

Event Denoting *-er* Nominalizations in German*

Florian Schäfer

Universität Stuttgart

As in other Germanic or Romance languages, *-er* nominalizations in German typically denote the external argument of the verb they are derived from irrespectively of its specific thematic role. This type of *-er* nominalizations is totally productive across languages. As observed in the literature, *-er* nominalizations across languages sometimes denote what looks like the internal argument of the verb they are derived from and one can even find *-er* nominalizations derived from adjectives, prepositions or nouns. The latter types of *-er* nominalizations are, however, not fully productive but (to some extent) idiosyncratic. I will show that German has one further type of *-er* nominalizations which does not denote an entity but an event. It turns out that these event denoting *-er* nominalizations are restricted to one specific type of predicates, namely semelfactives. Within this class of semelfactives, the derivation of event denoting *-er* nominalizations turns out to be totally productive. I suggest that the restriction that event denoting *-er* nominalizations can only be derived from verbs expressing semelfactive events tells us something about the meaning or the selectional restrictions of the derivational morpheme *-er*.

1. Introduction: Entity denoting *-er* nominalizations

The literature on *-er* nominalizations has established the so called *external argument generalization*; *-er* nominals typically denote the external argument of the underlying predicate, irrespectively of the specific theta role which this argument has (Rappaport Hovav & Levin 1992, Fabb 1984, Keyser & Roeper 1984, van Hout & Roeper 1998 among others). That is, we find agent and instrument *-er* nominalizations but also *-er* nominalizations denoting other types of external arguments such as causer, holder or experiencer (cf. (1)).¹

- | | | | |
|-----|----|---|--------------|
| (1) | a. | He is a <i>teacher</i> | (agent) |
| | b. | He is a <i>fire-fighter</i> | |
| | c. | This is a <i>grinder</i> | (instrument) |
| | d. | This is a <i>can-opener</i> | |
| | e. | Anger is a great <i>defuser</i> of pent-up emotions | (causer) |
| | f. | Education is a <i>leveller</i> of class differences | |
| | g. | He is a <i>holder</i> of a Visa or Master card | (holder) |
| | h. | He is a <i>bearer</i> of heavy burden | |

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¹ I do not discuss the difference between [+eventive] and [-eventive] *-er* nominalizations and its relation to the presence of complement structure that was established by Rappaport Hovav & Levin (1992). See Alexiadou & Schäfer (2007) for further discussion.

- i. He is an *admirer* of the Greek poets (experiencer)
- j. He is a *lover* of French cuisine

The formation of external argument denoting *-er* nominalizations is a totally productive derivational process.

It was observed, however, that not all *-er* nominalizations obey the external argument generalizations. The examples in (2) seem to denote the theme, i.e. the internal argument of the underlying predicate.

- (2) a. baker (a baked potato)
- b. broiler (a broiled chicken)
- c. scratcher (a lottery ticket that is scratched)
- d. bestseller (something that sells well)
- e. reader (a combination of literature which reads easily)

Nominals such as in (2) have an interpretation that is close to the interpretation that the base verb receives in the middle construction. Thus, it was proposed that these nominals are in fact derived from the middle version of underlying verbs where the theme (the argument denoted by the *-er* nominals in (2)) is the (either base generated or derived) external argument of the verb (Rappaport Hovav & Levin 1992, Booij 1986, Heyvaert 1998, 2003).

Besides object denoting *-er* nominals, we also find *-er* nominals denoting the complement of a preposition modifying the verb (where the preposition is often locational). For these types of *-er* nominals, it was also proposed that they can be subsumed under a middle-kind of analysis (at least in Dutch, Haeyvaert 1998, 2003).

- (3) a. diner (a place to dine in)
- b. sleeper (a train where one can sleep in),
- c. toploader (a washing machine which one loads from the top)

While examples as in (2) and (3) can be found in English and Dutch, they seem to be hardly present in German.² A reason for this difference could be that English and Dutch form morphologically unmarked middles while German marks its middles with the reflexive pronoun ‘*sich*’ (cf. Schäfer 2006, 2007 for a proposal which correlates this difference in morphological marking with a difference concerning the syntactic position of the theme in middles; in Dutch and English middles, the theme is a derived external argument, while in German middles, it remains in its VP-internal base position).

