

Event modifiers in (German) adjectival participles: Remarks on Gehrke (this issue)

Andrew McIntyre

1 Introduction

Adjectival participles are an important testing ground for various grammatical issues, such as the workings of argument structure, the division of labour between syntax and the lexicon, and the nature of lexical categories. Our knowledge of grammar would advance significantly if we had a correct theory of adjectival participles. This requires us to solve riddles like (1), where we observe differences in the acceptability of event-related modifiers and *by*-phrases. By ‘event-related’ we mean for instance that *hastily* in (1a) modifies an *event* of writing, but not the having-been-written state that the participle expresses, witness its incompatibility with adjectives whose semantics makes no reference to an event (**it is hastily careless/incomplete*).

- (1) a. The note I found seems {hastily/*slowly} written {with a highlighter/*yesterday}.
b. That record is very {overrated by critics/damaged (*by Grandma) (*with an axe)}.

Berit Gehrke’s article in this issue (henceforth G) is a stimulating discussion of such modifiers and of participles in general, especially due to its arguments for the role of pseudo-incorporation and event-kinds in (German) adjectival participles. After introducing some basic notions (section 2), this commentary will analyse the four main ingredients of G’s proposal, arguing that they are largely right but need to be supplemented with a fifth ingredient (section 3). Section 4 assesses the consequences of G’s pseudo-incorporation for the structure of participles.

2 Preliminaries

This section summarizes some basic aspects of German participles. In this article every participle cited is adjectival unless indicated otherwise. Like G I adopt the standard assumption that German adjectival participles are compatible with the copula *sein* ‘be’ while verbal passives require the auxiliary *werden* ‘become’. This is known because participles showing clearly adjectival features like *un*-prefixation and degree modification are only compatible with *sein*, cf. (2a).

- (2) a. Das {ist/war/*wurde} {unbemerkt/sehr überschätzt}.
that {is/was/“became”} {unnoticed/very overrated}
b. das gestern vom König dem Sieger feierlich überreichte T-Shirt
the yesterday by.the king the winner^{dat} ceremonially presented.INFL t-shirt
‘the t-shirt ceremonially presented to the winner by the king yesterday’

Generalizations about adjectival participles need not apply to prenominal participles. German allows reduced relatives like (2b) which display adjectival inflection but flout otherwise valid constraints on arguments and modifiers in adjectival passives seen below and are incompatible with the *sein*-copula. Hence prenominal participles will be avoided below, except in (11). (This practice would have been advisable in my own (2013:33-36) discussion of unaccusative-based participles, which failed to control for contrasts like *fallen trees*/**the trees are fallen*.)

A complication in English glosses and examples below that *be* is compatible with verbal and adjectival participles¹. For our purposes this is unproblematic if one is aware of their differing interpretations, exemplified in (3).

¹ Studies on English use AP-selecting verbs like *seem* and *remain* to force the adjectival reading, but this has its pitfalls. Some speakers impose strict conditions on the kind of evidentiality that *seem*+AP can express, yielding judgments like *The text {is/?seems} written by a genius*. If only *seem*-sentences are examined, we might wrongly

- (3) *The car is/was damaged.*
 a. Verbal reading: describes an event; time reference exactly equivalent to that of corresponding active sentences (*something damages/damaged the car*)
 b. Adjectival reading: resultative interpretation: the car is/was in a state resulting from a damaging event. State holds at a time after the damaging-event.

We will mainly discuss **resultative** participles like (3)b), but what McIntyre (2013) calls **situation-in-progress** participles like (4) will also crop up. These are adjectival according to the formal criteria noted above but, like verbal participles, they hold over the same time interval as the corresponding active sentences, (4)a). They are commonest with stative verbs, (4)b). With eventive verbs they are most easily found in contexts like (4)a) where the corresponding active variant is in the literary present, which is arguably stative anyway. This would also hold in (4)c) if it describes a recording.²

- (4) a. Das ist im Buch {zitiert/erörtert}. = Der Autor zitiert/erörtert das im Buch.
 That is cited/discussed in the book. The author cites/discusses that in the book.
 b. Er ist von Polizisten {beeindruckt/unterstützt/umgeben}.
 He is {impressed/supported/surrounded} by policemen.
 c. Die Violine ist gut gespielt.
 The violin is well-played.

3 Constraints on satellites in adjectival passives

3.1 Prelude: The State Relevance Hypothesis

We can now discuss constraints on **satellites** (which I use as a superordinate for *by*-phrases, arguments and modifiers) in adjectival passives. Before discussing G's proposals I will introduce an empirical generalization about satellites which G bypasses but which will be compared with G's proposals at several points below and argued to be indispensable. The constraint is given in (5), which develops ideas independently suggested by Rapp (1997:200-203), Meltzer-Asscher (2011: sections 3.2 and 5.6.1) and McIntyre (2013:31).

- (5) **State Relevance Hypothesis:** In adjectival passives in e.g. German, English, Hebrew, event-related satellites are unacceptable unless they contribute to the description of the state expressed by the participle or of the theme during the interval *i* during which this state holds. They are most acceptable if they provide information which can be inferred solely by inspection of the theme during interval *i*.

