

ON RESULT NOMINALIZATION IN GERMAN

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Abstract

It is well known that certain deverbal nouns like *invention*, *forgery* and *disappointment* allow a result interpretation while others like *explosion* and *search* do not. Result interpretation can mean two things: reference to a result object (*forgery*) or reference to a result state (*disappointment*). The present paper, whose focus is on deverbal nouns in German, investigates the semantical conditions the base verb must fulfill in order to allow a result object or a result state nominalization. In particular, we critically examine the criteria proposed by Ehrich and Rapp (2000).

1 Introduction

The most prominent use of deverbal nouns is to refer to the situation expressed by the respective base verb. Examples from German (and English) are *Explosion* (*explosion*), *Prüfung* (*examination*), and *Suche* (*search*). Deverbal nouns can of course pick out participants and other aspects of a situation as well. They can refer to the agent or the patient of an action, like *Prüfer* (*examiner*) and *Prüfling* (*examinee*), or to the instrument or the place, like *Feile* (*file*) and *Bäckerei* (*bakery*).

The focus of the present paper is on deverbal nouns in German that can be interpreted as referring to the *result* of an action or event. More specifically, there are two sorts of results to be considered: result objects and result states. Examples of deverbal nouns with result object interpretation are *Fälschung* (*forgery*), *Bohrung* (*bore*), and *Verletzung* (*injury*), whereas a result state interpretation is possible for *Inhaftierung* (*imprisonment*) and *Verblüffung* (*amazement*), for instance. Notice that there are also examples, like *Blockierung* (*obstruction*), that allow both types of interpretation.

1.1 Deverbal Result Nouns

By a *deverbal result noun* associated with a given verb we mean a noun that is derived from this verb by some regular single-step morphological process and that refers to the result state or the result object of the event denoted by the verb. In particular, we exclude past participle nominalizations because they are not deverbal but deadjectival. Hence, past participle conversions like *das Fertiggestellte* (*the completed*), although referring to the result object of the underlying verb, are not counted as deverbal result nouns. The same argument excludes state nominalizations derived from past participles by *heit*-suffixation as, e.g., *Aufgeräumtheit*, or by analytic formations as in *das Aufgeräumt-Sein* (*the being-cleared-up*).

Deverbal nouns that allow a result interpretation often allow an event interpretation too. In order to separate the different meanings of a deverbal noun, one usually employs distributional tests. If we assume result objects to be concrete entities then result object nouns should be usable in complement positions of verbs which require concrete objects:

- (1) a. Die Fälschung wurde der Polizei übergeben.
'The forgery was handed over to the police.'
- b. Er berührte versehentlich seine Verletzung.
'He inadvertently touched his injury.'
- c. Er verbarg seine neuste Erfindung im Keller.
'He hid his newest invention in the basement.'
- d. Die Beurteilung wurde ihm gestern zugesandt.
'The assessment was sent to him yesterday.'

Passing the foregoing test is of course not sufficient for being a result noun since agent and instrument nominalizations, for instance, behave the same way in that respect. It seems thus reasonable to require deverbal result nouns to refer to entities that come into existence during the event denoted by the base verb. But notice that this condition apparently excludes nouns like *Eroberung* (conquest) and *Erwerbung* (acquisition) because the object to be conquered exists before the act of conquering (although it is not a conquest at that time). We come back to this problem in Section 5 below.

Deverbal nouns under result state interpretation should be compatible with attributive adjectives expressing duration:

- (2) a. Die mehrstündige Versperrung der Ausfahrt
'The several hours' obstruction of the driveway'
- b. Die mehrminütige Verblüffung des Professors
'The several minutes' amazement of the professor'

In addition to such durative attributes, Ehrich and Rapp (2000, pp. 252f) suggest to employ the attributive adjectives *bestehend* (existing, persisting) and *vorgefunden* (found (being there)) which are intended to express "stationariness". However, it appears to me that these adjectives are unsuitable as indicators for state nouns because they are compatible with nouns denoting concrete objects as well, witness *die bestehende/vorgefundene Alarmanlage*.

