

Adjectival participles, event kind modification and pseudo-incorporation

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Abstract Due to their hybrid nature, German adjectival participles display properties of both adjectives and verbs. In particular, their verbal behaviour is evidenced by the restricted availability of manner and other event-related modifiers. I propose that German adjectival participles denote degrees (state kinds), which accounts for their adjectival behaviour, and that an adjectival passive construction refers to the instantiation of a consequent state kind of an event kind, which accounts for the verbal properties. Event-related modifiers that name event participants, i.e. phrases headed by *by* or *with*, are analysed in terms of pseudo-incorporation. This account is motivated by the fact that the nouns in such phrases display properties of pseudo-incorporated nouns, such as discourse opacity and the requirement of naming an institutionalised or conventionalised activity or state, together with the verb/participle these phrases incorporate into. The restrictions on event-related modification, then, follow from general restrictions on kind modification and on pseudo-incorporation.

Keywords Events · Kinds · Adjectival passive · Verbal passive · Adjective · Degree · Manner · Modification · Incorporation · Pseudo-incorporation · Scale structure

1 Introduction

The received view for German is that adjectival passives are copular constructions that involve an adjectivised past participle (Kratzer 1994, 2000; Rapp 1996, 1997; Maienborn 2007a, 2009, 2011; Gehrke 2011, 2012, 2013). Evidence for the adjectival nature of the participle, for example, comes from the fact that it can combine with adjectival morphology, such as *un*-prefixation and comparative morphology (1)

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(examples from Rapp 1996, 251); this kind of morphology is ungrammatical with verbal forms, such as the verbal passive (2) (see also Maienborn 2007a).¹

- (1) a. Die Aufgabe ist ungelöst.
the task is unsolved
'The task is unsolved.'
- b. Diese Region ist noch gefährdeter.
this region is even endangered-er
'This region is even more endangered.'
- (2) a. *Die Aufgabe wird ungelöst.
the task becomes unsolved
intended: 'The task is being unsolved.'
- b. #Diese Region wird noch gefährdeter.
this region becomes even endangered-er
intended: 'This region is being even more endangered.'²

Adjectivisation is a means of word formation, hence to be placed within the lexicon, according to lexicalist theories (e.g. Meltzer-Asscher 2011, for Hebrew), or within the lower portion of the syntactic tree, under syntactic accounts. Theories employing Distributed Morphology (Halle and Marantz 1993), for example, generally assume that categories are determined by functional projections, such as a(sp) (for adjectives), v (for verbs), and n (for nouns), which combine with categoriless roots. Most recent syntactic theories dealing with adjectival passives in various languages assume that bigger verbal structures can be the input to adjectivisation as well, differing mainly in whether or not Voice is included (Anagnostopoulou 2003; Embick 2004; Alexiadou and Anagnostopoulou 2008; McIntyre 2013; Bruening 2014; Alexiadou et al. 2014).

Under these syntactic approaches, it is not surprising that we find event-related modification with adjectival passives, such as instruments, *by*-phrases and manner adverbials, modifiers that do not appear with genuine adjectives, as illustrated by the contrasts in (3) (examples from Rapp 1996, 254).

- (3) a. Die Zeichnung ist von einem Kind {angefertigt / *schön}.
the drawing is by a child produced beautiful
'The drawing is {produced / *beautiful} by a child.'
- b. Der Brief war mit einem Bleistift {geschrieben / *schön}.
the letter was with a pencil written beautiful
'The letter was {written / *beautiful} with a pencil.'
- c. Das Haar war ziemlich schlampig {gekämmt / *fettig}.
the hair was rather slopp(il)y combed greasy

¹ In German, adjectival passives are morphologically distinct from verbal passives, as they combine a past participle with inflected forms of *sein* 'be' (cf. (1)), rather than *werden* 'become' (cf. (2)).

² The hash mark indicates that this sentence is only ungrammatical under the verbal passive meaning, under which the **auxiliary** *werden* 'become' combines with a **verbal** participle: 'This region is being more endangered' (which is also ungrammatical in English). There is a second, grammatical meaning under which the **copula** *werden* 'become' combines with an **adjectival** participle: 'This region is becoming even more endangered.' In the remainder of this paper I will disregard this second reading.

'The hair was {combed / *greasy} in a rather sloppy way.' (from Kratzer 1994)

However, what is not straightforwardly accounted for by the syntactic theories is that event-related modification is rather restricted with adjectival passives, as illustrated by the following examples from Rapp (1996, 246).

- (4) Der Mülleimer ist { *von meiner Nichte / *langsam / *genüsslich / *mit
the rubbish bin is by my niece slow(ly) pleasurabl(e)y with
der Heugabel} geleert.
the pitchfork emptied
intended: 'The rubbish bin is emptied {by my niece / slowly / with pleasure /
with the pitchfork}.'

Anagnostopoulou (2003) proposes a distinction between VP-related result-oriented modifiers, which are acceptable in German, such as *schlampig* in (3-c), and Voice-related manner-oriented ones, which are not acceptable (which presumably could subsume the modifiers in (4)), assuming that Voice cannot be part of an adjectival participle in German (see also Kratzer 2000). However, this does not explain the acceptability of the modifiers in (3-a,b), which are clearly oriented towards the event, as they express a manner or agent, rather than being state-oriented.

This is not to say that there is no room for state-related modification, of course. Rapp (1996, 1997) makes a distinction between state-related and event-related modification and argues that there are no restrictions on state-related modification, which modifies the adjectivised participle, i.e. the AP; e.g. (5) (see also Schlücker 2005).

- (5) Er ist von der Musik beeindruckt.
he is by the music impressed
'He is impressed by the music.'

It is important to note, however, that the participles with such state-related modifiers are all derived from stative predicates, as pointed out by Rapp.³ In the remainder of this paper I will focus only on event-related modification; see Gehrke (2013) for a more detailed discussion of state- vs. event-related modification and for arguments why not all acceptable modifiers with adjectival passives can be treated as state modification.

The literature treating adjectival passive formation as a lexical process, then, faces the dilemma from the opposite side, since it cannot straightforwardly account for the acceptable event-related modifiers. Rapp (1996, 1997), for example, argues that adjectival passives only have a stative component and that any eventive component is deleted when the participle is adjectivised. She proposes that in the case of event-related modification we are dealing with phrasal adjectivisation (following Kratzer 1994), which only allows as its input modifiers that provide information that is characteristic for the result state. However, she does not make precise what it means to be characteristic for the result state. In addition, if a VP is the input to adjectivisa-

³McIntyre (2013) discusses a class of non-resultative adjectival participles, his 'situation-in-progress' participles, which presumably subsume such participles derived from stative predicates.

tion, this opens up the way for a syntactic account again. Maienborn and colleagues (Maienborn 2007a, 2009, 2011; Gese 2010), in turn, argue that event-related modifiers are merely pragmatically licensed, but the precise conditions under which such modification is licensed, are left rather vague.⁴

In Gehrke (2011, 2012, 2013), I argue that adjectival passives make reference to an event, which fits the syntactic approaches and is also in line with Kratzer (2000), but that this event is not instantiated but remains in the kind domain, a point that does not follow straightforwardly from any of the previous approaches.⁵ In these papers, I propose that the restrictions on event-related modification with adjectival passives derive from general restrictions on kind modification. The current paper builds on my previous proposal that adjectival passives involve event kinds and spells out the details of a formal semantic account of event kind modification. In particular, I propose that event-related modifiers have to pseudo-incorporate into the participle in order for adjectivisation to take place.

The paper is structured as follows. Section 2 summarises the empirical facts from my earlier papers which have led to the conclusion that event-related modification with adjectival passives is event kind modification. Section 3 deals with the verbal input to adjectival passives. Section 4 spells out the semantic account of the composition of adjectival passives. Section 5 establishes commonalities between event-related modifiers and incorporated nouns, and Sect. 6 proposes an analysis of such modification in terms of pseudo-incorporation. Finally, Sect. 7 concludes.

2 Event-related modification as kind modification

This section summarises the empirical facts that have led me to propose that the restrictions on event-related modification with adjectival passives follow from the more general restrictions on kind modification (Gehrke 2011, 2012), and to suggest that event participants of event kinds also remain in the kind domain (Gehrke 2013). In particular, I argued that the event we are dealing with in this construction is not an event particular (i.e. an instantiated event that is located in space and time), but an event kind. After having outlined the general account of the composition of adjectival passives, I will discuss new facts about event-related modification in Sect. 5.

Event kinds are natural to expect if we assume that events form a subsort in our ontology of (token) individuals (Reichenbach 1947; Davidson 1967) and that kinds form another subsort in that ontology (Carlson 1977). The latter has been proposed by Carlson for kinds in the nominal domain, and has since become a fairly standard view (see also Zamparelli 1995; Chierchia 1998; Dayal 2004). Extending the notion

⁴In her account of adjectival passives in Hebrew, which argues for the complete absence of an event, Meltzer-Asscher (2011) is more precise and proposes a meaning postulate, according to which event-related modification triggers the reconstruction of an event that is interpreted as causing the state denoted by the adjective. A problem with this account is that we would expect all event-related modifiers to be possible again, or at least all equally dispreferred, contra the facts: there is a clear split between acceptable and unacceptable ones, as in (3) vs. (4).

⁵This proposal has been taken up by Gese (2011), who provides additional experimental evidence that we are dealing with event kinds rather than event particulars.

of kinds to the verbal domain is a natural move if we assume that, as a rule, any token in the ontology should be the realisation of some kind in that ontology. Finally, under a Neo-Davidsonian view (Higginbotham 1985; Parsons 1990), events can be decomposed into subevent, which motivates the additional assumption about the existence of subevent kinds, including state kinds. Event kinds have an analog in e.g. the Situation Semantics notion of event type (Barwise and Perry 1983), though the formal details are quite different. Empirical arguments for event (and state) kinds as an ontological category have been provided by Landman and Morzycki (2003), Ginzburg (2005), Sailer (2010), Gehrke and McNally (2011, 2015), Anderson and Morzycki (2015). Here I will discuss further empirical arguments from the domain of adjectival passives.

2.1 Adjectival passives involve event kinds

While the underlying event in adjectival passives can be modified by (some) manner adverbs, instruments, and agent-/cause-oriented *by*-phrases (e.g. 3), it cannot be modified by temporal or spatial modifiers that specify the time and place at which the event took place. This suggests that the event lacks spatiotemporal location, which follows from the assumption that it remains in the kind domain and does not get instantiated (or realised). Acceptable event-related modifiers, in turn, can be seen as creating subkinds of events.

For example, a modifier like *recently* cannot modify the underlying event but only the consequent state related to this event (6).

- (6) Die Tür war kürzlich geöffnet.
 the door was recently opened
 ‘The door was recently opened.’

This sentence means that the door was in a state of being open(ed) recently (and probably is no longer), where *recently* modifies the state. It cannot mean, however, that the door was in an opened state, with the opening having taken place recently, where *recently* modifies the event. In Sect. 4, I will spell out the account, according to which an adjectival passive constructions refers to the instantiation of a consequent state kind of an event kind; hence, this construction makes available an event kind argument and a state token argument. Since only the state, but not the event is instantiated, only the state can be located in time.

The fact that adjectival passives are incompatible with temporal frame adverbials (7-a) (examples from von Stechow 1998) further supports the claim that the underlying event cannot be temporally located (see also Rapp 1996, 1997). A temporal adverbial that marks the onset of the state, such as a *seit*-‘since’-adverbial, is acceptable (7-b), but again, it temporally locates the state, not the event.

- (7) a. *Der Computer ist vor drei Tagen repariert.
 the computer is before three days repaired
intended: ‘The computer is repaired three days ago.’
 b. Der Computer ist seit drei Tagen repariert.
 the computer is since three days repaired
 ‘The computer has been in a state of being repaired since three days.’

Spatial modifiers that pick out the location of a particular event that brought about the consequent state, to specify the location where the event happened, are also not possible (8).

- (8) a. #Die Reifen sind in der Garage aufgepumpt.
 the tires are in the garage inflated
 intended: ‘The tires are inflated in the garage.’
 b. #Das Kind war im Badezimmer gekämmt.
 the child was in the bathroom combed
 intended: ‘The child was combed in the bathroom.’

