbotham 1983). This points to a configurational contrast (kind vs. token) between the two positions.⁴⁵

The neat correlation of resultative/prenominal and eventive/postnominal is not a universal principle, but rather the distinct participial configurations may converge in a single position. In German (and Dutch),⁴⁶ the two kinds converge in the prenominal position.

- (52) a. *ein reparierter Computer*
 a repaired computer
 ‘a repaired computer’
- b. *der gegenwärtig von Thilo reparierte Computer*
 the currently by Thilo repaired computer
 ‘the computer currently repaired by Thilo’
- c. *der von drei Spezialisten in einer Garage reparierte Computer*
 the by three specialists in a garage repaired computer
 ‘the computer repaired by three specialists in a garage’

⁴⁵ What complicates things is that copular constructions are usually ambiguous between stage- and individual-level readings: *the stars are visible*. This is occasionally disambiguated in Romance, e. g. in Spanish where there are two distinct copulas, *ser* and *estar* ‘be’. What is interesting in this context is that some adjectival elements like *present* in (50) unexpectedly only permit a stage level interpretation in copular instantiations and some (like *former*) allow for a prenominal but crucially no postnominal or copular occurrence (cf. Bolinger 1967).

⁴⁶ German prenominal participles also house (anti-)motion verbs that would periphrastically be realised in a BE-perfect. However, while some of these require adverbial modifiers designating an endpoint in BE-perfects (in all cases in Dutch), prenominal cases always require an adverbial modifier of this kind. This suggests that the factors responsible for licensing a periphrastic perfect are distinct from those triggering an adnominal resultative.

While the unmodified case in (52-a) evokes a resultative interpretation, (52-b) and (52-c) arguably denote eventive readings. Although the adverbial modifiers shift the reading to the eventive pole to different degrees, the temporal content of an overall clausal context also plays a role in implicating that the event has come to an end: consider adding *steht seit 1989 im Museum* ‘is part of an exhibition since 1989’.

The observation that both resultative and eventive properties surface in adnominal positions leaves the question of how the characteristics in (1) materialise. In line with (1-b), the former elicit perfectivity, as expected. As periphrastic eventive participles range between (im)perfectivity depending on their embedded event structure, this is *per se* also expected from eventive properties, i. e. adjectival *eventive* instantiations. This is borne out for German prenominal and English postnominal cases (see also Rapp and von Stechow 2015: 289).

- (53) a. *ein (von vielen) geliebter Filmstar*
 a (by many) loved film star
 ‘a film star loved (by many)’
 b. *eine (von Dr. Evil) gestreichelte Katze*
 a (by Dr. Evil) stroked cat
 ‘a cat stroked (by Dr. Evil)’
 c. *ein umgestürzter Schrank*
 a fallen.over closet
 ‘a closet (that has) fallen over’
 d. *ein verschwundenes Mädchen*
 a disappeared girl
 ‘a girl (that has) disappeared’
- (54) a. *a film star loved by many*
 b. *a cat stroked by Dr. Evil*
 c. *a train arrived at the station*⁴⁷
 d. *a girl disappeared from the scene*

The atelic predicates in (a) and (b) allow for an imperfective (as expected, (1-b)) and a perfective reading (somewhat surprisingly), whereas their anticausative counterparts in (c) and (d) only permit the latter. To account for this, Rapp and von Stechow (2015: 289) claim that the participle is simultaneous with the modi-

⁴⁷ A similar example is attested in Radford (1997: 213): *The train arrived at platform 4 is the 8.28 for London Euston*. A factor rendering postnominal unaccusatives marked is the risk of inducing a garden path situation.

fied noun, but anteriority may be introduced by a PERF-operator with telic verbs.⁴⁸ This has a stipulative flavour, reminiscent of the criticism levelled at previous approaches to the stative passive. It shows, though, that it is exceptionally difficult to account for the mixed behaviour of German prenominal participles and a similar conclusion may be drawn from English postnominal cases.

To evaluate the temporal flexibility of eventive properties, we use temporal adverbials.

- (55) a. *ein kürzlich/#gegenwärtig umgestürzter Schrank*
 a recently/ currently fallen.over closet
 ‘a closet that has recently fallen over’
 b. *ein kürzlich/#gegenwärtig verschwundenes Mädchen*
 a recently/ currently disappeared girl
 ‘a girl that has recently disappeared’
- (56) a. *a train recently/#currently arrived at the station*
 b. *a girl recently/#currently disappeared from the scene*

Currently, as an adverb forcing the simultaneity of the participial event with the superordinate eventuality (hence imperfectivity), is incompatible with participles derived from anticausative predicates, as expected.⁴⁹ These denote perfectivity and thus combine with *recently*.

