Chapter 1
Nouns: characterization and classification

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Characterization and classification

Introduction

This chapter will largely be concerned with the most distinctive semantic, morphological and syntactic properties of nouns. Section 1.1 gives a brief characterization of the category of nouns and noun phrases by describing some of their more conspicuous properties. This will help users to identify nouns and noun phrases in Dutch on the basis of their form, function and position in the sentence. Section 1.2 presents a semantic classification of nouns and will describe the way in which the semantic differences are formally expressed.

Like verbs and adjectives, nouns form an open class and, as such, cannot be exhaustively listed. New nominal elements are introduced into the language through derivation, compounding, loaning etc. Sections 1.3 and 1.4 contain a concise discussion of derivation and compounding, which, due to the complexity of these morphological processes, will remain relatively incomplete. The process of nominalization, however, will be discussed more extensively in Sections 2.2.3 and 2.2.4. For a comprehensive overview of Dutch morphology, the reader is referred to Booij (2002), De Haas & Trommelen (1993) and Haeseryn et al. (1997).

1.1. Characterization

This section will give a brief and general characterization of Dutch nouns and noun phrases by means of some of their more conspicuous properties. This list of properties is not exhaustive and the discussion is necessarily sketchy and incomplete. Nevertheless, the information provided will help the reader to identify Dutch noun phrases and to gain some basic insight into their structure and their syntactic behavior. Section 1.1.1 will start by discussing some of the nominal features (number, person and gender), and illustrate their relevance on the basis of the personal and possessive pronouns. This is followed in Section 1.1.2 by a discussion of the internal organization of the noun phrase, and the semantic contribution of its various subparts. Section 1.1.3 concludes by giving a brief overview of the syntactic uses and the semantic functions of the noun phrase in the clause.

1.1.1. Nominal features (number, gender and person)

This section briefly discusses the nominal features number, person and gender. These features play an important role in the description of agreement relations: number and person are relevant for subject-verb agreement; number and gender are relevant for agreement between the noun and its determiner and/or attributive adjectival modifier(s). Moreover, we will show that all three types of nominal features are relevant for the characterization of the personal and possessive pronouns in Dutch.

I. Number

Noun phrases are normally specified for number. Although some noun phrases are always singular (e.g., noun phrases headed by a substance noun like water) or plural (the so-called PLURALIA TANTUM like de tropen ‘the tropics’), the vast majority of nouns can have either a singular or a plural form. Morphologically speaking,
6 Syntax of Dutch: nouns and noun phrases

pluralization is generally signaled by adding one of two endings: the ending -(e)n or the ending –s. A small number of nouns, like methode ‘method’, can take either ending. A very small group of nouns form their plural by means of the suffix -eren. Plural formation is illustrated in example (1).

(1) Plural formation

<table>
<thead>
<tr>
<th>SUFFIX</th>
<th>SINGULAR</th>
<th>PLURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>-en</td>
<td>hond ‘dog’</td>
<td>honden ‘dogs’</td>
</tr>
<tr>
<td>-s</td>
<td>sleutel ‘key’</td>
<td>sleutels ‘keys’</td>
</tr>
<tr>
<td>-en or -s</td>
<td>methode ‘method’</td>
<td>methodes/n ‘methods’</td>
</tr>
<tr>
<td>-eren</td>
<td>kind ‘child’</td>
<td>kinderen ‘children’</td>
</tr>
</tbody>
</table>

The ending is mostly determined by phonological and/or morphological properties of the nominal stem. The ending -en (pronounced as schwa in most varieties of Dutch) is by far the most common one, and is generally found after nouns ending in a stressed syllable; the affix -s, on the other hand, is generally used after stressed syllables. As a result of this, plural nouns generally end in a trochee, that is a sequence of a stressed and an unstressed syllable; cf. Booij (2002). This means that the majority of monosyllabic nouns like hond ‘dog’ in (2a) as well as the majority of polysyllabic nouns with stress on the final syllable, like kanón ‘gun’ in (2b), take the ending -en; nouns like kánon ‘canon’ with penultimate stress, on the other hand, normally take the -s ending.

