

Some Derivational Conditions on the German -ung-nominals*

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The derivation of *-ung*-nominals is one of the most productive word formations with a suffix. Morphosyntactically *-ung*-nominals are derived from their base verbs almost without any constraints. Among the registered *-ung*-nominals in E. Mater (1967) and Duden, Universalwörterbuch (1994) one may find that *-ung*-nominals are derived from both intransitive and transitive verbs (such as *Erstarrung*, *Verarmung*, *Entwölkung*, etc. and *Erarbeitung*, *Veränderung*, *Enteisung*, etc.), both inseparable and separable prefix verbs (such as *Erbauung*, *Enthartung*, *Zerfleischung*, etc. and *Abmachung*, *Aufblühung*, *Anordnung*, etc.), and also from the simplex verbs such as *Bindung*, *Dickung*, *Fesselung*, *Leerung*, etc. However, it is found that there are various restrictions in deriving *-ung*-nominals semantically. Some verbs with inchoative Aktionsart offer the *-ung*-nominals (such as *Erblindung*, *Verdummung*, *Verkrustung*, etc.) whereas some other verbs with inchoative Aktionsart do not offer grammatical *-ung*-nominals (such as **Erhebung*, **Erschallung*, **Erstrahlung*, etc.) The same phenomena can be found in the verbs with resultative and punctual Aktionsart. It is assumed in this paper that all of these phenomena can be explained with some very simple principles which are based on the semantic properties of the verbs and their theme arguments. Thus I have established three derivational conditions with which the grammaticality of *-ung*-nominals can be decided.

1. Introduction

In this paper I will treat the morphological analysis of *-ung*-nominals, and the derivability and the grammaticality of *-ung*-nominals with respect

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to the Aktionsart of their base verbs and their thematic arguments. For this purpose, first I will introduce some typical derivations of *-ung*-nominals in Section 2, namely the derivations from the intransitive and transitive base verbs with an inseparable prefix such as *er-*, *ver-*, *be-*, *ent-* or *zer-*prefix.

In Section 3 of this paper it will be argued that the derivations of *-ung*-nominals are semantically constrained with the Aktionsart of their base verbs. Inchoative and resultative verbs enable the derivation of *-ung*-nominals whereas almost no *-ung*-nominals are derived from the durative verbs regardless of their intransitive or transitive category. Inchoative and resultative verbs, from which *-ung*-nominals can be derived, have an event structure in common, and they are assumed to belong to the event verbs. They are intuitively characterized as interval based and denote some changes in the state of affairs, represented by a process (in the case of inchoative verbs) or an action (in the case of resultative verbs).

However, in a reverse order, many ungrammatical *-ung*-nominals can be derived from this event structure of inchoative and resultative verbs. Therefore one requires some derivational conditions for the *-ung*-nominals, which will be established in Section 4. The first condition for the derivation of *-ung*-nominals is that the event predicates should denote some changes in the state of affairs and at the same time produce some result of the changes. The second condition is that there must be a theme argument which undergoes the changes in the state of affairs, i.e. the theme argument must be changed either quantitatively or qualitatively. The third condition concerns the agent and the theme argument which take part in the event of an action. More specifically, for this condition an agent (or an actor) which causes the event must exist and also a theme argument which is affected and changed through the action or the process denoted by event predicates. Thus most of the derivational process of *-ung*-nominals can appropriately be described with these conditions.

2. Morphological structure of *-ung*-nominals

In the following, I will try to analyze the morphological structures of the grammatical and ungrammatical *-ung*-nominals derived from their intransitive base verbs with inseparable prefixes. Then I will give morphological analyses for the grammatical and ungrammatical *-ung*-nominals derived from their transitive base verbs. We first take a look at the following

examples.

- (1) Grammatical *-ung*-nominals derived from the intransitive base verbs
- *Erblindung, Erkaltung, Erlahmung, Ermattung, Erstarrung, Erschlaffung, Ertaubung*, etc.
 - *Verarmung, Verdummung, Vereinsamung, Verfaulung, Verfettung, Vergreisung, Verharschung, Verrohung, Vertaubung*, etc. (The base verbs have an adjective stem.)
 - *Verdunstung, Vereisung, Verfilzung, Vergletscherung, Verkorkung, Verkrustung, Vernarbung, Verschlammung, Vertierung*, etc.
 - *Entgleisung, Entblö ßung, Entwölkung*, etc.
 - *Zerbröckelung, Zersplitterung* (The base verbs have a noun stem.)
- (2) Ungrammatical *-ung*-nominals derived from the intransitive base verbs
- **Erblihung, Erhebung, Erglimmung, Erklingung, Erschallung, Ertönung, Erstrahlung*, etc.
 - **Verbummelung, Verglimmung, Verglihung, Vergie ßung, Verlaufung, Verreisung, Verschlafung, Verweining*, etc.
 - **Entfliegung, Entgehung, Entlaufung, Entrinnung, Entschwimmung, Entsteigung, Entströmung*, etc. (The base verbs have a verb stem.)

It is a very interesting phenomenon that almost all *-ung*-nominals are grammatical if their base verbs have either an adjective stem or a noun stem. On the other hand almost no *-ung*-nominals are derived if their base verbs have a verb stem. We will now consider the grammatical and ungrammatical *-ung*-nominals derived from their transitive verbs which are given as follows:

- (3) Grammatical *-ung*-nominals derived from the transitive base verbs
- *Erarbeitung, Erbauung, Erforschung, Erlernung, Erleuchtung, Erringung, Ersetzung, Ersteigung, Erwählung, Erzeugung*, etc.
 - *Verachtung, Veränderung, Verarbeitung, Verfolgung*, etc.
 - *Bedrohung, Befragung, Behinderung, Belauschung, Belieferung*, etc.
 - *Entatmung, Entfaltung, Enthebung, Enthemmung, Entkleidung, Entkoppelung, Entladung, Entkleidung, Entsendung*, etc.
 - *Zerlegung, Zerreibung, Zerrei ßung, Zerschlagung, Zerstreuung, Zerteilung*, etc. (The base verbs have a verb stem.)
 - *Erfrischung, Ergänzung, Erheiterung, Erhöhung, Erleichterung*,

- Erneuerung, Erniedrigung, Ernüchterung, etc.*
- *Verbesserung, Verbreiterung, Verengung, Verdummung, Verkleinerung, etc.*
 - *Beengung, Befleißigung, Befreiung, Belustigung, Bestärkung, Betätigung, etc.*
 - *Enthärtung, Entfeuchtung, Entfremdung, Entpersönlichung, etc.* (The base verbs have an adjective stem.)
 - *Erbeutung, Ergründung, Erhitzung, Erlistung, Ermittlung, Erzielung, etc.*
 - *Verausgabung, verbeamtung, Verbuchung, Verglasung, Verschrottung, etc.*
 - *Bebilderung, Beflagung, Beantragung, Bebilderung, Beflagung, Bekreuzung, Bekrönung, Bemastung, Benebelung, etc.*
 - *Enteisung, Enterbung, Entfärbung, Entfesselung, Entfettung, Entfristung, Entfrostung, Enthaarung, Entkalkung, Entlaubung, etc.*
 - *Zerfleischung, Zerspanung, Zersplitterung, Zerstäubung, Zerstrahlung, Zerstückelung, Zertrümmerung, etc.* (The base verbs have a noun stem.)