English illustrations of (5) are seen in (6). Here the participles are to be interpreted as expressing currently holding result states, not iteratively interpreted verbal passives, as is emphasized by superscripts marking the participles as adjectival. As (5) predicts, mere inspection of the dog and car in (6)a,b) at the time of the utterances reveals the nature of the instruments used in the tying-up and spraying events, but reveals nothing about the agents or times of these events. In (6)c) the instruments are possible if they can be inferred by inspection of the markings on the text, and in (6)d) the agents are acceptable if they can be inferred from the text (for instance the quality of the language) at utterance time.

- (6) a. The dog is tied^{adj} up with a rope (*by a policeman).
 b. The car is all sprayed^{adj} with paint (*yesterday).
 c. Some of the text is underlined^{adj} with a {highlighter pen/blue pencil/*short pencil}.
 d. This text is written^{adj} by a {moron/non-native speaker/*tall person}.

conclude that the participle phrase is ill-formed (cf. McIntyre 2013:31). The verb *remain* requires reversible result states, which excludes many good adjectival participles (*the novel {is/*remains} well-written*).

² Another type of adjectival participle not relevant here has a purely stative interpretation lacking commitment to the occurrence of a prior event (*this door was made bent/shut*).

The descriptive accuracy of (5) for German will be amply confirmed below. Space permits only a brief account of why it might hold. The abovementioned studies assume that the satellites are modifiers of result states instead of, or in addition to, being modifiers of events. I assume rather (i) that predications with adjectival participles are topic-comment structures used with the express purpose of giving information about the theme by predicating a state over it, and therefore (ii) that satellites not contributing to the description of this state contradict the very purpose of adjectival participles and thus cannot form participle-satellite complex predications. Assumption (i) has support in Maienborn's (2011) point that (7) suggests that the test was passed, unlike the corresponding verbal passive. Evidently there is pressure to interpret (7) as a description of the theme, which is most likely if the testing had consequences for the theme, i.e. *affected* it by establishing its status as a safely usable device³.

- (7) Das Gerät ist von Experten geprüft.
 the device is by experts tested
 'The device was tested by experts (and passed the test).'

The describing-the-theme function is obligatory in adjectival passives but optional in verbal passives, which might be used for other reasons, for instance to avoid naming agents (*Mistakes were made*). This function is, however, forced in a number of other constructions like (8), where the situations named must have consequences for the 'externalized' arguments.

- (8) a. The {car/*city} had the dog in it. [The dog was in the car/city.]
 b. This {bed/*city} has been slept in. [People slept in the bed/city.]

3.2 The Event-Kind Hypothesis

One of G's central claims can be stated as in (9).

- (9) **Event Kind Hypothesis:** Events embedded in adjectival participles refer to uninstantiated kinds, not tokens. (G, sect. 2.1)

(9) is endorsed by several recent studies, e.g. Maienborn & Geldermann (2013), Gese (2011, 2012: ch. 5). Gese furnishes experimental evidence for it. G's main empirical motivation for (9) is that spatial and temporal modification of the verbal event is more restricted than one would expect if the semantics of German adjectival participles made reference to spatiotemporally instantiated event tokens. G makes this point with unacceptable examples translating as **this computer is repaired^{adj} two days ago* and **the bike is repaired^{adj} in the garage*, but here the State Relevance Hypothesis is a competing explanation (the date and place of repairing having no consequences for the current state of the theme). Examples that control for this are given in (10), and indeed, as (9) predicts, temporal modification is not judged favourably despite being relevant to the state the theme is in in the context indicated.

- (10) a. Das Klavier ist offenbar (*^{/?}vor kurzem) gestimmt und klingt viel besser.
 The piano is obviously recently tuned and sounds much better.
 b. Ich würde den Tee nicht trinken. (*^{/?}Er ist vor einer Woche aufgebrüht).
 I wouldn't drink the tea. It is made a week ago.

More evidence for (9) can be gleaned from (11). Without *soeben* (11) allows a reflexive reading where the actors applied makeup, but this reading is excluded if *soeben* indicates the time of the making-up event. In the latter case we have a reduced relative like (2b), while the former case fits the uncontroversial generalization that reflexive readings are a sufficient condition for adjectival passives (see McIntyre 2013:28ff for discussion). (11) thus illustrates that temporal modification can make adjectival participles unacceptable, as (9) predicts.

- (11) die (soeben) geschminkten Schauspieler

³ More evidence for the characterising-the-theme function of adjectival participles is given in (23). Maienborn captures such effects by writing into the semantics an underspecified predication over the theme which is given content via pragmatic reasoning (see G, section 3.3). They might alternatively be implicatures triggered by the topic-comment structure of adjectival participles.

the just now made up actors
 “the actors that were made up just now”

A challenge to the Event Kind Hypothesis comes from temporal modifications like (12). (Here and below, ^w marks internet-attested examples.) (12)f) is too conventionalized to have any bearing on productive participle formation, while four consultants all found the other examples at least marginal, and of twenty-two relevant examples I found, (e) and six others date from before the twentieth century. However, data like (12) are too well-attested to be dismissed completely and linguists have cited (12)b) as fully acceptable.⁴