(2)  a. hONDen ‘dogs’
    b. kanONnen ‘guns’
    c. kANons ‘canons’

There are many exceptional cases, however, which sometimes can be explained by considering the history of the word, but since we do not aim at giving a full description of all the intricacies involved in plural formation, we refer the reader to De Haas & Trommelen (1993: 157ff.) Haeseryn et al. (1997), and Booij (2002: Section 2.2.1) for a complete overview of the rules for pluralization and exceptions to these rules. For a (perhaps somewhat surprising) description of the meaning of the plural morpheme, see Section 5.1.1.1.

II. Gender

Dutch nouns can be feminine, masculine or neuter. As we will see shortly, the distinction between neuter and non-neuter nouns can be readily observed from the syntactic behavior of the nouns. The difference between masculine and feminine nouns, on the other hand, has no syntactic or morphological reflex in Standard Dutch, and can only be observed when the pronoun hij/zij ‘he/she’ is used to refer to a previously mentioned noun phrase. It therefore does not come as a surprise that for many speakers, this distinction is more or less neutralized, so that they have to take recourse to a dictionary when they want to make the distinctions (especially in writing, where distinguishing between masculine and feminine nouns is still the norm). Leaving personal pronouns aside, many (if not most) speakers of most
varieties of Dutch actively operate with a binary opposition between [+NEUTER] and [-NEUTER] nouns; see Section 5.2.1.1.5 for more discussion.

The most conspicuous difference between [+NEUTER] and [-NEUTER] nouns is the choice of definite article: singular [+NEUTER] nouns take the definite article het, while singular [-NEUTER] (and plural) nouns are preceded by the definite article de. For this reason the two types of nouns are often referred to as HET- and DE-nouns, respectively. Gender also affects the form of demonstrative/possessive pronouns, some quantifiers, attributively used adjectives and relative pronouns. Examples are given in Table 1, which also provides references to the sections where more information about these agreement patterns can be found.

Table 1: Gender

<table>
<thead>
<tr>
<th></th>
<th>[+NEUTER]</th>
<th>[-NEUTER]</th>
<th>SECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEFINITE ARTICLES</strong></td>
<td>het boek the book</td>
<td>de pen the pen</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>DEMONSTRATIVES</strong></td>
<td>dit/dat boek this/that book</td>
<td>deze/die pen this/that pen</td>
<td>5.2.3</td>
</tr>
<tr>
<td><strong>POSSESSIVE PRONOUNS</strong></td>
<td>ons boek our book</td>
<td>onze pen our pen</td>
<td>5.2.2</td>
</tr>
<tr>
<td><strong>QUANTIFIERS</strong></td>
<td>elk boek each book</td>
<td>elke pen each pen</td>
<td>6.2</td>
</tr>
<tr>
<td><strong>ATTRIBUTIVE ADJECTIVES</strong></td>
<td>een rood boek a red book</td>
<td>een rode pen a red pen</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>RELATIVE PRONOUNS</strong></td>
<td>het boek dat ik las the book that I read</td>
<td>de pen die ik heb gekocht the pen that I have bought</td>
<td>3.3.2.1</td>
</tr>
</tbody>
</table>

The Dutch determiner system differs from the pronominal system, which still has a three-way distinction between masculine, feminine and neuter gender. This mismatch seems to result in the system of pronominal reference, where syntactic agreement in gender features is gradually replaced by a system in which the choice of the pronoun is determined by semantic factors; cf. Section 5.2.1.1.3. It is further interesting to note that the determiner systems of many Dutch dialects differ from the Standard Dutch one in exhibiting a three-way distinction between; see Cornips & De Vogelaer (2009) and references given there.