1.2 Traditional Categories

It is instructive to review the traditional onomasiological classification of deverbal nouns in German under the perspective of result nominalizations. The more or less "classical" categories found in the literature are *nomina actionis*, *nomina agentis*, *nomina patientis*, *nomina instrumenti*, *nomina loci*, and *nomina acti*.¹ *Nomina actionis* correspond to event nouns whereas *nomina agentis*, *patientis*, *instrumenti*, and *loci* are characterized by the roles of the objects they refer to.² The only class having a "resultative" connotation

¹Cf. e.g. Fleischer and Barz (1995).

²See also Osswald and Helbig (2005).

seems to be the *nomen acti* class. Indeed, the respective entry in (Bussmann 1996) says that *nomen acti* is a term for “deverbal nouns that denote the result of the action denoted by the verb.” This view seems to be compatible with that of Fleischer and Barz (1995), where we find a definition of *nomina acti* as denoting the result state of an action (p. 86), but, somewhat inconsistently, also result object nouns like *Fälschung* (*forgery*) and *Bekanntmachung* (*announcement*) and even such cases as *Erwerbung* (*acquisition*) as examples of *nomina acti* (pp. 174f). There is, moreover, a totally different conception of *nomina acti* in the literature, which is held, for instance, by Eisenberg (1998, p. 265), according to whom *nomina acti* are deverbal nouns formed by *er*-suffixation which mostly describe the result of actions that are movements or sound utterances:

- (3) Dreher (turn), Huster (cough), Hopser (leap), Schluchzer (sob), Stupser (nudge)

Fleischer and Barz (1995, p. 154) mistakenly speak of “process descriptions” in this case, although a punctual, or semelfactive, reinterpretation is clearly prevalent.

Another problem concerning the classification of result nouns is the proper use of the *nomen patientis* category. Engel (1996, p. 505), for instance, restricts this category to persons affected by an action, like *Prüfling* (*examinee*). One of his examples, however, is *Aufkleber* (*sticker*), and his characterization of *nomina patientis* as deverbal nouns taking subject position under passivation allows a much broader range of objects than just persons:

- (4) a. Ein Prüfling ist jemand, der geprüft wird.
 ‘An examinee is somebody who is examined.’
 b. Eine Erwerbung ist etwas, das erworben wird.
 ‘An acquisition is something which is acquired.’
 c. Eine Spende ist etwas, das gespendet wird.
 ‘A donation is something which is donated.’

Motsch (1999, p. 343), on the other hand, does not mention the *nomen patientis* category at all in his semantic classification of deverbal nouns but introduces a single semantic class for “themes” which also covers result object nouns, his *nomina acti*. Here, a theme is meant to be the patient of an action (or event), an affected or effected object, or a passive undergoer (*ibid*, pp. 36f). However, since Motsch also employs the above passivation test for this class of nouns, he cannot account for result nouns like *Beurteilung* (*assessment*), to which the passivation test does not apply:

- (5) * Eine Beurteilung ist etwas, das beurteilt wird.
 * ‘An assessment is something which is assessed.’

In fact, result nouns that refer to *implicit* result objects are totally missing in the semantic classification proposed by Motsch.

To sum up, there is no appropriate coverage of result nouns by traditional onomasiological categories, and implicit results are even missing in more recent approaches like that of Motsch.

2 Events, States, and Results

Let us now look a bit more closely at the semantics of the verbs that give rise to result nominalizations. Clearly, it must be part of the meaning of such verbs to bring about a result. By a result we roughly mean some sort of condition whose manifestation characterizes the culmination of the described event.³ Hence only *terminative*, or *telic* verbs can give rise to deverbal result nouns. Telicity, however, is not sufficient as examples like *entleeren* (*empty*), *erreichen* (*reach*), and *fertigstellen* (*complete*) show: the deverbal nouns *Entleerung*, *Erreichung*, and *Fertigstellung* formed by *ung*-suffixation only allow an event interpretation, and other candidates for deverbal result nominalizations are not available in these cases.