- (12) a. ^wDas Hotel ist in den Siebziger Jahren gebaut, und so sieht es heute noch aus.
 the hotel is built in the seventies, and still looks like that
 b. Das Haus ist 1970 gebaut. [Rapp 1997:201, after Brandt 1982]
 the house is built in 1970
 c. ^wDie gute Nachricht, die gestern verkündet ist, lautet...
 the good news, which yesterday proclaimed is, says...
 d. ^wWüßte man nicht, daß es erst vor kurzem geschrieben ist, würde man auf die
 Epoche Schacks, Geibels, Heyses schließen
 If one did not know that this is written not long ago, one would think it came from
 the era of Schack, Geibel and Heyse.
 e. ^w[der] Pariser Codex 3671, der im dreizehnten Jahrhundert geschrieben ist
 the Paris Codex 3671, which in the thirteenth century written is
 f. Sie ist 1960 geboren.
 She is (i.e. was) born in 1960.

I see three possible responses to (12). Firstly, one could accept the claim in (9) that events in adjectival passives are grammatically speaking uninstantiated kinds, but assume that temporal modification is possible if speakers can introduce event-tokens through the back door by some coercive process akin to what is found in structures like *the beer at midday was a bad idea* or in ‘anaphoric island’ violations mentioned in section 3.3.

Secondly, one could analyze e.g. (12)a) in terms of an event-kind BUILDING-IN-THE-SEVENTIES. The modifier thus does not locate an event-token in time and is not excluded by (9). (This predicts weaker acceptance of e.g. (12)c), as an event-kind like PROCLAIMING-YESTERDAY seems implausible.) G (section 5) gives this explanation for cases of spatial modification like (13) and can support the analysis using the event-kind anaphor *so*.⁵ Further evidence might come from a demonstration that such modifiers can merge very low in clauses, at a point where event variables are not instantiated. This is clear in backformed incorporation structures like *pan-fry*, [%]*factory-make*, but their limited productivity reduces their usefulness as tests. There is evidence that certain German event-kind modifiers in clauses merge directly with V, lower even than direct objects (Maienborn 2001, Frey 2003). Maienborn’s examples include modifiers like those in (13)c), but the applicability of this test to other modifiers like those in (12) and (13) remains to be assessed.

- (13) a. ^wWahrscheinlich [ist das ein neuer] Bass, der in einer Fabrik hergestellt ist.
 This is probably a new bass which is made in a factory.

⁴ English speakers also display mixed reactions to temporal modification in adjectival participles. Examples like (i-ii) are well-attested, but to me unacceptable. I fully accept *recently*-data like (iii), but reject ^(*)*It is recently available*, suggesting that my idiolect treats *recently* in (iii) as a modifier of events and not states.

(i) ^wThe story is written in the fourteenth century, but most of the...characters can still be recognized.
 (ii) ^wThis factory is built in the thirties by Michelin and at that time it was located outside the city.
 (iii) This book is recently {published/written}; The restaurant is recently opened.

⁵ This test is applied in a temporal modification context in (i). However, the test is not telling here. The second sentence in (i) can be licensed by any contextually present building, including one made salient by pointing.

(i) [?]Das Hotel ist in den zwanziger Jahren gebaut. Mein Haus ist auch so gebaut.
 “The hotel is built in the twenties. My house is also built like that.”

- b. ^wWas ist daran so schlimm, wenn was in China hergestellt ist?
what is so bad if something is made in China?
- c. Das Essen ist in der Pfanne in Fett gebraten.
the food is fried in the pan in fat.

Thirdly, one could accept (9) as valid for some German idiolects but not others. This would be most reasonable if speakers are found who unreservedly accept examples like (12). My preliminary sampling has uncovered no such ‘liberal’ speakers, but my suspicion, shared by Berit Gehrke p.c., is that any such speakers who do exist would not belong to the younger generations. If liberal speakers are found, it would be interesting to identify correlations with other aspects of participles (say G’s finding that nominals in satellites display reduced referential capabilities; see section 3.3). One could also ask whether these speakers analyze adjectival participles in terms of a result state of an event-token, contra G’s proposal.

I must bequeath to future studies the task of determining which (combination) of these hypotheses is preferable. To conclude this section, I will comment on (12) and (13) in connection with the State Relevance Hypothesis. Event-related temporal modification like (12) is easiest to find with participles based on creation verbs (BUILD, WRITE). This is unsurprising since the modifier and participle together comment on the theme, specifically on how old it is. Regarding (13), we note that the modifiers also contribute to the description of the theme in its current state as being factory-made, Chinese-made, pan-fried. By contrast, one would not expect to find cases where the modifier gives purely incidental information of no relevance to the nature of the theme like *this table is fixed^{adj} on Friday* or *my finger is injured^{adj} in the kitchen*; this observation correlates with the judgments regarding phrasal compounds like (14).

- (14) a. *a built-in-the-seventies house; a made-in-China look; a fried-in-batter taste*
- b. **it has a damaged-in-the-kitchen look; *a written-in-the-kitchen letter; *a fixed-on-Friday table*

3.3 The Non-Referential Satellite Hypothesis

We now turn to a claim made by G which can be stated as in (15).