Again, such modifiers can only modify the state (which is instantiated), not the event (which remains in the kind domain). Spatial modification of states, in turn, is generally quite bad, and the hash mark indicates that such examples are (marginally) acceptable only if the spatial frame creates some kind of temporal frame for the state itself (see Maienborn 2007b). Under this reading, however, the PP clearly modifies the state, not the underlying event.⁶

This proposal is further supported by the fact that the restrictions on event-related modification with adjectival passives match the restrictions on possible antecedents of adverbial *so*, as described in Landman and Morzycki (2003) (L&M), who treat *so* as an event kind anaphora (in analogy to the nominal kind anaphora *such*; cf. Carlson 1977). In particular, they propose that (adverbial) *so* denotes a property of events that realise a (particular contextually supplied) kind (9).

- (9) $[[so_i]] = \lambda e.e$ realises k_i

L&M show that spatial and temporal modifiers, which modify an event token, are not possible antecedents of *so*:

- (10) a. *Maria hat am Dienstag getanzt, und Jan hat auch so getanzt.
 Mary has on Tuesday danced and John has also so danced
 intended: ‘Mary danced on Tuesday, and John danced like that too.’
 b. *Maria hat in Minnesota gegessen, und Jan hat auch so gegessen.
 Mary has in Minnesota eaten and John has also so eaten
 intended: ‘Mary ate in Minnesota, and John ate like that too.’

Above we saw that such modifiers are also unacceptable with adjectival passives. L&M furthermore show that some spatial modifiers are acceptable, but only if they can be seen as creating a new kind or as naming a subkind of event (11).

- (11) Maria schläft in einem Schlafsack, und Jan schläft auch so.
 Mary sleeps in a sleeping bag and John sleeps also so
 ‘Mary sleeps in a sleeping bag and John sleeps like that too.’

⁶In Sect. 5, I will discuss apparent counter-examples to the claim that spatial PPs are not possible with adjectival passives. Upon closer inspection, these acceptable PPs will turn out not to spatially locate an event particular, but rather to specify the manner of the event kind, and thus to derive an event subkind, similar to (11) below.

In (11), the locative modifier does not serve to specify the location of a particular sleeping event, but rather specifies a subkind of sleeping event, namely the kind of sleeping in sleeping bags. Hence, it is not a proper spatial modifier but rather used as a manner modifier. L&M conclude that it is viable to generally treat manner modification as event kind modification. The acceptable modifiers with adjectival passives in 3, then, can also be seen as manner modifiers in a broad sense.

In Sect. 5, we will come back to event-related modification. I will address acceptable spatial PPs with adjectival passives of the sort in (11), which can be analysed as manner modifiers rather than as spatial locators of the underlying event, and I will discuss new observations not made in the previous work. Furthermore, I will make precise how event-related modification can be seen as deriving subkinds of events. Let us then turn to the properties of event participants in event-related modifiers that are acceptable with adjectival passives, which are, in fact, a subset of the acceptable *by*- and *with*-phrases with verbal passives.

2.2 Event participants of adjectival passives are discourse opaque

In Gehrke (2013), I investigated the nouns in event-related modifiers of adjectival passives, in particular in *by*-phrases. Schlücker (2005) already observed that the nominals in such modifiers have a more generic character, supported by the impression that more bare nouns and indefinite NPs appear in such modifiers. I tentatively assumed that if the event is not instantiated but remains in the kind domain, this should also hold for its participants and could account for their more generic character. As a point of departure I took the fact that verbal passives can combine with all kinds of event-related modifiers (e.g. (12)), whereas the availability of such phrases is severely restricted with adjectival passives, as already noted above (the examples in (13) are discussed in Rapp 1996; Maienborn 2011).

- (12) a. Der Mülleimer wird (von meiner Nichte) geleert.
the rubbish bin becomes by my niece emptied
'The rubbish bin is being emptied by my niece.'
- b. Die Tür wird (von ihm) geöffnet.
the door becomes by him opened
'The door is being opened by him.'
- (13) a. Der Mülleimer ist (*von meiner Nichte) geleert.
the rubbish bin is by my niece emptied
'The rubbish bin is emptied (*by my niece).'
- b. Die Tür ist (*von ihm) geöffnet.
the door is by him opened
'The door is opened (*by him).'

In order to understand the nature of the restrictions on event-related modification with adjectival passives, I took a closer look at the differences between verbal and adjectival passives with respect to event-related modification. These differences will be reproduced in the following, and some more will be added.⁷

⁷Recall from the discussion around (5) that we are only concerned with event-related modifiers here; things are different with state-related modifiers (cf. Gehrke 2013).

A first observation is that the complements of the unacceptable *by*-phrases in (13) are definite noun phrases that refer to a particular entity in the discourse, whereas those in acceptable ones (e.g. (3-a), (3-b)) are indefinite NPs or bare nouns.⁸ The same holds for acceptable *with*-phrases, cf. the contrast between (14) and (15).⁹

- (14) a. Der Brief ist mit roter Tinte / (einem) Bleistift geschrieben.
 the letter is with red ink a pencil written
 'The letter is written with red ink / (a) pencil.'
- b. Der Ordner war mit einem Passwort gesichert.
 the folder was with a password secured
 'The folder was password-protected.'
- (15) a. *Der Brief ist mit der roten Tinte geschrieben.
 the letter is with the red ink written
intended: 'The letter is written with the red ink.'
- b. #Der Brief ist mit dem Bleistift geschrieben.
 the letter is with the pencil written
intended: 'The letter is written with the pencil.'
- c. *Der Ordner war mit dem Passwort gesichert.
 the folder was with the password secured
intended: 'The folder was protected by the password.'

Second, with verbal passives an indefinite noun phrase in a *by*- or *with*-phrase regularly introduces a discourse referent, which can be picked up by pronominal anaphora in the following sentence (16), whereas this is generally not possible with adjectival passives (17).

- (16) a. Die Zeichnung wird von [einem Kind]₁ angefertigt. Es₁ hat rote Haare.
 the drawing becomes by a child produced it has red hairs
 'The drawing is being produced by a child. He/she has red hair.'
- b. Die Karte wird mit [einem Bleistift]₁ geschrieben. Er₁ ist blau.
 the card becomes with a pencil written he is blue
 'The card is being written with a pencil. It is blue.'
- (17) a. Die Zeichnung ist von [einem Kind]₁ angefertigt. *Es₁ hat rote Haare.
 the drawing is by a child produced it has red hairs
- b. Die Karte ist mit [einem Bleistift]₁ geschrieben. *Er₁ ist blau.
 the card is with a pencil written he is blue

⁸As pointed out by Ai Kubota (p.c.), this raises the question whether the examples in (13) improve if we replace the respective nominals by indefinites or bare ones. In Sect. 5, I will show that this will not necessarily improve these examples, and we will see that there are two things that play a role. First, the nominal may not refer to a particular entity in the discourse (as described in Gehrke 2013), and second (to be elaborated in that section) the modifier has to derive a well-established event kind.

⁹The hash mark in (15-b) indicates that this example is acceptable (for some speakers) under a weak definite reading, which follows from the general approach in this paper; see Sects. 5 and 6.

Third, only the complements of *by*- and *with*-phrases with verbal participles (18) but not with adjectival ones (19) can be modified by common intersective modification, such as adjectival (token) modification (18-a,c) or restrictive relative clauses (18-b).

- (18) a. Die Zeichnung wird von einem blonden Kind angefertigt.
the drawing becomes by a blond child produced
'The drawing is being produced by a blond child.'
- b. Die Zeichnung wird von einem Kind angefertigt, das ich im Kindergarten getroffen habe.
the drawing becomes by a child produced which I in_the kindergarten met have
'The drawing is being produced by a child that I met at the kindergarten.'
- c. Die Karte wird mit einem kurzen Bleistift geschrieben.
the card becomes with a short pencil written
'The card is being written with a short pencil.'
- (19) a. *Die Zeichnung ist von einem blonden Kind angefertigt.
the drawing is by a blond child produced
- b. *Die Zeichnung ist von einem Kind angefertigt, das ich im Kindergarten getroffen habe.
the drawing is by a child produced that I in_the kindergarten met have
- c. *Die Karte ist mit einem kurzen Bleistift geschrieben.
the card is with a short pencil written

Kind modification, on the other hand, is possible (e.g. *rote Tinte* 'red ink' in (14-a)), which will follow from the general proposal underlying this paper (see also Sect. 6).

Finally, even in the presence of a *by*-phrase there is no control into purpose clauses in adjectival passives (see also Rapp 1996), unlike what we find in verbal passives (see also footnote 12):

- (20) Die Zeichnung {wird / *ist} von einem Kind angefertigt, um seinen Eltern eine Freude zu machen.
the drawing becomes is by a child produced in order its.DAT parents.DAT a happiness to make
'The drawing is being (not: is) produced by a child in order to make his/her parents happy.'

In sum, the complements of *by*- and *with*-phrases that appear with adjectival passives in German, are weakly or non-referential and have a rather generic flavour,¹⁰

¹⁰Olav Mueller-Reichau (p.c.) points out that the generality of these properties might be too strong in light of data like the following:

- (i) a. Die Zeichnung war von einem Kind angefertigt. Es hieß Joseph Beuys.
the drawing was by a child produced it was-called Joseph Beuys

whereas with verbal passives we find strongly referential noun phrases.¹¹ Based on these facts, I suggested in Gehrke (2013) that these event participants are not instantiated but remain in the kind domain. In sections 5 and 6, after having spelled out the general account of adjectival passives, I will be more precise and propose that they are semantically incorporated into the participle. First, however, I will address the lexical input requirements on adjectival passives.

3 The input to adjectival passives

If adjectival passives are copular constructions, as generally assumed, their semantics should be such that a stative property is ascribed to an individual, as with copular constructions that employ genuine adjectives. A prominent approach to the semantics of adjectives is in terms of scales or degrees (von Stechow 1984; Kennedy 1999; Rotstein and Winter 2004; Kennedy and McNally 2005; Sassoon 2013) (see also Beltrama and Bochnak 2015; Gumiel-Molina et al. 2015, for further discussion). Kennedy and McNally (2005), for example, argue that the semantics of gradable adjectives involves three elements, a measure function, a particular domain in which the measure is occurring, and an ordering relation on that domain. For adjectives that do not appear with degree morphology or modifiers, they posit a covert degree operator ‘pos’ that measures its argument along a particular dimension in comparison to some standard (see also von Stechow 1984). Hence I assume that like genuine adjectives, the semantics of adjectivalised participles is that of a (standard) degree on a particular scale; following Anderson and Morzycki (2015), we can view such degrees as state kinds.

One thing that has been noticed, however, is that adjectival passives are not generally blocked by genuine adjectives that are morphologically related to the underlying

‘The drawing is/was produced by a child. He was called Joseph Beuys.’

- b. “Ist diese Weihnachtskarte von einem blonden Kind gemalt?” fragte der Nazi.
 is this Christmas card by a blond child painted asked the Nazi
 “Is this Christmas card painted by a blond child?” asked the Nazi.’

He also points out that sometimes even proper names are possible in *by*- and *with*-phrases, which at first sight is a problem for claiming that the nominals cannot be strongly referential. I will have more to say about proper names in Sect. 5.

My intuition concerning (i-a) is that the continuation is rather special in that it creates a surprise effect, instead of being a run-of-the-mill continuation of the first sentence. However, I do not know how to analyse sentences like these precisely, and leave them for future research. All in all, such examples are marginal, so I assume that the overall claim that pronominal anaphora is not possible can be maintained. (i-b), in turn, does not make reference to a specific blond child in the discourse. Rather, in the conceptual world of Nazis there is (unfortunately) an established kind ‘blond child’ and this kind description can appear in event-related modifiers of adjectival passives. In essence, then, the modifier is a kind rather than a token modifier, hence it is not an exception to the claim that token modification is not available.

¹¹Under the assumption that a similar difference between adjectival and verbal passives holds for Spanish, which also morphologically distinguishes between the two, corroborating evidence for this observation comes from a corpus study (Gehrke and Marco 2014). In particular, we found significant differences in the type of complements with *by*-phrases in adjectival and verbal passives, the former displaying a higher occurrence of bare nouns and indefinite determiners and a general ban on pronouns, definite determiners, and proper names.

verb and that intuitively mean more or less the same as the participle (21) (see also Maienborn 2009).