The rest of this section is mainly concerned with the question of how to characterize telic verbs that semantically imply an “independent” result state, since this is a necessary requirement for result state nominalization. In addition, we discuss the impact of result objects on the existence of result states.

2.1 Resultant States vs. Target States

In his semantic analysis of the perfect in English, Parsons (1990, Chap. 12) draws a distinction between resultant states and target states for events that culminate. Parsons (*ibid*, p. 234) assumes that for every culminating event *e* “there is a corresponding state that holds forever after.” He calls this state the *resultant state* of *e* and refers to it as “the state of *e*’s having culminated.” The resultant state must not be identified with the *target state*, which is an “independently identifiable state” that the object of a verb is in after the verb is true of it (*ibid*, p. 252). Apparently, only telic verbs defining target states are candidates for deverbal result state nominalizations.

Kratzer (2000) observes that the distinction between target states and resultant states is reflected by the behavior of the stative passive (‘Zustandspassiv’) with respect to adverbial modification by *immer noch*:⁴

- | | | | |
|-----|----|---|---------------------------|
| (6) | a. | Die Ausfahrt ist immer noch versperrt.
The driveway is still obstructed. | (target state passive) |
| | b. | Der Aschenbecher ist (*immer noch) geleert.
The ashtray is (*still) emptied. | (resultant state passive) |

However, there are many verbs like *aufräumen* (*clear up*) and *abschrauben* (*screw off*) that allow target state passives but not result state nominalizations. So, having a target state is obviously not sufficient for a verb to give rise to a result state noun.

It is moreover worth mentioning, and also noted by Kratzer, that there are many verbs with “independently identifiable” result states that nevertheless do not allow target state passives. Examples are deadjectival causatives like *leeren* (*empty*), *trocknen* (*dry*), and *säubern* (*clean*) and resultatives like *sauberfegen* (*make-clean-by-sweeping*) and *weich-*

³A much more general notion of ‘result’ for aspectual classification can be found in Naumann (2001) and Naumann and Osswald (2002).

⁴Kratzer attributes this observation to Nedjalkov and Jaxontov (1988), who refer to target state passives as *resultatives* and to resultant state passives as *perfects*; cf. also Löbner (2002).

klopfen (make-soft-by-beating). The “independently identifiable” result states seem to be fully specified by the respective adjectives in this case. Notice that none of these verbs allows a result state nominalization.

Durative adverbials, especially *für*-PPs (*for*-PPs), are another result state indicator studied in the literature.⁵ Kratzer (2000) claims that “the class of verbs that can form target state passives in German coincides with the class of verbs that allow modification by *für*-PPs.” However, there are counterexamples:

- (7) a. Das Fenster ist (*immer noch) auf+gemacht.
 The window is (*still) open+made
 b. Der Lehrer hat das Fenster für einige Minuten auf+gemacht.
 The teacher has the window for several minutes open+made.

Kratzer observes that all causatives derived with the help of *machen* never permit target state passives. This class of verbs, that have target states without allowing target state passives, is closely related to the class of deadjectival causatives mentioned above.

At the level of semantic representation, Kratzer (2000), and similarly Piñón (1999), assume a Davidsonian result state argument in addition to an event argument for verbs that allow target state passive and modification by *für*-PPs.

2.2 Result States vs. Result Object States

Result objects are objects resulting from an action or event. Examples of verbs denoting such actions are *erfinden* (*invent*), *destillieren* (*distill*), *umhüllen* (*wrap*), etc. It is tempting to argue that every result object is trivially accompanied by a result state, which is given by the very existence of the result object. This “state”, however, must not be taken as the result state of the action or event in question. Consider the verb *absperren* (*close off*), for example, which comes along with a result state as well as a result object, both referable in German by the deverbal noun *Absperrung*. Now notice that the result state is primarily a state of the object that is closed off and not a state of the barrier created for that purpose. This is quite obvious if we take into account that result states are typically expressed by target state passives.