Both atelic states and activities like those in (a) and (b) of (53) and (54) as well as accomplishments as in (57) and (58) do allow for allow for imperfective readings and hence combine with *currently*, which evokes simultaneity (unlike *recently*).⁵⁰

- (57) a. *ein kürzlich/gegenwärtig gegessener Apfel*
 a recently/currently eaten apple
 ‘an apple currently/just eaten’

⁴⁸ In a similar vein, Lübke and Rapp (2011) suggest that all attributive past participles denote perfectivity, but distinguish strong and weak perfective aspect to account for aspectual differences based on aktionsart (telic vs. atelic). While this is promising for attributive cases, it does not account for periphrastic uses: even telic verbs give rise to imperfective passive periphrases. In other words, this is not compatible with a holistic approach.

⁴⁹ Using *gegenwärtig/currently* is marginally possible, but only denotes that the resultative state currently holds.

⁵⁰ An anonymous reviewer contests that the examples in (57) are in any way different from those in (55) and (56), which points to the need for a principled empirical study on the potential simultaneity of prenominal uses.

- b. *ein kürzlich/gegenwärtig gebautes Haus*
 a recently/currently built house
 'a house currently/just built'
- (58) a. *an apple recently/currently eaten (by Jack)*
 b. *a house recently/currently built (by Jack)*

With punctual telic predicates, i. e. achievements, the imperfective reading is barred, though, as in (59) and (60).

- (59) a. *ein kürzlich/*gegenwärtig gefundener Schlüssel*
 a recently/ currently found key
 'a key recently/currently found'
- b. *ein kürzlich/*gegenwärtig erkanntes Mädchen*
 a recently/ currently recognized girl
 'a girl recently/currently recognized'
- (60) a. *a key recently/*currently found (by Peter)*
 b. *a girl recently/*currently recognized (by Bill)*

This leaves us with two challenges: (i) how do accomplishments and atelic predicates gain a perfect(ive) interpretation if this cannot stem from the participle, and (ii) why are transitive achievements – despite being causative, which allows them to take part in imperfective passives – never simultaneous. With respect to (i), it is striking that not just adverbial modifiers, but also the temporal make-up of the superordinate clause plays a role in determining whether (im)perfectivity comes about: in (61) and (62), it is the clausal context that shifts the interpretation to the (im)perfective pole.⁵¹

- (61) a. *Der von Thilo gelesene Ratgeber gibt ihm vermutlich erst auf Seite*
 the by Thilo read guide gives him probably only on page
243 den entscheidenden Tipp.
 243 the crucial hint

⁵¹ An additional set of examples showing this is the following:

- (i) Der von dem Kind gezogene Schlitten ('The sled pulled by the kid...')
- a. *fühlte sich auf dem Weg zum Gipfel immer schwerer an*
 felt SELF on the way to.the top PART heavier PART
- b. *rutschte bis ins Tal, nachdem er ihm aus der Hand geglitten war.*
 slid to in.the valley after he him out the hand slipped was.
- (ii) a. *The sled pulled by the kid turned out to feel heavier on the way to the top.*
 b. *The sled pulled by the kid slid down into the valley after slipping out of his hand.*

‘The guide read by Thilo will probably not give him the crucial hint before page 243.’

- b. *Der von Thilo gelesene Ratgeber hat ihn schnell gelangweilt.*
 the by Thilo read guide has him quickly bored
 ‘The guide read by Thilo has bored him quickly.’

- (62) a. *The guide read by Thilo would probably not give him any new insights until he reaches page 243.*
 b. *The guide read by Thilo had soon bored him.*

As the participle does not denote perfectivity, we could assume that it is the lack of any direct temporal relation to T (relating t_u and t) that causes the observable flexibility: the topic time of the participle (say t') is pragmatically determined to either coincide with ($t' \subseteq t$) or precede ($t < t'$) the topic time of the overall clause.⁵² This is loosely reminiscent of the HAVE-perfect, where the auxiliary introduces a PTS ($T_{pts}(t', t)$) mapping a topic time onto another topic time, determining one as the final subinterval of the other (cf. Pancheva 2003: 285).

