



The Diachronic Change of German Nominalization Patterns: An Increase in Prototypicality

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Abstract

This paper aims at accounting for the emergence and loss of constraints governing the formation of deverbal nominalizations in German from a cognitive point of view. Specifically, diachronic changes in the formation of derivatives in the suffix -ung are investigated on the basis of two large corpora of Middle High German (MHG, 1050-1350) and Early New High German (ENHG, 1350-1650) texts, respectively. Employing the key notions of construal (e.g. Verhagen, 2007) and mental scanning (e.g. Langacker, 1987) and adopting a usage-based perspective, this paper demonstrates that the diachronic change of word formation patterns can be explained in terms of basic principles of human cognition. It is shown that the emergence of word formation constraints affecting ung-nominalization can be attributed to an increase in (lexical-categorical) prototypicality: Numerous frequent word formation products in -ung adopt features of more prototypical nouns by means of lexicalization throughout the ENHG period. This change eventually affects the word formation pattern itself, blocking the formation of more “verby”, i.e. processual, ung-nominals and rendering a variety of previously felicitous derivatives ungrammatical. This development is paralleled by a loss of constraints affecting the competing word formation pattern of Infinitival Nominalization, which comes in as a “replacement process” (Barz, 1998) for ung-nominalization.

Key words: Cognitive Morphology, Language Change, Nominalization, Construal, Mental Scanning

1. Word Formation Change from a Cognitive Point of View

Word formation can be regarded as a rather understudied subject matter in both Historical Linguistics (cf. e.g. Scherer, 2006, p. 4) and Cognitive Linguistics (cf. e.g. Onysko & Michel, 2010, p. 9). In Cognitive Linguistics, one reason for this long-time neglect might be that the notion of “rule” is, for good reasons, considered rather problematic (cf. e.g. Onysko & Michel 2010, p. 3f.; see also Geeraerts & Cuyckens, 2007, p. 12), but features prominently in many accounts of word formation and, in particular, word formation change. For example, Scherer (2005, 2006), defining word formation change as opposed to various interface phenomena, argues that only the change of word formation constraints, reflected in changes of morphological productivity, is specific to the word formation domain and can therefore be seen as word formation change proper (or word formation change “in the narrow sense”). Word formation change in this strict sense is, of course, a long-term process that usually goes unnoticed for most language users at a synchronic level, which might be

one reason for the previous neglect of word formation in Historical Linguistics (cf. Munske, 2002, p. 24).

As useful as Scherer's rather strict definition of word formation change might be descriptively, a cognitive approach can hardly allow itself to limit its scope to mere restriction changes. From a cognitive point of view, we must ask how the attested changes come about and how they can be explained considering such fundamental principles of human cognition as categorization (e.g. Taylor, 1995), perspectivation (e.g. MacWhinney, 2005), conceptualization and construal operations (e.g. Croft & Cruse, 2004, pp. 40-73; Verhagen, 2007), attention-setting (Talmy, 2007), and conceptual integration (Fauconnier & Turner 2002).

Considering the "primacy of semantics in linguistic analysis" (Geeraerts, 1997, p. 8) postulated by Cognitive Linguistics (cf. also Geeraerts & Cuyckens, 2007), it seems particularly promising to investigate processes at the semantic level (possibly) triggering the changes at the word-formational level. With the example of nominalization in the suffix *-ung*, I will argue in this paper that the diachronic restriction changes affecting the morphological productivity of German word formation patterns can partly, or perhaps even mainly, be explained on semantic grounds. However, word formation change must be considered a complex interplay of many different causes; therefore, an account on a purely semantic basis can hardly be exhaustive (cf. Hartmann, 2012, p. 158). In the case of *ung*-nominalization, for example, phonotactic considerations must be taken into account as well, as some of the restrictions emerging at the threshold between the Early New High German (ENHG, 1350-1650¹) and the New High German (NHG, 1650-today) period might be attributed to the expansion of trochee structures that set out as early as in the Middle High German (MHG, 1050-1350) period (cf. Szczepaniak, 2007, p. 226; Hartmann, *forthc.*, section 4.2). This paper, though, will be confined to some major issues mainly on the semantic level that are likely to be responsible for the restriction changes addressed here.

2. The Corpora

The data presented in this paper are derived from two sources: The "MHG *ung*-corpus", on the one hand, was compiled using the document archive of the MHG dictionary (<http://www.mhdwb-online.de/>). While the dictionary itself is not completed yet, the lemmas to be treated are already set and the 210 archive texts, containing about 7 million word forms (cf. Plate, 2010, p. 256), are already lemmatized, which facilitates the search for *ung*-nominals tremendously: Since there are at least 27 graphemic variants of *-ung(e)* in MHG (cf. Klein et al., 2009, p. 127), it would have been a very difficult endeavour to retrieve even a fractional part of all *ung*-nominals from the large amount of different texts. All in all, the "MHG *ung*-corpus" assembles 2,355 tokens (388 types) from 107 texts (i.e. the remaining 103 texts do not contain any *ung*-nominals at all or those were not correctly lemmatized).

The "Mainz ENHG corpus", on the other hand, which is still under development, consists of only about 100 texts, each with c. 4,000 words. It is based on scans of ENHG prints compiled for a project on the development of noun capitalization in German (Bergmann & Nerius, 1998; Bergmann, 1999). The scans were transliterated by student co-workers and are now proof-read by PhD students. As of now, 63 texts

are ready for annotation and could be exploited for the present study. Altogether, 2,726 *ung*-nominals were assembled and analyzed in their respective contexts.

It goes almost without saying that these two corpora are comparable only to a limited extent. While the MHG *ung*-corpus must be considered, to use Teubert's (1998, p. 157) term, a rather 'opportunistic' corpus attempting to make up for possible imbalances of variables such as different dialects or terminological varieties of different subjects with the sheer quantity of data, the ENHG corpus explicitly aims at providing a balanced assembly of texts. However, considering that *V-ung* is productive across all linguistic variants of MHG and ENHG, it can be assumed that valid statements on the overall development of the word formation pattern can be made on the basis of these two corpora.

The findings from these corpora will be complemented by NHG corpus data from the COSMAS II corpus² as well as from the corpus of the Digital German Dictionary (DWDS³).