The situation is of course different for verbs of creation with overt result arguments like *bake*, *build*, and *dig* because the resulting state holds precisely of the created objects in this case. But for these verbs, the assumption of a target state is nevertheless rather questionable.

That the coming into existence of a result object does not necessarily establish a result state is also clearly seen for accomplishment verbs like *zusammenfassen* (*summerize*) and *übersetzen* (*translate*), which do not allow adverbial modification by durative adverbials, although they give rise to result object nominalizations: *Zusammenfassung* (*summary*), *Übersetzung* (*translation*).

- (8) Der Student hat den Artikel *[für mehrere Minuten] zusammengefasst.
 The student has the article *[for several minutes] summerized.

⁵See e.g. Dölling (1998) and Piñón (1999).

‘The Student summerized the article *[for several minutes].’

We can conclude, there are not only telic verbs without result states, as observed in the previous section, but also verbs with result objects the lack a result state.

2.3 Digression: The Status of States

The ontological status of states notoriously calls for reflection. Proponents of a Davidsonian event analysis hold different positions concerning the status of states. There are those who simply consider states as a special type of eventuality, on a par with events. Others claim that one can dispense with states altogether in favor of reference to the temporal domain. Again others draw a distinction between states that are located in space (expressed by verbs like *sit* and *sleep*) and those which are not (expressed by verbs like *know* and *own* and most copula constructions). An approach of the latter type is proposed by Maienborn (To appear), who draws a distinction between Davidsonian states and so-called Kimian states; the latter are meant to be exemplifications of properties by objects at a time and are represented by a logical form that differs from a Davidsonian analysis.

Suppose we accept the view that states expressed by copula constructions are property exemplifications. Then we still need to distinguish between resultant states and target states.⁶ More concretely, the question is whether resultant state passives should be interpreted as property exemplifications at all. This comes down to deciding whether *being built*, *being translated* etc should count as properties (exemplified by Kimian states). Maybe Kimian states could be employed to explain the deviant behavior of deadjectival verbs with respect to target state passives mentioned in Section 2.1, but this issue needs further research.

3 The Approach of Ehrich and Rapp

In their article on *ung*-nominalizations in German,⁷ Ehrich and Rapp (2000) aim at two things: First, they propose a theory of lexical semantics and linking in order to explain how the syntactic realization of the arguments of a lexical entry is determined by its semantic representation and category specific linking rules. In particular, they assume *ung*-nominalizations and their base verbs to have identical lexical semantic representations but different argument structures. Second, they postulate specific constraints on the semantic representation of telic verbs that are correlated with possible interpretations of the *ung*-nominalization as a result object or result state, respectively. In the context of the present paper, we are primarily interested in this second aspect of Ehrich and Rapp's approach.

3.1 Lexical Semantic Structure

Ehrich and Rapp employ a decompositional approach to lexical semantics. They stipulate the following set of basic predicates: DO, BE, POSS, and APPL. The predicate DO,

⁶Maienborn (2003, p. 16) excludes copula constructions with past participles, i.e. stative passives, from her considerations.

⁷Suffixation by *ung* covers about 80% of the deverbal nouns in German.

which characterizes actions, can take one or two arguments – the agent and an optional affected theme (or patient). BE represents one-place states; the two-place predicates POSS and APPL stand for static relations, where POSS indicates the relation of possession, both material (e.g. *own*) and psychological (e.g. *admire*), and APPL is intended as generalized local relatedness.

For example, transitive activity verbs like *schlagen* (*hit*) are represented by the two-place process predicate DO, while transitive verbs of possession are represented by POSS:

- (9) DO $((x) r)$ rennen (run)
 DO $((x, y) r)$ schlagen (hit), unterstützen (support)
 POSS $((x, y) s)$ besitzen (own), kennen (know), bewundern (admire)
 APPL $((x, y) s)$ umgeben (surround)

The symbols representing the Davidsonian arguments in the semantic structure are subject to the following convention: *r* stands for processes, *s* for states, and *e* for (telic) events. In Ehrich and Rapp's formalism, the telic aspect of a verb is represented by means of a change of state predicate BECOME (or BEC) that takes state predicates as arguments. Telic verbs are represented by applying BECOME to the respective result state term:

- (10) BEC $((\text{BE}((x) s)) e)$ einschlafen (fall asleep), sterben (die)
 BEC $((\text{POSS}((x, y) s)) e)$ erkennen (recognize), finden (find)
 BEC $((\text{APPL}((x, y) s)) e)$ erreichen (reach)

If it is part of the meaning of a telic verb that the change of state is the result of the action of one of the participants, then the semantic representation contains a DO term in addition to the BECOME term. The semantic template then has the form:

- (11) DO $((\dots) r)$ & BECOME $((\langle \text{State-Predicate} \rangle((\dots) s)) e)$

Here, the conjunction of DO and BECOME is meant to express an implicit causation relation between the respective action (or process) and the change of state event, where the event argument *e* occurring in the BECOME term is taken as identical to the event argument of the whole causative construction.⁸

Our discussion of result state and result object nouns will be mainly concerned with the four types of causative verbs listed from (12) to (15), with examples taken from Ehrich and Rapp:

- (12) *Availability verbs*
 DO $((x) r)$ & BECOME $((\text{BE}((y) s)) e)$
 entdecken (discover), erfinden (invent), ausgraben (dig up)
- (13) *Change of state by affection*
 DO $((x, y) r)$ & BECOME $((\text{BE}((y) s)) e)$
 renovieren (renovate), verletzen (injure), fertigstellen (complete)
- (14) *Locative treatment verbs*

⁸Cf. Ehrich and Rapp (2000, p. 258).

- DO $((x, y) r)$ & BECOME $((APPL((z, y) s)) e)$
 bemalen (paint), beschmieren (smear), absperren (close off)
- (15) *Treatment verbs with effected theme*
 DO $((x, y) r)$ & BECOME $((BE(z) \& APPL(z, y)) s) e)$
 zusammenfassen (summarize), beurteilen (judge)

Template (14) says something like this: x is acting upon y to the effect that z is attached to y (locally or otherwise). Notice that (12) and (13) differ with respect to the arity of DO: The semantic structure of verbs expressing a change of state by affection involves the two-place DO predicate, whereas the semantic structure of availability verbs contains the one-place version of DO. In the first case, the agent is thought to directly affect the theme, or undergoer, in order to give rise to the result state, whereas in the second case there is no such direct continual influence of the agent on the object.

Referring to agents and themes hints at an inventory of semantic roles. In the approach of Ehrich and Rapp, each (non-situational) argument of a primitive predicate is associated with a specific thematic role:

- | | | |
|------|-------------------|---|
| (16) | DO $((x) r)$ | $x = \text{AGENT}$ |
| | DO $((x, y) r)$ | $x = \text{AGENT}, y = \text{THEME}_{\text{AFF}}$ |
| | BE $((x) s)$ | $x = \text{THEME}$ |
| | POSS $((x, y) s)$ | $x = \text{EXPERIENCER}, y = \text{POSSESSUM}$ |
| | APPL $((x, y) s)$ | $x = \text{APPLICATUM}, y = \text{RELATUM}$ |

The second argument of DO is called the *affected theme* or *patient*. Arguments within the scope of BECOME are referred to as *effected arguments*. Since an argument can occur in more than one primitive predicate of a decomposition, it may carry multiple thematic roles. In template (13), for instance, the affected theme is identical with the effected theme.

3.2 Criteria for Result Interpretations

Ehrich and Rapp assume that all possible interpretations of an *ung*-nominalization have the same lexical semantic structure which is identical with that of the base verb; different interpretations just pick out different referential arguments from that structure. Since telicity is a necessary condition for a verb to allow a result nominalization, the semantic structure of such a verb must contain a BECOME term.