This leaves issue (ii), i. e. the question of why transitive achievements cannot elicit simultaneity (i. e. denote imperfectivity). A reason for this can be found in the conceptual nature of achievements as punctual changes of state: a reading in which the participial event is simultaneous with the overall situation is barred by the punctuality of $\tau(e)$ in the absence of an atelic event leading up to the result (vs. accomplishments). The imperfective topic time of the participle ($\tau(e) \subseteq t$) may thus not sufficiently stretch out in time so as to include the topic time of the main clause.

The present section has shown that there are two kinds of adnominal past participles: (i) resultative participles with a reduced event structure that denote a result state given the presence of a stativising head (Pred+A), and (ii) eventive properties with a fully-fledged verbal structure but the ability to attribute a property to a nominal referent via an adjectival head (A). The former straightforwardly correlate with participles in stative passives. Eventive properties, in turn, are reminiscent of the eventive passive participles that surface in periphrastic constructions. While these two types split up into pre- and postnominal occurrences in English, other German is less clear in that resultative and eventive properties converge in a single position. This picture is potentially mirrored by adverbial occurrences.

⁵² See also Lübke and Rapp (2011: 279–282) for a discussion of the flexible temporal anchoring of past participles.

3.2 Adverbial occurrences

Past participles in adverbial contexts are distributionally flexible: they adjoin to the C-domain as in (63), which leads to a clause-initial realisation, or modify a clause in a parenthesis, as in (64). The latter are sometimes hardly distinguishable from postnominal cases apart from an intonational break that is restricted to parentheses.

- (63) a. *Built by construction specialists, the house will soon look habitable.*
 b. *Carried by his mother, the boy felt safe.*
 c. *Arrived at the station, the train soon came to a complete halt.*
 d. *Eaten at the restaurant, any dish tastes more exquisite.*
- (64) a. *The house – built by construction specialists – will soon look habitable.*
 b. *The boy – carried by his mother – felt safe.*
 c. *The train – (once) arrived at the station – soon came to a complete halt.*
 d. *Any dish – (when) eaten at the restaurant – tastes more exquisite.*

Striking about these variants is that the structural ambiguity that we could see in German prenominal positions also shines through in adverbial cases, as indicated by the resultative interpretation that is prevalent if the participle is not accompanied by modifiers, as in (65). (66) shows that this carries over to German.

- (65) a. *Shaved, the man looks ten years younger.*
 b. *Eaten, the blowfish turned out to be no harm.*
- (66) a. *Rasiert sah der Mann zehn Jahre jünger aus.*
 shaved looked the man ten years younger PART
 ‘Shaved, the man looked ten years younger.’
 b. *Gegessen stellte sich der Kugelfisch als ungefährlich heraus.*
 eaten turned SELF the blowfish as harmless out
 ‘Eaten, the blowfish turned out to be harmless.’

Accordingly, adverbial cases structurally range between resultative and eventive properties (i. e. (45) and (49)). The sole difference in comparison with pre- and postnominal cases in English is their loose attachment to a clause by not locally being tied to a noun.⁵³

⁵³ As an anonymous reviewer rightfully remarks, the participles in these contexts are still adnominal rather than adverbial. However, the cases discussed in this section are special in that they only ever establish a local relation to a nominal referent within an adverbial clause that is loosely integrated at most: the participle either modifies an implicit nominal variable that may be

Parentheticals are either not syntactically attached to a host clause at all (see Haegeman 1988; Peterson 1999) or loosely integrated (see Ross 1973; Emonds 1973; McCawley 1982; Ackema and Neeleman 2004). Peripheral adverbial clauses, in turn, are found in Spec, C: (67) includes a resultative and (68) an eventive participle. The claim that they are integrated differently from parentheticals is supported by German, where they may satisfy the V2-requirement for Spec, C to be filled, as in (66).

(67)

(68)

To establish an interpretive relation to a nominal referent, the AP or PredP either originates in the N-domain and moves to Spec, C or the relation is established

co-referential with an overt item in the clause (parentheticals and peripheral adverbial clauses) or an overt referent is realised within the adverbial clause (absolute clauses).

via a variable (see Breul and Wegner 2017: 8).⁵⁴ The absence of agreement and the analogy to parentheticals – which are unlikely to be derived via a movement analysis out of the nominal domain – speak out for the latter view. This points to an advantage of the present approach: unlike accounts based on displacement (e. g. Kayne 1994), we do not require a displaced IA of the participle to materialise in the main clause. This would violate the theta-criterion and strongly go against the observation that a host clause may affect a parenthetical (satisfying grammatical requirements), but not vice versa (cf. Ackema and Neeleman 2004: 99). The present approach rather embraces the adjunct status of adverbial (and adnominal) cases by denying that these provide material that it is salient for the grammaticality of a clause.