It should, however, be noted that even in languages that allow the kind of *-er* nominalizations in (2) and (3), their formation is certainly not fully productive but such a nominal has to be accepted in the language community in order to be

² With the exception of the type in (3c) and loanwords like ‘bestseller’.

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understood in the right way.³ A speaker cannot arbitrarily form a -er nominal with the intention that this nominal denotes the object of the underlying verb (or object of a verbal preposition) while this is always possible if the -er nominal is ought to denote the subject of a verb. That is, while virtually every verb projecting an external argument allows a -er nominal denoting the external argument, only a small subset of verbs allows -er nominals to denote the internal argument. This suggests that object-denoting -er nominals are (in fact need to be) lexicalized. Finally, we can also find -er nominals with adjectival stems (foreigner, loaner), prepositional stems (upper, downer, insider), denominal stems (porker, Londoner, villager, Scotland Yarder, teenager) or derived from measure words (fiver) (see Ryder 1999 for a collection of such examples).⁴ Once again, it should be noted that such derivations are not fully productive in that we cannot use any adjective, preposition or noun to form a corresponding -er nominal. This does not mean that there are no interesting generalizations to be made about what kind of non-verb derived -er nominals are possible or not. On the contrary, for example noun-derived -er nominals are clearly restricted by the semantics of the noun; while some noun classes do not allow -er formation at all (e.g. animals: *doger, *cater, *birder), other noun classes are persistently compatible with -er formation and then, the reading these nouns receive is clearly determined by a stereotypical pattern. For example, -er nominals from nouns denoting civilizing places (cities, villages, countries, ...) denote people who live at this place (but not people who

³ Many of the object denoting -er nominals in English are built from specific verbal subclasses (cooking verbs or clothing verbs).

⁴ The literature sometimes gives examples of -er nominals derived from alleged unaccusative verbs. But these examples involve verbs that can be reanalyzed as unergatives in the right contexts. Such contexts typically assign control to the only argument of the verb. In the examples below (from Ryder 1999), the -er nominals are either paired with professional nouns (*vanisher* -> professional + lawyer, *dyer* -> actor) or it is described as controller in a different way.

- (i) a. I swear, the moment I need to talk to Max, he's suddenly gone. I'm beginning to think he is a professional vanisher, not a lawyer
- b. So many old melodramas end in deathbed scenes that the actors who played in them had to be good *dyers*.
- c. One guy jumped right into the fight, but his friend immediately vanished. The police came and hauled off the fighter, after which the *vanisher* promptly reappeared laughing.

The German examples below suggest the same analysis:

- (ii) a. 'Umfaller' (fall down-er) is not someone who is fainting but someone who agentively gives up his old opinion.
- b. 'Abfaller' (fall away-er) is not something which physically falls apart, but again someone who agentively changes his affiliation with a group/party/idea.
- c. 'Durchfaller' (fall through-er) is not something that physically falls through some physical object, but someone who misses his goals in school.

just work there, or have any other relation to the place)⁵. Further, in German, *-er* nominals derived from company-names denote employees of this company but not people who, for example, buy the products of this company (e.g. Postler, Banker, BMW-ler, ...).

To conclude, while the class of *-er* nominalizations which do not denote the external argument of a verb is certainly interesting and amenable to specific generalizations, it seems fair to say that only the formation of external argument denoting *-er* nominalizations is really a productive derivational process within and across languages.⁶

In the next section, I will turn to a further type of verb derived *-er* nominals in German. While this type is restricted in productivity in that it is possible only with verbs from a very specific class, it turns out that, within this class of verbs, its formation is totally productive.

2. Event denoting *-er* nominals

In this section, I discuss a further type of *-er* nominalizations which I call “*event denoting -er nominalizations*”. Event denoting *-er* nominalizations are - as far as I know - restricted to German. While the existence of this type of nominalizations has been acknowledged sometimes in the literature in passing (e.g. Fanselow 1985), it has (once again, to my knowledge) never been discussed in detail. Especially, the restrictions on the formation of event denoting *-er* nominalizations have not been discussed.