- (21) a. Das Fenster ist geöffnet / offen.
 the window is opened open
 ‘The window is opened / open.’
 b. Der Briefkasten ist geleert / leer.
 the mailbox is emptied empty
 ‘The mailbox is emptied / empty.’

Hence, there must be some difference, which is commonly attributed to the fact that the adjective in adjectival passives is derived from a verb, more specifically to the properties of the underlying verb. Let us then take a closer look at the lexical input requirements on adjectival passives.

It is standardly assumed that the external argument of the underlying verb is not syntactically active in adjectival passives, however it can be conceptually given.¹² The internal argument of the underlying verb, on the other hand, is commonly associated with the individual that the stative property is ascribed to, which is the theme argument, undergoing a change of state (with result verbs, see below), or the experiencer argument, experiencing a particular state (with object experiencer psych verbs, see below). This leads to the first generalisation about adjectival passives:¹³

¹²Arguments in favour of its absence from syntax include the impossibility of implicit agents in adjectival passives to control into purpose clauses, as well as the absence of a disjoint reference effect (e.g. Kratzer 1994, 2000) (but see also McIntyre 2013; Bruening 2014; Alexiadou et al. 2014). Arguments in favour of its conceptual presence come from the (albeit limited) availability of *by*-phrases, instruments and manner adverbs, which has been addressed in Sect. 2. For a more detailed discussion of external arguments of the underlying verb in adjectival passives, see Gehrke (2013).

¹³McIntyre (2013) dubs this the ‘Direct Argument Generalisation’, according to which adjectival participles always modify nominals corresponding to direct objects (unaccusative subjects) of their related verbs. An open question is whether also unaccusative verbs can be good inputs then. McIntyre and Bruening (2014) as well as Gese et al. (2011) argue for English and German, respectively, that they are. However, McIntyre and Bruening only discuss attributive uses of participles derived from unaccusative verbs, i.e. participles in prenominal position (i-a). Many of these participles cannot be used in predicative position, though (i-b).

- (i) a. the (recently) {departed/escaped} people (from McIntyre 2013)
 b. *The people are (recently) {departed/escaped}.

Hence, an alternative analysis of the prenominal participles in terms of reduced relative clauses of verbal rather than adjectival constructions is possible (see Rapp 2001; Sleeman 2011, for such a proposal). This analysis might even be preferred, given that a modifier like *recently* cannot pick up the time of the event with adjectival passives, as we saw in Sect. 2, example (6), unlike what we find in (i-a), where the departure / escape has taken place recently (similar data from Spanish is discussed in Zagana 2015).

In German it is difficult to test whether such participles can appear in predicative position (and thus be adjectival). This is so because the combination of *be* and participle is potentially ambiguous between a perfect and an adjectival passive construction, since unaccusative verbs select for the BE-auxiliary in the perfect. Gese et al. (2011) propose that temporal adverbials disambiguate between these two (alleged) readings, with one kind of temporal adverbial locating the event in the past (ii-a), thus selecting for a perfect construction, and another type of temporal adverbial locating the state in the present (ii-b), thus selecting for an adjectival passive construction (claim and examples from Gese et al. 2011).

- (22) **Generalisation 1:** Only verbs with internal (theme or experiencer) arguments can appear in German adjectival passives.

Cross-linguistically, the DP in subject position of adjectival passives behaves like an external argument of the adjective, however; for example, adjectival passive constructions fail common unaccusativity tests (e.g. Levin and Rappaport 1986; Cinque 1990; Borer 2005)¹⁴ (see Meltzer-Asscher 2011; McIntyre 2013; Bruening 2014, for a more detailed discussion). I will assume with McIntyre and Bruening that the internal argument is externalised at the point when the participle is adjectivised, and I will come back to this in Sect. 4.

There is a common assumption that the participle expresses the result or outcome of an event, as argued for in Gehrke (2012).¹⁵ From this assumption it would follow that only resultative or telic predicates are good inputs to adjectival passives. An alternative hypothesis, found in Rapp (1996), is that the stative property ascribed to an individual in adjectival passives is recovered from the event structure licensed by the underlying verb. From this it would follow that only predicates which license an event structure with a stative component are able to derive adjectival passives (again modulo coercion), which are basically stative and resultative predicates.

A third kind of approach is to assume that there are no lexical restrictions, rather adjectival passives are semantically underspecified and thus can be derived from all verbs with pragmatics specifying the precise stative property we are dealing with

-
- (ii) a. Otto ist vor zwei Wochen verreist.
 Otto is before two weeks away-travelled
 'Otto went on a trip two weeks ago.'
- b. Otto ist seit zwei Wochen verreist.
 Otto is since two weeks away-travelled
 'Otto has been on a trip since two weeks.'

However, the temporal adverbial in (ii-b) cannot be seen as disambiguating, since such adverbials are also acceptable with perfects that select a HAVE-auxiliary, which are thus unambiguously perfect and not adjectival passive constructions:

- (iii) a. Otto hat seit zwei Wochen das Buch gelesen.
 Otto has since two weeks the book read
 'Otto has read the book since two weeks.'
- b. Otto hat seit zwei Wochen zehn Autos gekauft.
 Otto has since two weeks ten cars bought
 'Otto has bought ten cars since two weeks.'

Even if the first sentence might not sound acceptable in English, in German it is perfectly fine and means something like 'Otto finished reading the book two weeks ago and now knows it / is familiar with it'. Hence, the fact that perfect constructions make available a state that can be modified temporally does not preclude it from also having an event that can be temporally modified (see also von Stechow 2002), unlike what we find with adjectival passives (see Sect. 2). I will leave the question as to whether or not unaccusative verbs are good inputs to German adjectival passives for future research.

¹⁴Common unaccusativity diagnostics for German are: BE-auxiliary selection, the possibility of using the past participle as an attribute, the impossibility to be used in impersonal passives, the impossibility to derive agent nominals (e.g. Haider 1984). These diagnostics cannot be applied to German adjectival participles because you generally cannot derive an impersonal passive, a participle, or a nominal from an (already derived) adjectival participle.

¹⁵This assumption is widespread also cross-linguistically; see, for instance, Meltzer-Asscher (2011) for a recent proposal for Hebrew, who argues that the input has to be 'telic'.

and thus licensing the construction (Maienborn 2007a, and subsequent work) (see also Gese 2010, 2011). The main reason why I do not follow this uniform pragmatic account is that there is a clear difference between predicates which are generally accepted to be good inputs by all native speakers without the help of any context, and others which are not and need context to facilitate their acceptability (and even then some speakers still do not like the adjectival passive, as we will see shortly). Under an account where all adjectival passives rely on pragmatic licensing we lose this important difference. Nevertheless, pragmatic licensing will play a role with predicates that are not good inputs out of context.

In the following, we will see that both semantic accounts face problems and need to be refined. In particular, some stative predicates turn out to be good inputs, which is a problem for the more restricted input requirements of Gehrke (2012), while others are not, which is a problem for Rapp's (1996) less restricted requirements. The refinement I want to propose, then, is the following:

- (23) **Generalisation 2:** Only verbs that are associated with a change of state along a (unique, one-dimensional) scale can appear in German adjectival passives.

Generalisation 1 can be seen to partially follow from this generalisation, since changes of state, as a rule, affect theme arguments which are generated VP-internally. It follows that adjectival passives are always acceptable with resultative predicates, as well as with a subgroup of stative predicates. With all other predicates, we have to assume that an adjectival passive is not acceptable. If, nevertheless, we find adjectival passives with such predicates, they must involve some kind of pragmatic licensing. In the following, I will provide examples for good and bad inputs (out of context) and then turn to cases that involve contextual licensing.

3.1 Good inputs

From Generalisation 2, as well as from the input requirements proposed in Rapp (1996) and Gehrke (2012), it follows that result verbs (in the sense of Rappaport Hovav and Levin 2010) are generally good inputs to adjectival passives (e.g. (24)).

- (24) a. Die Tür ist geöffnet / geschlossen.
 the door is opened closed
 'The door is opened / closed.'
 b. Der Antrag ist eingereicht.
 the application is submitted
 'The application is submitted.'

Rappaport Hovav and Levin, building on their previous work (Rappaport Hovav and Levin 1998), analyse result verbs as verbs which lexicalise scalar change, where scalar change is characterised in terms of an ordered set of values of a single attribute. In particular, they propose that result roots are arguments of BECOME (Dowty 1979), one of the three predicates they employ in analysing the lexical semantics of verbs (the others are CAUSE and ACT, see below).

Where Generalisation 2 differs from the two previous approaches mentioned above is that it can distinguish between acceptable and unacceptable stative inputs.

The stative verbs that are good inputs to adjectival passives fall into two groups. The first group contains object experiencer psych verbs, whose internal argument is the individual experiencing the state described by the verb (complying with Generalisation 1). These verbs often participate in the causative-inchoative alternation, in which case the adjectival passive usually appears to be semantically closer to the inchoative (stative) version (25) (see also Meltzer-Asscher 2011, for Hebrew).

- (25) Marie ist genervt / verärgert / amüsiert.
 Mary is annoyed angered amused
 ‘Mary is annoyed / angry / amused.’

Psych predicates in general can be associated with scalar change, given that the states they describe can be interpreted as inchoative states, even in the absence of a causer. Thus, Generalisation 2 accounts for their acceptability in adjectival passives, despite the fact that they are not telic.¹⁶

The second type of stative predicates that are good inputs are verbs that can have an event or an extent reading. The extent reading, exemplified in (26), is commonly characterised as a stative reading, as opposed to the event reading in (27) (see Gawron 2009; Koontz-Garboden 2010, for discussion), and sometimes these readings are lexicalised or preferred by different verbs (cf. (26-b) vs. (27-b)).

- (26) a. Der Berg ist von Schnee bedeckt.
 the mountain is by snow covered
 ‘The mountain is covered by snow.’
 b. Das Haus ist von Bäumen umgeben.
 the house is by trees around-given
 ‘The house is surrounded by trees.’
- (27) a. Das Kind ist mit einer Decke bedeckt.
 the child is with a blanket covered
 ‘The child is covered by a blanket.’
 b. Das Haus ist von Polizisten umstellt / umzingelt.
 the house is by policemen around-positioned enclosed
 ‘The house is surrounded by policemen.’

A scale generally relies on different degrees on the scale and thus on the opposition between different states, in our case. Normally, with result verbs (but also with inchoative state verbs) the opposition is perceived as involving one between the respective states before and after a temporal change of state (or after the transition into an inchoative state). I want to argue that this temporal interpretation crucially relies on the embedding under further verbal structure, however, which is absent in adjecti-

¹⁶The inchoativity of psych predicates has recently been discussed by Marín and McNally (2011), who argue, based on data from Spanish, that inchoativity is different from telicity or (temporal) change of state. In particular, they discuss Spanish reflexive psych predicates, which are object experiencer verbs, and precisely these are stative predicates that allow adjectival passive formation (see also Sánchez Marco 2012). While I agree with Marín and McNally that inchoativity is not identical to telicity, I adopt a broader notion of change of state to also include non-temporal change (as discussed below), which aligns these predicates with change of state predicates. Adjectival and verbal passives of (Spanish) psych predicates are discussed in more detail in Gehrke and Marco (2015).

val passives, a point which I will come back to in Sect. 4. Hence, in adjectival passives all we are left with is an opposition between states along some scalar dimension (e.g. the states open vs. not open or closed vs. not closed in (24-a)).¹⁷ In the case of extent uses of the verbs in (26), finally, the change is measured along a spatial rather than a temporal scalar dimension.¹⁸

Event structures involving BECOME, which are generally associated with scalar change, can also be licensed by secondary resultative predicates (see Gehrke 2008, and literature cited therein). Thus, it is not surprising that such resultative adjectives, PPs, and particles can render an adjectival passive acceptable and participate in participle formation, whereas without such elements the adjectival passive is rather degraded or unacceptable; cf. (28).¹⁹

- (28) a. Die Teekanne ist *(leer)-getrunken.
the teapot is empty-drunk
'The tea in the pot is finished.' (Kratzer 2000, 4)
- b. Das Brett ist *(in zwei Teile) gesägt.
the plank is in two parts sawn
'The plank is cut in two pieces.' (Welke 2007, 129)
- c. Die Katze ist ??(genug/ fertig) gestreichelt.
the cat is enough/ ready/done petted
'The cat has been petted enough / (Someone) is done petting the cat.'
(Rapp 1996, 259)

Under the assumption that (some) verbal prefixes can be analysed as secondary resultative predicates (see, e.g., Gehrke 2008, and literature cited therein), the same point is made by the contrast between prefixed verbs that are good inputs to adjectival passives (29), and unprefixed ones that are not such good inputs, at least out of context (30).²⁰

- (29) a. Das Feld ist über-flutet.
the field is over-flooded

¹⁷Experimental support for the idea that the state described by an adjectival passive is evaluated against a contrasting state comes from Claus and Kriukova (2012). In particular, they tested German native speakers for the mental availability of contrasting states by measuring picture-identification latencies (e.g. showing the picture of a closed door after an adjectival passive of the type *Die Tür ist geöffnet*. 'The door is opened.'). They found a higher availability of contrasting states after reading a sentence with an adjectival passive than after reading a corresponding sentence with an adjective.