In contrast to the intransitive base verbs of *-ung-*nominals, the transitive base verbs in(3) offer the derivation of the *-ung-*nominals quite freely regardless of their stem category. They have either a noun stem, an adjective stem, or a verb stem, and all of the *-ung-*nominals derived from them are registered in Mater(1967) and Duden(1994). Thus the stem category of the transitive base verbs does not play a crucial role in deciding the derivability of *-ung-* nominals. It is also found that there are many transitive prefixed verbs with a verb, an adjective, or a noun stem, from which the derivation of *-ung-* nominals is impossible. Representative examples are given in the following:

- (4) Ungrammatical *-ung-*nominals derived from the transitive base verbs
- **Erbettelung, *Erbittung, *Erflehung, *Erfliegung, *Erheiratung, *Erjagung, *Ersehung, *Ertragung, *Ertastung, etc.*
 - **Verbackung, *Verbohrung, *Verbratung, *Verdenkung, *Verheizung, *Verhelfung, *Verhörung, *Vermahlung, *Verspürung, etc.*
 - **Bedürfung, *Befahrung, *Befallung, *Befliegung, *Beführung, *Beglänzung, *Begriffung, *Behaltung, *Behelfung, *Bekennung, *Belachung, *Beliebung, *Beltigung, *Benehmung, *Beruhung, *Besagung, etc.*
 - **Entbietung, *Entblödung, *Entbreitung, *Entlaufung, *Entnehmung, *Entreibung, *Entringung, *Entrollung, *Entwurfung, etc.*
 - **Zerbeibung, *Zerkauung, *Zerstobung, *Zerstreuung, *Zertrampelung, etc.* (The base verbs have a verb stem.)

- **Verargung*, **Vergleichung*, **Verunachtung*, **Verunklarung*, **Verunmöglichung*, **Verübelung*, etc.
- **Befleißigung*, **Benassung*, **Benötigung*, **Beseligung*, **Betreibung*, etc.
- **Entblödung*, **Entbreitung*, **Entdunkelung*, **Entledigung*, **Entsicherung*, etc. (The base verbs have an adjective stem.)
- **Ergatterung*, **Eräugung*, **Ergaunerung*, etc.
- **Verbutterung*, **Verfütterung*, **Vergipsung*, **Verkorkung*, **Vermauerung*, **Verkrümmelung*, **Vernagelung*, etc.
- **Behrung*, **Befreundung*, **Bekreuzung*, **Beölung*, **Bepflasterung*, **Beschlauchung*, **Beschleusung*, **Bespikung*, **Beschleusung*, **Beschränkung*, **Beweibung*, **Bewimpelung*, etc.
- **Entbleiung*, **Entbeinung*, **Entblätterung*, **Entkorkung*, **Entriegelung*, **Entquellung*, **Entrippung*, **Entrußung*, **Entsaftung*, **Entsahnung*, etc.
- **Zerblätterung*, **Zerbeulung*, **Zerbombung*, etc. (The base verbs have a noun stem.)

Alone with the morphological analysis of the base verbs with a prefix and a stem category one cannot find any plausible reason why some intransitive and transitive base verbs offer the derivation of *-ung*-nominals whereas some other intransitive and transitive base verbs do not offer. Therefore, it will be studied in the following section that the derivation of *-ung*-nominals have somehow to do with the semantic properties of their base verbs.

3. Aktionsarten of the base verbs of *-ung*-nominals

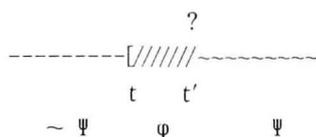
In order to describe the semantic properties of the base verbs of *-ung*-nominals it is assumed in this paper that all of the verbs have inherent temporal features which are known in the traditional grammar as Aktionsarten.¹ In recent research there are quite a lot of treatments of Aktionsarten, for instances, concerning the influence of nominal constituents on the Aktionsarten of the predicates in Krifka(1989,1992), Herweg(1990),

¹In the traditional grammar, one finds that the Aktionsarten of verbs are classified into perfective or imperfective/durative verbs, and perfective verbs can further be divided into inchoative (or ingressive) and resultative ones (Grebe), or ingressive and egressive ones (Flämig/Heidolph/Motch and Helbig/Buscha).

Verkuyl and Zwarts (1992), the new classification of the Aktionsarten of Moens and Steedman (1988), Smith (1991), Egg(1994) in the line of Vendler's (1957, 1967) and Dowty's (1979) aspectual classifications such as activity, stative, accomplishment, and achievement for the description of the verbal meanings. In his review and critics on the previous researches of Aktionsarten, Egg demonstrated that the Aktionsarten of predicates can be classified into 'state', 'process', 'changes', and 'intergressive' according to the three hierarchically ordered features such as 'interval-based', temporally 'limited', and 'telic'. In his work, predicates are classified in accordance with the feature of temporal limitedness into non-event predicates and event predicates, and the latter is again divided into telic and atelic predicates (i.e. intergressive predicates). Based on this classification, he treats a problematic case, for example, *Ariadne spielte eine Sonate, Fritz hustete, Amalie sang fünf Stunden lang*, as a kind of event predicates, i.e. 'intergressive'. His idea is based on the Dowty's program (1979) for the aspectual classification; however, he makes an argument that the Aktionsarten of the predicates mentioned above cannot be appropriately handled with the Dowty's classification of accomplishment and that it is necessary to introduce 'intergressive' Aktionsart. Thus he can close the gap in the treatment of the event predicates. This idea is new in comparison to the treatments of Herweg, Verkuyl, and Krifka because it defines the event predicates more specifically with the concept of 'interval based' in addition to the temporal limitedness and telic/atelic feature. According to his assumption, typical event predicates are assumed to have the properties such as interval-based, temporally limited, and telic. On the other hand, it can be assumed that inchoative and resultative verbs are temporally limited, and belong to the event predicates if they have a telic feature. This idea comes from his argument that there is a hierarchical order between the three features mentioned above. Thus, if a predicate has a feature 'telic', roughly meaning the change in the state of affairs, then it is at the same time temporally 'limited' and 'interval-based', and thus belongs to the event predicates.²

² Egg defines the characteristic features of event predicates as follows: i) interval-based, i.e. there must be time intervals in which some event denoted by a predicate occurs, ii) temporally limited, i.e. if the event occurs in a certain time t , then it also occurs in the subinterval $t'(t' \subset t)$, but does not occur in other time intervals, and iii) telic, i.e. the process or the action must indicate the change in the state of affairs.

Now we will turn to the derivation of *-ung*-nominals and try to find some criteria deciding its grammaticality with respect to the Aktionsarten of their base verbs, i.e. intransitive and transitive verbs with inseparable prefix. First, the semantic properties of intransitive base verbs and some constraints on them, which are based on the classification of the Aktionsarten by Egg(1994), will be studied. For this purpose, we will discuss the problems concerning the temporal features, namely [\pm interval-based] and [\pm temporally limited]. There are many examples of the intransitive base verbs of *-ung*-nominals, most of which have, according to the traditional classification, inchoative Aktionsart. They can be divided in accordance with their stem category into three representative types: (i) *erglimmen*-type such as *ertönen*, *erschallen*, *erglimmen*, etc., (ii) *erlahmen*-type such as *erlahmen*, *verdummen*, *verfaulen*, etc., and (iii) *vergletschern*-type such as *verdampfen*, *vergletschern*, *verkrusten*, etc., which were demonstrated already in (1) and (2) above as intransitive prefixed verbs with a verb stem, an adjective stem, and a noun stem. They have a 'telic' feature because all of them denote some changes in the state of affairs, and apparently have a temporal limitedness according to Egg's classification of Aktionsarten. However, one might ask: Do they all have the [+interval-based] feature as far as their Aktionsart is concerned?³ The following will represent the inchoative Aktionsart of the intransitive verbs with a verb stem, whereas ---- and ~~~ represent a time axis, and ///// and '[' represent a time interval and its boundary for the process denoted by a base verb:

(5) *erglimmen*

φ = Der Draht erglimmt.