**III. Person**

The person features are relevant for pronouns only, since lexical noun phrases like het boek ‘the book’ and de man ‘the man’ are always third person. Person features can best be described by appealing to notions of discourse, as in (3). **FIRST PERSON** refers to a set of entities including the speaker (the speaker may of course also exhaust the set). **SECOND PERSON** refers to a set of entities including the addressee but excluding the speaker: when the speaker is included the first person is used. **THIRD PERSON** refers to a set of entities excluding both the speaker and the addressee.

(3) a. First person: [+SPEAKER] [+ADDRESSEE]
    b. Second person: [-SPEAKER] [+ADDRESSEE]
    c. Third person: [-SPEAKER] [-ADDRESSEE]
IV. Illustration: personal and possessive pronouns

All nominal features discussed above are relevant for the classification of the personal and possessive pronouns in Dutch. These pronouns have either a singular or a plural form. We also have to distinguish between the three persons. The third person pronouns are further divided into three groups on the basis of gender. This leads to the classification given in Table 2. Note that a complete classification of the personal and possessive pronouns requires more distinctions, but we postpone the discussion of these to Section 5.2, where the pronouns are discussed more extensively.

### Table 2: Personal and possessive pronouns

<table>
<thead>
<tr>
<th>PERSON</th>
<th>SINGULAR</th>
<th>PLURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PERSON</td>
<td>POSSESSIVE</td>
</tr>
<tr>
<td></td>
<td>SUBJECT</td>
<td>OBJECT</td>
</tr>
<tr>
<td>1ST PERSON</td>
<td>ik</td>
<td>mijn</td>
</tr>
<tr>
<td>2ND PERSON</td>
<td>jij</td>
<td>jou</td>
</tr>
<tr>
<td>3RD PERSON</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MASCULINE</td>
<td>hij</td>
<td>hem</td>
</tr>
<tr>
<td>FEMININE</td>
<td>zij</td>
<td>haar</td>
</tr>
<tr>
<td>NEUTER</td>
<td>het</td>
<td>het</td>
</tr>
</tbody>
</table>

1.1.2. The internal structure of the noun phrase

This section will discuss the overall internal structure of the noun phrase. We will distinguish two syntactic domains. The first domain, which we will call the NP-domain, is headed by the noun. The second domain is the DP, which is often assumed to be headed by a determiner, quantifier or a numeral. We will discuss these two domains in 1.1.2.1 and 1.1.2.2, respectively. Section 1.1.2.3 is devoted to a brief discussion of non-restrictive modifiers of the noun phrase. This section will be concluded with some remarks on word order restrictions within the noun phrase.

1.1.2.1. The NP-domain

The NP-domain consists of the head noun, its complement(s) and its restrictive modifier(s). Leaving irrelevant details aside, the structure of the NP is normally assumed to be as indicated in (4a). A complement occurs right-adjacent to the noun in the form of a PP (unless the noun is a nominal infinitive, in which case the complement may occur in pronominal position as a noun phrase); an example is given in (4b). Restrictive modifiers can be either pre- or postnominal. The prenominal position is normally occupied by an attributive adjective, as illustrated in (4c), whereas the postnominal modifier normally has the form of a PP or a restrictive relative clause. The postnominal modifier normally follows the complement of the noun; we illustrate this with a PP-modifier in (4d).
(4) a. [NP AP N complement-PP]
b. de [NP vernietiging [compl van Rome]]
   the destruction of Rome
c. een [NP [AP erg dik] boek]
   a very thick book
d. de [NP vernietiging van Rome [PP in 410 A.D.]]
   the destruction of Rome in 410 A.D.

For our present purposes, this brief introduction of the internal structure of the NP suffices. An exhaustive discussion of complementation of the noun can be found in Chapter 2. Modification of the NP is the topic of Chapter 3, and will also be extensively discussed in Chapters A5 and A9.