As an illustration, look at the two examples in (4) and (5). These examples are ambiguous between a reading where the nominal denotes the external argument of the underlying verb (a) and a reading where the nominal denotes the event of the underlying verb (b). Importantly, the event reading expresses something like a “minimal event”: (4b) describes one single jumping cycle which starts when a person’s feet leave the ground and stops as soon as the feet touch the ground again. Similarly, (5b) expresses one short beeping sound. Note that English *-er* nominalizations only have the external argument denoting reading, while the event denoting reading surfaces with zero-morphology.

- (4) ein Hüpfen
 a. a jumper (a person who jumps)
 b. a jump (a/one jumping event)

⁵ Again, languages differ in productivity; English allows this only with nouns denoting cities or villages (London-er, New York-er), German allows it also with many nouns denoting countries (Englän-d-er, Italien-er, ...)

⁶ Therefore, Alexiadou & Schäfer (2007) propose to relate the difference between external argument denoting *-er* nominalizations and the other *-er* nominalizations to the difference between root and non-root derived nominals in the framework of Distributed Morphology.

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- (5) ein Piepser
 - a. a beeper (an agent who beeps)
 - b. a beep (a/one beeping event)

The formation of event denoting *-er* nominals is not an idiosyncratic phenomenon restricted to a small number of verbs.⁷ Instead, it turns out that it is totally productive within a specific, well defined class of verbs. As a first approximation, we find them within the following semantic verb classes (using the terminology of Levin 1993).

- (6) a. Verbs of contact by impact
- b. Verbs of (light/sound/substance) emission
- c. Verbs of manner of motion and body internal motion

However, being a member of these classes is not sufficient. A closer inspection of the verbs within these verb classes reveals that a verb must have a *semelfactive* use in order to be able to form an event denoting *-er* nominal. Before I show this, I shortly introduce one proposal in the literature to characterize semelfactives.

2.1 Semelfactives

According to Rothstein (2007a, b), semelfactives are verbs denoting ‘single occurrence’ events; in addition, these verbs are homonymous with activities denoting verbs which involve iterations of the single event. For example, the verb ‘*knock (on the door)*’ can either have a semelfactive reading where an object is brought in contact sharply with a door once, or it can have an activity reading which expresses an iteration of the single event, i.e. an object is brought in contact sharply with a door a number of times. More specifically, Rothstein proposes that activities are derived from semelfactives by the operation of s(ingular)-summing below:

- (7) S-summing (Rothstein 2007a): (singular summing) sums activity events with no temporal gap between them and forms a new singular event out of this sum.

S-summing is the operation forming activities. All semelfactive predicates have in addition an activity reading but not all activity predicates have a semelfactive reading. Rothstein (2007b:4) explains the differences and similarities between semelfactives and activities on the basis of a comparison of the two predicates *skip* and *walk* (the highlighting is mine):

⁷ I identified more than 100 verbs that form event-denoting *-er* nominals.

“Events in the denotation of the activity predicates *skip* and *walk* are formed by S-summing from minimal events of *skipping* and *walking*. These predicates denote, respectively, the set of skipping and walking events closed under S-summing. The difference between them is that minimal events of skipping are **naturally indivisible** or **naturally atomic**, while minimal events of walking are not.” ...
 “When the minimal events in the denotation of an activity predicate P are naturally atomic, or naturally indivisible, then they are lexically accessible.” ...
 “A predicate P is naturally atomic if what counts as one instance of P is given as part of the meaning of P and is thus not context dependent.” ... “A naturally atomic entity is one whose unit structure is perceptually salient and given by the world”.

As mentioned, all semelfactive predicates have in addition an activity use but not all activities also have a semelfactive use. The property of predicates with a semelfactive use to be naturally atomic allows us to identify systematic differences between the two types of predicates (cf. Rothstein 2007a):

Semelfactives can be counted in two ways: counting adverbials can count either the single event (the semelfactive version) or the iterations of the predicate (the activity version). With pure activities only extended events can be counted because the single event is not naturally atomic, i.e. it is not lexically accessible.