Ψ = Der Draht glimmt.

³It was discussed in Shin (1999:351f) more specifically that *erblühen*-type and *erblinden*-, *verarbeiten*-type each corresponding *erglimmen*-type and *erlahmen*-type in this paper behave differently with respect to the [+interval-based] feature.

In contrast to the verbs of the *erglimmen*-type or the *ertönen*-type, one assumes that it is possible to establish the right boundary t' of the interval $[t, t']$ for describing the event of process of *verfaulen* or *vergletschern* as shown in (7). From these interval-based verbs of the *verfaulen*-type and the *vergletschern*-type, the *-ung*-nominals are derived.

Up to now it was demonstrated that the derivation of *-ung*-nominals is achieved not just depending on the Aktionsart of the base verbs but also depending on the specific feature [+interval-based]. In the following, the relationship between the feature [+telig] and the derivation of *-ung*-nominals will be discussed. First of all, Egg's definition cannot be used for this purpose directly because it cannot explain the difference between the *erglimmen*-type and the *vergletschern*-type above. It is expected that the state of affairs of being *faul* or being *Gletscher* obtains also in the posttime of the event, i.e. after the terminating point of the interval $[t, t']$. We will try to find out if this can be verified through the following syntactic tests with temporal adverbials:

- (8) a. Der Draht ist vor einer Stunde/*zwei Stunden lang/
 (*)seit einer Stunde erglimmt.
 b. der vor einer Stunde/*zwei Stunden lang/
 (*)seit einer Stunde erglimmte Draht
- (9) a. Der Wald ist vor einer Stunde/*zwei Stunden lang/
 (*)seit einer Stunde ertönt.
 b. der vor einer Stunde/*zwei Stunden lang/
 (*)seit einer Stunde ertönte Wald
- (10) a. Der Apfel ist vor einigen Stunden/*eine Stunde lang/
 (*)seit einer Stunde verfault.
 b. der vor einigen Stunden/*zwei Stunden lang/
 (*)seit einer Stunde verfaulte Apfel

The perfect tense forms of the inchoative verbs *erglimmen*, *ertönen*, and *verfaulen* in (8a), (9a), and (10a) can cooccur with the temporal adverbials such as *vor zwei Stunden*, but they do not cooccur with the temporal adverbials such as *zwei Stunden lang*, *seit einer Stunde*. Unfortunately, concerning the grammaticality of the adverbial *seit einer Stunde*, which confirms the result of the changes in the state of affairs, no unified opinion

can be found among the people who speak German as their mother language.⁴ However, even though the adverbial *seit einer Stunde* were grammatical in (8), (9) and (10), it could coincide only with the beginning phase but not with the terminating phase of the processes denoted by *erglimmen*, *ertönen*, and *verfaulen*. This is due to the semantic function of the prefix *er-* in *erglimmen* and *ertönen*, and the prefix *ver-* in *verfaulen*. Consequently, we are not able to make any difference through the above syntactic tests as to if their processes are terminated and some results can be obtained.

At this point it must be assumed that this is only triggered by the lexical meanings of the verbs. First, the word structure of *verfaulen* and *vergletschern* is analyzed into a prefix and a stem, whereas the meaning of the prefix *ver-* is paraphrased with an abstract predicate '**werden**' denoting the beginning phase and the change in the state of affairs. Then, the present perfect sentence and an attributive adjective can each be derived from *verfaulen* and *vergletschern* as indicated in the followings:

- (11) a. Der Apfel verfault.
 b. Der Apfel ist verfault/faul geworden.
 c. der verfaulte Apfel/der faul gewordene Apfel
 d. Verfaulung des Apfels
- (12) a. Das Tal vergletschert/wird zum Gletscher.
 b. Das Tal ist vergletschert/zum Gletscher geworden.
 c. das vergletscherte/zum Gletscher gewordene Tal
 d. Vergletscherung des Tals

It seems quite natural to paraphrase the lexical meaning of *verfaulen* and *vergletschern* as *faul werden* and *zum Gletscher werden*. It is implied in these paraphrased predicates that the process denoted by *verfaulen* and *vergletschern* goes on somehow between the beginning and the terminating point

⁴Through the personal communication with E. Lang it was clarified to me that *seit einer Stunde* can cooccur in contexts such as (8), (9) and (10) with the present perfect tense. Even though, for instance, *der Draht ist seit einer Stunde erglimmt* would be grammatical, it cannot have the meaning of *der Draht hat seit einer Stunde geglimmt*. This is due to the fact that *der Draht erglimmt* does not necessarily imply *der Draht glimmt*

within a certain interval. Thus one can stipulate that the lexical meaning of *verfaulen* or *vergletschern* involves a temporal boundary of the right side where the process denoted by *faul werden* or *zum Gletscher werden* comes to a terminating point. This will be demonstrated with the perfect sentences of (11b) and (12b) in accordance with the treatment of the German Perfekt of W. Klein (1998). First, the inchoative verb *verfaulen* belongs to the event verbs (2-state verbs in Kleins terminology) denoting changes in the state of affairs, i.e. changes from the source state of being not *faul* to the target state of being *faul*. The past participle *verfault* which can be paraphrased with *faul geworden* specifies the lexical property of its argument in the target state. For instance, in (11b) the only argument, namely *der Apfel* has the lexical property of this target state of being *faul*. Also the attributive adjective can be derived from the past participle *verfault* as shown in (11c).

In a similar fashion one can describe the derivation of the present perfect tense and the attributive adjective from *vergletschern* as shown in (12b,c). The past participle *vergletschert*, which can be paraphrased by *zum Gletscher geworden*, specifies the target state of being *ein Gletscher*, and its argument *das Tal* acquires the lexical property of this target state. In this way it was demonstrated that the inchoative verbs with a noun stem and an adjective stem denote some event of changes which are interval-based and that their arguments acquire some concrete results in the target state of the event. Therefore, only from this situation one can derive the grammatical *-ung*-nominals as shown in (11d) and (12d). One cannot make, however, this kind of syntactic test for *erglimmen* because it cannot be analyzed with **werden**-construction in a similar way as we did for *verfaulen* and *vergletschern*. At this point, one can assume that the lexical meaning of inchoative verbs with a verbal stem can be paraphrased with the predicate *beginnen*. Thus it does not make any difficulty to understand the meaning of *erglimmen*, *erschallen*, *ertönen*, etc. as *zu glimmen **beginnen***, *zu schallen **beginnen***, *zu tönen **beginnen***, etc. This is shown in the following with the example *erglimmen*:

- (13) a. Der Draht erglimmt/beginnt to glimmen.
 b. Der Draht ist erglimmt/hat zu glimmen begonnen.
 c. der erglimmte/***zu glimmen begonnene** Draht
 d. *Erglimmung des Drahts

As assumed in (5) above, the lexical meaning of *erglimmen* does not

specify any terminating point of the interval for the changes in the state of affairs. I will explain this with the paraphrased expression *zu glimmen beginnen*. The past participle *erglimmt* in (13b) specifies the lexical property of the argument *der Draht* in the target state. However, the target state is not denoted by *der Draht glimmt* or *der Draht ist am Glimmen* but by the paraphrase *der Draht hat zu glimmen begonnen*. The attributive adjective *erglimmt* in (13c) modifies the theme argument *der Draht* also with the meaning of *der Draht, der zu glimmen begonnen hat* but not with the meaning of *der Draht, der glimmt* or *die am Glimmen ist*.