3. The Suffix *-ung* (and its Competitors): An Overview

-ung is one of the most productive word formation suffixes in German (cf. Shin, 2001, p. 297); Eisenberg (1994, p. 364) even considers it the most productive suffix deriving action nouns. But this is only true if productivity is measured by the number of instances (for a survey of different models of productivity, cf. Rainer, 1987). However, Demske (2000, 2002), following Baayen (e.g., 1992), defines morphological productivity as the ability of a word formation pattern to coin new words. Therefore, the number of hapax legomena, i.e. single tokens in the corpus, in relation to the total number of tokens belonging to the morphological category under investigation is taken as an indicator of productivity.⁴ A corpus analysis of ENHG *ung*-nominals from (mostly) newspaper texts leads her to the conclusion that the morphological productivity of the word formation pattern *V-ung* suffers a significant decrease in the ENHG period. This decrease of productivity is due to an increase of constraints concerning the possible base verbs: Some relatively new verbs such as *hupen* '(to) honk' or *googeln* '(to) google' cannot be nominalized with this word formation pattern; some derivatives that appear in ENHG texts are now ungrammatical, e.g. ENHG *murmeln*(e) 'murmuring', *bebun*(e) 'quaking'. In such cases, NHG speakers would use nominalized infinitives instead (e.g. *das Murmeln*, *das Beben*), which is why Barz (1998, p. 65) calls Infinitival Nominalization a "replacement process" ("Ersatzverfahren") for *ung*-nominalization.

While *bebun* and *murmeln* are completely out of use, other *ung*-nominals, such as *Haltung* or *Lesung*, have undergone a process of lexicalization (cf. Blank, 2001, for a cross-linguistic survey of lexicalization processes). While they used to be perfectly transparent to their respective base verbs in ENHG (cf. *ein zeichen der waren liebi zuo gott ist **haltung** der gebott* 'A sign of true love to God is adhering to the Commandments', OOB-1500-KT-003⁵), they have to be replaced by nominalized infinitives if we want to convey the same information in Present Day German (PDG). In some cases, such as *Heizung* 'heating installation', the lexicalized reading has completely superseded the semantically transparent reading; in other cases, e.g. *Bedienung*, various readings, each lexicalized to a different degree, are available ('service' and 'waiter/waitress', among others). The question to be addressed in this

paper is now whether these processes of lexicalization affect the word formation change in Scherer's strict sense as attested by Demske, in other words: if the loss of semantic transparency (partly) causes the emergence of constraints affecting the word formation pattern itself.

Nübling et al. (2006, pp. 80-82) suggest a complex network of competition between different word formation suffixes throughout the history of German, comprising results by, among others, Doerfert (1994), Demske (2000), and Barz (2000). According to their account, both *-heit* and *-ung* take the place of OHG *-ī*, which derived nouns from both adjectival (*hōhī* 'height') and verbal bases (*toufi* 'baptism'). While *-heit* almost exclusively takes adjectival bases, *-ung*, although originally taking nominal bases (cf. Horlitz, 1986, p. 480), prevails in OHG as the only productive suffix deriving abstract nouns from verbs (cf. Dal, 1952, pp. 23f.).

However, Infinitival Nominalization enters the picture. Werner (2010, p. 173) points out that Infinitival Nominalization has undergone a loss of restrictions in the ENHG period in that certain perfective verbs such as *zerschlagen* '(to) smash' are only now allowed as base verbs for this word formation process. *ung*-nominalization, on the other hand, is affected by a variety of semantic constraints emerging at the transition from the ENHG to the NHG period. Demske (2000) mentions some semantic verb classes that are excluded as base verbs, e.g. state verbs (**Wünschung* 'wish(ing)'), verbs denoting a change in ownership (**Verkaufung* 'sale/selling'), and inchoative/ingressive verbs (**Erblühung* 'blossoming'). However, Demske's typology is not entirely flawless; Knobloch (2003, p. 338) mentions *Erblindung* 'loss of sight' and *Erkaltung* 'becoming cold' as counter-examples to Demske's exclusion criterion of inchoativity/ingressivity.

In spite of Roßdeutscher's (2010) and Roßdeutscher & Kamp's (2010) attempts to give an exhaustive account of the constraints affecting *ung*-nominalization in PDG, Knobloch's (2002, p. 333) verdict that the description of *ung*-nominals must be considered unsatisfactory and inconsistent is still valid. It is even questionable if the restrictions can be tackled down exhaustively at all. Conceiving of language as a complex adaptive system (cf. Beckner et al., 2009; Frank & Gontier, 2010), nothing could be more natural to language(s) than the variability of meaning that makes it so difficult to classify, for example, the base verbs of nominalizations according to their respective *Aktionsart* (as becomes clear from Knobloch's critical examination of Demske's typology). Furthermore, Knobloch (2003, p. 337) reminds us that the viability of constraints is entirely usage-based. Adopting Vogel's (1996, p. 249) example *Tankung* 'fuelling', which seems ungrammatical to most native speakers of German at least in Germany⁶, he argues that speakers quickly get used to a word formation product if it is used often enough – indeed, *Tankung* seems to be spreading⁷; further evidence for Knobloch's claim comes from the widespread formation *unkaputtbar* 'unbreakable', lit. 'un-broken-able', which heavily violates the constraint that only verbs can function as base verbs for adjectives in *-bar*. However, it must not be forgotten that these are only occasional examples that do not falsify the constraints but rather confirm their existence: A form like *unkaputtbar*, for example, draws its expressivity exactly from the fact that it violates word formation restrictions.

Therefore, we can safely assume that Demske's view is, in essence, correct and that the word formation pattern of *ung*-nominalization is subject to a diachronic increase of (semantic) word formation constraints.

4. Accounting for the Changes: A Matter of Categorization

Categorization is a key notion in Cognitive Linguistics as well as in other cognitive sciences (cf. e.g. Taylor, 1995; Cohen & Lefebvre, 2005). The diachronic development of *ung*-nominalization can – at least in part – be accounted for in terms of categorization at different levels (cf. Hartmann 2012). In this section, I will focus on three partly overlapping instances of cognitive and linguistic categorization, namely, conceptual, semantic, and lexical categorization.