- (15) **Non-Referential Satellite Hypothesis:** DPs/NPs in satellites adjectival passives refer to types, not tokens, of entities and are discourse-opaque. (G, sect. 2.2)

G’s evidence for (15) includes data like (16)a-b). The satellite-internal nominals are by preference indefinite and are not good targets of anaphora. Here the State Relevance Hypothesis yields no explanation: the identity of the pen in (16)a) could be inferred from inspection of the letter if (16)a) is part of a forensic expert’s statement on who wrote a death threat.

- (16) a. Der Brief ist mit {einem/*diesem} Stift_i geschrieben. *Er_i gehört dem Mörder.
The letter is written with {a/this} pen_i. It_i belongs to the murderer.
- b. Der Ordner ist mit {einem/(*)diesem} Passwort gesichert.
the folder is with {a/the} password protected
- c. Das Passwort sichert den Ordner.
the password protects the folder
- d. Unsere Körper sind mit Haut bedeckt.
our bodies are with skin covered

Two of my consultants found the definite article in (16)b) perfect, but this does not refute (15). As discussed in section 4 below, G’s constraints are intended for resultative participles but not situation-in-progress participles like (4). I suggest that the speaker variation regarding the possibility of a referential reading of *Passwort* in (16)b) reduces to whether a speaker interprets the participle as being a situation-in-progress participle based on the verb use in (16)c), which holds over the same time interval as (16)b). The less permissive speakers can

only construe the *mit*-phrase in (16b) as a normal instrument, which requires an agentive, eventive interpretation of the input verb and excludes an interpretation parallel to (16c). The more permissive speakers can construe the *mit*-phrase in a quasi-instrumental use with no prior event entailments, like that seen in (16d).

The Non-Referential Satellite Hypothesis does not always give rise to harsh judgments like (16a). The judgments in (17) (Maienborn 2011; Gese 2012: sect. 6.4) for instance suggest that PP-internal nominals are more readily accessible to anaphora than are compound nonheads. It is nonetheless not a strike against G's overall analysis if (15) produces marginality and not hard ungrammaticality. (15) is derived from G's claim discussed below that participial satellites are pseudo-incorporated⁶. However, the referentiality of incorporated nominals varies cross-linguistically (Massam 2009), and reference to incorporated nominals in German compounds (^w*Hühnerzucht und deren Verkauf* 'hen_i breeding and their_i sale') occurs often enough to be a target of language purism. Further work on the Non-Referential Satellite Hypothesis might consider connecting it to analyses of such 'anaphoric island' violations like Ward et al. (1991).

- (17) a. Mein Auto ist vom TÜV_i geprüft. [?]Er_i hatte nichts zu beanstanden.
 My car is by.the TÜV_i tested. It_i had nothing to object.
 'My car passed the TÜV test.' (TÜV = German car testing authority)
 b. Mein Auto ist TÜV-geprüft. *Er hatte nichts zu beanstanden.
 My car is TÜV_i-tested. It_i had nothing to object.

3.4 The Pseudo-Incorporation Hypothesis

A central thesis of G is stated in (18). This claims that participial satellites have semantic properties in common with incorporated items, despite being phrasal rather than bare heads⁷, hence the labels *semantic/pseudo-incorporation* in the literature. I accept the PIH, for instance because I see no better account for Non-Referential Satellite Hypothesis effects.

- (18) **Pseudo-Incorporation Hypothesis (PIH):** Satellites of adjectival passives undergo semantic incorporation (pseudo-incorporation).

The case for the PIH becomes stronger when we note a related idea in the literature (e.g. Gese 2012, Maienborn 2011, Schlücker 2005; see also Gehrke 2012) that satellites in German resultative adjectival passives are *integrated* in the sense of Jacobs (1993, 1999). 'Integration' occurs when two linguistic objects are processed semantically as a single conceptual unit, with linguistic ramifications that include default stress on the integrated constituent (stress on compound nonheads is an instance of this) and resistance of integrated elements to certain syntactic movement operations. The work on participles just cited applies these points to resultative participles: the satellite bears main stress and cannot be scrambled or extraposed. We see in (19a,b) that participial satellites are unable to scramble across negation, although this is possible with the underived adjective seen in (19c) and with situation-in-progress participles like (19d) (the latter are exempt from G's claims; see section 4 below). Readers are referred to the works cited for more illustrations of the positional fixity of participial

⁶ The Non-Referential Satellite Hypothesis would follow from the Event-Kind Hypothesis under the premise that referentially instantiated event participants require instantiated event-tokens. I dispute the premise because the examples below have instantiated participants in uninstantiated folding and opening events.

(i) This particular device I just made folds flat easily. (no folding event entailed)

(ii) This particular device I just made is for opening that window up there. (no opening entailed)

⁷ German, like English, productively incorporates bare heads into participles, cf. (i-iii) below. Whether this supports the PIH is unclear since Maienborn & Geldermann (2013) argue that the incorporated nominals merge higher than PP satellites and are subject to different interpretational principles. The parallels break down in cases like *beinamputierte Menschen* 'leg-amputated people' where there is no corresponding PP satellite.