Absolute clauses constitute a particularly interesting case of adverbial instances.⁵⁵

- (69) a. *The dragon slain, the knight took his rest.*
 b. *The bomb defused, the soldier returned to his comrades.*
 c. *The lawn mowed, the gardener took to his lilies.*
- (70) a. *Den Drachen erschlagen, ruhte der Ritter sich aus.*
 the dragon slain, rested the knight SELF PART
 ‘The dragon slain, the knight took his rest.’
 b. *Die Bombe entschärft, kehrte der Soldat zu seinen Kameraden*
 the bomb defused, returned the soldier to his comrades
 zurück.
 back
 ‘The bomb defused, the soldier returned to his comrades.’
 c. *Den Rasen gemäht, wandte der Gärtner sich seinen Lilien zu.*
 the lawn mowed, turned the gardener SELF his lilies to
 ‘The lawn mowed, the gardener turned to his lilies.’

Past participles in absolute clauses are necessarily resultative.⁵⁶ Given (1-b), they are syntactically restricted to a (simple) V_{COS} : i. e. anticausative or decausative

⁵⁴ Note that the relational item is always present in the superordinate clausal domain, but it need not be the overt subject of that clause: *Shaved, the woman considered her husband more handsome.*

⁵⁵ Helland and Pitz (2012: 94) call participial clauses with an overt IA as in (69) and (70) ‘closed adjuncts’ and distinguish them from ‘open adjuncts’, as in (63)–(66), which characteristically establish a ‘pertinence relation’ to a participant in the main clause rather than introducing an overt IA.

⁵⁶ These also occur in Romance, e. g. in French (*une fois le problème résolu* ‘once the problem has been solved’) (cf. Cabredo-Hofherr 2017: 233). This supports the intuition that the properties in

predicates. Accordingly, they equal resultative configurations like (28), which is in line with the absence of event-related modification. What challenges this analysis is that the IAs are properly licensed and receive accusative case (typically associated with *v*), but a potential explanation for this comes from the presence of *with* and exceptional word order (OV) in English.

- (71) a. *With the dragon slain and the princess rescued, the knight took his rest.*
 b. *With the bomb defused, the soldiers were ready to head home.*

A preposition – optionally null in English and obligatorily covert in German – could be held responsible for case assignment.⁵⁷ This circumvents the requirement for a *v*-layer and allows us to stick to the resultative structure (Pred+A), as in stative passives and perfects. Support for this analysis comes from the lack of modifiers and the restriction to decausative predicates, i. e. a solely verbal spell-out is barred as there is no corresponding item in the encyclopedia.

(72)

(1) and their role in periphrastic, adnominal and adverbial distributions are shared by Germanic and Romance languages.

⁵⁷ As an anonymous reviewer rightfully points out, the covert preposition in German cannot be the cognate of *with*, i. e. *mit*, as this preposition assigns dative rather than accusative case. Given that there is never any overt preposition around in absolute clauses, the argument is considerably more difficult to make for German. What is striking is that *with* in these constructions is also semantically quite distinct from its German cognate and rather expected to correspond to a preposition like *durch* 'through'. While a more fine-grained analysis of absolute clauses (with and without participles) in English as well as German is needed to provide more fruitful insights, just note the need for some functional head assigning structural case here, as this cannot be default case (which is nominative in German) and as there is no syntactic or semantic reason to assume that *v* is around.

Most importantly, absolute clauses constitute one further context in which the connection between the (derived) anticausative properties of a participle and resultative semantics may be attested, underlining the properties in (1).