4.1 Conceptual categorization: Summary vs. sequential scanning

Langacker's (1987a, pp. 248-253; 1987b) notion of summary vs. sequential scanning proves a helpful heuristic tool not only for determining the semantic features of prototypical verbs vs. nouns, but also for capturing some of the changes undergone by *ung*-nominalization in the course of several centuries, starting as early as in the MHG period (cf. Hartmann *forthc.*). Although the concept has been subject to criticism (cf. Broccias & Hollmann 2007), I concur with Langacker (2008b, p. 572) that the two scanning modes capture, rather intuitively, "basic aspects of moment-to-moment experience": On the one hand, the notion of sequential scanning captures the sequentiality inherent in any kind of event; on the other hand, summary scanning captures our cognitive "ability to summarize sequentially experienced events and apprehend them holistically" (*ibid.*). In other words, summary scanning can be interpreted as the ability to blend over different stages of an event, incorporating them into a conceptual integration network in the sense of Fauconnier & Turner (2002). Nevertheless, Broccias & Hollmann's (2007) criticism is not entirely unjustified. They do have some valid points especially concerning the descriptive application of the model⁸. Their arguments concerning the interpretation of diachronic data, however, are less convincing as they seem to underestimate the dynamicity of construal patterns. Although, as Langacker (2008b, p. 571) admits, the model needs reexamination, its heuristic value seems evident.

In our context, it is crucial not to conceive of summary and sequential scanning in terms of discrete opposites, but rather as opposites on a continuum (cf. Broccias & Hollmann, 2007, pp. 513f.; Langacker, 2008b, p. 574). This might seem counter-intuitive at first glance, but let us consider the following examples:

- (1) ENHG *in grabung* deß Grunds zu S.Petro 'in digging up the ground of St. Peter's [cathedral]' (Die Relation des Jahres 1609, qt. by Demske 2000, p. 380)
- (2) NHG *Die Landung* des Flugzeugs 'the landing of the plane'
- (3) NHG *Die Verhandlung* dauerte drei Stunden 'The trial took three hours'
- (4) NHG *Die Heizung* befindet sich im Keller 'The heating installation is situated in the basement'

The ENHG example in (1) refers to a process without any inherent boundaries; in theory, the digging could go on *ad infinitum*. Due to its durative character, this process might not seem like a prototypical example of sequential scanning; nevertheless, I argue that it is an instance of sequential conceptualization as we highlight a generic (temporal) section representative of the continuous process in full awareness of its temporal unboundedness (cf. Fig. 2a).

The nominal *Landung* (2), then, captures the semantic content of its base verb (*landen* '(to) land') rather comprehensively. Nevertheless, in direct comparison to *landen*, it can be seen as slightly shifted in the direction of the 'summary scanning' pole. The syntactic behaviour of *Landung* (as well as of comparable *ung*-nominals that are still transparent to their respective base verb) is indicative for this shift: If we want to refer to a certain stage of the process with the help of the preposition *in*, the nominalized infinitive *das Landen* would be the natural choice, while a sentence such as *??in der Landung des Flugzeugs musste der Pilot niesen* 'in (the) landing (of) the plane, the pilot had to sneeze' seems at least awkward, if not ungrammatical.⁹ The construction **in Landung* – which occurs frequently in MHG and ENHG, cf. (1) and the corpus data (Fig. 1) – is entirely impossible in NHG; generally, the combination of a preposition with an *ung*-nominal without a determiner "is no longer a productive pattern" (Demske, 2002, p. 87)¹⁰. The ENHG corpus data indicate the decrease of the Prep.+V-*ung* construction:

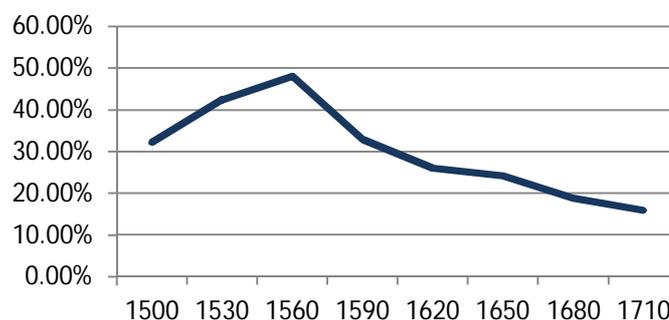


Figure 1. *ung*-nominals used as prepositional complements without a determiner, e.g. in *grabung* 'in (the process of) digging' (in relation to the total number of *ung*-nominals in the corpus)

Example (3) exemplifies a reading that seems to be rather productive in NHG (further instances include *Lesung* 'reading event', *Vorlesung* 'lecture', and, arguably the most prototypical example, *Veranstaltung* 'event'). This reading is characterized by the presence of fixed temporal boundaries; the event is conceptualized as a whole, from a "bird's eye view", so to speak. Again, this is reflected in syntactic properties. For example, an ad hoc corpus analysis of the 500 most recent items listed for *Landung* and *Veranstaltung*, respectively, in the DWDS corpus yields that the latter one occurs significantly more often in the plural form¹¹. The occurrence of plural forms can be considered a sign of "concretization": "If abstract nouns are joined by a plural marker, they 'concretize' automatically" (Vogel, 1996, p. 115, my transl.), cf. e.g. *Schönheiten* 'beauties', *Prüfungen* 'exams/examinations' (ibid.).

The view that the presence of fixed temporal boundaries entails concretization is supported by the widely-held and experimentally supported hypothesis that we conceptualize time in terms of space (cf. e.g. Lakoff & Johnson, [1980] 2003, p. 126; Lakoff, 1993, p. 62; Boroditsky, 2000; Evans, 2007, pp. 758-760). The 'bounded region in time' reading exhibited by, e.g., *Lesung* or *Veranstaltung* can therefore be considered a more abstract variant of the 'bounded region in space' reading exhibited by derivatives such as *Ausstellung* 'exhibition' or, in certain contexts, *Ausgrabung* 'excavation' (cf. also section 4.2).

The object reading exemplified by (4) takes this concretization one step further by not only denoting a bounded region in space and/or time, but rather an individual, physical object, a 'first-order entity' in the sense of Lyons (1977, p. 442; cf. also Vogel,

1996, p. 114) or a non-relational entity in the sense of Langacker (1987a, pp. 214-217), thereby representing the prototype of a noun (cf. Langacker, 1991, p. 21). Such entities are, of course, conceptualized holistically.

All in all, the examples discussed above substantiate Langacker's (1991, p. 22) view that "nominalization involves a conceptual reification", although this reification is a matter of degree. If we consider the classical noun/verb-distinction a continuum with complex relations involving change and/or motion unboundedly unfolding in space and time on the "verby" end and concrete, individual entities on the "nouny" end (see section 4.3), the distinction between summary and sequential scanning can consequently also be seen as graded and intricately related to perspectival construal, as will be outlined in the next section.