Next I will try to explain the ungrammaticality of the attributive adjective phrase *zu glimmen begonnene* in (13c). I assume that *beginnen* belongs to the two place predicates which have two argument positions to be filled, and the first argument is *der Draht* and the second argument is *zu glimmen*, which also takes *der Draht* as its argument. In this case no attributive adjective can be derived from the participle phrase *zu glimmen begonnen* because the participle *begonnen* does not modify its second argument *zu glimmen* but it modifies its first argument *der Draht*, which is certainly against the semantic function of the attributive adjective derived from the transitive verbs. Consequently no *-ung*-nominals can be derived from this situation.⁵ One may compare this with the participle phrase of *faul geworden* in (11b) which takes only one argument. The attributive phrase *faul gewordene* in (11c) modifies its argument *der Apfel* correctly. The argument *der Apfel* has the lexical property of the target state specified by *faul geworden*, which also confirms the posttime property of the target state namely, *faul sein*. Two consequences are obtained from this explanation: First, the predicate *erglimmen* in (13a) denotes some changes in the state of affairs (this is due to the meaning of the prefix *er-*). However, only the beginning point but not the terminating point of the interval can be determined for the changes -- one must consider *zu glimmen beginnen*.

⁵It is generally accepted that no past participle of the verb which takes the auxiliary *haben* in deriving perfect tense can occur as attributive adjective. There is, however, no appropriate explanation, why this must be the case. Thus it is assumed according to the treatment of past participle by W. Klein (1998) that the derivation of the attributive adjective from the past participle is possible under the following conditions: i) the relation between the past participle (but not the stem of the verb!) and its argument - in the case of transitive verbs the second argument - is preserved semantically in the derivation, and ii) the stem of the past participle denotes events, i.e. the change from the source state to the target state.

Second, no concrete result, for instance, *der Draht glimmt* or *der Draht ist am Glimmen*, is produced from the changes denoted by *erglimmen*.

4. Some derivational conditions on *-ung*-nominals

From the discussion above, the following assumptions can be made: i) the *erglimmen*-type and the *verfaulen*- and *vergljetschern*-type belong both to the event predicates with inchoative Aktionsart, ii) they denote the events of certain processes, i.e. changes in the state of affairs, in a time interval and iii) the latter type produces some concrete result after the target state of the changes, whereas the former type does not offer such kind of result. With the descriptions i), ii), and iii) one can give the following more specific condition for the intransitive verbs from which *-ung*-nominals can be derived:

Condition 1.

The *-ung*-nominals can be derived from the intransitive verbs denoting events which are interval-based and produce some concrete result.

This explanation is, however, only plausible if the morphological structures of prefixed verbs are analyzable according to the word formation rule. Most of the intransitive prefixed verbs with a noun stem or an adjective stem denote changes in the state affairs, and they are assumed to have an interval for the changes. They also meet the conditions for the event predicates of Egg(1994). However, all of the problems are not solved here because no derivation of *-ung*-nominals is possible from the intransitive prefixed verbs with a noun stem as *verrosten*, *verschimmeln*, *vertieren*, etc. in (1). These verbs all have inchoative Aktionsart and denote some change in the state of affairs. Thus they certainly belong to the event predicates in accordance with the classification of Aktionsarten by Egg(1994). It is not at all clear, though, why these verbs do not allow the derivation of *-ung*-nominals even if they have the same kind of the properties of Aktionsart as *verfaulen*- and *vergljetschern*-type. In order to find some difference between them the method of paraphrasing with **werden**-construction will be used again. The examples will follow:

- (14) a. Der Wagen verrostet im Schnee.
 b. Der Wagen ist im Schnee verrostet/*zu Rost/rostig geworden.
 c. der im Schnee verrostete Wagen
 d. *Verrostung des Wagens
- (15) a. Das Brot verschimmelt.
 b. Das Brot ist verschimmelt/*zu Schimmel/schimmelig geworden.
 c. das verschimmelte Brot
 d. *Verschimmelung des Brotes

It is assumed here again that the prefix *ver-* denotes some changes in the state of affairs and that *verrosten* and *verschimmeln* belong to the event predicates and can be paraphrased by **werden**-construction such as *rostig werden* (but not *zu Rost werden!*) and *schimmelig werden*, i.e. *mit Schimmel überzogen sein* (but not *zu Schimmel werden!*). Thus the past participle *verschimmelt* and *verrostet* in the perfect tense (14b) and (15b) cannot be paraphrased directly with *zu Schimmel geworden* and *zu Rost geworden*. From this fact one can conclude that the properties of the theme arguments *der Wagen* and *das Brot* are not changed by the event of process *verschimmeln* and *verrosten* into *Schimmel* and *Rost* respectively. In other words, the event verbs *verschimmeln* and *verrosten* do not affect their theme arguments in acquiring the target state property specified by their stems *Schimmel* and *Rost*. Thus one can say, *der Apfel verfault* for *der Apfel wird faul* and *das Tal vergletschert* for *das Tal wird zum Gletscher*; however, one cannot say *der Wagen verrostet* for *der Wagen wird zu Rost* and *das Brot verschimmelt* for *das Brot wird zu Schimmel*. From the consequence of the descriptions above, the following derivational condition of *-ung-* nominals can be established for the **intransitive** verbs with inseparable prefix:

Condition 2:

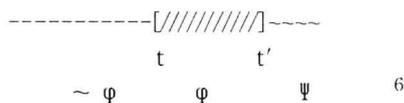
If there is an event of process denoted by *prefix + stem*, then *stem* (x) must always be true in the posttime of the event.

prefix + stem stands for the intransitive base verbs and *x* represents a theme argument. This condition is also effective only if the morphological structure of event predicates is semantically motivated, i.e. the meaning composition of prefix and stem is somehow possible. Condition 2 is interpreted as follows: The theme argument *x* undergoes the process denoted by

its base verbs, for instances, *erlahmen*, *verfaulen*, *verglletschern*, etc. in a direct way, and it acquires the target state property specified by the past participle *erlahmt*, *verfault*, *verglletschert*, etc. The target states *erlahmt(x)*, *verfault(x)*, *verglletschert(x)*, etc. imply *lahm(x)*, *faul(x)*, *Gletscher(x)*, etc. because they can be paraphrased with *lahm geworden(x)*, *faul geworden(x)*, *Gletscher geworden(x)*, etc. which are effective in the posttime of the events. Consequently: *erlahmt(x)*, *verfault(x)*, *verglletschert(x)*, etc. must be true in the posttime of the events.

Now I will try to describe the derivation of *-ung*-nominals from the transitive base verbs and their arguments. It is assumed as in the case of intransitive verbs that the theme arguments undergo the changes denoted by their base verbs in a direct way. First, the transitive verbs with *er*-prefix will be studied. The Aktionsart of the base verb *erkämpfen* of the *-ung*-nominal, for instance, *Erkämpfung* in (3) is resultative and can be represented as in the following Structure: again ---- represents a time axis, [/////////] represents a time interval in which the action denoted by an event predicate is performed, and ~~~ represents a consequence followed from the action:

(16) *erkämpfen*



φ = Die Frau erkämpft die Goldmedaille.