The adverbial uses discussed in the present section differ from other non-periphrastic cases (copular and adnominal) in terms of their syntactic integration, but not beyond: adjectival past participles of the eventive and resultative kind, whose properties are stable across the distinct distributions.⁵⁸

4 Theoretical implications

The observation that the distinct behaviour of verbal and adjectival past participles in various contexts may be traced back to the properties of the verbal predicate they are derived from (v/V vs. V_{Cos}) and the functional structure they are embedded under (Aux, Pred/A) has interesting theoretical implications. With respect to the categorial distinction, we could emphasise the claim that a picture with two extremes (eventive = verbal, stative = adjectival) is too simplistic (cf. Lundquist 2013: 19). Rather, the complex interplay of structural factors with the grammatical properties of the participial head gives rise to intermediate exponents. The distinct types are given in (73) (see also Sleeman 2011: 1575 for a similar scale that does not consider periphrastic cases but distinguishes pre- and postnominal eventives).

Abstracting away from the parameterisation of adnominal occurrences, these distinct kinds map to a range of distributions, as indicated in (74).

- (74)
- a. *periphrastic*: eventive verbal participle
 - b. *postnominal*: eventive adjectival participle

⁵⁸ There is one additional use of the participle in German (as well as Dutch, cf. Rooryck and Postma 2007, but not English or Swedish) that has not been discussed so far: the use of past participles as root infinitivals, which functionally is an alternative to the use of bare infinitives in terms of conveying imperative semantics. Such participial imperatives can be found in examples like *Stillgestanden!* ‘Stand still!’ and *Hingesetzt!* ‘Sit down!’. These are contingent on the presence of an implicit EA that is coreferential with the addressee (anticausatives are illicit), which is in line with the features in (1), but subject to additional restrictions.

- c. *adverbial*: eventive adjectival participle & resultative adjectival participle
- d. *absolute, prenominal, stative passive & stative perfect*: resultative participle

While periphrases house eventive verbal participles and the postnominal distribution (if available) houses eventive adjectival participles, adverbial uses flexibly introduce eventive adjectival as well as resultative participles. The latter also occur in a fairly broad range of further contexts: absolute clauses, prenominal positions and stative passive/perfect configurations. Additionally, other predicative realisations like complement positions of *seem* and *remain* also house resultative adjectival participles. The common characteristic of these is that they are stative and only allow weak recourse to an event. Accordingly, the distinct distribution range from eventivity to stativity in the following fashion.

While the availability of the distinct types of participles is shared in Germanic (and Romance) languages (see also Sleeman 2014: 175), their distributional mapping is parameterised, as we could see for postnominal instantiations and the BE-perfect. In both cases, we have taken the more elaborate pattern (English adnominals, German perfects) to be more basic.

Eventually, Table 1 below subsumes the syntactic and semantic properties of the participles in distinct configurations. The three kinds of past participles in (73), differentiated by the amount of event structure and their embedding under PredP and A, account for Wasow's (1977) traditional distinction of verbal and adjectival participles. Wasow (1977: 338 ff.) assumes that the two differ in whether participle formation happens in syntax or the lexicon. An antilexicalist view provides a more fine-grained picture: it allows us to tease apart the adjectival characteristics of stativisation and modification of a nominal referent. This bears implications for the characteristics of both lexical as well as syntactic categories, where the former simply boils down to the immediate bundling of a root with a categoriser in its position of base-generation. As we have seen, there is no reason to assume that participles are not inherently verbal: despite the differences in whether the full set or just a subset of the event structure is structurally spelled out, they are always derived from bundlings of V+v (with v introducing a more elaborate event in unrestricted contexts). With respect to syntactic categories, the broad diversity of distinct manifestations follows naturally if they are derivative

Table 1: The structural properties of past participial configurations.

	periphrastic (eventive verbal)			adjectival		
	passive	BE-perfect	HAVE-perfect*	resultative	eventive**	stative***
vP+pro	✓	–	✓	–	✓/–	–
overt EA	–	–	✓	–	–	–
simple V _{CoS}	–	✓	– (✓)	✓	✓/–	–
perfective Asp	–	✓	– (✓)	✓	✓/–	–
PTS	–	–	✓	–	–	–
event token (e)	✓	✓	✓	–	✓	–
AP	–	–	–	✓	✓	✓
externalised IA	–	–	–	✓	✓	–
PredP	–	–	–	✓	–	✓/–
syntax	(5), (16)	(9), (17)	(7), (16)	(28), (40-b), (45), (67), (72)	(49), (68)	(43)
semantics	(4)	(8)	(10), (13)	(29)	(4), (8)	

*In languages that generalise HAVE to all perfect periphrases (and only those), it also combines with perfective Asp and simple V_{CoS}, as indicated here with the help of brackets. The (dark) grey shading is an attempt to visualise that the special characteristics stem from the introduction of the perfect auxiliary HAVE.