4.2 Semantic Categorization: Semantic sub-classification of nominals

As already seen in the previous sections of this paper, nouns can hardly be regarded as a homogeneous class with semantic features reliably exhibited by all of its instances. Some major distinctions include the classic discriminations between mass vs. count nouns (cf. e.g. Radden & Dirven, 2007, p. 6; Langacker, 1987b) and between abstract vs. concrete nouns (cf. e.g. Ewald, 1992). One sub-classification model that is in part compatible with the notions discussed in section 4.1 is presented by Nübling et al. (2012, p. 28), albeit in a completely different, namely onomastic, context. Following Ewald's (1992) typology, the different sub-classes are arranged on a scale of abstractness vs. concreteness, considering some of the semantic, morphological, and syntactic features of the respective sub-classes (cf. Fig. 3). However, the sharp distinction between concrete and abstract nouns employed in this model is debatable¹². Instead, it seems appropriate to treat abstractness and concreteness as poles of a scale (indicated by the arrow in Fig. 2), considering the fuzziness of category boundaries that can be seen as a key insight of cognitive science (cf. e.g. Bybee & McClelland, 2005, p. 384).

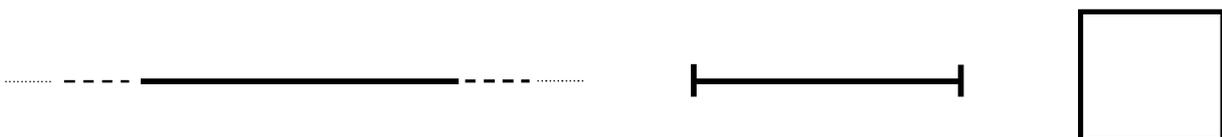


Fig. 2: a) unbounded process, e.g. in *grabung*, (1), b) bird's-eye view conceptualization, e.g. *Verhandlung* (3), c) object reading, e.g. *Heizung* (4)

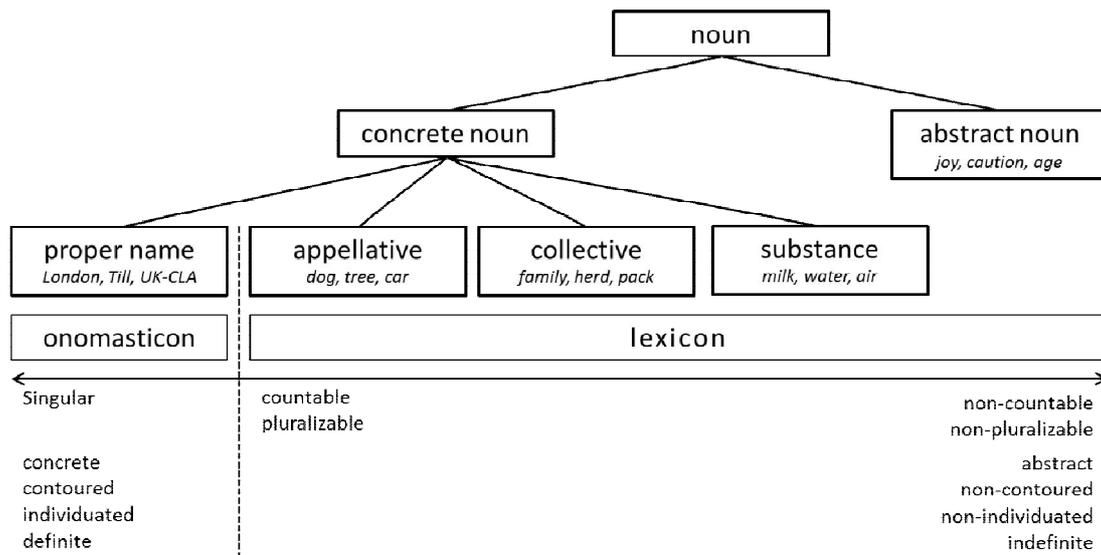


Figure 3. A sub-classification model for nouns, loosely based on Nübling et al. (2012) and Ewald (1992)

This view is also in line with the interpretation proposed in section 4.1 concerning the conceptual categorization of German *ung*-nominals. Rather than explaining the lexicalized items by a sudden shift from “abstract” to “concrete”, we can assume a gradual drift on the scale of “abstractness” and “concreteness”. Of course, this drift does not always proceed in the fashion sketched in the above section (process/event > bounded region in time > bounded region in space), but is highly idiosyncratic and unpredictable. However, many instances of lexicalization seem to roughly follow that pattern. To illustrate this, let us again consider the already mentioned examples of *Lesung* and *Grabung*.

- (5) a. *durch söllich emsig **lesung** guoter und zierlicher gedichten* ‚through such eager reading of good and delightful poems‘ (1478WYL)
 b. *Die erste **Lesung** des neuen Gesetzes soll Ende August stattfinden* ‚the first reading of the bill was scheduled for the end of August‘ (ZEIT, 10.07.2009)
 c. *Neulich schenkte mir ein Zuhörer bei einer **Lesung** in Leipzig das sächsische Wort "fetten", was soviel heißt wie abziehen oder draufhauen.* ‚Recently, during a reading event in Leipzig, a listener gave me the saxon word ‚fetten‘ (...)‘ (ZEIT, 12.05.2009)
- (6) a. *es geschicht oft, daß in **Grabung** der Fundamenten viel Brunnquellen gefunden werden* ‚It often happens that many wells are found in digging up the foundations‘ (1688BAW)
 b. *Und noch eine **Grabung** in vermintem Gelände fand kürzlich statt.* ‚Yet another excavation on a mined area took place recently.‘ (ZEIT, 23.06.2005)
 c. *Das merken wir auch an den vielen Besuchern unserer **Grabung*** ‚We notice that also with regard to the many visitors of our excavation‘ (ZEIT, 28.10.2004)

(5a) exhibits the event reading typical for ENHG, while (5b) represents a technical term from the domain of legislation, denoting a parliament session in which a draft law is debated and voted upon. As in the case of (5c), the reading therefore constitutes a bounded region in time; the process of reading out a law or a work of literature, respectively, is conceptualized holistically. As pointed out earlier, the reading represented by (5a) is ungrammatical in PDG, whereas, in the case of *Grabung*, all three variants represented by (6a-c) are still in use. (6a-c) almost

prototypically instantiate the 'Process', the 'Bounded Region in Time', and the 'Bounded Region in Space' reading, respectively. The almost-synonymous *Ausgrabung* goes one step further as it can also be metonymically transferred to an excavated object, as in Ehrich & Rapp's (2000, p. 246) example *Die Ausgrabung ist im Museum ausgestellt* 'The excavation is exhibited in the museum'.