Ψ = Die Frau hat die Goldmedaille.

The action denoted by *erkämpfen* is performed by an agent argument *die Frau* within the time interval [t, t'], and it can be terminated at the right boundary t' of the interval. The agent argument is presupposed as a causer of this event of action. All of the transitive verbs of *erkämpfen*-type such as *erbauen*, *erforschen*, *erlernen* with a verbal stem, *erheitern*, *erhöhen*,

⁶ if *-ung*-nominals can also be derived from the intransitive verbs with a verb stem, then in this case the theme argument acquires the target state property specified by the past participle *prefix + stem + en*. Furthermore, in the posttime of the event the target state *prefix + stem + en(x)* must be true. This means that the target state of the event might be the same one for both transitive and intransitive verbs.

erleichtern (with an adjective stem), *erbeuten*, *ergründen*, *erhitzen* (with a nominal stem), etc. belong to the event predicates. Regarding the derivation for *-ung*-nominals, we should take a look at the following examples:

- (17) a. Die Frau erkämpft die Goldmedaille.
 b. Die Goldmedaille ist erkämpft.
 c. die erkämpfte Goldmedaille
 d. Erkämpfung der Goldmedaille

- (18) a. Man erbaut die Brücke.
 b. Die Brücke ist erbaut.
 c. die erbaute Brücke
 d. Erbauung der Brücke

The theme arguments *die Goldmedaille* in (17a) and *die Brücke* in (18a) undergo the changes of the state of affairs each denoted by *erkämpfen* and *erbauen*. They acquire the lexical properties of the target state specified by the past participle *erkämpft* and *erbaut*, and they preserve these properties also in the posttime of the event as indicated in the state passives and the attributive adjectives in (17b,c) and (18b,c) respectively.⁷ Following the traditional grammar I name the *-ung*-nominals in (17d) and (18d) derived in this way as *Nomen actionis*.

With the descriptions above the following condition can be established for the derivation of *-ung*-nominals from the **transitive verbs** with inseparable prefix, whose morphological structures are semantically motivated:

Condition 3:

If there is an event of action denoted by *prefix + stem* (*x, y*),

⁷ The syntactic tests of the state passives and the attributive adjectives will be used further as methods for testifying if the transitive verbs have resultative Aktionsart and thus belong to the event predicates denoting changes in the state of affairs. Thus from the theme objects of the durative verbs such as *ehren*, *lesen*, *lieben*, *loben*, *belauschen*, *betrachten*, *brauchen*, *sehen* etc., which do not show any changes of the state of affairs, no derivation of the state passive is possible. On the other hand attributive adjectives are always derived from the past participles regardless of whether they occur in the state passives or the perfect tense sentences. It is assured through the syntactic tests of the state passives and the attributive adjectives that the theme arguments have acquired their lexical properties of the target state of the events.

then *prefix + stem + en(y)* or *stem(y)* must be true in the posttime of the event.

In this condition, *x* and *y* represent an agent and a theme argument respectively,⁸ and *prefix + stem* stands for the base verbs with resultative Aktionsart, from which *-ung*-nominals can be derived and *prefix + stem + en* stands for their past participle. It is assumed here that the theme argument undergoes the action denoted by its transitive base verbs in a direct way. The problem arises: How do we know whether the theme arguments undergo the actions denoted by their base verbs in a direct way or not? This question is considered in two ways, i.e. for the base verbs with a verb stem and for the base verbs with a noun stem or an adjective stem. For the event predicates with a verb stem we assume the following: The theme argument undergoes the action indicated by the meaning of *prefix + stem*, i.e. the composition of meanings from both the *prefix* and the *stem*. This implies that the theme argument undergoes not only the action denoted by *prefix + stem* but must also be involved in the action or activity denoted by *stem*. This implication is due to the fact that the morphological structure of *prefix + stem* is semantically motivated. Thus if the theme argument acquires the target state property specified by the past participle *prefix + stem + en*, then it must have been affected not only by the action of *prefix + stem* but also by the action of *stem*. Now it can be said that the theme argument undergoes the action in a direct way and it is not just used as a mean in bringing about some other target state which it is not directly related to. Only in this case the target state denoted by *prefix + stem + en(y)* must be true. Consider the event predicate *erkämpfen* and *erbauen* in (17) and (18) again. If the theme argument *y* underwent the action denoted by the composition of meanings from both the prefix *er* and the stem *kämpf-* or *bau-*, and if it acquired the target state property specified by the past participle *erkämpft* or *erbaut*, then it should have

⁸ Almost all of the intransitive verbs, from which *-ung*-nominals are derived, have inchoative Aktionsarten. Many transitive verbs from which the derivation of *-ung*-nominals is possible have the resultative Aktionsarten. Of course it may be argued that there are transitive verbs with inchoative Aktionsart and that there are intransitive verbs with resultative Aktionsart. However, as no definite criterion is given for the classification of the event predicates with respect to Aktionsart, I make use of this difference between inchoative and resultative Aktionsart for describing of the derivation of *-ung*-nominals just on the intuitive base.

undergone in the action of *erkämpf-* or *erbau-* and should have been involved in the activity denoted by the stem *bau-* or *arbeit-*. Only in this case it can be said that the target states *erkämpft(y)* and *erbaut(y)* must be true in the posttime of the events. Next we will consider the event predicates with a noun and an adjective stem. The theme argument undergoes the action denoted by the composition of meanings from both the *prefix* and the noun *stem* or the adjective *stem*. Furthermore, the theme argument acquires the target state property specified by the past participle *prefix + stem + en*. Then the target state *prefix + stem + en(y)* implies *stem(y)* which is effective in the posttime of the event. Only in accordance with this implication we can believe that the theme argument undergoes the action in a direct way. This implication is also due to the assumption that *prefix + stem* can be semantically decomposed into prefix and stem. We will take as examples, the event predicates *erhöhen* and *erbeuten* in (3) each with an adjective stem and a noun stem. The theme argument *y* undergoes the action indicated by the composition of meanings from both the prefix *er-* and the adjective stem *hoch* or the noun stem *Beute*, and it acquires the target state property each specified by the past participle *erhöht* or *erbeutet*. Now the target state *erhöht(y)* or *erbeutet(y)* implies *hoch(y)* or *Beute(y)*, which is effective in the posttime of the events. Only for this case we can state that the theme argument undergoes the action in a direct way.