- | | | | |
|-----|----|-------------------------|-----------------|
| (8) | a. | John knocked twice | (ambiguous) |
| | b. | John jumped three times | (ambiguous) |
| | c. | She walked three times | (not ambiguous) |

Semelfactives can be iterated in two ways: *Again and again* can modify either the single event or the activity predicate (Rothstein 2007a). In the case of activities, only the extended event can be iterated. This leads to different implications about the time course of the iterated events. Naturally atomic events can be iterated without a break between the individual events. (9a) can, therefore, be understood as process which is ongoing for some time. With activities which do not involve naturally atomic events, the iteration implies that there must be a gap between the individual activity phases. (9b) therefore cannot be understood as a process ongoing for some time.

- | | | | | |
|-----|----|----------------------------|------|--------------------------------|
| (9) | a | She jumped again and again | -> | She jumped for several minutes |
| | b. | He ran again and again | -/-> | He ran for several minutes |

In the next section, I apply such tests to the verbal classes identified in (6). As it turns out, only semelfactive verbs within these verb classes allow the formation of event denoting *-er* nominalizations.

2.2 Event denoting *-er* nominalizations denote semelfactive events

TABLE I lists a number of *-er* nominalizations derived from ‘verbs of contact by impact’. All the examples in the left column have two interpretations; they either denote the external argument of the underlying verb or the (minimal) event expressed by the verb (only the latter reading is indicated in the table). The examples in the right column, on the other hand, are not ambiguous. They only allow for the external argument interpretation. They do not allow for the event denoting reading (indicated by the * in front of the examples in the table).

<i>Semelfactives</i>		<i>Activities</i>	
Klopfer	(a knock)	*Hämmerer	(hammering-event)
Aufpraller	(a bounce)	*Schlager	(a hit)
Piekser	(a prick)	??Stampfer	(stamping event)
Schubser	(a jostle)	*Drücker	(pressing-event)
Stupser	(a nudge)	??Beisser	(a biting event)
Rempler	(a jostle)	*Schieber	(pushing-event)
Anrempler	(a jostle)	*Quetscher	(a squeezing event)

TABLE I: Verbs of contact by impact

A closer inspection of TABLE I reveals that the verbs underlying the nominals in the left column are semelfactives while the verbs underlying the nominals in the right column are activities. This is illustrated with two verbs, ‘*klopfen*’ (to knock) and ‘*hämmern*’ (to hammer) which clearly differ with respect to the tests introduced above.

If we count the event as in (10), we get an ambiguous result with ‘*klopfen*’ (either an atomic event or an extended event is counted) but not with ‘*hämmern*’ (only an extended event can be counted).

- (10) a. Er klopfte dreimal (ambiguous)⁸
 He knocked three times
 b. Er hämmerte dreimal (not ambiguous)
 He hammered three times

If we add the iterative adjunct ‘*wieder und wieder*’ (again and again), ‘*klopfen*’ is again ambiguous (11a); either the atomic event is iterated or the extended activity is iterated. The verb ‘*hämmern*’ in (12a) does not show this ambiguity; only the extended event can be iterated. This difference between ‘*klopfen*’ and ‘*hämmern*’ is stressed by the fact that only the iterated semelfactive event in (11a) is logically compatible with (11b) which involves an atelic temporal modifier. The iterated activity event in (12a) is logically not compatible with (12b) which again involves

⁸ The verb ‘*anklopfen*’ (at-knock), in contrast, is an activity and, in turn, the *-er* nominalization does not allow for the event denoting interpretation.

(i) *Anklopfer (a knocking-at (the door) event)

an atelic temporal modifier. The reason is that the atelic modifier suggests that the agent acts without a break but only a naturally atomic event can be iterated without an interruption. If we want to iterate an extended event, we have to assume that there is a break between the individual extended events, as otherwise we could not identify the beginning or end of the individual extended events; but this interrupted scenario cannot be described with a ‘for some time’ adverbial. The c-examples show the same (in)compatibility between iterated events and modifiers which suggest that the agent acted without a break; again, the semelfactive verb in (11c) gives much better results than the pure activity verb in (12c).