Semantically speaking, the NP determines the denotation of the complete noun phrase. A noun like *boek* ‘book’ can be said to denote a set of entities with certain properties. Modification of the noun involves modification of the set denoted by the noun phrase; the NP *erg dik boek* ‘very thick book’, for example, denotes a subset of the set denoted by *boek*. The NP-domain itself does not encode the fact that noun phrases are normally used as referring expressions; Section 1.1.2.2 will show that this is the semantic function of the elements constituting the DP-domain.

1.1.2.2. The DP-domain

This section will briefly discuss the lexical elements that are found in the DP-domain (the determiners, quantifiers and numerals), characterize the semantic contribution that these elements make, and also introduce the so-called pre-determiners *al* and *heel* that can be used to modify certain determiners.

1.1.2.2.1. Determiners and quantifiers/numerals

In current linguistic theory, determiners, quantifiers and numerals are generally assumed to be external to the NP-domain, and are taken to function as the head of a projection containing the NP-domain, as in (5).

(5) [... DP D ... [NP N ...]]

This implies that elements such as a determiner or quantifier are assumed to be the head of the full noun phrase, and it is these elements that determine the referential and/or the quantificational properties of the noun phrase. The determiner slot D can be left empty or be filled by one of the elements in Table 3.

Table 3: Determiners and quantifiers/numerals

<table>
<thead>
<tr>
<th>ARTICLES</th>
<th>het boek the book</th>
<th>een boek a book</th>
<th>Ø boeken Ø books</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEMONSTRATIVE PRONOUNS</td>
<td>dit/dat boek this/that book</td>
<td>deze/die pen this/that pen</td>
<td>deze/die boeken these/those books</td>
</tr>
<tr>
<td>POSSESSIVE NPS AND PRONOUNS</td>
<td>Jans/zijn boek Jan’s/his book</td>
<td>mijn moeders/haar pen my mother’s/her pen</td>
<td>onze boeken our books</td>
</tr>
<tr>
<td>QUANTIFIERS AND NUMERALS</td>
<td>veel boeken many books</td>
<td>elk boek every book</td>
<td>twee boeken two books</td>
</tr>
</tbody>
</table>
The assumption that articles, demonstratives and possessive pronouns occupy the position D accounts for the fact that these elements are in complementary distribution, since it is generally accepted that a head position of a phrase can be occupied by one head only. This claim has furthermore given rise to the hypothesis that the noun phrase may contain more projections than those identified in (5): DP and NP. This is related to the fact that numerals and some quantifiers can be combined with articles, demonstratives and possessive pronouns. Quantifiers and numerals have therefore been claimed to head the projections QP and/or NumP. Under this hypothesis, an example like *mijn vijf broers* would have the articulated structure in (6).

(6) \[
\text{[DP mijn [NUMP vijf [NP broers]]]}
\]

Though questions concerning the number of projections involved are obviously of interest (see Alexiadou et al., 2007: part II, for discussion), the main point to remember here is that determiners and quantifiers/numerals are assumed to be external to the NP, which implies that they have no effect on the denotation of the (modified) noun. Their semantic contribution is restricted to the referential and/or quantificational properties of the noun phrase as a whole. Below, we will briefly illustrate this by means of examples in which the noun phrase acts as the subject of the clause. But before we can do this, we will provide some background by briefly outlining the set-theoretic treatment of the subject-predicate relation, which will be central to our discussion of the denotational properties of the NP.

Certain aspects of the meaning of a clause can be expressed by means of set theory: an example like *Jan loopt op straat* ‘Jan is walking in the street’ expresses that the singleton set denoted by the proper noun *Jan* is included in the set denoted by the verb phrase *loopt op straat* ‘walks in the street’. More generally, the subject-predicate relation in a clause can be expressed by means of Figure 1, where A represents the set denoted by the NP and B indicates the set denoted by the verb phrase. The intersection A ∩ B denotes the set of entities for which the proposition expressed by the clause is claimed to be true.

\[ A \cap B \]