The criteria Ehrich and Rapp propose for result interpretations make use of the *rank* of an argument, which is determined with respect to its position in the primitive predicates, where the first argument of a two-place predicate has higher rank than the second. Ehrich and Rapp postulate that the *ung*-nominalization of a telic verb has a result object interpretation if and only if the argument with highest rank under the BECOME operator is not an affected theme, in which case this argument is the referential argument of the result noun. It follows that verbs subsumed by (12), (14), and (15) should give rise to result object nominalizations whereas those subsumed by (13) should not, because in the latter case, the effected argument with highest rank y is an affected theme.

As for result state interpretations, the constraint proposed by Ehrich and Rapp is that the argument with lowest rank under BECOME is an affected theme, which is then the referential argument of the result state noun; furthermore, they require none of the effected themes be created or destroyed. Result state interpretations should thus exist only for (14) and for verbs of modification subsumed by (13).

3.3 Critical Analysis

A closer look reveals that Ehrich and Rapp's predictions are untenable in several respects. Consider the class (14) of locative treatment verbs. Whereas for verbs like *absperren* (close off) and *abdecken* (cover) a result state interpretation of the *ung*-nominalization is unproblematic, such an interpretation seems much more difficult to accept in the case of verbs like *bemalen* (paint) and *beschmieren* (smear):

- (17) a. Die mehrtägige Absperrung des Geländes
The several days closing off of the area
b. ??Die mehrtägige Beschmierung der Hauswand
The several days smearing of the wall

Many verbs of modification falling under (13) behave no better with respect to result state nominalization, contrary to what Ehrich and Rapp predict:

- (18) *Die mehrjährige Renovierung des Hauses
The several years renovation of the house

Let us turn to result object interpretations. Ehrich and Rapp predict that *ung*-nominalizations of modification verbs subsumed by (13) allow result state interpretations but not result object interpretations. Verbs like *verletzen* (injure) and *beschädigen* (damage), however, show exactly the opposite behavior. Injuries and damages are objects on a par with stains and holes – dependent on the object they are attached to, but surely not states of that object. The corresponding state is rather to *have* an injury or hole. One could argue that this seeming defect of Ehrich and Rapp's theory is only due to a mistaken classification of the chosen example verbs *verletzen* and *beschädigen*. Indeed, it might be more appropriate to subsume them under template (15). In any case, the modification template (13) is too unspecific for the given examples in that it does not represent the fact that something is implicitly “created” by these events, viz an injury or a damage. Another problematic aspect of template (13) is that it subsumes, both, verbs of creation and of modification. On the other hand, Ehrich and Rapp argue that this distinction makes a difference with respect to the existence of result object nominalizations. The given semantic representation is thus not fine grained enough to allow a correct prediction in this case.

The semantic structure of template (14) shows a further deficiency, namely the identification of the “locatum” argument *z* with the referential argument of the postulated result object noun. This is inadequate since the result objects of smearing, wrapping, or closing off events do not coincide with the material used for smearing, wrapping, or closing off, but are things produced from that material. Put differently, the APPLICATUM should not be identified with the result object since the latter is typically a newly created object that

materially consists of the *APPLICATUM* (which is often a substance). So, again, like in the case of *verletzen* (*injure*) and *beschädigen* (*damage*), implicitly created objects are not appropriately represented by the proposed lexical semantic structure. We can conclude that an adequate lexical semantic representation of implicit creation verbs should reflect the resulting object as well as the relations of that object to other participants of the event, be it the material used for creating the object or the *patiens* it is attached to; cf. Section 5.

4 Result State Nominalization and Stative Readings

This brief section addresses a straightforward criterion for the existence of result nominalizations. Observe that verbs like *absperren* (*close off*) and *abdecken* (*cover*), in contrast to *bemalen* (*paint*) and *beschmieren* (*smear*), allow an argument alternation known as *locatum-subject alternation* (Levin 1993). In this case, there is a stative reading of the verb that refers to the target state of the action reading:

- (19) a. (Eine Barriere aus) Stacheldraht sperrte das Gelände ab.
 (A barrier of) barbed wire closed the area off
 b. *(Eine Schicht aus) Farbe beschmierte die Wand.
 *(A coat of) paint smeared the wall