**The eventive adjectival participles, as we have seen, are just like the two kinds of eventive verbal participles with the distinction that they are embedded under an AP and thus bound to externalise their IA. Additionally, given that they do not combine with an auxiliary, they do not occur with an overt PTS.

***The (light) grey shading is supposed to indicate that these are actually not participles, but proper adjectives.

of the presence of formal features (cf. Rauh 2000a, 2000b, 2010: 144).⁵⁹ Rather than stipulated categorial features (e. g. in Adger 2003), this allows us to read the fine-grained categorial distinctions off the configuration. Hence, it should not be surprising that a deverbal category that alternates between aspectual and argument structural properties based on the embedded structure also exhibits mixed categorial properties.

While the implications regarding the categorial flexibility of distinct kinds of past participles are anything but unexpected from the perspective of antilexicalist frameworks, these often simply proclaim distinct heads to grasp the observable contrasts. The present case of the twofold properties of past participles shows that this occasionally makes it difficult to identify properties that interact in specific

⁵⁹ Aarts (2007: 33) takes this reasoning a step further, arguing that as “syntactic categories are defined by making use of features, [...] the notion of syntactic category becomes epiphenomenal”.

ways. Rather than stipulating distinct aspectual heads (say Asp and Asp_R) and distinct voice specifications (say $Voice$ and $Voice_{PASSIVE}$), it is important to stress that there is evidence for the claim that the participles in question are not just phonologically but also grammatically identical (based on an underspecified Asp -head). The present account allows us to derive the imperfectivity of passive cases from the (necessarily) complex event structure embedded under the participial head and perfectivity from a simple event structure leaning to completion via telicity. With respect to diathesis, the specific voice setting is simply based on whether an overt EA is introduced by an independent Aux-head. Although this could also be framed with distinct functional heads bundling in specific ways, this would not acknowledge the identity of past participles.

5 Conclusion

The present paper makes a case for the uniform treatment of past participial affixes based on the premise that all the relevant distinctions are determined by the structural environment. A ‘holistic’ approach along these lines is possible on the basis of granting past participles a two-fold contribution: (i) the argument structural contribution of existentially binding an EA (if present), and (ii) the aspectual contribution of rendering an eventuality perfective iff the participial morpheme immediately dominates V_{COS} . This does justice to Levin and Rappaport’s (1986: 652) demand for “further elucidation of the aspectual properties of the passive”, which they deem promising with respect to determining whether perfect participles and the distinct types of passive participles, i. e. so-called lexical and verbal ones, are substantially identical.

The grammatical flexibility stems from the interaction of the participial properties with the structural environment. The following structural criteria account for the behaviour of the broad range of participial instantiations without additional stipulations (like the introduction of a distinct Asp -head): (a) the presence of a stativising Pred-head (occasionally spelled out as a copula) or Aux-HAVE, (b) the availability of an A-head that triggers λ -abstraction of an IA, and (c) the complexity of the underlying event structure, most importantly with respect to v (introducing a covert EA and an atelic CAUSE). While the absence of the latter opens the floodgates for perfectivity and resultativity (with V_{COS}), its presence triggers an imperfective passive interpretation, where active variants and perfect properties (PTS) are externally imposed by HAVE. As we could see on the basis of data from English and German, these considerations account for the properties of

past participial occurrences in languages that do not make a grammatical distinction between passive and perfect(ive) participles (for the parametrisation of past participial identity see Wegner 2017).

In terms of the categorial indeterminacy of past participles, they are deverbal elements that may optionally be embedded in stative surroundings, which prevents the introduction of a certain degree of event structure and the instantiation of an event token. This suggests that syntactic categories should be conceived of as derivative of the structural configuration rather than static polar distinctions. Antilexicalist accounts are fit for the purpose of modelling this: Pred (requiring a result and keeping the event in the kind domain) and *v* (introducing a full set of eventive properties) are mutually exclusive in the domain of past participles, where the presence of Aux or A determines whether the participle is introduced periphrastically or as an adjunct. While these conclusions could also be framed within a lexicalist approach, this faces two challenges: (i) rather than introducing a full event structure, the CAUSE associated with the EA is structurally severed, and (ii) deriving an adjectival past participle by means of conversion is not enough to prevent access to an eventive interpretation (or else we need an alternative account of how verbal participles surface in adjectival distribution).

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