¹⁸This is reminiscent of the use of directional PPs in contexts that do not describe a temporal change of location, e.g. *the bridge into San Francisco*. Such uses have been discussed in detail in Fong (1997), who proposes a general account in terms of Löbner's (1989) phase quantification, a general notion that is independent of temporal or spatial interpretations and could capture the mere opposition between two opposite states in the case of adjectival passives as well. However, I will continue to use BECOME.

¹⁹As pointed out by Andrew McIntyre (p.c.), the elements *genug* 'enough' and *fertig* 'ready/done' in (28-c) are not necessarily secondary resultative predicates, but I believe they fulfill similar functions. Especially *fertig* is a very productive element in German that one can add to most verb phrases to signal that a particular action has been sufficiently performed. I will leave the precise analysis of elements like these for future research.

²⁰The latter examples are acceptable under the 'job-is-done'-reading, which will be discussed in the following section.

- ‘The field is flooded.’
- b. Das Gebäude ist er-baut / zer-stört.
the building is con-structed de-stroyed
‘The building is constructed / destroyed.’
- (30) a. ??Das Feld ist geflutet.
the field is flooded
- b. ??Das Gebäude ist gebaut / gekauft.
the building is built bought

In sum, Generalisation 2 accounts for the fact that (object experiencer) psych verbs and result verbs, which are associated with a change of state along a unique one-dimensional scale, are good inputs to adjectival passives, since they make available a discernible state on that scale that is ascribed to the individual in subject position, which contrasts with another state on that scale. In the following, I will discuss verbs that are usually bad inputs to adjectival passives and which heavily rely on context to be accepted in this construction.

3.2 Bad inputs

With other predicates, adjectival passives are not acceptable out of context (31) (see also Rapp 1996; Kratzer 2000; Maienborn 2009).

- (31) a. ??Die Katze ist gestreichelt.
the cat is petted
- b. ??Das Manuskript ist zitiert.
the manuscript is cited
- c. ??Die Antwort ist gewusst.
the answer is known

These are either verbs that Rappaport Hovav and Levin (2010) call manner verbs, which are traditionally classified as activities or processes (31-a,b), or state verbs other than the ones discussed in the previous section (31-c). The latter fall into (at least) two groups. Subject experiencer verbs (see also Rapp 1997), such as *lieben* ‘to love’, *fürchten* ‘to fear (sth.)’, *hassen* ‘to hate’, *bewundern* ‘to admire’, are ruled out by Generalisation 1, since the experiencer argument, the holder of the state, is the external argument. The second type of stative predicates that are ruled out could be labelled have-predicates (in a broader sense), such as *haben* ‘to have’, *besitzen* ‘to own’, and *kennen* ‘to know’. These cases are also ruled out by Generalisation 1, since the holder of the state is again the external argument.

Manner roots, in turn, modify the predicate ACT, as proposed by Rappaport Hovav and Levin (2010) who posit the following constraint on lexicalisation: A root can only be associated with one primitive predicate in an event schema, either by modifying it or by adjoining to it; it follows that a root cannot lexicalise both manner and result. Hence, a root is either a manner root, modifying ACT (the predicates CAUSE and BECOME are absent, unless additional material is added) or a result root which is the

argument of BECOME.²¹ Manner verbs are argued to specify non-scalar change, i.e. change that cannot be characterised in terms of an ordered set of values of a single attribute, and so they are ruled out by Generalisation 2.

Finally, we see that even some predicates that are traditionally classified as accomplishments, such as *write*, *eat*, *drink*,²² are not so good out of context, which are mostly (unprefixed) verbs of creation and consumption, as in (32-a); an additional modifier, on the other hand, improves this example (32-b) (observation and example from Maienborn 2007a).

- (32) a. ?Der Brief ist geschrieben.
 the letter is written
 b. Der Brief ist mit roter Tinte geschrieben.
 the letter is with red ink written
 ‘The letter is written with red ink.’

Rappaport Hovav and Levin (2010) classify such verbs as manner rather than result verbs, because the verbal roots themselves do not actually specify a scalar change along one particular dimension (a potential result). Scalar change only comes into play when these are combined with particular internal arguments that provide the unique scale along which change is measured (see Kennedy 2012, for a formal account).

In sum, Generalisation 2 accounts for the fact that manner verbs are not good inputs to adjectival passivisation, unless further secondary resultative predication is added, as in the examples in (28). Furthermore, Generalisation 1 excludes stative predicates other than object experiencer verbs from being good inputs. In fact, it is hard to associate a particular state with manner verbs in isolation, but the linguistic and non-linguistic context can make available a contrast between two states along some scale. Thus, an event-related modifier such as the one in (32-b) can also help to create some opposite state description. I will turn to such mechanisms, which I group under the label pragmatic licensing, in the following.

3.3 Pragmatic licensing

What I have described so far are lexical input restrictions built into the semantics of an adjectival participle. Despite the absence of a scale associated with manner verbs and some stative verbs (linguistic and extra-linguistic) context can render an adjectival passive construction (more) acceptable, and I will assume that these cases involve additional pragmatic licensing. Maienborn (2009), for instance, provides the following examples, which directly contrast with the unacceptable ones in (31).

²¹Rappaport Hovav and Levin argue that the notion of result should not be equated with the notion of telicity, but rather with the notion of scalar change.

²²To be more precise, Vendler (1957) classified the intransitive uses and the transitive uses with mass nouns or bare plurals (–SQA or non-quantized nominals in Verkuyl 1972; Krifka 1989, respectively) in internal argument position as activities, and the transitive uses with (+SQA / quantized) nominals as accomplishments; with ‘pure’ activities, in contrast, the nature of the internal argument does not play an aspectual role (see Rothstein 2004, for further discussion).

- (33) a. Anna hat ihre Nachbarspflichten erfüllt: Der Briefkasten ist geleert,
 Anna has her neighbour_duties fulfilled the mailbox is emptied
 die Blumen sind gegossen, und die Katze ist gestreichelt.
 the flowers are watered and the cat is petted
 'Anna has done her neighbourly duties: the mailbox is emptied, the
 flowers are watered and the cat is petted.'
- b. Das Manuskript ist von Chomsky zitiert.
 the manuscript is by Chomsky cited
 'The manuscript is cited by Chomsky.'
- c. Ist die Antwort gewusst oder geraten?
 is the answer known or guessed
 'Is the answer known or guessed?'

At this point, it is important to discuss two different readings that the literature on German adjectival passives has described, first noted by Brandt (1982); these are exemplified in (34) (examples via Rapp 1996).

- (34) a. Das Fleisch ist gekocht. Wir können jetzt essen.
 the meat is cooked we can now eat
 'The meat is done. We can eat now.'
- b. Das Fleisch ist gekocht. Es ist nicht gebraten.
 the meat is cooked it is not fried
 'The meat is cooked. It is not fried.'

Rapp (1996), who builds lexical input requirements into the semantics of adjectival passives, just like the current proposal, assumes that the difference is a mere pragmatic one between a consequent state (34-a) and a characterisation reading (34-b). Under Maienborn's (2007a) account (and subsequent work), according to which adjectival passives are semantically underspecified and the stative property associated with this construction gets specified by pragmatic enrichment, the difference is naturally a pragmatic one between a temporal (34-a) and a qualitative reading (34-b). Finally, for Kratzer (2000) a given adjectival passive construction can be homonymous, and she proposes two different semantics. In particular, she distinguishes between target state (35-a) and resultant state participles (35-b), diagnosed by their (in)compatibility with *immer noch* 'still'.²³

- (35) a. Die Reifen sind (immer noch) aufgepumpt.
 the tires are (still) up-pumped
 'The tires are still inflated.' TARGET STATE PARTICIPLE
- b. Das Theorem ist (*immer noch) bewiesen.
 the theorem is (*still) proven
 'The theorem is proven.' RESULTANT STATE PARTICIPLE

According to Kratzer, target state participles characterise reversible, transitory states and are only possible with category-neutral stems with an event argument as

²³See also Kratzer (1994). The terminology is adopted from Parsons (1990), though Kratzer seems to have a more narrow notion of 'target state'.

well as a target state argument. These stems are argued to not be specified for syntactic category because they can be used to build verbs or adjectives. In addition, target state passives can be lexical (36-a) or phrasal (36-b) (I will come back to phrasal adjectivisation in Sect. 4).

- (36) Target state stative: $\lambda R \lambda s \exists e R(s)(e)$
- a. Lexical case, output:
 $\lambda x \lambda s \exists e [\text{pump}(e) \& \text{event}(e) \& \text{inflated}(x)(s) \& \text{cause}(s)(e)]$
 - b. Phrasal case, output:
 $\lambda s \exists e [\text{pump}(e) \& \text{event}(e) \& \text{inflated}(\text{the tires})(s) \& \text{cause}(s)(e)]$

In contrast, resultant state participles are argued to refer to states resulting from an event, which is over by the time of reference, where the state ‘has to hold forever after’. These participles are assumed to be derived from category-neutral stems as well as from verbs, as long as they allow a ‘job is done’-reading. Furthermore, the derivation of such participles is argued to involve a perfect aspectual operator (37).

- (37) Resultant state stative: $\lambda P \lambda t \exists e [P(e) \& \tau(e) < t]$
 Output: $\lambda t \exists e [\text{prove}(\text{the theorem})(e) \& \tau(e) < t]$

This means that the semantics of resultant state passives is very similar to the perfect construction of a verbal passive; the main difference lies in the absence of Voice. Kratzer herself notes that resultant state participles are “less adjective-like” than target state ones.

The semantics I will propose for the adjectivising head in Sect. 4 will be similar to Kratzer’s (2000) semantics for the target state stative. The crucial difference, however, as argued in the previous section, will be that the event under my account is an event kind, rather than an event token. One way to adapt my proposal to Kratzer’s, then, could be to rephrase the distinction between target and resultant state participles by making use of the difference between event kinds and tokens. If we are dealing with consequent states of actual events that took place, we have something that is similar to a perfect of result, i.e. similar to Kratzer’s resultant state participles. If, on the other hand, the states are merely of the correct kind to have resulted from an event of some kind, we get something similar to Kratzer’s target state participles.

This would predict that resultant state participles should be compatible with spatial and temporal modifiers, as discussed in the previous section. (38), however, shows that this prediction is not borne out.

- (38) a. Das Fleisch ist {*vor einer Stunde / #in der Küche} gekocht. Wir
 the meat is before an hour in the kitchen cooked we
 können jetzt essen.
 can now eat
intended: ‘The meat is cooked {an hour ago / in the kitchen}. We can eat now.’
- b. Das Theorem ist {*vor einer Stunde / #in der Küche} bewiesen.
 the theorem is before an hour in the kitchen
intended: ‘The theorem is proven {an hour ago / in the kitchen}.’

Hence, I will maintain that all adjectival participles involve event kinds, and I will furthermore follow Rapp (1996) in assuming that the difference in readings is pragmatic in nature. In particular, I will propose that the post state or resultant state reading is one of the readings that can arise quite naturally with predicates that are not good inputs to adjectival passives, what Kratzer calls the job-is-done reading. In that case, the construction is pragmatically licensed by reconstructing an opposition between two states on a scale, and in this case the scale gets some kind of temporal specification.