- (11) a. Er klopfte wieder und wieder (ambiguous)
 He knocked again and again (->)
 b. Er klopfte eine Zeit lang (am Stück/ohne Pause)
 He knocked some time long (at a stretch/without respite)
 c. Er klopfte wieder und wieder ohne Unterbrechung
 He knocked again and again without respite
- (12) a. Er hämmerte wieder und wieder (not ambiguous)
 He hammered again and again (-/->)
 b. He hämmerte eine Zeit lang (am Stück/ohne Pause)
 He hammered some time long (at a stretch/without respite)
 c. #Er hämmerte wieder und wieder ohne Unterbrechung
 He hammered again and again without respite

TABLE II lists a number of *-er* nominalizations derived from (different types of) ‘verbs of emission’. Again, the examples in the left column are ambiguous, denoting either the external argument of the underlying verb or the event expressed by the underlying verb, while the examples in the right column only allow for the external argument denoting reading but do not allow for the event denoting reading (as indicated by the * in front of the examples).

<i>Semelfactives</i>		<i>Activities</i>	
?Aufblitzer	(flashing-event)	*Blinker	(a blinking event)
Piepser	(a beep)	*Funkeler	(a sparkling event)
Klopfer	(a knock)	*Leuchterer	(a glowing event)
Rülpser	(a belch)	*Pieper	(a puling event)
Seufzer	(a sigh)	*Weiner	(crying event)
Quietscher	(a jar)	*Schreier	(a shouting event)
Krächzer	(a caw)	*Rauscher	(a showsh)
Juchzer	(a crow)	*Summer	(a buzzing)
Träufler/Tropfer	(a drop)	*Rassler	(a rattling)
Spritzer	(a splash)	*Bluter	(a bleeding event),

Table II: Verbs of emission

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Once again, the verbs underlying the nominalizations in the left column but not the verbs underlying the nominalizations in the right column are semelfactives. This is illustrated exemplarily below. The examples in (13)-(15) show that ‘*piepsen*’ (to beep) is a semelfactive verb while ‘*summen*’ (buzz) is an activity verb.

- (13) Er piepste dreimal (ambiguous)
 He peeped three times
 Er summte dreimal (not ambiguous)
 He buzzed three times
- (14) a. Er piepste wieder und wieder (ambiguous)
 He peeped again and again (->)
 b. Er piepste eine Zeit lang (am Stück/ohne Pause)
 He peeped some time long (at a stretch/without respite)
 c. Er piepste ohne Unterbrechung wieder und wieder
 He peeped without respite again and again
- (15) a. Er summte wieder und wieder (not ambiguous)
 He buzzed again and again (-/->)
 b. Er summte eine Zeit lang (am Stück/ohne Pause)
 He buzzed some time long (at a stretch/without respite)
 c. #Er summte ohne Unterbrechung wieder und wieder
 He buzzed without respite again and again

The same contrast can be found with the light-emission verbs in (16)-(18). ‘(Auf-) *blitzen*’ (to flash) which allows for the formation of an event denoting *-er* nominalization is a semelfactive while ‘*blinken*’ (to blink) which does not allow for an event denoting *-er* nominalization is an activity.

- (16) a. weil die Lampe dreimal (auf-)blitzte (ambiguous)
 because the lamp three times flashed
 b. weil die Lampe dreimal blinkte (not ambiguous)
 because the lamp three times blinked
- (17) a. weil die Lampe wieder und wieder (auf-)blitzte (ambiguous)
 because the lamp again and again flashed (->)
 b. weil die Lampe eine Zeit lang (am Stück/ohne Pause) (auf-)blitzte
 because the lamp some time long (at a stretch/without respite) flashed
 c. weil die Lampe ohne Unterbrechung wieder und wieder (auf-)blitzte
 because the lamp without respite again and again flashed
- (18) a. weil die Lampe wieder und wieder blinkte (not ambiguous)
 because the lamp again and again blinked (-/->)

- b. weil die Lampe eine Zeit lang (am Stück/ohne Pause) blinkte
because the lamp some time long (at a stretch/without respite) blinked
- c. #weil die Lampe ohne Unterbrechung wieder und wieder blinkte
because the lamp without respite again and again blinked

Finally, TABLE III lists *-er* nominalizations from ‘verbs of manner of motion’ and ‘verbs of body internal motion’. Again, the examples in the left column are ambiguous, denoting either the external argument of the underlying verb or the event expressed by the underlying verb, while the examples in the right column only allow for the external argument denoting reading but do not allow for the event denoting reading (as indicated by the * in front of the examples).