**Figure 1: Set-theoretic representation of the subject-predicate relation**

In an example like *Jan en Marie wandelen op straat* ‘Jan and Marie are walking in the street’, it is claimed that the complete set denoted by A, viz. {Jan, Marie}, is included in set B, which is constituted by the people walking in the street. In other words, it expresses that the intersection (A ∩ B) exhausts set A so that the remainder of set A is empty: A - (A ∩ B) = ∅. The semantic function of determiners and quantifiers/numerals is to specify the intersection A ∩ B and the
Characterization and classification

remainder of A - (A ∩ B). Here we will informally describe this for some determiners and quantifiers/numerals. A more exhaustive and formal description can be found in Chapter 6.

The definite article de/het in (7) expresses that in the domain of discourse all entities that satisfy the description of the NP are included in the intersection A ∩ B, that is, that A - (A ∩ B) = ∅. The singular noun phrase de jongen ‘the boy’ in (7a) has therefore approximately the same interpretation as the proper noun Jan in the discussion above; it expresses that the cardinality of A ∩ B is 1 (for this we will use the notation: |A ∩ B| = 1). The plural example in (7) differs from the singular example only in that it expresses that |A ∩ B| > 1.

(7)  a. De jongen loopt op straat.
     the boy walks in the street

The meaning of a definite demonstrative pronoun like deze ‘this/these’ and die ‘that/these’ or a possessive pronoun like mijn is similar to that of the definite article, the only difference being that these determiners effect a partitioning of the set denoted by A, and claim that one of the resulting subsets is properly included in B.

The semantic contribution of the indefinite articles in (8a&b) is to indicate that A ∩ B is not empty, but they do not imply anything about the set A - (A ∩ B); the latter may or may not be empty (the other boys included in set A may all be in school). The difference between the singular indefinite article een and the (phonetically empty) plural indefinite article ∅ is that the former expresses that |A ∩ B| = 1, whereas the latter expresses that the cardinality can be larger than 1. At least semantically speaking, the cardinal numerals belong to the same class as the plural indefinite article; an example such as (8c) is similar in all respects to (8b) apart from the fact that it expresses that |A ∩ B| = 2.

(8)  a. Er loopt een jongen op straat.
     there walks a boy in the street
     ‘A boy is walking in the street.’

b. Er lopen ∅ jongens op straat.
     there walk boys in the street
     ‘Boys are walking in the street.’

c. Er lopen twee jongens op straat.
     there walk two boys in the street
     ‘Two boys are walking in the street.’

The semantic contribution of quantifiers like enkele ‘some’, veel ‘many’ and weinig ‘few’ can be described in similar terms. The main difference is that the cardinality of the set A ∩ B is somewhat vaguer: an example like (9a) expresses more or less the same as (8b), but in addition the use of enkele suggests that the cardinality of A ∩ B is lower than some implicitly assumed norm “c”: 1 < |A ∩ B| < c. The interpretation of the quantifiers veel and weinig also seems to depend on some implicitly assumed norm: veel expresses that |A ∩ B| > c’ and
weinig that \(|A \cap B| < c\)’. In the case of *enkele* in (9a), the implicit norm c seems more or less fixed; the cardinality of the set of boys walking in the street will never be higher than, say, eight or nine. In the case of *veel* and *weinig*, on the other hand, the implicitly assumed norm is contextually determined: a hundred visitors may count as many at a vernissage but as few at a concert of the Rolling Stones. Note further that, as in the case of the indefinite articles and numerals, the examples in (9) do not imply anything about the set \(A - (A \cap B)\).

(9)  a. Er lopen *enkele* jongens op straat.
there walk some boys in the.street
‘Some boys are walking in the street.’

b. Er lopen *veel/weinig* jongens op straat.
there walk many/few boys in the.street
‘Many/few boys are walking in the street.’