This kind of pragmatic licensing, then, is rather similar to the proposal of Maienborn (2007a), and subsequent work. The main difference is that I do not assume adjectival passives to generally be semantically underspecified, but to come with lexical input requirements. Maienborn argues that adjectival passives ascribe a ‘pragmatically salient ad hoc property (in the sense of Barsalou 1983, and subsequent work), conceived as resulting from the event referred to by the participle’ (Maienborn 2009, 40) (39).

- (39) a. Adjectival \emptyset -affix: $\lambda P \lambda x \lambda s \exists e [s: \mathbf{Q}(x) \wedge \mathbf{result}(e, s) \wedge P(e)]$
 b. Das Manuskript ist eingereicht.
 the manuscript is submitted
 $\exists s [s: \mathbf{Q}(\mathbf{the\ manuscript}) \wedge \mathbf{result}(e, s) \wedge \mathbf{submit}(e)]$

The free variable \mathbf{Q} in (39) stands for the property that holds for the subject referent x in a state s . \mathbf{Q} is further restricted as resulting from the verbal event e . Apart from that, the grammar is argued not to supply any more information about the actual kind of property.

Maienborn furthermore states that an adjectival passive is pragmatically licensed if the context provides a contrasting alternative state s' which differs from s with respect to either the temporal (40-a) or the qualitative dimension (40-b) (see also Gese 2010).²⁴

- (40) Das Manuskript ist eingereicht ...
 the manuscript is submitted ...
 ‘The manuscript is submitted ...’
 $\exists s [s: \mathbf{Q}(\mathbf{the\ manuscript}) \wedge \mathbf{result}(e, s) \wedge \mathbf{submit}(e)] \dots$
 a. (... jetzt können wir uns an den Projektantrag machen.)
 now can we us to the project proposal make
 ‘... now we can turn to the project proposal.’
 $\dots \wedge \mathbf{contrast}(s, s') \wedge s': \neg \mathbf{Q}(x) \ \& \ s' < s$
 b. (... aber nicht angenommen / veröffentlicht / ...)
 but not accepted / published / ...

²⁴Nothing is said as to whether this requirement can be derived from some more general pragmatic principle. It is only stated that it is necessary to situate the ad hoc property in the subject’s property space (see also Maienborn 2007a, 102f.), so I assume it has to do with Barsalou’s notion of ad hoc properties. In Maienborn (2009, 42), Barsalou’s ad hoc categories are described as ‘goal-derived categories that are created spontaneously for use in more or less specialized contexts. Under this perspective adjectival passives may be seen as a means to extend and contextualize a concept’s property space with respect to contextually salient goals.’

‘... but not accepted / published / ...’
 ... \wedge contrast(s, s') \wedge $s' : Q'(x)$

The temporal reading in (40-a) is stated to involve a post state of a submitting event, where the context provides a salient alternative state s' that temporally precedes s and in which x does not have the property Q . Under the qualitative reading in (40-b), on the other hand, the manuscript is argued to belong to the class of submitted papers, where s' exemplifies a contextually salient property Q' that is qualitatively distinct from Q .

A main problem of Maienborn's account is that not all adjectival passives have an 'ad hoc' flavour or are in need of pragmatic licensing. In fact, adjectival passives are fully acceptable with verbs lexically specifying a consequent state, without additional pragmatic effects (see also Welke 2007). The context dependency that Maienborn observes seems to be relevant only in combination with other verbs. Another problem that Maienborn's account faces is the following. She points out that the state of adjectival passives is evaluated with respect to some opposite state, but this does not follow from her account in (39-a), whereas under the current proposal, it follows from the nature of adjectival scales, which naturally make available different degrees on the scale. Furthermore, it is not clear how the state that the individual x is in is related to the event e ; what is x 's role in e ?

Hence, I reject a purely pragmatic account of adjectival passives as too weak, and maintain that there are clear input requirements: the verb (or VP) has to provide a unique, one-dimensional scale underlying BECOME, so that the participle can denote a clearly discernible state (a degree) on such a scale. When these requirements are not met, the construction can still be pragmatically licensed, by reconstructing such a scale and making clear what kind of state (degree) we are dealing with, and for this we need a pragmatic account, possibly along the lines of Maienborn's (or Schlücker 2005). I will not attempt to spell out the details here, but the general idea is as follows. We can think of the examples in (33) as making available a scale, along which change is measured, which is not provided by the predicates themselves. In (33-a), this is a temporal scale: the cat is now in the state it was supposed to be in, and there is an opposition between the job not being done yet and the job being done (Kratzer's job-is-done reading, Maienborn's temporal reading). In the remainder of this paper I will not be concerned with this reading. The other two examples illustrate what Maienborn calls the qualitative reading. In (33-c), the opposite state is provided by the immediate linguistic context, as the answer is known as opposed to guessed. In fact, this latter case involves focus intonation, which is semantically associated with contrast within a set of alternative elements (in the sense of Rooth 1992).²⁵ I will also leave aside cases like these here.

What I will be more concerned with in the rest of this paper is how event-related modifiers, such as the ones in (32-b) and (33-b), can license adjectival passives. (33-b), for instance, describes a noteworthy state of the manuscript to be in: the manuscript is not just cited by anyone, but by Chomsky; this noteworthiness comes

²⁵Thanks to Ai Kubota for pointing this out.

about by convention among generative linguists.²⁶ To understand these cases better, I will come back to event-related modification in Sect. 5, after having outlined the general proposal for the composition of adjectival passives.

4 The composition of adjectival passives

The previous discussion established the following facts. First, the input to an adjectival passive has to be a predicate that refers to a change of state along a unique scalar dimension. Following Rappaport Hovav and Levin (2010), I will capture this in terms of BECOME, which, however, should be understood in the generalised sense as an opposition between two state kinds, i.e. degrees (see Anderson and Morzycki 2015), on any kind of scale, as described in Sect. 3, rather than in the temporal sense.²⁷ Second, adjectival passives involve event kinds rather than event tokens. Third, event-related modifiers modify an event kind.

Following Gehrke (2013), then, I propose that the derivation of an adjectival passive like the one in (41) is as in (42).²⁸

- (41) Die Tür ist geschlossen.
the door is closed
- (42) a. Lexical semantics of *schließ-* (type $\langle e, \langle e, \langle s, \langle v, t \rangle \rangle \rangle \rangle$):²⁹
 $\lambda y \lambda x \lambda s \lambda e [\mathbf{close}(e) \wedge \mathbf{BECOME}(e, s) \wedge \mathbf{closed}(s) \wedge \mathbf{Theme}(s, y) \wedge \mathbf{Initiator}(e, x)]$
- b. Prt^0 *ge-ent*: $\lambda \wp \lambda y \lambda s \lambda e \exists x [\wp(e)(s)(x)(y)]$
- c. A^0 : $\lambda \wp \lambda y \lambda s \exists e_k, x_k [\wp(e_k)(s)(x_k)(y)]$

²⁶It should be noted, however, that many speakers do not even accept (33-b) and (33-c) with the additional context, whereas (33-a) is accepted by everyone. I take this as an additional indication that the input restrictions are hard-wired into the grammar.

²⁷This characterisation is rather informal but could be formalised along the lines of Kennedy and McNally (2005), Kennedy and Levin (2008), Kennedy (2012). In particular, the relevant property ascribed to the theme should be seen as a specific degree on a given scale, which is associated with the degree a theme normally has at the end of an event involving scalar change (temporal or spatial); this is the standard of comparison associated with the respective measure of change function (the scalar maximum if the input scale has such a maximum element, otherwise contextually fixed).

Furthermore, it is not straightforward that this characterisation and in particular the formalisation in 42 covers the stative inputs, since with these predicates we should not have an event variable, rather only an opposition between two states on a scale. We could think of the (causing) event in this case as not being lexically specified whereas the lexical predicate specify the meaning of the state, or we could follow Marín and McNally's (2011) formalisation of inchoativity, built on Piñón's (1997) analysis of boundary happenings. I will leave the precise analysis of the stative predicates for future research.

²⁸I depart from Gehrke (2013) in representing the input requirements of adjectival passives by BECOME (as in Gehrke 2012). This point was orthogonal to the topic of Gehrke (2013), which simply followed McIntyre (2013) in representing this by a CAUSE-relation (as well as in labelling the agent or causer Initiator). If we understand CAUSE in the sense of Kratzer's (2005) events of causing other events in a chain of events bringing about a state, it becomes quite similar to BECOME, as employed here. As in Gehrke (2013) I will represent the Initiator argument as part of the lexical semantics of the verb, not as severed from the verb (in the sense of Kratzer 1996), though nothing hinges on this (see Alexiadou et al. 2014, for a proposal that employs Voice).

²⁹ e is the type of entities, s the type of states, v the type of events, and t the type of propositions.

- d. *geschlossen*: $\lambda y \lambda s \exists e_k, x_k [\mathbf{close}(e_k) \wedge \mathbf{BECOME}(e_k, s) \wedge \mathbf{closed}(s) \wedge \mathbf{Theme}(s, y) \wedge \mathbf{Initiator}(e_k, x_k)]$
- e. *AP die Tür geschlossen*:
 $\lambda s \exists e_k, x_k [\mathbf{close}(e_k) \wedge \mathbf{BECOME}(e_k, s) \wedge \mathbf{closed}(s) \wedge \mathbf{Theme}(s, \mathbf{the\ door}) \wedge \mathbf{Initiator}(e_k, x_k)]$

The lexical semantics of a result verb, in this case *schließ(en)* ‘(to) close’, is given in (42-a): There is a state s that comes into existence as a result of an event e , with the holder of the state (the theme or experiencer) being y and the Initiator (agent or cause) of the event being x .

There are two ways to interpret the variables e, s, x, y here. Either we assume that they range over both kinds and tokens (of states, events, entities), or we make the stronger claim that VPs and NPs are predicates of kinds, which get instantiated only when additional functional structure is added (Asp or Num) (see Zamparelli 1995, for the nominal domain). I will follow the latter, but to keep the formulae more simple, I will refrain from subscripting the respective variables, up to the point of adjectivisation. The stronger position straightforwardly rules out event token modification, given that there is never an event token in the semantics to begin with. The general idea is inspired by Carlson (2003) who observes that ‘something fundamentally different goes on within the VP that does not go on “above” the VP—it is only information about the types/properties that appears there and not information about (contingent) particulars’.³⁰

The next step involves participle formation (42-b). I assume that at this point both verbal and adjectival passive participles are identical, and that both involve what is commonly called the suppression of the external (Initiator) argument (see, e.g., Bruening 2013), which is formalised by existential quantification over this argument (x in (42)). This allows a uniform analysis of past passive participles, whether they are used in verbal or adjectival passives.

What makes adjectival participles different from verbal participles is they are not embedded under further verbal structure but instead undergo adjectivisation (involving zero-affixation as proposed by Kratzer 1994, or an empty syntactic head). I propose that the verb’s event variable e is existentially bound at this point and as a consequence of the lack of an aspect phrase to instantiate the event, the event remains in the kind domain. At this point, it is also determined that the implicit agent/cause of the event stays in the kind domain (represented as x_k) (this will be refined in Sect. 6). The semantics of the adjectival head and the output of adjectivisation are given in (41-c) and (41-d), respectively.

The internal argument of the underlying verb, in turn, is the subject of the AP and thus has to be externalised at some point. McIntyre (2013) and Bruening (2014) propose different versions of λ -abstraction of the verb’s object at the point of adjectivisation/stativisation, and in principle either will do for our purposes. I will gloss over the details here and assume that the output of adjectivisation after externalisation of the verb’s internal argument is as in (41-e).³¹

³⁰The relevance of assuming event kinds from the start came about after discussion with Olav Mueller-Reichau.