<i>Semelfactives</i>		<i>Activities</i>	
Wackeler	(a wiggling event)	*Schütteler	(shaking event)
?Stakser	(a stalker)	*Torkler	(a tottering event)
Hüpfer	(a hopper)	*Rutscher	(a slip)
Hopser	(a hopper)	*Schlitterer	(a sliding event)
?Stolperer	(a stumble)	*Gleiter	(a sliding event)
?Schlenkerer	(a swing)	*Roller	(a rolling event)
?Schwenker	(a swing)	??Wirbler	(a spinning event)
Dreher	(a turn)	??Schaukeler	(a swinging event)

TABLE III: *Verbs of manner of motion and body internal motion*

Again, what is relevant for the event denoting reading is the semelfactive nature of the underlying verb. ‘Hüpfen’ (to jump) occurs in the left column and shows a semelfactive behaviour while ‘rollen’ (to roll) occurs in the right column and shows an activity behaviour.

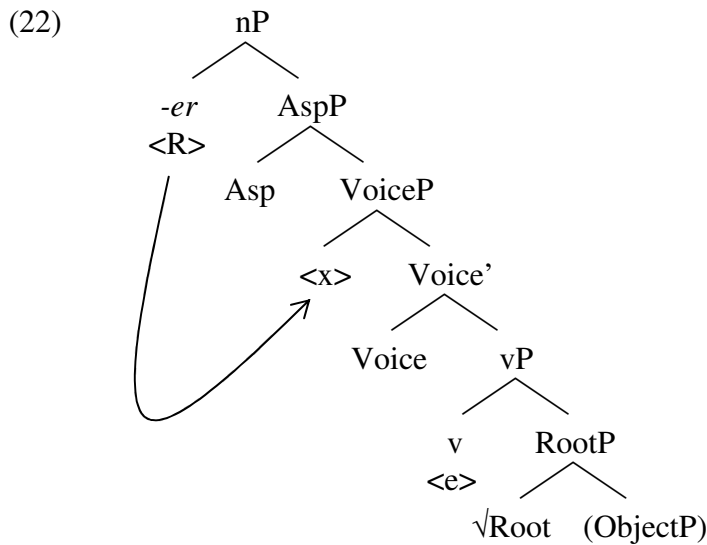
- (19) a. Er hüpfte dreimal (ambiguous)
He hopped three times
- b. Er rollte dreimal (not ambiguous)
He rolled three times
- (20) a. Er hüpfte wieder und wieder (ambiguous)
He hopped again and again (->)
- b. Er hüpfte eine Zeit lang (am Stück/ohne Pause)
He hopped some time long (at a stretch/without respite)
- c. Er hüpfte ohne Unterbrechung wieder und wieder
He hopped without respite again and again
- (21) a. Er rollte wieder und wieder (not ambiguous)
He rolled again and again (-/->)
- b. Er rollte eine Zeit lang (am Stück/ohne Pause)
He rolled some time long (at a stretch/without respite)

- c. #Er rollte ohne Unterbrechung wieder und wieder
 He rolled without respite again and again

To conclude, *-er* nominalizations in German can denote events if their source predicate is a semelfactive, i.e. if its event is **atomic/individuable**.⁹