The semantic differences between these variants can be attributed to shifts in construal as defined and elaborated on by, among others, Langacker (2008a, pp. 55-89) and Verhagen (2007). Specifically, the synchronic variants as well as the diachronic changes can be explained as shifts in perspectivation on different levels of abstraction. The example of *Ausgrabung* in the sense of 'excavated object' presented above represents a metonymic shift profiling – or, in perspectival terms, focusing – a concrete entity within the conceptualized space. On a more abstract level, we can adopt Verhagen's (2007, p. 53) characterization of the English progressive in terms of viewpoint for the early attestations of *ung*-nominals considered above: "[T]he position from which the situation is viewed is contained in the ongoing process itself (so that any boundaries are not 'in view')"¹³, cf. also Fig. 2a above. Most instances, however, differ from the English progressive in focusing either on the event as a whole or on certain salient stages of the event. The former construal is obvious in the "bird's eye view" readings exemplified by, e.g., (5 b.c) and (6b), while the latter one yields nominals highlighting the result state of a process rather than its progression, such as NHG *Sättigung* 'saturation'. Importantly, *ung*-nominals allow for a large flexibility of construal in most contexts. For example, MHG *bezerunge* 'improvement, betterment' in (7a.b) can be interpreted either as the process of improving another person's (in the case of 7a) or one's own (in 7b) moral standards or as the resultant state of this effort.

- (7) a. [*alsô der grânât aphelpoum*] *uil chor[n]elîne hât, diu sint süezze, alsô mendent sich die gotes erwelten in deme himelrîche der **bezerunge**, die si an ir nâhisten hie in diseme ellente gemachet habent.* (TrudHL 129,15)
 'As the pomegranate tree bears many fruits, which are sweet, so do God's chosen people rejoice in Heaven [about / because of] the *bezerunge* they have done to their neighbour in this misery.'
- b. *sus villet got der liute vil,/ daz er ir **bezerunge** wil.* (RvEBarl 15228)
 'Thus, God tortures many people, for he wants their *bezerunge*.'

This flexibility in construal lays the ground for semantic change. According to the contexts the respective *ung*-nominals are most frequently used in and according to the construal options yielded by the interplay of a derivative's semantics and its context, some construal variants become more salient than others, entailing a narrowing of meaning to the most salient construal alternative(s). If we trace, for instance, the lexicalization of German *Lesung* with the help of the COSMAS II corpus, we find that this change is a very recent one, taking place at the turn from the 19th to 20th century. From 1840 to 1920, the verb-proximal reading – e.g. *nach wiederholter **Lesung** des Briefes* 'after reading the letter repeatedly' (Goethe) – constantly decreases, while the 'reading out loud' interpretation slightly increases (mostly referring to a clerical lection).

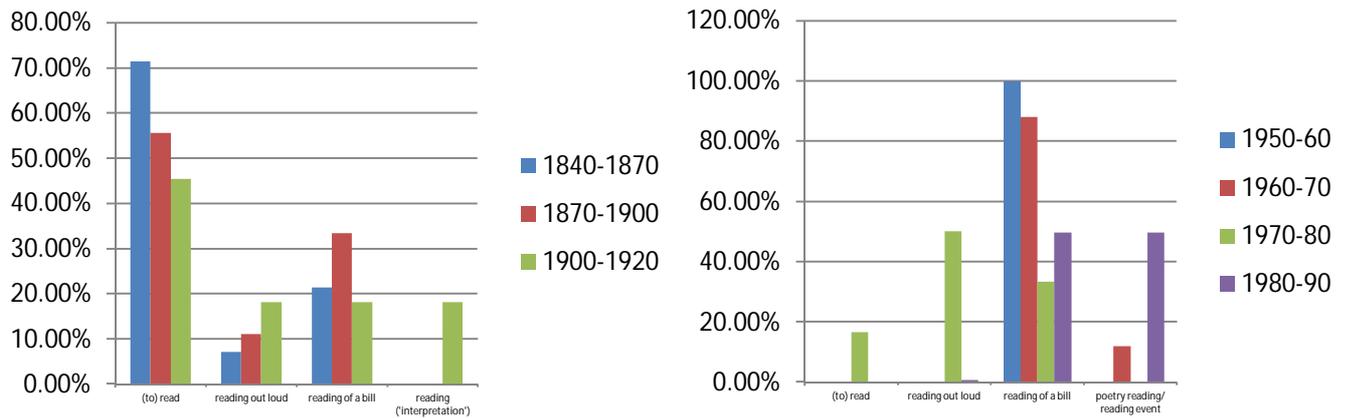


Figure 4. Different readings of Lesung ‘reading’ in relation to the total number of occurrences of Lesung in the respective time period (Basis: All 44 attestations of Lesung from COSMAS II’s HIST corpus in the time from 1840 to 1920; all 143 attestations of Lesung from COSMAS II’s “W” corpus of written language for the time of 1950 until 1990. Note, however, that 114 out of those 143 items come from the decade of 1980-1990, these data thus being much more representative than the data from the preceding time periods.)

Unfortunately, a gap in the corpus data between approximately 1920 and 1950 prevents us from tracing the process of lexicalization in more detail; in time, the data presented here should be complemented by an analysis of further data from the first half of the 20th century. Nevertheless, the COSMAS II data already allow for valuable insights concerning the relationship of construal, reading variants, and patterns of use. Performing co-occurrence analyses of the immediate contexts of *Lesung* with the data of COSMAS II’s historical corpus (HIST) containing data from the 18th to the early 20th century on the one hand and with the “W” corpus on the other hand, in which very recent data are prevalent, we find vast differences between the two sets of data (Tab. 1). While *Lesung* in the late 19th/early 20th century mostly occurs in syntactic patterns such as *Lesung eines / des / dies2es Buches* ‘reading of a / the / this book’, or *nach Lesung des / dieses Briefes* ‘after reading the / this letter’, syntactic patterns such as *szenische Lesung* ‘scenic reading’, *in erster Lesung* ‘in the first reading [of the bill]’, or *Lesung der Autorin* ‘reading of the author’ prevail in the PDG data.