(i) *feuerbeschädigt* / *von Feuer beschädigt* 'fire-damaged/damaged by fire'

(ii) *verbinkorporiert* / *ins Verb inkorporiert* 'verb-incorporated/incorporated into V'

(iii) *handgeschrieben* / *mit der Hand geschrieben* 'handwritten/written by hand'

satellites. All this supports the Pseudo-Incorporation Hypothesis because *integration* and *pseudo-incorporation* are essentially equivalent, except that the latter insists on certain formal (prosodic, syntactic) correlations of a holistic conceptualization.

- (19) a. Die Birnen sind <*in Wein> nicht <in Wein> gedünstet. [Schlücker 2005]
 the pears are <in wine> not <in wine> steamed
 b. Die Wände sind <*von Feuer> nicht <von Feuer> geschwärzt. [Schlücker 2005]
 the walls are <by fire> not <by fire> blackened
 c. Sie ist <auf Otto> nicht <auf Otto> stolz.
 she is <of Otto> not <of Otto> proud
 d. Sie ist <von Otto> nicht <von Otto> beeindruckt.
 she is <by Otto> not <by Otto> impressed

The Pseudo-Incorporation Hypothesis applies to agent-realizing *von*-phrases. Though crosslinguistically marked, semantic and full incorporation of agents is permitted in clauses in some languages (Massam 2006; Öztürk 2009). Any uneasiness about the claim that an agent and verb can form a close unit in participles dissipates when we note (20), in which agents are fixed parts of idioms (or at least metaphorical collocations).

- (20) *vom Winde verweht* “by.the wind away.blown” ‘disappeared, gone with the wind’
von der Muse geküsst “by.the muse kissed” ‘inspired’
wie von einer Tarantel gestochen “as.if by a tarantula stung” ‘like crazy’
von wilden Affen gebissen “by wild apes bitten” ‘crazy’
von allen guten Geistern verlassen “by all good spirits abandoned” ‘insane’

3.5 The Established Kind Hypothesis

Another proposal of G is encapsulated in (21). The idea is essentially that participle-satellite combinations are among the many (pseudo-)incorporation patterns in the world’s languages which are possible only if they describe established (culturally salient, nameworthy, institutionalised) event-kinds which presumably map onto holistically memorized concepts. There are for instance many English backformed noun-incorporating verbs describing nameworthy event-kinds (*fundraise*, *vacuum-clean*, *breastfeed*, *brainwash*, *case-mark*), but one would not expect clearly non-nameworthy cases like *piano-burn*, *mirror-lift*, *clock-scrub*.

- (21) **Established Kind Hypothesis (EKH):** In German adjectival participles, the verb and its satellite refer to an *established* event-kind. (G, sect. 5.1, 5.2)

I will argue that (21) does less to constrain possible satellites in adjectival passives than G’s other proposals and the State Relevance Hypothesis do, but that this does no harm to the generalization that it is meant to support, the Pseudo-Incorporation Hypothesis.

A problem for the EKH is examples like (22). Here the participle+satellite combinations do not refer to established (institutionalized, nameworthy) event-kinds in Germanophone cultures. Yet the sentences are as acceptable as they would be if we adjust them to refer to established situations by replacing the PPs with the bracketed PPs next to each example. It is certainly possible that speakers uttering (22) are creating provisional, ad hoc event-kinds online, and there is evidence for contextually established kinds in other domains, as G notes (see also Bouchard 2011 on its relevance to adjective serialization). However, appeal to this notion renders the EKH hard to test. This does not make it wrong, but does caution us against using it as an explanation when alternative explanations are available.

- (22) a. Der Briefkasten ist mit Teilen von Schachuhren vollgestopft. [mit Briefen]
 The letterbox is stuffed full with parts of chess clocks. [with letters]
 b. Auf dem Blatt ist ihr Name mit Kettenfließfett geschrieben. [mit roter Tinte]
 On the paper her name is written with chain lubricant. [with red ink]
 c. Der Hund ist mit einer Krawatte festgebunden. [mit einer Leine]
 The dog is tied up with a necktie. [with a leash]

I know of no data which cannot be explained without the EKH. Let us discuss the examples given by G, firstly (23). Here (and in similar contexts like *this is painted by Picasso*) adjectival passives with proper names in *by*-phrases are better if they name famous people than if they name unknowns. It is claimed that the noteworthiness of Chomsky's citing a manuscript better qualifies it as an established event-kind. Within G's overall proposal one could alternatively argue that there are established event kinds CITING-BY-SCHOLAR or PAINTING-BY-ARTIST, and that famous scholars/artists are better as proxies for SCHOLAR/ARTIST than lesser-known ones (independent evidence might be sought in *that painting is a Picasso*/²*Churchill*/^{*}*Sandberger*). These established-event-kind-based accounts raise the hard question as to why *ad-hoc* event-kinds are less felicitous in (23) than in (22). Moreover, we note with Maienborn (2011) that describing a manuscript as *cited by Chomsky* actually says something about it: we can draw inferences about its quality, noteworthiness, etc. This does not hold of the *Sandberger* variant in (23), so hearers will have to search hard for an informative interpretation absent a helpful context, and the commenting-on-the-theme constraint discussed above (7) is not fulfilled. This kind of explanation makes no appeal to established event-kinds. Finally, (23) is a situation-in-progress participle like those in (4). As discussed in section 4, such participles are exempt from the Pseudo-Incorporation Hypothesis and so there is no reason to expect them to be confined to established event-kinds.