³¹Note that McIntyre (2013) and Bruening (2014) collapse the tasks I distribute over Prt (passivisation, existential quantification over the external argument) and Adj (stativisation, externalisation of the internal

From this analysis it follows that an adjectival passive refers to the instantiation or realisation of a result (consequent or inchoative) state kind of an event kind. The state is instantiated at some later stage and temporally located, so that temporal modifiers can access the state's temporal index: some operator binds the state variable and asserts that the state takes place at an instant, which is part of an interval (see, e.g., Kamp 1979; Higginbotham 1985; Truswell 2011, among others). This, in essence, should be understood as the equivalent of Carlson's (1977) realisation relation, as applied to the verbal and adjectival domain. Since the verbal structure associated with the event is not directly embedded under further verbal projections such as Aspect and Tense, but adjectivised instead, the scale structure underlying the event kind is not associated with temporality, as argued for in Sect. 3.

Event-related modifiers have to apply before adjectivisation, since they modify an event, not a state, and since the event is closed off and not accessible anymore after adjectivisation. From this it follows that adjectivisation can also target phrases (following Kratzer 1994, 2000), and the relevant phrase in this case is a PrtP. Event-related modifiers, then, adjoin to PrtP. Restrictions on such modification follow from the fact that only kind-related modification is possible, since there is never an event token to begin with.

Another restriction, however, which has not been discussed up to now, does not follow so easily, namely the fact that only event-related modifiers are possible that derive a conventionally established event kind. In the following section, I will elaborate on this and add new empirical facts not discussed in Gehrke (2011, 2012, 2013). I will then point out commonalities between the nouns in event-related modification with adjectival passives and incorporated nouns, in particular in their requirement of well-establishedness, which leads to the overall proposal to analyse such event-related modification as involving pseudo-incorporation.

5 More on event kind modification

Before addressing the property of well-establishedness, I will make more explicit the point of the ban on temporal modification of the underlying event and the parallels to Landman and Morzycki's (2003) antecedents of adverbial *so* as discussed in Sect. 2. (43) demonstrates that adjectival passives are also not possible with the temporal and spatial modifiers in Landman and Morzycki's (2003) examples in (10).

- (43) a. *Die Reifen sind am (letzten) Dienstag aufgepumpt.
 the tires are on last Tuesday inflated
 intended: 'The tires are inflated on/last Tuesday.'³²

argument) into one passive Voice head, which they label Prt and Adj, respectively. The dissociation of passivisation and adjectivisation is motivated by the idea that at the point of participle formation both verbal and adjectival participles are alike, and more importantly, by the need for an attachment site for event-related modification before adjectivisation, which renders the event inaccessible for further modification (see Gehrke 2013, for further discussion).

³²The addition of *last* ensures that we are dealing with a reading under which the temporal adverbial modifies an underlying event. Otherwise, we could be talking about the following Tuesday as well, i.e.

- b. #Die Reifen sind in Minnesota aufgepumpt.
 the tires are in Minnesota inflated
intended: ‘The tires are inflated in Minnesota.’

Furthermore, just like in Landman and Morzycki’s (2003) example (11), some such modifiers are acceptable if they derive a subkind of event rather than locate an actual event token, as in (44).

- (44) Die Suppe war in einem Edelstahltopf zubereitet / gekocht / gegart.
 the soup was in a stainless steel pot prepared cooked refined
 ‘The soup was prepared / cooked / refined in a stainless steel pot.’

The locative PP in (44) does not modify the underlying event, which would also be pragmatically odd, since cooking events normally do not take place inside pots. Rather, it specifies the manner of preparing, cooking etc. and thus, again, together with the event that it modifies, names a subkind of such events.

Similarly, other acceptable event-related modifiers can be seen as deriving an event subkind, rather than naming an actual (instrument or agent) participant in an actual event. This can be seen in the following examples (from the Frankfurter Rundschau corpus), which contain phrases headed by *mit* ‘with’ that normally denote instruments:

- (45) a. Ihr weißgetünchter Körper ist mit Binden geschnürt.
 her whitewashed body is with bandages strapped
 ‘Her whitewashed body is strapped with bandages.’
 b. Mund und Nase waren mit Klebeband verschlossen.
 mouth and nose were with tape closed
 ‘Mouth and nose were closed with tape.’

These *with*-phrases do not name actual instruments of actual events that brought about the states the subjects are in, but instead further specify the kind of states involved: they are of the kinds that result from a strapping-with-bandages- and a closing-with-tape-event kind, respectively. These, in turn, are subkinds of strapping and closing event kinds (see also Gehrke 2013). This is all there is from a semantic point of view. From a pragmatic point of view, we most likely infer that such events have taken place with some tape, etc., as the actual instrument in the event (and we infer that it is indeed the tape we see on mouth and nose), but from a strictly semantic point of view it is not asserted that the event has taken place. Similar observations hold for the acceptable *by*-phrases. (3-a), for example, does not describe an actual drawing event by an actual child, rather it states that the drawing is in a state that could be described as the result of a drawing-by-a-child-event kind, i.e. a childish drawing.

Finally, the following examples, modelled after Landman and Morzycki’s original example (11), show that similar restrictions to weakly or non-referential nominals we found with nominals in event-related modifiers of adjectival passives hold for the nominals in the antecedents of *so*.

a Tuesday in the future, where the present tense would have a future meaning. In that case, however, we are dealing with temporal modification of the state again.

- (46) a. *Maria schläft in dem Schlafsack, und Jan schläft auch so.
Mary sleeps in the sleeping bag and John sleeps also so
- b. *Maria schläft in einem schönen Schlafsack, und Jan schläft auch so.
Mary sleeps in a beautiful sleeping bag and John sleeps also so
- c. Maria schläft in [einem Schlafsack]₁, und Jan schläft auch so. *Er₁
Mary sleeps in a sleeping bag and John sleeps also so he
ist geflickt.
is patched

This is where the parallels to antecedents of adverbial *so* end, however. A first difference is that according to Landman and Morzycki (2003) adverbial *so* denotes a property of events that realise a kind. It thus relates to an event that is actually instantiated and serves to compare this instantiated event to other possibly instantiated events, which are of the same kind. The event in adjectival passives, on the other hand, remains in the kind domain.

Another difference is that adverbial *so* cannot take *by*-phrases as its antecedent, neither in verbal (with *werden* ‘become’) nor in adjectival (with *sein* ‘be’) passives (47-a), whereas instruments are fine in both (47-b).

- (47) a. *Die linke Zeichnung wurde/war von einem Kind angefertigt, und die
the left drawing became/was by a child produced and the
rechte Zeichnung wurde/war auch so angefertigt.
right drawing became/was also so produced
intended: ‘The left drawing has been/was produced by a child, and the
right drawing has been/was also produced like that.’
- b. Der Brief wurde/war mit (einem) Bleistift / mit Tinte geschrieben,
the letter became/was with a pencil with ink written
und der Zettel wurde/war auch so geschrieben.
and the note became/was also so written
‘The letter has been/was written with a pencil / with ink, and the note
has been/was also written like that.’

Hence, *by*-phrases, unlike *with*-phrases, cannot be interpreted as manner modification in the broader sense outlined above.³³

Finally, a crucial difference, which might be related to the first, is that under the assumption that manner modification is always kind modification, it is less clear why not all manner modifiers are possible with adjectival passives. For example, there are many ways (i.e. manners) of emptying rubbish bins, which could be expressed by some of the modifiers in Rapp’s (1996) original examples in (4), especially if we

³³Olav Mueller-Reichau provides an alternative acceptable example with a *by*-phrase, though:

- (i) Das T-Shirt ist von einem Kind angefertigt, und die Jeans ist auch so angefertigt.
the t-shirt is by a child produced and the jeans is also so produced
‘The t-shirt is produced by a child and the jeans are also produced like that.’

He points out that in this example, the *by*-phrase does not name the author of a work (a real agent) but rather the worker or the tool in a factory (which is thus more like an instrument). This supports the overall conclusion that instruments (in a broader sense) can name the manner of an event.

change the noun phrases involved to indefinite or bare ones, as in (48). However, these are still unacceptable.

- (48) *Der Mülleimer ist mit Heugabeln geleert.
 the rubbish bin is with pitchforks emptied
intended: ‘The rubbish bin is emptied with pitchforks.’

Intuitively the event kind in adjectival passives has to be an established event kind, unlike what we find with event kinds that are antecedents of adverbial *so*. For example, whereas there is an established event kind of letter-writing with pencil or ink (recall (3-b)), there is no such event kind of emptying rubbish bins by my niece or with a pitchfork. In fact, this condition of well-establishedness is an additional condition, besides the requirement that the nominals in event-related modifiers may not refer to particular entities in the discourse.

The same point is illustrated by taking a closer look at the unacceptable *by*-phrases in (13), repeated in (49), where I stated that these are unacceptable because they contain strongly referential noun phrases.

- (49) a. Der Mülleimer ist (*von meiner Nichte) geleert.
 the rubbish bin is by my niece emptied
 ‘The rubbish bin is emptied (*by my niece).’
 b. Die Tür ist (*von ihm) geöffnet.
 the door is by him opened
 ‘The door is opened (*by him).’

The crucial point is that these examples do not improve if the noun phrases are replaced by just any indefinite one, as illustrated in (50).

- (50) a. *Der Mülleimer ist von einer Nichte geleert.
 the rubbish bin is by a niece emptied
intended: ‘The rubbish bin is emptied by a niece.’
 b. *Die Tür ist von einem Mann geöffnet.
 the door is by a man opened
intended: ‘The door is opened by a man.’

Again, this has to do with the property of well-establishedness, as there are no established event kinds of emptying rubbish bins by nieces or opening doors by men. There might also be ways to establish kinds by the overall context, as in some of the adjectival passives in (33), but in general the event kind has to be one that is conventionally established. Where does this establishedness come from and why do we not find it with the potential antecedents of adverbial *so*?

In sum, what these examples show is that the restrictions on event-related modification with adjectival passives cannot be reduced to a difference between acceptable manner modification and all other kinds of event-related modification, in the sense that only manner modification is kind modification whereas other event-related modifiers modify event tokens. However, this does not mean that elements that cannot antecede adverbial *so* cannot be treated as event kind modifiers. Overall, then, there are two kinds of restrictions on event-related modification with adjectival passives: (i) the nominals in such modifiers cannot be strongly referential, which follows from

a general ban on event token modification (excluding, e.g., spatiotemporal modifiers that would locate an event particular), and (ii) the event subkind derived by such modification has to be well-established (commonly by convention, but possibly also by context).³⁴

To get a better understanding of the second point, let us take a closer look at well-establishedness in other empirical domains, before we return to the similarities between these domains and adjectival passives.

5.1 Well-establishedness

There are at least three areas for which it has been claimed that well-establishedness plays a role. These are noun incorporation, weak definites, and nominal kind descriptions by singular definite noun phrases. In the following, we will summarise those points from the literature about these domains that are relevant for the topic of this paper.

5.1.1 (Pseudo-)incorporation

As pointed out by Andrew McIntyre (p.c.), the restriction to well-establishedness we find in the acceptability of event-related modifiers with adjectival passives is also found with compounding, as generally acknowledged (see also below), as in the examples in (51).

- (51) Flachbildschirm, Weißwurst, Schwarzbier
 flat_screen white_sausage black_beer
 ‘flat screen, Weisswurst, Schwarzbier’

Flachbildschirm refers to a particular kind of screen (a flat screen) but cannot be used to refer to a screen that has been flattened, e.g. by an elephant stamping on it. Hence, the flatness of this object is an essential rather than an accidental property. Similarly, *Weißwurst* does not refer to a sausage that happens to be white (for example someone has painted it white), but to a particular type of veal sausage that, in fact, is not even white, it is just lighter than other sausages. The same point can be made for *Schwarzbier*, a German dark lager beer.

Whereas compounding is a morphological process involving the combination of two heads into one complex head (which could be modelled in terms of head-to-head

³⁴As pointed out by Olav Mueller-Reichau (p.c.), the job-is-done reading (recall Sect. 3) does not require well-establishedness, as illustrated by his examples in (i).

- (i) Der Rolls Royce Ihrer Frau ist mit Kuhmist eingerieben, ganz wie Sie gewünscht
 the Rolls Royce your.GEN wife is with cow dung in-smear'd completely how you wished
 haben, Sir!
 have sir
 ‘Your wife’s Rolls Royce is smeared with cow dung, just like you wanted it, sir.’