#	co-occurrences	syntactic patterns	#	co-occurrences	syntactic patterns
1	Buchs	der Lesung eines des dieses Buchs	1	szenische	eine szenische [...] Lesung
2	Briefes	nach Lesung des dieses Briefes	2	erster	in erster [...] Lesung
3	Bücher guter	Lesung guter Bücher	3	szenischen	in der einer szenischen [...] Lesung
4	Briefs	Lesung ... meines Briefs	4	Szenische	Szenische Lesung mit ...
5	zweiten	bei der zweiten [...] Lesung	5	zweiter	in zweiter [...] Lesung
6	zweite	zweite Lesung ... der	6	Musik	Lesung [mit und] Musik
7	bey	bey [...] Lesung	7	Vortrag	Lesung [&] Vortrag
8	guter	Lesung guter	8	Dr	Lesung [von mit ...] Dr
9	Schriften	die Lesung ... Schriften	9	Autorin	Lesung [mit der] Autorin
10	Alten	durch Lesung der Alten	10	Buchpräsentation	Buchpräsentation [und] Lesung

Table 1. Co-occurrences and prevalent syntactic patterns in COSMAS II’s “HIST” and “W” corpus, respectively

All in all, the data permit the following tentative conclusions:

1.) The now-prevalent reading of *Lesung*, namely, ‘poetry reading / reading event’, emerged only in the 1960s, probably motivated by the readings subsumed under the

label 'reading out loud' in the analysis presented above. Apart from their semantic content (i.e. 'lecturing' as opposed to silent reading), those instances also exhibit a 'bounded region in time' construal that can be transferred to the 'reading event' interpretation. These features are shared by the 'reading of a bill' interpretation that already features prominently in the earlier corpus data and that could also have influenced the emergence of the now-default reading.

2.) The semantically most transparent reading becomes unproductive due to the frequent use of *Lesung* in constructions unambiguously indicating either a legislative or a 'cultural event' reading. This development is mirrored in prevalent co-occurrence patterns.

3.) The fact that this change takes place so rapidly could be attributed to the fact that it has been prefigured in previous instances of semantic change affecting *ung-*nominals, following the pattern sketched in this paper (process/event > bounded region in time; sequential scanning / viewing point within the event itself > summary scanning / "bird's eye-view"; Fig. 5).



Figure 5. Account of construal alternatives in terms of viewing point (C = Conceptualizer)

4.3 Lexical categorization

Cognitive Grammar holds that parts of speech have a semantic or conceptual basis (cf. e.g. Langacker, 1991, pp. 14ff.; Taylor, 1995, pp. 190ff.). Consequently it can be assumed that nominalization processes do not operate, as some accounts posit, on a merely syntactic level¹⁴, but rather go along with construal modifications such as those outlined in the previous sections of this paper. With regard to *ung-*nominalization – as well as Infinitival Nominalization – it has often been argued that the resulting word formation products are somewhat "verby". Schippan (1967, p. 63), for example, states that *ung-*derivation "constitutes a synthesis of the word classes 'noun' and 'verb' with shifting dominance of the verbal and substantival features" (my translation). This is in line with the observation that "grammatical categories are very much like everyday categories" (Thompson & Hopper, 2001, p. 47), i.e. there are better and less good examples for each category, they exhibit fuzzy category boundaries, etc. If lexical categories can indeed be regarded as "indicators of pre-linguistic categories"¹⁵ (Dotter, 2005, p. 43, my translation) that reflect the construal of situations (cf. also Talmy, 1988; Hentschel & Weydt, 1995, p. 47; Vogel, 1996, p. 109, pp. 191f.; Langacker, 2007, p. 439), it is not too strong a claim that words – especially products of word-class changing word formation processes, for that matter – can be "between" categories. Consequently, semantic change can entail a shift on the scale of "nouniness" (to borrow the famous term coined by Ross, 1973) and "verbiness" (cf. Sasse, 2001). Considering this, it might not be accidental that – as Panagl (1987) demonstrates with examples of Latin word formation –

"nouns of action generally show an inherent tendency toward categorial change of meaning. This development, for which the term 'drift', going back to Edward Sapir,

seems convenient, tends to proceed through the level of resultative noun (nomen acti) and in many cases reaches the level of concrete noun (interpretable as instrumental or local), in certain cases achieving even an agentive reading." (Panagl, 1987, p. 146)

Importantly, Panagl's observations are in line with the account proposed in this paper. The "drift" from the abstract to the concrete pole as described by Panagl for Latin and attested by the German corpus data examined above can be explained as an increase in (lexical-categorical) prototypicality. Although *ung*-nominals exhibit, to a varying degree, 'verbal' features, they have formally always been nouns in filling the NP slot in syntactic constructions and in taking their complements in the genitive case (cf. Demske, 2000, p. 386). Therefore it is not very surprising that the semantics of the word formation products approach a prototypically nominal meaning by means of lexicalization.¹⁶