This is a very important consequence because no *-ung-*nominals can be derived if the theme arguments do not undergo the action denoted by their base verbs in a direct way. Regarding this, we take a look at the transitive base verbs such as *erjagen* and *erheiraten* of the ungrammatical *-ung-*nominals **Erjagung* and **Erheiratung* in (4) which do not allow the derivation of *-ung-*nominals:

- (19) a. Man erjagt die Nahrung.
 b. Die Nahrung ist erjagt.
 c. die erjagte Nahrung
 d. *Erjagung der Nahrung
- (20) a. Der Mann erheiratete den Hof.
 b. Der Hof des Mannes ist erheiratet.
 c. der erheiratete Hof
 d. *Erheiratung des Hofes

This type of verbs belong certainly to the event predicates, and the theme arguments apparently undergo some action denoted by their event predicates. Therefore, in principle, they seem to be able to offer the derivation for *-ung*-nominals. The stative passives (19b) and (20b) which denote the result of the changes of the state of affairs can be derived both from *erjagen* and *erheiraten*. Furthermore, attributive adjective (19c) and (20c), can be derived from the perfective form *erjagt* and *erheiratet* in the state passives. The syntactic test of state passives confirms that the action denoted by base verbs has performed and produce a result. The theme arguments *die Nahrung* in (19b) and *der Mann* in (20b) underwent the changes of the state of affairs denoted each by *erjagen* and *erheiraten*, and they are in the target states of the changes. They also acquire the properties *erjagt* and *erheiratet* denoted by the attributive adjectives each in (19c) and (20c). Nevertheless the *-ung*-nominals **Erjagung* and **Erheiratung* are ungrammatical. The similar problem as in the case of intransitive verbs with an inchoative Aktionsart such as *verschimmeln* and *verrosteten* is confronted here again. Thus one should ask if the theme arguments undergo the actions denoted by the base verbs in a direct way. The meaning of (19a) implies that one shoots, for instance, birds and thereby gets foods, and the meaning of (20a) implies that one marries some one and thereby will own a farm. Thus in both cases the theme arguments do undergo the action denoted by the base verbs indirectly. Consequently they do not satisfy Condition 3, and no derivation of *-ung*-nominals is possible. Other examples in (4) such as **Ersehung*, **Ertragung*, **Ertastung*, etc. do not have the base verbs which belong to the event verbs, and from the beginning they are excluded from the grammatical derivation of *-ung*-nominals. Very often, some of the transitive base verbs with *er*-prefix, for instance, *erleuchten*, *erringen*, *ersetzen*, etc. or *ergänzen*, *erniedrigen*, *erfrischen*, etc. of the *-ung*-nominals in (3) cannot be analyzed semantically with a prefix and a stem because they are partly or completely lexicalized, and any kind of formal analysis such as the causative decomposition fails or is at least unsatisfactory to capture the meaning compositionality for the constituents of word structures.⁹ However, when

⁹Some of these verbs might be analyzed with abstract predicates such as CAUSE, DO, and BECOME. Thus the meaning of *erfrischen* can be described roughly as CAUSE(DO(x,y)), BECOME (*frisch*(y)). However, the meaning *erniedrigen* is not captured correctly in this way (CAUSE(DO(x,y)), BECOME (*niedrig*(y)).

their meaning is observed as a whole, they belong to the event verbs. In this case they behave as a simplex verb, and the theme arguments can undergo the actions denoted by their base verbs directly.¹⁰

Now I will try to prove that Condition 3 can be applied also to the transitive base verbs with other inseparable prefix such as *ver-*, *be-*, *ent-*, and *zer-* prefix for the derivation of *-ung*-nominals. First, we start with the transitive verbs with *ver-* prefix. All of the transitive base verbs of the *-ung*-nominals in (3) belong to event predicates. The theme arguments undergo the action denoted by their event predicates and acquire the target state properties specified by the past participles, which can be demonstrated in the state passives and attributive adjectives. Thus there is no problem in deriving *-ung*-nominals from them. However, all of the *-ung*-nominals in (4) are ungrammatical. Some of them have the base verbs with durative Aktionsarten: for instances, *verbohren*, *verdenken*, *verhelfen*, *verhören*, *verspüren* (with a verb stem), *verargen*, *vergleichen*, *verübeln* (with an adjective stem), etc. On the other hand, many of the verbs of *-ung*-nominals in (4) such as *verbacken*, *verbraten*, *verfüttern*, etc. or *verkorken*, *vermauern*, *vernageln*, etc. have a resultative Aktionsart, and they apparently belong to the event verbs. It is expected that the theme arguments undergo the actions denoted by their predicates and may acquire the target state property specified by the past participles. Therefore, *-ung*-nominals might be derived from these verbs. However, this is not the case. Let us take *verkorken*, *vermauern*, and *verbacken* as examples and try to find out why *-ung*-nominals cannot be derived from them. The examples will follow:

- (21) a. Man verkorkt die Flasche.
 b. Die Flasche ist verkorkt/mit einem Kork verschlossen.
 c. die verkorkte Flasche
 d. *Verkorkung der Flasche

Furthermore the analysis of the meaning *erganzen* in this way is simply wrong: CAUSE(DO(x,y), BECOME(ganz(y))).

¹⁰From *x ermitteln y*, for instance, the theme argument undergoes the action denoted by *ermitteln* in a direct way and acquires the target state property specified by the past participle *ermittelt*. Now the target state *ermitteln(y)* is effective in the posttime of the event denoted by *ermitteln(x,y)*. Thus the lexicalized prefix verb *ermitteln* behaves exactly like event verbs as simplizia such as *leiten*, *liefern*, *töten*, etc. from which *-ung*-nominals can be derived.

- (22) a. Man vermauert den Eingang.
 b. Der Eingang ist vermauert/durch Zumauern geschlossen.
 c. der vermauerte Eingang
 d. *Vermauerung des Eingangs

There is no problem in deriving the state passive (21b) and (22b) from (21a) and (22a) respectively. The attributive adjectives in (21c) and (22c) can also be derived from the past participle *verkorkt* and *vermauert*. Now the theme arguments *die Flasche* and *der Eingang* undergo the actions denoted each by *verkorken* and *vermauern* and acquire the target state property specified by the past participle *verkorkt* and *vermauert* as shown in the state passives. Apparently there seems to be no problem in deriving the *-ung*-nominals from *verkorken* and *vermauern* in (21) and (22). Nevertheless, the derivations of the *-ung*-nominals **Verkorkung* and **Vermauerung* are ungrammatical.

Now we will examine thoroughly if the theme arguments *die Flasche* and *der Eingang* actually undergo the action denoted by *verkorken* and *vermauern*. In (22) the theme argument *die Flasche* undergoes the action denoted by the composition of meanings from both the prefix *ver-* and the noun stem *Kork*, and it acquires the target state property specified by the past participle *verkorkt*. Even though *die Flasche* acquires the target state property denoted by the past participle *verkorkt* as shown in the state passive of (21b), the target state *verkorkt(y)* does not imply *Kork(y)*, i.e. *die Flasche* has not changed into *Kork*. In this case the theme argument *die Flasche* does not undergo the action denoted by *verkorken* in a direct way. In other words the action *verkorken* does not affect the change of the theme argument *die Flasche* into *Kork*, and in the posttime of the event it has only acquired a new property, namely *mit einem Kork verschlossen*. Consequently it is against Condition 3 and thus no *-ung*-nominal can be derived from (21). We consider further how the nonderivability of the *-ung*-nominal **Vermauerung* from *vermauern* in (22) can be explained. Regarding this, we assume that it has only acquired a new property of *durch Zumauern geschlossen*. The theme argument *der Eingang* undergoes the action denoted by *vermauern*, and it acquires the target state property specified by the past participle *vermauert* as shown in the state passive in (22b) and in the attributive adjective (22c). However, the target state *vermauert(y)* does not imply *Mauer(y)* which must be true in the posttime of the event. This means that *der Eingang* 'the entrance' is closed by

walling up but does not mean that the entrance becomes a wall. Therefore the theme argument *der Eingang* does not undergo the action denoted by *vermauern* in a direct way, and no derivation of the *-ung*-nominal from *vermauern* is possible.