- (23) Das Manuskript ist von {Chomsky/²Sandberger} zitiert. [G, after Maienborn 2011]
 The Manuscript is cited by {Chomsky/Sandberger}.

Other data which G explains with the EKH are easily explained by the State Relevance Hypothesis. (24)a) for instance is expected to be deviant because the nature of the agent does not normally discernibly affect the state the theme is in. G's EKH can also explain this by assuming, plausibly enough, that there is no established event kind DOOR-OPENING-BY-MEN, but such explanations are less convincing for (24)b), which is unacceptable although DOOR-OPENING-WITH-A-KEY is surely an established event-kind. (24)b) follows from the State Relevance Hypothesis since the state of the door reveals nothing about how it was opened. The State Relevance Hypothesis also explains the judgments in (24)c): inspection of a contract might reveal that it was signed with a felt-tip pen, but reveals nothing about the price of the pen or what it was made of. The EKH has no empirical purchase here, since signing contracts with green felt tip pens is if anything less plausible as an established event-kind than signing them with expensive silver pens.

- (24) a. *Die Tür ist von einem Mann geöffnet.
 the door is opened by a man
 b. *Die Tür ist mit einem Schlüssel geöffnet.
 the door is opened with a key
 c. Der Vertrag ist mit einem {grünen Filzstift/*teuren silbernen Stift} unterschrieben.
 the contract is signed with a {green felt-tip pen/*expensive silver pen}.

My criticisms of the EKH as a constraint on participial satellites do not refute it, at least if we formulate it to allow for contextually created event-kinds, recall (22). I will now suggest a way in which future research may be able to document its existence. If established event-kinds play any role in participle+satellite structures, one might expect to find cases in which the literal meaning of such combinations is shifted in the direction of noteworthy event-kinds, paralleling the well-attested phenomenon of semantic drift towards established concepts in word formation: *watchmaker* has been co-opted as a name for the profession of repairing (but no longer making) clock-like devices, *wheelchair* has narrowed to a particularly noteworthy type of chair with wheels and *babysit(ing)* refers to the noteworthy job of child-minding for absent parents rather than incidental sitting with babies. To see how this might apply to participles, consider (25). Maienborn (2011) observes that *geöffnet* might refer specifically to removal of the game's factory packaging ((25) is possible if it is now in some other packaging). One might argue that this is drift towards an established event-kind

REMOVING-FACTORY-PACKAGING which is nameworthy due to the reduced potential for re-selling or giving as a gift. Even if correct, this tells us little about participles since the factory-packaging-removal reading is optional in (25) and since the active verb *öffnen* can also have this reading. There may however be better examples.⁸

(25) Das Spiel ist geöffnet, ist aber absolut neuwertig. [Maienborn 2011]

The game is opened but is as new.

My criticisms of the EKH do not detract from the Pseudo-Incorporation Hypothesis, since incorporation constructions differ with respect to whether they must name an established (culturally salient, institutionalized, nameworthy) concept. This is clear even in English. A-N compounds are confined to nameworthy concepts, cf. *highchair* (well-known type of chair for children) and *upside-down fridge* (fridge with the freezer at the bottom), while non-nameworthy cases of elevated chairs and inverted fridges do not receive compound stress. By contrast, we observe no established event-kind constraints on synthetic compounds like *piano burning*, *chess-clock polishing*, *bookshelf lifting*.

3.6 Conclusion: Add the State Relevance Hypothesis to G's approach

I have suggested at several points that the State Relevance Hypothesis is needed in describing constraints on participial satellites. Further support for this comes from (26). In all these cases inspection of the theme allows one to infer the acceptable modifiers but not the unacceptable ones: we can infer from a drawing that its creator was gifted or small (in the sense 'young') but not that she was small in stature or blond. Inspection of a letter can reveal that it was written hastily or lovingly, but not that it was written slowly. The bad modifiers improve if one assumes that drawing by blond children has a distinctive character (as a Nazi might assume, cf. G's note 9) or if the writing in a forged letter has a drawn-rather-than-written look. (We can improve such judgments by adding *offenbar* 'evidently' before the satellite-participle combination.) G's appeal to the absence of established event-kinds like DRAWING-BY-BLOND-CHILD to explain (26)a) is less straightforward. The testability problems attending such accounts discussed in section 3.5 rear their head in (26)b): how do we know that HASTY-WRITING is an established event-kind while SLOW-WRITING is not?

- (26) a. Die Zeichnung ist von einem {begabten/*kleinen/*blonden} Kind angefertigt.
 the drawing is by a {gifted/small/blond} child made
 b. Der Brief ist {mit Liebe/hastig/*langsam} geschrieben.
 the letter is {with love/hastily/slowly} written

Rapp (1997:202) gives (27) as a different argument for the State Relevance Hypothesis. Here verb-internal manner modification reduces the acceptability. This effect follows simply from the State Relevance Hypothesis: Inspection of a door can reveal that it has been shut, but not that it has been slammed. If we know that someone knows something, we can infer that they have been informed of it but not that it was whispered or shouted to them. The effects in (27) are not predicted by G's constraints. The verbs are all well-known, making it hard to blame the unacceptability on the lack of an established event-kind.