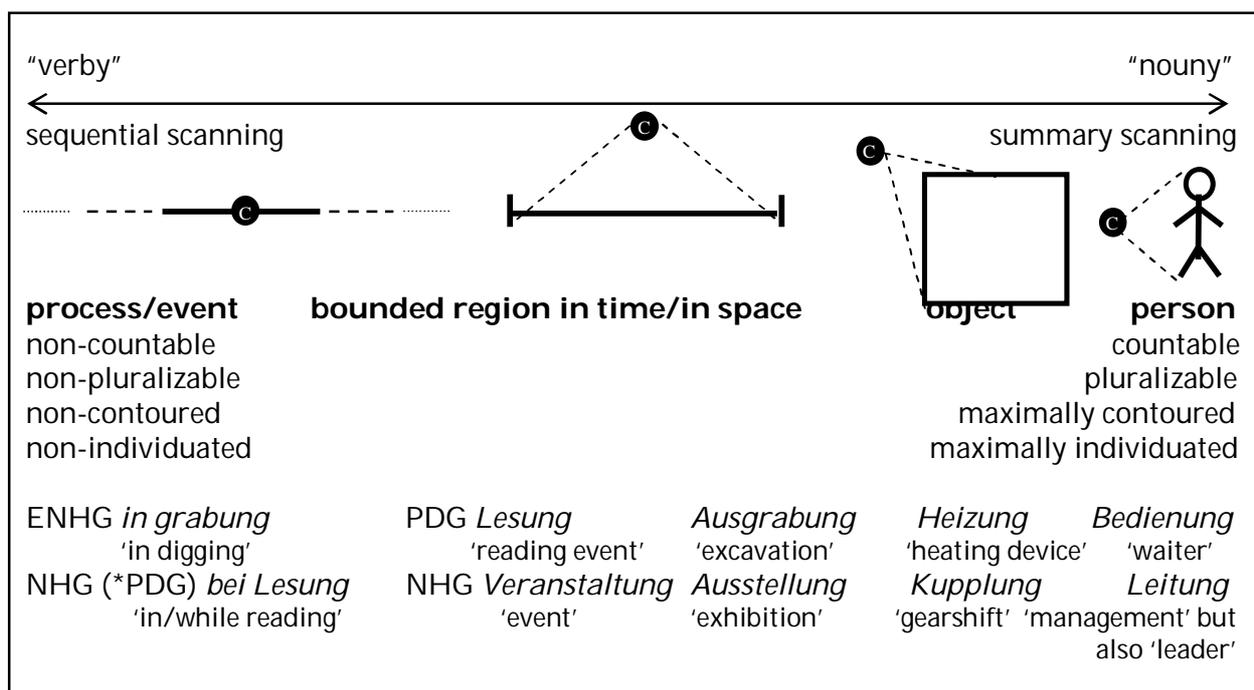


Figure 6. A scale of "verb-proximity" comprising the notions elaborated on in the above sections

According to their respective semantics motivated by the choice of different construal options, the word formation products of German *ung*-nominalization can be arranged along a continuum of 'verb-proximity' (Fig. 6). Adopting Dressler's (1987, p. 99) distinction between lexical enrichment on the one hand and 'motivation' of existing words on the other as the two main functions of word formation, we can assume that the latter, which can be roughly identified with syntactic transposition, is both functionally and temporally primary at least with regard to *ung*-derivatives¹⁷. Given these assumptions, we can posit a tendency not only of individual word formation products, but also of the word formation pattern as a whole to move away from the 'verb-proximal' pole of mere syntactic transposition¹⁸. This development is reflected, on the one hand, in the increase of prototypically nominal features, some of which have been mentioned with regard to the continuum between 'abstract' and 'concrete' nouns illustrated in Fig. 3 (see section 4.2). These features are in turn mirrored by syntactic patterns as sketched by Demske (2000, p. 84). For example, the rising degree of individuation is reflected in an increasing amount of *ung*-

derivatives accompanied by a determiner¹⁹ as well as in the, albeit slight, increase of pluralized forms (Fig. 7).

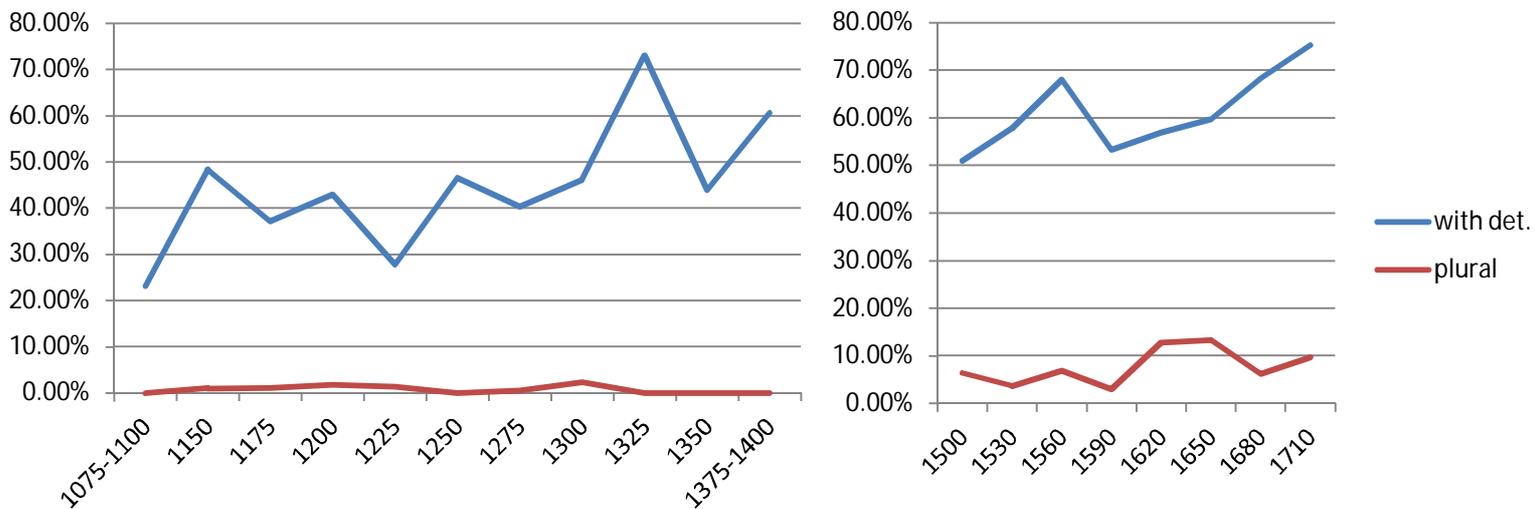


Figure 7. Occurrence with determiners and pluralized forms in the MHG and ENHG corpora in relation to the total number of *ung*-nominals in the respective corpus

On the other hand, the development not only of certain word formation products, but of the word formation pattern itself towards a higher degree of “nouniness” is reflected in the ungrammaticality of certain nominalizations as well as syntactic patterns that used to be entirely unmarked. Consider, for instance, the decline of the Prep+V-*ung* construction examined in section 4.1 or the ungrammaticality of nominalizations implying a prototypically processual construal in which the viewing point is, in Verhagen’s terms (see section 5.2), contained in the ongoing process itself, e.g. *murmelunge* ‘muttering’ or *swîgunge* ‘silence’.

5. Conclusion

The comparison of MHG and ENHG data on the one hand and NHG data on the other strongly suggests that the diachronic change of German nominalization patterns can be explained in terms of basic principles of cognitive construal and conceptualization or, more specifically, in terms of categorization and mental scanning. In summing up, we can distinguish the observations made in the course of our investigation into developments on the semantic, the morphological, and the syntactic level.

On the semantic level – which is intimately tied to domain-general principles of construal and conceptualization – we encounter a drift away from the pole of ‘verb-proximity’ illustrated in Fig. 6. This development first affects specific word formation products that assume more concrete and more individuated meanings through lexicalization. Some of the readings emerging in this process then become productive (cf. Scherer, 2006, p. 12). In other words, the lexicalization of certain frequent word formation products does not leave the word formation pattern itself unaffected. Not only does it entail a diversification of possible meaning variants, but it arguably also influences the construal of *ung*-nominals in general, ruling out the formerly default processual interpretation to a considerable degree. The word formation products as

well as the word formation pattern itself thereby become more “nominal”, i.e. they exhibit more features of prototypical nouns in referring to countable, individuated entities – from a very abstract “entity” such as a bounded region in time to what is arguably conceived of as the prototype of an individual entity, namely, a human being.