3. The syntax of (event denoting) *-er* nominalizations

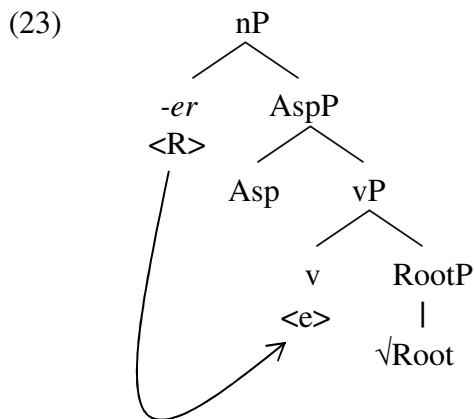
Following van Hout & Roeper (1998) and Alexiadou & Schäfer (2007), I propose the structure in (22) for external argument denoting *-er* nominalizations. The verbal event $\langle e \rangle$ is introduced by the v-head. Voice introduces the external argument of the verbal event (Kratzer 1996). I assume that an aspect head on top of VoiceP is present in *-er* nominalizations (see Alexiadou & Schäfer 2007 for motivation). Finally, a nominalising n-head takes the verbal structure as its complement. The nominal head which is realized by *-er* introduces an $\langle R \rangle$ operator which binds the external argument variable $\langle x \rangle$ which was introduced in SpecVoice (Note that $\langle R \rangle$ thereby binds the closest argument position). Therefore, the *-er* nominalisation denotes the external argument of the verbal event.



Turning to event denoting *-er* nominalizations, I propose the structure in (23). Voice is missing and the $\langle R \rangle$ operator introduced by *-er* binds the verbal event

⁹ Antje Rossdeutscher suggests that besides being semelfactive, the events in event denoting *-er* nominals must be *non-intentional*. While some event-denoting *-er* nominals do not obviously fit this description ('Jodler', yodeler) this further restriction would explain why the VoiceP level can be missing in the structures of event-denoting *-ers*. Further, *-er* nominals such as 'Jodler' (yodeler) and 'Kratzer' (scratcher) might be better analyzed as objects of results instead of events.

variable <e> introduced in v. Note that in the absence of Voice, <e> is the closest position which <R> can bind.¹⁰



The structures in (22) and (23) suggest that there exists only one *-er* affix which is present in all *-er* nominalizations. *-er* is the realization of a little n head which introduces a referential argument <R> for the nominal it produces. This <R> is an operator which needs to bind a variable.

The central claim put forth here is that this operator introduced by *-er* does not necessarily select for an entity but can, in principle, also bind an event. However, it seems that this event must be of a specific type, i.e. semelfactive. Binding is restricted by minimality (closest c-commanded element of the right type). Depending on whether Voice is projected or not, <R> can bind either <x> in Spec, Voice or <e> in v.

Note that the existence of a derivational morpheme such as *-er* under the above characterization is not expected under Lieber's approach, as in her system “we should not expect to find an affix which creates nouns some of which are concrete and others of which are abstract (that is, some of which bear the feature [+material] and others [-material])” (Lieber 2004:41). In Lieber's system, *-er* builds only concrete nouns, i.e. has the skeleton [+material, dynamic]. But the above event-denoting nouns are [-material, dynamic] (where the type of dynamic event is highly restricted, i.e. semelfactive). Lieber would therefore be forced to assume that there are two *-ers*, one forming [+material] and one forming [-material] nouns.

The claim that the operator introduced by *-er* does not differentiate between entities and events does not mean that it comes without selectional restrictions. On the contrary, I propose that the fact that event denoting *-er* nominalizations are possible only with semelfactive predicates results from a selectional restriction.

¹⁰ Some semelfactives are transitive. The corresponding event nominals do not license complements. Note that these German event denoting *-ers* behave thereby as their English zero derived counterparts. I leave this for further research.

(i) Er schubste den Peter (ii) Der Schubser (*des Peters) (iii) Er gab Peter einen Schubser
 He pushed the Peter The hustle (*of Peter) He gave Peter a push

Specifically, I hypothesize that the property of semelfactive events to be naturally atomic saturates the central selectional restriction of the *-er* morpheme; that is, the operator on the n-head realized by *-er* needs to bind variables of the type [+atomic]. Atomicity in turn is a property which cuts across the class of events and entities.¹¹

A number of questions remain to be answered:

What about the binding of events which are not naturally atomic? I assume that such events can be bound in the syntax by <R>,¹² but that at LF, such nominalizations are filtered out as not comprehensible: <R> wants to bind an atomic event but <e> introduced by verbs such as ‘run’ is not atomic and therefore the two do not fit in their interpretations.