When we combine a definite determiner and a numeral/quantifier the meanings of the two are combined. An example such as (10a) expresses that \(|A \cap B| = 2\), which can be seen as the semantic contribution of the numeral *twee* ‘two’, and that \(A - (A \cap B) = \emptyset\), which can be seen as the semantic contribution of the definite article *de*. Similarly, (10b) expresses that \(|A \cap B| > c\), which is the contribution of the quantifier, and that \(A - (A \cap B) = \emptyset\), which is the contribution of the definite article *de*.

(10)  a. De *twee* jongens wandelen op straat.
the two boys walk in the.street
b. De *vele* jongens wandelen op straat.
the two boys walk in the.street

1.1.2.2. Pre-determiners

Special attention must be paid to a set of expressions that are often referred to as PRE-DETERMINERS. These expressions are quantifiers that may appear in a position left-adjacent to the determiners. Some examples are given in (11), where the determiners *mijn* ‘my’ and *de* ‘the’ in the determiner position are preceded by the pre-determiners *al* ‘all’ and *heel* ‘whole/all of the’. The semantics of these pre-determiners is extremely complex. Therefore, we will not discuss these elements here, but refer the reader to the extensive discussion in Chapter 7.

(11)  a. *al* *mijn* boeken
all my books

b. *heel* *de* taart
whole the cake
‘all of the cake’

1.1.2.3. Non-restrictive modifiers

Some examples of non-restrictive modification are given in (12): non-restrictive modifiers typically take the form of non-restrictive relative clauses, as in (12a), but they can occasionally also be adjectival or nominal in nature, as in (12b&c).
Semantically speaking, non-restrictive modifiers are outside both NP and DP, and contain material that falls outside the “scope of the noun and determiner: non-restrictive modifiers neither affect the denotation of the NP nor the referential or quantificational properties of the noun phrase as a whole, but just provide additional information about the referent of the noun phrase. Syntactically speaking, however, the non-restrictive modifiers in (12) clearly belong to the noun phrase, since they occupy the clause-initial position together with the DP (the “constituency test).

(12) a. Het boek, dat ik graag wilde hebben, was net uitverkocht.
   The book, which I very much wanted to have, was just sold out.

b. De man, boos over zijn behandeling, diende een klacht in.
   The man, who was angry about his treatment, deposited a complaint.

c. Het boek, een eerste druk van Karakter, werd verkocht voor € 10,000.
   The book, a first edition of Karakter, was sold for € 10,000.

1.1.2.4. Order of elements within the noun phrase

The previous sections have shown that the structure of the noun phrase is more or less as indicated in (13a). Putting certain co-occurrence restrictions and special intonation patterns aside for the moment, this structure allows us to provide a descriptively adequate account for the main word order patterns found within the noun phrase. For example, (13a) predicts that the determiners always precede the noun and its adjectival premodifiers and that the determiner can only be preceded by the pre-determiners al and heel, that is, that a numeral or quantifier must follow the determiner (if present). In other words, the structure in (13a) correctly predicts that there are no alternative realizations of the prenominal string al de vier aardige N in example (13b). Similarly, it predicts that an example like (13b) has no alternative word order pattern for the post-nominal PPs: the PP van de Verenigde Staten is the complement of the deverbal noun vertegenwoordiger, and is hence expected to precede the PP-modifier uit New York.

(13) a. [DP al/heel D [NUMP/QP Num/Q [NP A N complement]]] non-restr. modifiers

b. al de vier aardige vertegenwoordigers van de VS uit New York
   all the four nice representatives of the US from New York

There are, however, various complicating factors. Consider, for instance, the examples in (14) involving the deverbal noun behandeling ‘treatment’. The noun phrase Jan in (14a) can be considered a complement of the head noun, just as it would be a complement of the verb behandelen ‘to treat’ in the clause De dokter behandelt Jan in het ziekenhuis ‘The doctor is treating Jan in hospital’. Example (14b) shows, however, that the noun phrase Jan can also be realized as a genitive noun phrase, in which case it precedes the noun behandeling and the attributive adjective langdurig ‘protracted’. In order to account for this, it is generally assumed that the complement of a noun can also be realized as a genitive noun phrase, which is placed in the determiner position (just like possessive pronouns). For completeness’ sake, note that Section 5.2.2.5.1 will show that (in contrast to
English) Dutch exhibits severe restrictions on the noun phrase types that may occur as genitive noun phrases.