- (27) a. Die Tür ist {zugemacht/*zugeknallt/*zugeschlagen}.
 the door is {shut.made/shut.banged/shut.hit}
 'The door is {closed/banged shut/slammed shut}.'

⁸ Future work addressing the EKH from this angle might also compare the roles of established event-kinds and established state-kinds in participles. For instance, the contrast *moth-eaten clothes* vs. **cat-eaten fish* seems more plausibly explained by assuming that the *state* of having been eaten by moths is nameworthy due to its relevance for owners of clothes, than saying that EATING-BY-MOTHS is better established than EATING-BY-CATS. Perhaps study of a larger corpus of adjectival participles not based on otherwise attested verb (use)s would shed light on this (cf. *war torn/torn by war* vs. **war tore the city*).

- b. Die Nachricht ist ihm {mitgeteilt/*zugeflüstert/*zugebrüllt}.
 the news ist him^{dat} {informed/whispered/yelled}

‘He is informed of the news. / The news has been {whispered/shouted} to him.’

I thus see the State Relevance Hypothesis as an essential element of the description of (German) adjectival participles. I see no obstacle to adding it to G’s theory. It is compatible with the Event Kind Hypothesis, the Non-Referential Satellite Hypothesis and the Pseudo-Incorporation Hypothesis. Section 3.5 suggested that it undermines the testability of the Established Kind Hypothesis, but that does not refute it.

4 Structural matters and the reasons for pseudo-incorporation

I now comment on the reasons for pseudo-incorporation and its implications for the structure of participles. I aim to point out questions for future work, not to give full analyses. Let us start by noting that G’s analysis is intended for resultative but not for situation-in-progress participles (cf. G, note 3). This makes sense. Situation-in-progress participles do not display the hallmarks of pseudo-incorporation (integration) noted in section 3.4 such as resistance to movement (19) and default stress on the satellite. Stative participles are also exempt from the Non-Referential Satellite Hypothesis. For illustrations I must refer readers to Gehrke (2012), as well as Rapp (1997:sect. 2.4-2.6), Schlücker (2005) and Maienborn (2011).

These studies also suggest that satellites attach before the adjective-creating morpheme in resultative participles but above it in situation-in-progress participles. Support for this is seen in (28). Satellites and *un*-prefixation can coexist in situation-in-progress but not in resultative participles. This follows if the satellite in (a) but not (b) is part of the input to *un*- and violates its selection restrictions. (A similar argument can be made with comparative affixes, cf. Rapp 1997:193f.) Attaching satellites below affixes is not implausible given e.g. Bruening’s (2013) demonstration that English participle morphology can attach to verbal projections containing e.g. small clauses and infinitives.

- (28) a. Die Wände sind {von Feuer geschwärzt / (*von Feuer) ungeschwärzt}.
 the walls are {by fire blackened / (by fire) unblackened}
 b. Sie ist von Otto (un)beeindruckt.
 she is by Otto (un)impressed

With this background we can discuss some explanations for pseudo-incorporation of satellites.

A) If fault is found with the arguments for attachment of satellites below the stativizing morpheme in resultative participles, then all satellites merge with fully formed participles. If so there is a candidate for a factor that forces satellites to pseudo-incorporate in resultative but not in situation-in-progress participles. Maienborn (2001) argued that German locative adverbials that modify only part of the meaning of the verbal event merge very low in the clause and integrate (pseudo-incorporate) into V (recall the discussion above (13)). Such ‘selective’ modification applies to expressions like *in Stiefeln schlafen* ‘sleep in boots’ or *in Fett braten* ‘fry in fat’, where the modifiers locate not an event but (part of) an event participant. If one can show specifically that this selectiveness (rather than kind modification) is a factor which triggers pseudo-incorporation of modifiers, then we predict pseudo-incorporation of satellites with resultative but not situation-in-progress participles, since modifiers which attach to a stative expression but modify an event embedded in its semantics are by definition selective.

B) Consider now the options if satellites merge before adjectivization in resultative participles, as the above-cited literature claims. In accord with G (section 4), the stativizing head in resultative participles happens to select a constituent which does not include whatever clausal operator is responsible for instantiating event variables. This derives the Event-Kind Hypothesis but does not in itself force pseudo-incorporation of satellites. If it did, we would wrongly expect pseudo-incorporation of all phrases merging below the relevant clausal

operator, even in event-instantiating clauses. Some other factor must force pseudo-incorporation. I know of one candidate for such a factor: the (German) adjectivizing head selects a constituent so small that it can only include satellites that are (pseudo-)incorporated, for instance it can select V but not VP (cf. Maienborn 2011)⁹. We would thus have a situation like that in (29). These illustrate a kind of English zero nominalization process which can take V+argument constituents as input only if the argument is incorporated, cf. the contrast in (a) which can be replicated with the compounds in (b) (McIntyre 2014 makes the same point with certain kinds of *er*-nominals). The pseudo-incorporation of German *by*-phrases into V would parallel the physical incorporation of agents in (c)¹⁰.