Now, Condition 3 will be discussed further for the derivation of *-ung*-nominals from the other base verbs *verbacken* and *verheizen*. We will look at the following sentences:

- (23) a. Die Frau verbackt die Eier im Kuchen.
 b. Die Eier sind im Kuchen verbackt.
 c. die im Kuchen verbackte Eier
 d. (*)die Verbackung der Eier im Kuchen
- (24) a. Der Mann verheizt Kohle für das Zimmer
 b. Kohle sind für das Zimmer verheizt
 c. die für das Zimmer verheizte Kohle
 d. (*)Verheizung der Kohle für das Zimmer

In (23a) and (24a) the base verbs *verbacken* and *verheizen* belong to the event predicates. One would then ask if the theme arguments undergo the action denoted by them in a direct way. The theme arguments *Kuchen* and *Kohle* undergo the action denoted by the composition of meanings from both the prefix *ver-* and the stem *back-* and *heiz-* respectively, and they acquire the target state property each specified by the past participle *verbackt* and *verheizt* as shown in the state passive and in the attributive adjective phrase ((23b,c) and (24b,c)). Thus the derivation of *-ung*-nominals from *verbacken* and *verheizen* apparently are grammatical. However, we have to be cautious here because the product from the action denoted by *verbacken* is not *die Eier* but *Kuchen*, and the product from the action denoted by *verheizen* is not the heated coal but the warm room heated by coal. Thus we cannot say that the theme arguments *Eier* and *Kohle* undergo the actions denoted each by *verbacken* and *verheizen* in a direct way, even though they contribute only partly or indirectly to the whole process of the change of the state of affairs. Consequently, Condition 3 is not satisfied and the *-ung*-nominals **Verbackung* and **Verheizung* are ungrammatical in the context in (23) and (24).

Our next treatment concerns the *-ung*-nominals derived from the base verbs with a *be-*prefix. First, the base verbs with a noun stem and an

adjective stem of the *-ung*-nominals in (3) will be discussed. They are all with resultative Aktionsart and belong to the event predicates, and the proposition derived from their morphological structure, *prefix + stem* (*x,y*), denotes an event of action. It can be shown through the syntactic tests of state passives and attributive adjectives that theme arguments undergo the actions denoted by the base verbs and acquire the target state properties specified by the past participle *prefix + stem + en*. Furthermore the following can be shown: if the category of stem is a noun or an adjective, then the target state denoted by *prefix + stem + en* (*y*) implies *stem*(*y*) which must be true in the posttime of the event. Thus they satisfy Condition 3 and do not offer any problem for the derivation of *-ung*-nominals. On the other hand the transitive *be*-prefix verbs with a noun stem in (3) are classified each with the so called 'ornative' verbs, the verbs with a reflexive pronoun, and the verbs with durative Aktionsart. All of these verbs do not satisfy the conditions for the derivation of *-ung*-nominals, even though most of them belong to the event predicates. The reason is simply that the theme arguments of the ornative verbs are not affected or changed through the action denoted by the base verbs such as *bepflastern*, *beschleusen*, *beschränken*, *bespiken* and *bewimpeln*. Therefore, they are excluded from the derivation of *-ung*-nominals. The actions denoted by the verbs with a reflexive pronoun, e.g. *befreunden*, *beolen*, *beschlauchen*, and *beweiben*, do not affect their theme arguments appropriately. They are also excluded from the derivation of *-ung*-nominals. The problem arises nevertheless in the examples of the base verbs with an adjective stem such as *benassen*, *beseligen*, *betrüben*, etc. of the *-ung*-nominals in (4) on the one hand and *beengen*, *befähigen*, *befreien*, etc. of the *-ung*-nominals in (3) on the other. The latter allows the derivation of *-ung*-nominals, whereas the former does not. However, it is found that the subjects of the former are not an agent but a theme argument. Also, there are quite a few examples of *be*-prefix verbs of the *-ung*-nominals in (4) whose subjects are not agent arguments, for instances, *befallen*, *beglanzen*, *belieben*, *beruhen*, *besagen* (theme argument), *befühlen*, *bekennen* (experiencer argument), *bedürfen* (benefactor argument), etc. Thus it is against Condition 3 to derive the *-ung*-nominals from these verbs.

Now, the derivation of the other *-ung*-nominals in (4) from the base verbs with *be*-prefix such as *befahren*, *befliegen*, *begreifen*, etc. will be treated. These verbs are admittedly event predicates, but their theme arguments are not changed at all through the action denoted by them. Some

others are verbs with a reflexive pronoun such as *behelfen* and *benehmen* or durative verbs such as *belieben*, *behalten*, *belachen*, etc. which do not satisfy conditions for the derivation of *-ung*-nominals. The problem arises, however, in the examples of *be*-prefix verbs with a noun stem in such as *bebildern*, *beflaggen*, *bekreuzen*, *bekrönen*, *bemasten*, etc., for which the derivation of *-ung*-nominals are registered, even though these verbs have apparently the same construction as the ornative verbs above, namely, *bepflastern*, *beschleusen*, *beschränken*, etc. Regarding this, the following derivations should be observed:

- (25) a. Man beflaggt das Rathaus (am Tag der Einheit).
 b. (Am Tag der Einheit) ist das Rathaus beflaggt/mit Flaggen versehen.
 c. das (am Tag der Einheit) beflaggte /mit Flaggen versehene Rathaus
 d. *die Beflaggung des Rathauses (am Tag der Einheit)
 e. Zur Beflaggung des Rathauses gehören die Europa-, die Landes- und die Stadtflagge.
- (26) a. Man bemastet das Schiff.
 b. Das Schiff ist bemastet/mit Masten versehen.
 c. das bemastete/mit Masten versehene Schiff
 d. *die Bemastung des Schiffes
 e. Die Bemastung des Schiffes besteht aus drei Masten.

beflaggen and *bemasten* belong to the event predicates and allow the derivation of the state passives ((25b), (26b)) and the attributive adjectives ((25c), (26c)). The theme argument *das Rathaus* or *das Schiff* undergoes each the action denoted by the composition of the meanings from both the prefix *be-* and the stem *Flagge* or *Mast*. It acquires the target state property specified by *beflaggt* and *bemastet* as shown in the state passive and in the attributive adjective in (25b,c) and (26b,c). However, the target state *beflaggt(y)* or *bemastet(y)* does not imply *Flagge(y)* and *Mast(y)* which must be true in the posttime of the event. This means that the theme arguments *das Rathaus* and *das Schiff* are not changed into *Flagge* and *Mast* respectively by the action of their predicates *beflaggen* and *bemasten*. Therefore, it cannot be said for both cases that the theme argument undergoes the action in a direct way. In the posttime of the events their lexical properties are specified only with the paraphrase *mit*

Flaggen versehen and *mit Masten versehen*. This is surely against Condition 3 and the derivation of *-ung*-nominals from *beflagen* and *bemasten* should be ungrammatical. Then, one might ask where the *-ung*-nominals *Beflagung* and *Bemastung* originate from. As indicated in (25e) and (26e), they have a lexicalized meaning such as 'the whole of flaggs' and 'the whole of masts'.

Let us take *Bebilderung* as another example. One must consider the following derivation:

- (27) a. Man bebildert das Buch (umfangreich).
- b. Das Buch ist (umfangreich) bebildert/mit Bildern versehen.
- c. das (umfangreich) bebilderte Buch
- d. (*) die (umfangreiche) *Bebilderung* des Buches

The state passive (27b) can be derived from (27a) only if the meaning of *bebildern* is '*mit Bildern versehen*'. In this case one can say that the book does not undergo the action denoted by *bebildern* as a meaning of '*illustrieren*', and thus one cannot derive the *-ung*-nominal *Bebilderung*. The grammatical *-ung*-nominal *Bebilderung* in (27d) does not mean 'the illustration of the book with pictures', but it has a lexicalized meaning of 'the whole of pictures in the book'.