On the morphological level, then, these developments cause the supersession of *ung*-nominalization by Infinitival Nominalization. Nominalized Infinitives prototypically evoke the processual construal with the conceptualizer’s viewing point contained in the event itself that is hardly possible any more with *ung*-nominals. The increase of (mainly semantic) constraints affecting the word formation pattern of *ung*-nominalization entails a considerable decrease of morphological productivity.

On the syntactic level, these changes are reflected in the frequency and, consequently, the grammaticality of syntactic patterns. For example, the Prep+V-*ung* construction that was highly frequent in the ENHG period can only be used to a very limited degree in PDG; in fact, its use is, apart from some exceptions, almost entirely confined to a narrow set of idioms. Furthermore, the increase in the use of determiners and pluralized forms mirror the increasing construal of *ung*-nominals as individuated entities, substantiating the hypothesis that the diachronic change of the various German nominalization patterns mentioned in section 3 in general and the development of *ung*-nominalization in particular can be accounted for as an increase in prototypicality.

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Notes

¹ In the remainder of this paper, I will employ the classic periodization model of German language history by Scherer (1890), which has proven highly influential (cf. e.g. Rössler, 2012). In this model, the history of German begins in the middle of the 8th century, when the first documents written in the vernacular language appear; before that, Latin had been the exclusive language of science and literature (cf. Bäuml, 1999, p. 22). The following c. 1200 years are subdivided into four periods, each stretching over 300 years: Old High German (750-1050), Middle High German (1050-1350), Early New High German (1350-1650), New High German (1650-today). Some scholars additionally posit a period of “Present Day German” (PDG) setting in at the beginning or in the middle of the 20th century due to the massive technical and societal changes in this period (cf. Roelcke, 1998, p. 813). Generally, I will not distinguish between NHG and PDG in this paper, but I will adopt the distinction where it seems helpful (e.g., with regard to some items only recently lexicalized).

² <http://www.ids-mannheim.de/cosmas2/> (last checked 29.08.2012).

³ <http://www.dwds.de> (last checked 29.08.2012).

⁴ In his more recent work, Baayen (e.g. 2009) has coined the term 'potential productivity' for this measure of morphological productivity.

⁵ The abbreviations of the corpus texts are broken down in the references.

⁶ A small number of native speakers of German from Austria, where Vogel reports to have encountered this form, pointed out, however, that it seems ungrammatical to them as well.

⁷ The German division of the Shell company used it in a discount campaign (http://tankstellen-koschny.de/user/upload/file/3-Cent_09-11_Koschny.pdf, last checked 07.07.2012); furthermore I encountered the formation myself occasionally at different petrol stations.

⁸ For example, I fully concur with their view that the English progressive does not necessarily entail a conceptualization in terms of summary scanning, as was suggested by Langacker (e.g. 1987b).

⁹ *Während der Landung des Flugzeugs* 'during the landing of the plane' is of course possible; but in this case, the preposition refers to some arbitrary point in the process of landing that is nevertheless conceptualized as a whole, i.e. in a more cumulative fashion and therefore to be situated closer to the pole of summary scanning.

¹⁰ However, there are some counter-examples to Demske's assertion. A Prep+V-*ung* construction with a novel *ung*-formation, such as *nach Ergoogelung* 'after googeling_{PERF.}', seems conceivable introspectively and is indeed attested, if only once: *die Chance geht nach ergoogelung gegen null das den Stub jemand ausbaut.*,

http://wiki.verkata.com/de/wiki/Wikipedia:L%C3%B6schkandidaten/21._Mai_2006?page=14, last checked 23.08.2012.

¹¹ *Veranstaltung*: 302 items, *Veranstaltungen*: 201 items (503 in total; percentage of plural forms: 66.6%); *Landung*: 465 items, *Landungen*: 45 items (510 in total; percentage of plural forms: 9.68%).

¹² This is explicitly acknowledged by Nübling et al. (2012, p. 28).

¹³ For a very similar account of the English progressive, cf. Talmy (1988, pp. 183f.), Verspoor (1996, p. 438), Langacker (2008a, p. 65).

¹⁴ For example, Donalies (2005, p. 104) considers the syntactic transposition of verbs to nouns as the main function of *ung*-nominalization.

¹⁵ The term "pre-linguistic category" is, however, somewhat problematic in this context as it is still a matter of debate to what extent human categorization depends on linguistic capabilities. For a vivid discussion of this topic, cf. Hurford (2007). A more cautious approach would be to speak of universal conceptual categories in the sense of Kemmer (2003).

¹⁶ It would be interesting to investigate if a more prototypically 'nominal' construal of abstract nouns in German is further promoted by noun capitalization arising in ENHG.

¹⁷ This assumption is backed by the high degree of 'verb-proximity' exhibited by *ung*-formations in earlier stages of German as well as by the fact that verb-proximal event and state readings were already predominant in OHG, cf. Pimenova (2002, p. 94).

¹⁸ The "poles" posited here are, of course, prototypes. As mentioned above, it can readily be argued that nominalization never amounts to nothing more than mere syntactic transposition as it always "involves a conceptual reification" (Langacker, 1991, p. 22, see section 4.1).

¹⁹ In accordance with, e.g., Thielmann (2007, p. 808), I subsumed under the notion of 'determiner' not only definite and indefinite articles, but also demonstrative and possessive pronouns, pronominal genitives, and quantifiers.

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RvEBarl

Barlaam und Josaphat von Rudolf von Ems. Ed. Franz Pfeiffer (Dichtungen des deutschen Mittelalters 3), Leipzig 1843 (Repr. Berlin 1965).
<http://www.mhdwb-online.de/volltextanzeige.php?wbsigle=RvEBarl&id=>

OOBD-1500-KT-003

Der Seelen Paradiß. Wessobrunn 1505. Bayerische Staatsbibliothek München.

1478WYL

Niclas von Wyle, Transzlation, Vorrede.
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1688BAW

Bürgerliche Wohnungs Baw-Kunst.
<http://books.google.de/books?id=FhNQAAAAcAAJ&pg=PA34&dq=%22in+Grabung%22&hl=en&sa=X&ei=cp30T7WwPOiB4ASlqMiGBw&ved=OCDOQ6AEwAg#v=onepage&q=%22in%20Grabung%22&f=false> (29.08.2012)

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