- (29) a. a typologically rare kind of {topic drop/*drop of topics}
 b. heartbreak, bloodshed, stock split, witch hunt, haircut
 c. shark-attack, snake-bite, bee-sting, birdsong

If one assumes that *by*-phrases require Voice heads (e.g. Bruening 2013), then the passive Voice head (the Prt head in G, section 4) can reanalyse with V to form a complex Voice head, so that the selection restriction of the adjectivizing head is not violated. (30) exemplifies this kind of derivation.¹¹

- (30) *Es ist* [_{AP} [_{PP} *von Künstlern*] [_{Voice°} [_{V°} [_{PP} *mit Blumen*] *verzier-*] *t*] Ø]]]]]
 It is by artists with flowers decorate -d

The aim of this discussion is not to recommend particular analyses but to draw attention to some problems which arise when one tries to integrate the Pseudo-Incorporation Hypothesis into an analysis of the structure of participles. I cannot see an easy way to accomplish this without jettisoning some cherished assumptions, but I believe that G has demonstrated that structural analyses of participles must accommodate pseudo-incorporation of participial satellites.

5 References

- Bouchard, D. 2011. Review of Cinque, *The syntax of adjectives*. www.linguistlist.org/issues/22/22-2513.html
- Bruening, B. 2013. Word formation is syntactic: Adjectival passives in English. To appear in *Natural Language and Linguistic Theory*.
- Frey, W. 2003. Syntactic conditions on adjunct classes. In: E. Lang, C. Maienborn & C. Fabricius-Hansen (eds.): *Modifying Adjuncts*. Mouton de Gruyter, 163-209
- Gehrke, B. 2012. Passive States. V. Demonte & L. McNally (eds.) *Telicity, Change and State*. Oxford: OUP. 185-211.
- Gehrke, B. 2014. Adjectival participles, event kind modification and pseudo-incorporation. To appear in *Natural Language and Linguistic Theory* (this issue).
- Gese, H. 2011. Events in adjectival passives. In *Proceedings of Sinn und Bedeutung 15*, Ingo Reich, Eva Horch & Dennis Pauly (eds.), 259-273.
- Gese, H. 2012. Empirische Studien zum Zustandspassiv. Dissertation, University of Tübingen.
- Jacobs, J. 1993. Integration. In: M. Reis (ed.), *Wortstellung und Informationsstruktur*, 63-116.
- Jacobs, J. 1999. Informational Autonomy. In: P. Bosch & R. van der Sandt (eds.), *Focus: Linguistic, Cognitive, and Computational Perspectives*, 56-81.
- Massam, D. 2009. Noun Incorporation: Essentials and Extensions. *Language and Linguistics Compass* 3: 1-21.
- Maienborn, C. 2001. On the position and interpretation of locative modifiers. *Natural language semantics*. 9: 191-240.

⁹ Claiming that the affix has this narrow a selection restriction does not in itself entail that the participles are formed in a presyntactic ('lexical') component (McIntyre 2014).

¹⁰ Compounds like (29)c) are confined to established kinds in that the respective agents do more to classify the event-kind than the patient/theme arguments do. Interestingly, Beste Kamali (p.c.) confirms that the Turkish agent-pseudo-incorporation construction described in Öztürk (2009) works for these kinds of situations but not for clearly unestablished situations like *policeman-snore* or *child-see (the dog)*.

¹¹ Any theory adopting the assumption of G (section 4) and Bruening (2013) that verbal and adjectival passives are identical below the adjectivizing head faces the problem of how to handle those adjectival passives which (unlike verbal passives) allow reflexive interpretations (*he is well-dressed*^{adj} is compatible with self-dressing, unlike *he is being dressed*, and similarly in German).

- Maienborn, C. 2011. Strukturausbau am Rande der Wörter: adverbiale Modifikatoren beim Zustandspassiv. In: Engelberg, Stefan, Holler, Anke, Proost, Kristel (eds.) *Sprachliches Wissen zwischen Lexikon und Grammatik*. 317-343.
- Maienborn, C. & Geldermann, S. 2013. 'Expertengeprüft' und 'vom Experten geprüft'. In: Härtl, H. (ed.) *Interfaces of Morphology*. Berlin: Akademie. 127-161.
- McIntyre, A. 2013. Adjectival Passives and Adjectival Participles in English. In Artemis Alexiadou and Florian Schäfer, eds., *Non-Canonical Passives*, Amsterdam: Benjamins. 21-41.
- McIntyre, A. 2014. Constraining argument structure in nominalizations: The case of English *-er*. <http://ling.auf.net/lingbuzz/001602>
- Meltzer-Asscher, A. 2011. Adjectival passives in Hebrew. *Natural Language and Linguistic Theory* 29: 815-855.
- Öztürk, B. 2009. Incorporating agents. *Lingua* 119: 334-358.
- Rapp, I. 1997. *Partizipien und semantische Struktur*. Tübingen: Stauffenburg.
- Schlücker, B. (2005): Event-Related Modifiers in German Adjectival Passives. In: E. Maier, C. Bary & J. Huitink (eds.), *Proceedings of SuB9*. NCS, Nijmegen, 417-430.
- Ward, G., Sproat, R. & McKoon, G., 1991. A Pragmatic Analysis of So-Called Anaphoric Islands. *Language* 67. 439-474.