Now, the *-ung*-nominals in (3) derived from the base verbs with *ent*-prefix will be discussed. The transitive base verbs with a verb stem such as *entfalten*, *entheben*, *enthemmen*, *entkleiden*, *entkoppeln*, etc. have a resultative Aktionsart. There are also base verbs with a noun stem such as *enterben*, *entfristen*, *entfesseln*, etc. in (and seldom with an adjective stem). All of these verbs belong to the event predicates. The theme arguments undergo the action denoted by their event predicates and acquire the target state properties specified by the past participle, which can be assured by the syntactic tests of state passive and attributive adjective. Thus they can offer the derivation of grammatical *-ung*-nominals. There are also quite a few examples of *-ung*-nominals in (3) derived from the lexicalized *ent*-prefix verbs. However, as they belong to event predicates and satisfy Condition 3, *-ung*-nominals can be derived without any problem.

We further discuss the reason why the *-ung*-nominals in (4) derived from the *ent*- prefix verbs are ungrammatical. Some base verbs such as *entnehmen*, *entrei Ben*, *entringen*, and *entrollen* belong to the verbs with durative Aktionsart, which do not denote changes in the state of affairs.

Therefore, they do not belong to the event predicates, and they are excluded from the derivation of *-ung*-nominals. Some of them such as *entblöden* and *entbreiten* can occur only with a reflexive pronoun, and *entbieten* only in a special context. Thus their theme arguments are not considered to undergo the action denoted by their event predicates, which can be proved through the syntactic test of state passive and attributive adjective properly. Thus they are also excluded from the derivation of *-ung*-nominals. However, there is a problem when *-ung*-nominals are derived from the *ent*-prefix verbs such as *entbeinen*, *entblattern*, *entkorken*, *entriegeln*, *entrippen*, etc., whereas there is none when deriving *-ung*-nominals from *entlauben*, *entfarben*, *entfetten*, *entfrostern*, *enthaaren*, *entkalken*, etc. They all belong to event predicates and apparently satisfy Condition 3. Nevertheless the derivation of *-ung*-nominals from the former group is ungrammatical. Regarding this, I will try again to find out if the theme arguments undergo the actions denoted by their base verbs:

- (28) a. Der Sturm entlaubt den Baum.
 b. Der Baum ist (durch den Sturm) entlaubt.
 c. der entlaubte Baum
 d. die Entlaubung des Baums
- (29) a. Der Junge enteist die Windschutzscheibe.
 b. Die Windschutzscheibe ist enteist.
 c. die enteiste Windschutzscheibe
 d. die Enteisierung der Windschutzscheibe

The theme arguments *der Baum* and *die Windschutzscheibe* undergo the action each denoted by the composition of meanings from both the prefix *ent*- and the noun stem *Laub* and *Eisen* respectively. Next the theme arguments acquire the target state property specified by the past participle *entlaubt* and *enteist* respectively as shown in the state passive and attributive adjective in ((28b,c) and (29b,c). Finally the target state denoted by *entlaubt(y)* and *enteist(y)* imply \sim *Laub(y)* and \sim *Eisen(y)* which must be true in the posttime of the events. This means that the theme arguments *der Baum* and *die Windschutzscheibe* do not have any *Laub* and *Eisen* in the posttime of the events denoted by *entlaubent* and *enteisen* respectively. Thus Condition 3 is satisfied and the derivation of *-ung*-nominals from *entlauben* and *enteisen* is possible. For the other base

verbs from which no *-ung*-nominals can be derived or are not registered in the dictionary, various reasons can be considered. For instance, the stems of *entbeinen* and *entrippen* have a transferred meaning, thus they have little to do with the meaning of removing 'legs' and removing 'ribs'. However, there might be some appropriate contexts for the derivation of *-ung*-nominals from them. For instance, from the predicate *entbeinen* in the sentence *Man entbeint das Schinken* one may derive *Entbeinung des Schinkens*. In the same fashion one may derive from *Der Mann entrippt die Tabakblätter* the *-ung*-nominal *Entrippung der Tabakblätter*. Thus there are quite a few *ent*-prefix verbs such as *entbleien*, *entrußen*, *entquellen*, *entsaften*, *entsahnen*, etc. for which there might be some more appropriate contexts for the derivation of *-ung*-nominals. Concerning the non-derivability of *-ung*-nominals in the case of *entriegeln* and *entkorken*, one may find its reason in the fact that the theme arguments do not undergo the action denoted by *entriegeln* and *entkorken*. From the sentence *der Mann entkorkt die Flasche* it is found that not the theme argument *die Flasche* as a whole undergoes the action denoted by *entkorken* but only its part such as *Flaschenhals*. In other words, one may ask: Is the theme argument *die Flasche* affected as a whole in a given interval in which the action denoted by *entkorken* performs? This is certainly not possible. Only the part of the *Flasche*, i.e. *Flaschenhals* is changed. This explanation corresponds exactly to the case of *verkorken*. From this I assume that the base verb *entkorken* does not satisfy Condition 3 above. The derivability of the *-ung*-nominal from *entriegeln* can be decided depending on the theme argument, i.e. whether it undergoes the change in a direct manner or not. Other base verbs of the *-ung*-nominals listed in (4), for instance, *entblättern*, have a lexicalized meaning which does not satisfy Condition 1 and 3, thus they are out of considerations.

Our final examples are the derivation of *-ung*-nominals from the transitive *zer*-prefix verbs. From the relatively few examples one can also find that transitive verbs with *zer*-prefix have either a verbal stem such as *zerlegen*, *zerreiben*, *zerreißen*, etc. or a nominal stem such as *zerfleischen*, *zersplitttern*, *zertrummern*, etc. in (3), and they both have a resultative Aktionsart and belong to the event predicates. They satisfy the above conditions and do not offer any problem for the derivation of *-ung*-nominals.

In this way we have explained the various phenomena for the grammatical or the ungrammatical derivation of *-ung*-nominals from the base verbs with inseparable prefix from (2) to (4).

5. Conclusion

In this paper I have tried to make a differentiation between grammatical and ungrammatical *-ung*-nominals with respect to the Aktionsarten of their base verbs and their thematic roles. It was found that the intransitive verbs with an inseparable prefix allow the derivation of *-ung*-nominals without any problem if their inchoative Aktionsart denotes an event of process which can be terminated in an interval. This is especially the case for the intransitive verbs with an adjective and a noun stem. The reason is that their theme arguments undergo the process, and when they are changed from the original shape, they arrive at the state denoted by an adjective or a noun. This explains why the derivations of *-ung*-nominals from the intransitive verbs with adjective and noun stems are so productive. On the other hand it has shown that the intransitive verbs with a verb stem denote changes in an interval. However, the right boundary of the interval cannot be fixed, and thus they are not considered as interval-based. Therefore, no *-ung*-nominals can be derived from them. For the derivation of *-ung*-nominals from transitive verbs -- indicated as *Nomen actionis* following the traditional grammar -- we have assumed that the transitive verbs should have an argument structure of the thematic grid composed of an agent and a theme. Furthermore they must belong to the event predicates and have resultative Aktionsart. We have described the properties of the transitive base verbs of *-ung*-nominals as follows: The theme arguments undergo the actions denoted by their base verbs and acquire the target state property specified by the past participle. This target state is then effective in the posttime of events. All of these phenomena of grammatical and ungrammatical *-ung*-nominals could be explained by the derivational conditions in this paper.

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