There might still be the requirement on having weakly referential noun phrases in such modifiers though. Since I leave aside the job-is-done reading as pragmatically licensed, I do not have much more to say about examples like these.

movement, as in Baker 1988), there is a further phenomenon discussed in the literature which involves a closer tie between VP-internal phrases (rather than heads) and the verb. This is what the literature calls pseudo-incorporation, a term that was introduced by Massam (2001) and which is used for a family of phenomena that display semantic but not syntactic properties of incorporation (see Massam 2001; Farkas and de Swart 2003; Dayal 2011; Espinal and McNally 2011, for Niuean, Hungarian, Hindi, Catalan/Spanish), as illustrated in (52).

- (52) a. Busco pis. / Busco piso.
 look.for.1SG apartment look.for.1SG apartment
 'I am looking for an apartment.' (Catalan/Spanish; Espinal and McNally 2011, 88)
- b. Mari bélyeget gyűjt.
 Mari stamp.ACC collect
 'Mari collects stamps.' (Hungarian; Farkas and de Swart 2003, 13)

The examples discussed in the literature commonly involve bare nouns in internal argument position (or more generally VP-internal position; cf. Gehrke and Lekakou 2013), which semantically display hallmark properties of incorporation (cf. Mithun 1984; Baker 1988; van Geenhoven 1998; Chung and Ladusaw 2003; Dayal 2011, among others). To illustrate these properties, I will use the Catalan examples discussed in Espinal and McNally (2011), but similar examples could be given from other languages discussed in the literature.

(Pseudo-)incorporated nouns obligatorily take narrow scope with respect to quantificational elements in the clause, such as negation; (53-a), for example, can only mean that I am not looking for any apartment and not that there is a particular apartment that I am not looking for. Second, (pseudo-)incorporated nouns do not introduce discourse referents, as they cannot support pronominal anaphora (53-b). Furthermore, the noun cannot be modified by token modifiers, which includes restricted relative clauses as the one in (53-c).³⁵

- (53) a. No busco pis.
 not look.for.1SG apartment
 'I am not looking for an(y) apartment.' (Catalan; Espinal and McNally 2011, 91)

³⁵Pseudo-incorporated nouns are also commonly characterised as number-neutral. The singular bare noun *pis* in (i), for example, does not restrict the apartment-search to exactly one apartment, but can involve more apartments as suggested by the continuation.

- (i) Busco pis. Un a Barcelona i un a Girona.
 look.for.1SG apartment one in Barcelona and one in Girona
 'I am looking for an apartment. One in Barcelona and one in Girona.' (Catalan; Espinal and McNally 2011, 93)

Dayal (2011) derives the apparent number neutrality of the noun from an overall interaction with grammatical aspect, rather than ascribing this property to the noun itself. Since number neutrality is thus a debated property of pseudo-incorporation, I will not discuss it further here.

- b. Avui porta faldilla₁. *La₁ hi vam regalar
 today wear.3SG skirt it.ACC her.DAT AUX.PAST.1PL give.INF
 l'any passat.
 the_year last
intended: 'Today she is wearing a skirt. We gave it to her as a present
 last year.'
 (Catalan; Espinal and McNally 2011, 94)
- c. *Per fi hem trobat pis, que començarem a reformar
 for final have.1SG found apartment that begin.FUT.1PL to renovate
 molt aviat.
 very soon
intended: 'At last we have found an apartment, which we will begin to
 renovate soon.'
 (Catalan; Espinal and McNally 2011, 95)

Finally, the verb and the noun together name an institutionalised activity, which is typical for syntactic incorporation of nouns into verbs as well (Mithun 1984; Dayal 2011), which is crucial for our concerns here. For example, the Catalan and Spanish examples for pseudo-incorporation in (52-a) involve the typical activity of apartment-hunting in order to find a place to live, whereas this example could not be used in a context where a child has the task to find the depiction of an apartment in a picture with all kinds of other elements in it. Similar observations hold for the Hungarian example in (52-b), which involves the typical activity of stamp-collecting.

The semantic peculiarities of bare nouns that have been analysed in terms of pseudo-incorporation, extend to other nouns, in particular to so-called weak definites (see Carlson et al. 2006, for similarities between bare nouns and weak definites). Weak definites are so-called because they do not meet the uniqueness condition normally associated with singular definite noun phrases. I will turn to these now.

5.1.2 Weak definites

In this section, I will outline the characteristics of weak definites in English as discussed by Carlson et al. (2006) and Aguilar-Guevara and Zwarts (2011). Similar observations, however, have been made for weak definites in German (e.g. Puig Waldmüller 2008; Schwarz 2009; Cieschinger and Bosch 2011). Unless indicated otherwise, the examples are from Aguilar Guevara and Zwarts.

Weak definites allow for sloppy identity under VP-ellipsis and distributive readings in interaction with quantified expressions. This is demonstrated by (54-a), under which Lola could have gone to a different hospital than Alice, and by (54-b), under which each boxer could have been sent to a different hospital. The weak reading disappears (signalled by #) when the noun is modified (including restrictive relative clauses), unless kind modification is used (54-c). The capacity of weak definites to establish discourse referents is rather limited (54-d) (see also Scholten and Aguilar-Guevara 2010).³⁶

³⁶Another property they share with incorporated nouns is that they typically appear in object position, in subject position only in generic sentences:

- (i) #The newspaper disappeared. vs. The newspaper brings people their daily news.

- (54) a. Lola went to the hospital and Alice did too.
 b. Every boxer was sent to the hospital.
 c. Lola is in the medical hospital. vs. #Lola is in the new hospital.
 #You should see the doctor who works in the medical center.
 d. ?Sheila took the shuttle-bus_i to the airport. It_i was a huge gaudy Hummer.
(from Scholten and Aguilar-Guevara 2010)

In addition, the verb-weak definite combination names an institutionalised or stereotypical activity, which can be associated with the well-establishedness of event kinds as outlined above. For example, Aguilar-Guevara and Zwarts (2011) discuss in detail that weak definites come with a particular meaning enrichment, as in (55-a): *the store* under a weak definite reading is not just any store that is moved to for some random reason, but rather the store that one goes to to do shopping. The availability of a weak definite reading is furthermore restricted to particular nouns, verbs, and/or prepositions (55-b-d).

- (55) a. Lola went to the store (to do shopping). vs. #Lola went to the store to pick up a friend.
 b. Sally checked / #read the calendar.
 c. You should see the doctor / #surgeon.
 d. Lola went to / #around the store.

Aguilar-Guevara (2014) proposes that only those nouns can appear as weak definites which designate function objects with stereotypical usages (modelled as part of the qualia structure, in the sense of Pustejovsky 1995) and that combine with verbs which are compatible with such stereotypical usages.

Under Aguilar-Guevara and Zwarts' (2011) analysis, weak definites refer to kinds that are instantiated when they combine with object-level predicates. For these cases, they propose a lexical rule that lifts object-level relations to kind-level relations and incorporates the stereotypical usage of the kinds into the meaning of the resulting constructions. Schwarz (2014), on the other hand, analyses the events that weak definites are part of as event kinds, whereas the definites themselves are regular definites. He treats a verb that combines with a weak definite as internal argument as the incorporating variant of its transitive counterpart, along the lines of Dayal (2011) (see below); the result of applying the incorporating version of the verb to the weak definite is a kind, in particular a kind of event (or state) (building on the semantics of kinds in Chierchia 1998).

Let us then turn to the final empirical domain, in which we find the requirement of well-establishedness, namely definite singular generics.

5.1.3 Definite singular generics

In languages like English, nominal kinds can be referred to by bare plurals or definite singular noun phrases. It has been observed, however, that definite singular generics, especially when modified, have to refer to 'well-established kinds', as shown by the contrast between (56-a) and (56-b), whereas no such restriction is found with bare plurals (56-c) (e.g. Carlson 1977; Krifka et al. 1995) (examples from Carlson 2009).

- (56) a. The Coke bottle has a narrow neck.
 b. ??The green bottle has a narrow neck.
 c. Green bottles / Coke bottles have narrow necks.

Dayal (2004) shows that in addition to being well-established by convention, kinds referred to by definite singulars can also be contextually established. She notes the contrast between (56-b) and (57), on the one hand, in which the kind description by a definite singular noun phrase is infelicitous out of context since the kind in question is not an established kind, and (58), on the other, in which the kind is established by the previous context, rendering the use of the definite singular generics acceptable.

- (57) #The airport is a busy place.
 (58) a. The factory produces two kinds of bottles, a green one for medicinal purposes and a clear one for cosmetics. The green bottle has a long neck. The clear bottle ...
 b. Of all the places I am forced to spend time waiting during my numerous commutes, the airport is my least favorite. At least from the train station, it is possible to go out into the town.

In this context, Dayal states the following: “The perceived restriction may have to do with the conditions under which a noun phrase can denote a (unique) sub-kind. Kay (1971) argues that an entity qualifies as a sub-kind iff it belongs in a contrast set. That is, for x to be a taxonomic entity, there must be a $y \neq x$ and a $z \neq x$ and y , such that x and y can be considered sub-kinds of z . Any common noun can thus denote a singular kind, given an appropriate context.” (Dayal 2004, 425). Building on her earlier paper, Dayal (2013) points out that singular kind terms denote unique subkinds in a taxonomic hierarchy, and that they can also denote concepts, which are a superset of kinds (Krifka 1995).

In sum, both (pseudo-)incorporated bare nouns and weak definites share semantic properties, such as the inability to introduce discourse referents and to combine with (token) modification, as well as the fact that together with the event denoted by the verb they have to name an institutionalised activity. Whereas bare nouns have generally been analysed as involving (pseudo-)incorporation into the verb, weak definites could be analysed as such as well (as suggested by Schwarz 2014), or as denoting kinds. Under the latter analysis, the stereotypicality effect arises from combining the kind with an object-level relation that is lifted to a kind-level relation. This, in essence, is an event kind description, though. Finally, well-establishedness is also a requirement on modification of definite singular generics; in particular, only those modifiers are allowed that derive unique subkinds in a conventionalised taxonomy of kinds.

In the following, I will highlight how this discussion helps us understand the notion of event kinds underlying adjectival passives in general, and the restrictions on event-related modification in particular.

5.2 Well-established event kinds in adjectival passives

We can take the well-establishedness restriction on modification of singular definite generics, and in particular on the subkinds thus derived, as the direct nominal parallel

to what we find with event-related modification of event kinds in adjectival passives. This suggests that the event kind we are dealing with has to be parallel to a singular definite noun phrase in having to name a unique kind in a conventionalised taxonomy of kinds. In analogy, we should expect that an event kind (and the state kind associated with the event kind), can also be established by the context.³⁷ In Sect. 3, we saw that the contrast between two states on a particular scale underlying the event description is crucial in the acceptability of an adjectival passive in general, and that predicates that do not provide such a contrasting state are not good inputs. The examples in (33), however, showed how context renders the adjectival passive constructions under discussion (more) acceptable. We also saw examples, where event-related modifiers and thus the overall context can help carve out the right event kind, which is arguably the case in (32-b).

Incorporated nouns and weak definites, in turn, display the same semantic properties as the nominals in event-related modifiers of adjectival passives, which were discussed in Sect. 2. In that section, it was shown that they do not introduce discourse referents and do not allow token modification either, and it was also noted that there is a high propensity for weakly or non-referential nominals inside such modifiers, as opposed to strongly referential ones. In addition, the participle and the noun together name the state that could have resulted (in a broad sense) from an institutionalised activity, which I propose to model as an event kind. Narrow scope of the noun with respect to other quantifiers in the sentence, in analogy to incorporated bare nominals and weak definites, is demonstrated in (59).

- (59) Alle Briefe waren mit (einem) Bleistift geschrieben.
 all letters were with a pencil written
 ‘All (the) letters were written with a pencil.’

This sentence means that it holds for all letters that they are written with a pencil (or other), where ‘a pencil’ takes narrow scope with respect to the universal quantifier, not that there is a specific pencil such that all letters were written with that pencil. We also already saw an example in (15-b) (written with the pencil), in which a particular instance of a definite noun phrase seems to be more acceptable than other definite noun phrases. I assume, that in these cases we are dealing with a weak definite.