A result state reading of the base verb is surely a sufficient criterion for the existence of a deverbal result state nominalization. We may ask whether this condition is necessary too. Psychological verbs like *erstaunen* (*astonish*) and *verblüffen* (*amaze*), which are paradigmatic for giving rise to result state nominalizations, seem to be in accordance with the thesis in question, for they allow an appropriate stative reading:

- (20) Ihr gestriges Verhalten erstaunt/verblüfft ihn immer noch.
 Her yesterday behavior astonished/surprised him still

Potential counterexamples are verbs like *evakuieren* (*evacuate*), which have no stative reading, although a result state interpretation seems possible:

- (21) Die mehrwöchige Evakuierung des Küstengebiets
 The several weeks evacuation of the coastal area

Of course, *evacuate* has a target state passive but we have already seen in Section 2.1 that target state passives are not reliable for predicting result state nominalizations.

5 Implicit Creation Verbs and Result Nominalization

5.1 Resultative Adverbs and Result Objects

In his study of so-called “oriented” adverbs, Geuder (2000, Chap. 3) reports on a close connection between result objects and the interpretation of the type of adverbial modification exemplified in (22).

- (22) a. They decorated the room beautifully.
b. They loaded the cart heavily.

He points out that these *resultative adverbs*, in contrast to resultative adjectives, do not predicate of an overtly expressed object but of an *implicitly created object*. In (22a), it is the decoration that is beautiful, whereas in (22b), it is the load that is heavy. Notice that we just referred to the implicitly created objects by deverbal nouns, viz *decoration* and *load*, respectively. Geuder takes this as a general fact: Verbs that allow resultative adverb constructions should in principle also allow result object nominalizations (*ibid.*, pp. 82f). The converse does not hold, as Geuder observes, because overt result objects usually block resultative adverbs, as in *bake a cake *sweetly*.

Geuder regards (23a) as an example where the result nominalization is blocked despite of a possible modification by result adverbials.

- (23) a. brush the paint (thickly) onto the wall
b. brush the wall (thickly) with paint

For this seeming exception to the above rule, he offers the tentative explanation that the verb *brush* is denominal. There are two objections to this argument: Firstly, a result interpretation of *brushing* seems to be not totally unacceptable. Secondly, and more importantly, as far as results are at issue, one should focus on the resultative alternative (23b) instead of (23a). In German, the telic variant of the locative alternation is morphologically marked by *be*-prefixation, witness the German translation of (23) given in (24).⁹

- (24) a. (dick) Farbe auf die Wand pinseln
b. die Wand (dick) mit Farbe bepinseln

Whereas *Pinselung* is acceptable as an event nominalization at most, one could accept *Bepinselung*, like *Besprühung* and *Beschmierung*, as referring to result objects as well.¹⁰ Although somewhat unusual in colloquial German, these interpretations seem to be quite common in German officialese, of which (25) is an instructive example.

⁹Notice that the *with*-variant allows a telic and an atelic interpretation (ib), whereas the locative variant only has an atelic interpretation (ia).

- (i) a. He sprayed paint onto the wall for an hour/*in an hour.
b. He sprayed the wall with paint for an hour/in an hour.

Notice also that there are German verbs with atelic *be*-variants, which nevertheless show the locative alternation pattern; examples are *werfen/bewerfen* (throw) and *schießen/beschießen* (shoot).

- (ii) a. Er warf Schnee auf seine Freunde. (He threw snow at his friends.)
b. Er bewarf seine Freunde mit Schnee. (He pelted his friends with snow.)

¹⁰Notice that *Pinselei* and *Gepinsel* allow a result interpretation too, although they are derived from *pinseln* and not from *bepinseln*:

- (i) Betrachtet nur die Pinselei/das Gepinsel an der Decke!

(The primary effect of *(er)ei*-suffixation or so-called combinatorial derivation by *Ge*-(*e*) is to generate iterative event reinterpretations; e.g. *Gehüpfe*, *Hüpferei*.)