What about *-er* nominals derived from anticausatives? Why don’t the examples in (24) denote the change-of-state events? This is especially striking as change-of-state/telic events are typically assumed to be atomic.

- (24) a. *brecher (break+er) b. *schmelzer (melt+er)

As suggested above, I propose that the event in v is in fact bound in the syntax by the n head. However, these constructions fail to receive a sensible interpretation at LF, because change-of-state verbs are only interpreted as atomic via a combination of an eventive v-head <e> and a resultant state <s>. <R> binds only the <e> in the v-head; this event is not atomic by itself. It is impossible to interpret the process part of a breaking event as atomic. Again, the structure is filtered out as incomprehensible at the CI-Interface.

What about English (and Dutch) which do not have event-denoting *-er* nominals? Recall that while English does not have event-denoting *-er* nominals, it nevertheless has event denoting nouns that correspond to the semelfactive *-er* nominals in German.

- (25) a bounce, a knock, a beep, a jump, ...

I propose that these nouns have exactly the same syntactic structure as the corresponding event-denoting *-er* nominals in German, i.e. the structure in (23). However, I propose that in English the n-head is spelt out in a different way in such a constellation. The framework of Distributed Morphology allows us to formulate that the Spell Out of the n-head forming atomic nouns can differ depending on the syntactic context. Following Embick (2003), insertion of Vocabulary items is sensitive to Locality. In other words, the Spell-Out rules for n make reference to its c-command domain as suggested by the two rules below.

¹¹ This leaves the question why we find *-er* nominals denoting mass nouns (nail polish remover, purifier, cleanser, ...). I leave this question and the exact nature of the selectional restriction imposed by *-er* for future research.

¹² Therefore we do not expect to find object denoting *-ers* as there cannot be an object without a verb introducing an event and intervening between the operator in n and the object

- (26) a. Spell-out of n: Voice Cycle
 n ↔ -er/ {√BEEP, √JUMP,...}
 b. Spell-out of n: v Cycle
 n ↔ -∅/ {√BEEP, √JUMP, ...}

4. Conclusions

The central aim of this paper was to present a rarely discussed type of *-er* nominalizations in German, event denoting *-er* nominalizations. This type of *-er* nominalizations is restricted to semelfactive verbs, but within this class of verbs, it is fully productive in that it can be formed with any semelfactive verb that exists. The existence of this type of nominalizations poses a number of theoretical questions. What is the structure of event denoting *-er* nominalizations and how do they differ from external argument denoting *-er* nominalizations? I argued above that the two differ in the presence vs. absence of Voice. If Voice is present, then the <R> operator located in n binds the external argument position, if Voice is absent, <R> binds the event in v. How many *-er* morphemes do we have to assume? Why are event denoting *-er* nominalizations restricted to semelfactive events? I proposed that there is actually only one *-er* morpheme which has selectional restrictions that cut across the verbal and nominal domain. Specifically, I suggested that the property of semelfactive events to be naturally atomic fits with the selectional restrictions of this *-er* morpheme. Finally, why do we find event denoting *-er* nominalizations only in German and not in other languages (e.g. English or Dutch)? I proposed that this is the result of different Spell Out rules in these languages; Spell Out rules are sensitive to the syntactic context in which a head occurs and, in the case of event denoting nominals, the Spell Out rule of English (and Dutch) chooses a zero exponent for the n-head that is spelt out as ‘er’ in the context of Voice. It should be noted that while the answers to these questions proposed above are couched within the framework of Distributed Morphology and are to some extent of only preliminary nature, the questions posed by the existence of event denoting *-er* nominalizations mentioned above are really independent of the framework of word formation chosen.

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Florian Schäfer
Department of Linguistics/Anglistic
University of Stuttgart
Heilbronner Str. 7
70174 Stuttgart

florian@ifla.uni-stuttgart.de