Finally, example (33-b) showed that for some speakers even some proper names are acceptable, which at first sight might be a problem for the claim that strongly referential noun phrases are unacceptable in such modifiers. The main idea how they fit the overall account underlying this paper arose from discussion with Olav Mueller-Reichau. Let me start with the contrast in (60), provided by Maienborn (2011).

- (60) Das Manuskript ist von {Chomsky / ?Sandberger} zitiert.
 the manuscript is by Chomsky Sandberger cited
 ‘The manuscript is cited by Chomsky.’

What these examples show is that proper names in event-related modifiers are only acceptable under the condition that, in the given context of utterance, it can

³⁷Transposing Dayal’s idea that a kind can be established by the overall context to event kinds underlying adjectival passives is related to Maienborn’s (2009) idea that adjectival passives involve ‘event-related ad hoc properties’, as described in Sect. 3.

be presupposed as known to both speaker and hearer that there is such a linguist Chomsky and that being cited by Chomsky is an achievement worth mentioning. Hence, the kind of proper names that can appear inside such modifiers have to refer to somewhat famous people, in order to make the event subkind derived by such a modifier noteworthy by convention among the speaker community. Further examples are the ones in (61).

- (61) a. Das Bild ist von Picasso gemalt.
 the painting is by Picasso painted
 ‘The painting is painted by Picasso.’ (from Rapp 1996, 256)
- b. Der Brief ist mit der Feder von Tolstoj geschrieben.
 the letter is with the quill of Tolstoj written
 ‘The letter is written with the quill of Tolstoj.’

Again, replacing the proper names with non-famous people results in ungrammaticality, as illustrated in (62).

- (62) a. *Das Bild ist von Maria gemalt.
 the painting is by Mary painted
- b. *Der Brief ist mit der Feder von Hans Hansen geschrieben.
 the letter is with the quill of Hans Hansen written

These data suggest that the constituents of the VP together have to name a kind of event that is well-established as a prototypical category in the background knowledge of speaker and hearer. Based on these contrasts, I follow a suggestion by Olav Mueller-Reichau and propose that proper names within the VP (i.e. as participants of an event kind) are only possible if they can be reinterpreted or type shifted into a kind term of the sort ‘no less an x than proper name’, e.g. no less a painter than Picasso. This datum, then, actually provides support for the current analysis because it shows how individual terms can participate in event kind formation.

Finally, a further example of an apparent spatial modifier of the event, which in addition contains a proper name, is given in (63) (Olav Mueller-Reichau p.c.).

- (63) All diese Waschmaschinen haben zwar ein
 all these washing machines have though a
 ‘Made-in-Germany’-Zertifikat, sie sind aber in China produziert!
 Made in Germany certificate they are but in China produced
 ‘All these washing machines have a certificate ‘Made in Germany’, but they
 are produced in China!’

In line with the previous discussion of spatial modification in Sect. 2, this example shows that even though pragmatically we infer that there was a production process of washing machines that took place in China, all that the semantics gives us at this point is that the state the washing machines are in now is of the kind that would result from a Chinese production event kind, as opposed to a German production event kind. Hence, a spatial modifier like *in China* in these cases could be treated on a par with adjectives derived from such country names (in this case *Chinese*); such adjectives, in turn, have been analysed as event kind modifiers in Arsenijević et al. (2014), Boleda et al. (2012).

I will not have much more to say about proper names in event-related modifiers, the precise analysis of which I will leave for future research. In the following, I will build on the similarities between incorporating nouns and weak definites, on the one hand, and the nouns in event-related modifiers of adjectival passives, on the other, and propose a semantics that treats such nominals as semantically incorporated into the verb (here: into the participle), along the lines of Dayal (2011).

6 The semantics of event-related modification

In event semantics (Davidson 1967; Parsons 1990), event-related modifiers are commonly analysed as predicates of events. Hence, we can represent the verbal passive version of our corpus example (45-b), given in (64-a), as in (64-b) (disregarding Tense).

- (64) a. Mund und Nase wurden mit Klebeband verschlossen.
 mouth and nose became with tape closed
 ‘Mouth and nose were being closed with tape.’
 b. $\exists e, x[\mathbf{close}(e) \wedge \mathbf{BECOME}(e, s) \wedge \mathbf{closed}(s) \wedge \mathbf{Theme}(s, \mathbf{mouth-and-nose}) \wedge \mathbf{Initiator}(e, x) \wedge \mathbf{WITH}(e, \mathbf{tape})]$

The adjectival passive case, repeated in (65), will have to be analysed somewhat differently, but up to the point of participle formation it should work like the verbal passive case.

- (65) Mund und Nase waren mit Klebeband verschlossen.
 mouth and nose were with tape closed
 ‘Mouth and nose were closed with tape.’

In (66), I repeat the relevant steps in the analysis of adjectival passives from Sect. 4.³⁸

- (66) a. $\text{Pr}^0 \text{ } ge\text{-}en/t: \lambda \wp \lambda y \lambda s \lambda e \exists x[\wp(e)(s)(x)(y)]$
 b. $A^0: \lambda \wp \lambda y \lambda s \exists e_k, x_k[\wp(e_k)(s)(x_k)(y)]$
 c. $geschlossen: \lambda y \lambda s \exists e_k, x_k[\mathbf{close}(e_k) \wedge \mathbf{BECOME}(e_k, s) \wedge \mathbf{closed}(s) \wedge \mathbf{Theme}(s, y) \wedge \mathbf{Initiator}(e_k, x_k)]$

Before adjectivisation, at the step in (66-a), we have the following, with an event-related modifier like the one in (65):

- (67) Verbal participle *verschlossen* plus *mit Klebeband*:
 $\lambda y \lambda s \lambda e \exists x[\mathbf{close}(e) \wedge \mathbf{BECOME}(e, s) \wedge \mathbf{closed}(s) \wedge \mathbf{Theme}(s, y) \wedge \mathbf{Initiator}(e, x) \wedge \mathbf{WITH}(e, \mathbf{tape})]$

³⁸Note that in our initial example, the participle is *geschlossen*, whereas in example (65), the participles is *verschlossen*, and both are translated as ‘closed’. I take both to involve a change of state (from non-closed to closed), but it seems to me that there is a slight semantic difference between the two, in the sense that the prefix *ver-* in the latter adds a meaning component that the closing is hindering something from being open, whereas the former one is neutral in this respect. Since I believe that this subtle semantic difference is orthogonal to the current account, I will gloss over it here.

How do we get from here to the step in (66-c) then? The semantic account of event-related modification with adjectival passives I want to argue for here builds on Dayal's (2011) account of pseudo-incorporation. Dayal proposes that transitive verbs that allow incorporation, such as *catch* in (68-a), have an incorporating variant, as in (68-b) (treating both as predicates of events). Whereas the transitive variant takes an individual as its internal argument, it is argued that the incorporating version takes a property (P), which modifies the event and thus creates a subkind of event.

- (68) a. $catch_{TV} = \lambda x \lambda y \lambda e [\mathbf{catch}(e) \wedge \mathbf{Agent}(e) = y \wedge \mathbf{Theme}(e) = x]$
 b. $catch_{INC-V} = \lambda P \lambda y \lambda e [P\text{-}\mathbf{catch}(e) \wedge \mathbf{Agent}(e) = y]$,
 where $\exists e [P\text{-}\mathbf{catch}(e)] = 1$ iff $\exists e' [\mathbf{catch}(e') \wedge \exists x [P(x) \wedge \mathbf{Theme}(e') = x]]$
 (Dayal 2011, 146)

Dayal argues that an event of, e.g., mouse-catching entails an event of catching, with a mouse as its theme, which is captured by the second line in (68-b).

Dayal's proposal and pseudo-incorporation accounts in general share the idea of treating the noun phrases under discussion as semantically incorporated predicates which denote a property rather than an individual; this accounts for the fact that these nouns do not introduce discourse referents, cannot be picked up by pronominal anaphora, and do not allow token modification. Kind modification, on the other hand, is available, since it does not modify an individual (as a first-order modifier) but is a predicate modifier that serves to restrict the property denoted by the bare noun (see, for instance, McNally and Boleda 2004). None of these accounts have a theoretical explanation for why this kind of incorporation is only possible under the well-establishedness condition outlined above, but at least this is another property that all cases that have been analysed as involving pseudo-incorporation (or incorporation in general) have in common.

Given that event-related modification with adjectival passives, which also names a subkind of event, shares all these properties, analysing it in terms of pseudo-incorporation is a reasonable way to go. What I want to propose here, then, is that event-related modifiers have to incorporate into the participle in order for adjectivisation to become possible. In particular, only a consequent state kind of an established event kind or subkind, then, can be the input to adjectivisation, and this includes any acceptable event-related modifiers.

Applying Dayal's idea to such modifiers will require some changes, though. First, contra Dayal, I do not posit two distinct lexical entries for incorporating vs. non-incorporating verbs. Instead, I assume that there is only one lexical entry, namely the kind-level verb form, which can get instantiated only above the VP level during the syntactic derivation. I will also change the way to represent the condition on semantic incorporation in the second line, but the overall gist of Dayal's proposal will remain.

Another difference is that in our cases, it is not the Theme that is the property modifying the event, but other event participants, such as agents or instruments. From this it follows that the theme itself is externalised after participle formation, but presumably before incorporation and adjectivisation takes place. The general semantics I will propose for verbal participles with incorporated event-related modifiers, then, be it an Instrument as above, or an Initiator introduced in a *by*-phrase, is given in (69).

- (69) (verbal) $closed_{INC-PrT}$:
 $\lambda P \lambda y \lambda s \lambda e \exists x [P\text{-close}(e) \wedge \mathbf{BECOME}(e, s) \wedge P\text{-closed}(s) \wedge \mathbf{Theme}(s, y) \wedge$
 $\mathbf{Initiator}(e, x) \wedge \forall e [P\text{-close}(e) \text{ iff } \mathbf{close}(e) \wedge \exists z [P(z) \wedge \mathbf{WITH/BY}(e, z)]]]$

After adjectivisation, which existentially quantifies over the event and determines that it stays in the kind domain (the same holds for the Initiator), we get the following representation of 65 (with that particular event-related modifier).

- (70) (adjectival) $closed_{INC-PrT}$:
 $\lambda y \lambda s \exists e_k, x_k [P\text{-close}(e_k) \wedge \mathbf{BECOME}(e_k, s) \wedge P\text{-closed}(s) \wedge \mathbf{Theme}(s, y) \wedge$
 $\mathbf{Initiator}(e_k, x_k)] \wedge \forall e_k [P\text{-close}(e_k) \text{ iff } \mathbf{close}(e_k) \wedge P = \mathbf{tape} \wedge \mathbf{WITH}(e_k,$
 $\mathbf{tape})]]]$

This proposal fits the overall account outlined in Sect. 4, according to which event-related modifiers are adjoined to a phrase (the PrtP), and the whole phrase is the input to adjectivisation (assuming the possibility of phrasal adjectivisation, as proposed by Kratzer 1994, 2000). It seems, then, that pseudo-incorporation has to take place before adjectivisation, and the restriction that only event-related modifiers that derive established event kinds are possible follows from the general restriction to stereotypical activities found with pseudo-incorporation. Even if it is less clear how to make this restriction more precise, this holds for all other cases that have been analysed as pseudo-incorporation.

7 Conclusion

In this paper, I argued that German adjectival passives refer to the instantiation of a consequent state kind of an event kind and that restrictions on event-related modification with adjectival passives follow from general restrictions on kind modification. I furthermore proposed to analyse event-related modifiers that name event participants, i.e. phrases headed by *by* or *with*, in terms of pseudo-incorporation. This account was motivated by the fact that the nouns in such phrases display typical properties of (pseudo-)incorporated nouns, such as discourse opacity and the requirement of naming an institutionalised or conventionalised activity or state, together with the verb/participle these phrases incorporate into.

A key idea underlying this proposal is that (re-)categorisation of verbal structure as an adjective has consequences for the semantic nature of the underlying event: it does not get instantiated. Event-related modifiers have to pseudo-incorporate into the participle before adjectivisation, and this incorporation is only possible if it derives a well-established subkind of event. We should expect that this idea has repercussions for the analysis of other non-verbal categories that have been argued to contain verbal structure, for example nominalisations. Furthermore, we should expect some parallels between event participants of deverbal adjectives and deverbal nouns. This, however, has to be left for future research.

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