- (25) Ordnungswidrig [...] handelt, wer [...] als Eigentümer der Fläche Beklebung, Bemalung, Beschreibung, Besprühung, Beschmierung nicht innerhalb einer Woche entfernt [...].¹¹

The pair *Ladung/Beladung* (*load*) obviously does not behave as expected. Without attempting a full explanation of this effect, let us note that, first, there is a telic reading of *laden* as in *die Pistole laden*, where *Ladung* indeed refers to the result object, and, second, although uncommon, there seems to be a result object interpretation of *Beladung* too.

Other locative treatment verbs like *abdecken* (*cover*) and *verpacken* (*wrap*), which are prefix verbs but not *be*-verbs, also allow a result object modification by resultative adverbials:

- (26) a. Sie haben den Innenhof mit Planen regendicht abgedeckt.
They have the inner courtyard with planes rainproof covered
b. Sie haben die Messinstrumente mit Ölpapier wasserdicht verpackt.
They have the gauges with oil paper waterproof wrapped
- (27) a. die regendichte Abdeckung des Innenhofs
the rainproof cover of the inner courtyard
b. die wasserdichte Verpackung der Messinstrumente
the waterproof wrapping of the gauges

Our discussion has shown that the locative verbs are promising candidates for implicit creation verbs that give rise to result object interpretations.

But notice that the class of locative verbs is not exhaustive in this respect. Implicit creation verbs like *verletzen* (*injure*) and *beschädigen* (*damage*) clearly belong to another semantic class. The result object is not created from other objects or some substance in this case. Nevertheless, these verbs apparently allow resultative adverbs to predicate of result objects:

- (28) a. Der Dieb hat Peter lebensbedrohlich verletzt.
The thief has Peter life-threateningly injured
b. Peters lebensbedrohliche Verletzung wurde rechtzeitig behandelt.
Peter's life-threatening injury was in time treated

5.2 Implicit vs. Overt Creation Verbs

Concerning result nominalizations of overt verbs of creation, Bierwisch (1989, pp. 61f) observes the following “rather subtle, even elusive” distinction. Bierwisch argues that there are deverbal nouns like *Produktion* (*production*) whose referential argument can but need not be identified with the argument expressed by the grammatical object of the base verb. He claims that *Produktion* can show the referential pattern of *Komposition* (*composition*) as well as that of *Vertonung* (*setting (to music)*) “depending on factual aspects of the event in question.” Moreover, Bierwisch recognizes a similar switch of perspectives in the case of *Eroberung* (*conquest*) “depending on whether an occupied

¹¹Source: *Ordnungsbehördliche Verordnung der Stadt Gotha vom 18.1.2001*.

object is construed as different from the unoccupied one.” In order to take care of this variation he postulates an additional result argument in the lexical semantic form of the result noun, which, depending on conditions of “conceptual context”, can be identified with the “affected” object.

By the foregoing argument, however, the same can be said of the winner of a tournament, for instance, who could be construed as different from the one he was before he won. I take this view as untenable and therefore Bierwisch’s distinction as elusive indeed. A suitable semantic representation of result properties like being-occupied or having-won, i.e., being-the-winner is surely an issue. As remarked at the end of Section 2.3, maybe Kimian states are of use for this purpose. But introducing an additional result argument, as Bierwisch suggests, seems to be inadequate for that purpose. To give a final example of the phenomenon in question:

- (29) a. Er hat tausend Euro gespendet.
He has thousand Euro donated
b. Mit der Spende / dem gespendeten Geld kann vielen geholfen werden.
With the donation / the donated money can many helped will be

Within discourse analysis, the anaphorical reference to *thousand Euro by the donation* in (29) is known as *role bridging*.¹²

6 Conclusion

Result nominalizations provide both, an interesting linguistic phenomenon on its own right and a touchstone for verbal semantics. The main purpose of the present paper was to analyze the phenomena and to critically examine approaches given in the literature. The next step is to develop a formal semantic framework that takes these insights into account.

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¹²Cf. e.g. Clark (1977).

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