(14) a. de langdurige behandeling van Jan in het ziekenhuis
    the protracted treatment of Jan in the hospital
b. Jans langdurige behandeling in het ziekenhuis
    Jan’s protracted treatment in the hospital

Another complication is that the complements of nominal infinitives may also occur in the form of a noun phrase in prenominal position. Still, example (15a) shows that the unmarked position of the complement is after the attributive adjectives, so that we can simply assume that, like the postnominal PP-complements, the pre-nominal nominal complements must be closer to the head noun than the modifiers.

(15) a. Het gebruikelijke tomaten gooien bleef niet uit.
    the customary tomatoes throwing remained not prt.
    ‘The customary throwing of tomatoes followed.’
b. *Het tomaten gebruikelijke gooien bleef niet uit.

For a more detailed discussion of complementation and modification, and of the problems concerning word order within noun phrases, see Chapter 2 and Chapter 3.

1.1.3. Syntactic uses and semantic functions of the noun phrase

This section briefly illustrates the semantic and syntactic functions of the noun phrase. Although noun phrases are prototypically used as arguments, they can also be used predicatively or adverbially. The discussion here will remain sketchy and incomplete, and the reader is referred to Chapter 8 for more details and discussion.

I. Argument

Prototypically, a noun phrase is used as an argument. Although noun phrases may also act as the argument of an adjective or an adposition, the discussion here will be confined to their function as argument of the verb. The fact that noun phrases can be used as arguments is related to the fact that they are typically used to refer to (possibly singleton) sets of entities. As pointed out in 1.1.2, the NP part of the noun phrase provides the descriptive information needed for identifying the set of entities in question, and the DP part determines the referential or quantificational properties of the noun phrase as a whole. These sets of entities function as participants in the state of affairs denoted by the verb; they are assigned the thematic roles of agents, themes, recipients, benefactives etc. by the verb.

Some examples are given in (16). In the intransitive construction in (16a), the only participant, Jan, performs the action of working and is thus assigned the semantic function of agent. In the transitive construction in (16b), Jan is assigned the same semantic role, but now a second entity is involved, a book, which undergoes the action of buying and is called the theme. In (16c&d), there is a third participant in the state of affairs: in (16c) this third participant, the one receiving the theme entity, functions as the recipient; in (16d), the state of affairs is performed on behalf of a particular entity, which is assigned the role of benefactive. In example
(16e) we find a construction with an unaccusative verb; in such constructions the only participant, Jan, receives the semantic function of theme.

(16) a. JanAgent werkt hard.                              [intransitive verb]
    Jan works hard

b. JanAgent koopt een boekTheme.                         [transitive verb]
    Jan buys a book

c. JanAgent geeft het boekTheme aan MarieRecipient.         [ditransitive verb]
    Jan gives the book to Marie

d. JanAgent koopt een boekTheme voor MarieBenificiary.       [ditransitive verb]
    Jan buys a book for Marie

e. JanTheme komt altijd te laat.                     [unaccusative verb]
    Jan comes always too late

‘Jan is always late.’

The semantic roles are often associated with a particular syntactic function in the clause. The agent is generally the subject of an active clause (16a-d), the theme is typically realized as the direct object (16b-d), and the recipient and benefactive are generally realized as indirect objects (16c&d). It is however certainly not the case that there is a one-to-one mapping between semantic role and syntactic function; for instance, in the case of an unaccusative verb, the theme is realized as the subject (16e), and not as the expected direct object. Since it is neither our aim to give an exhaustive overview in this section of the semantic roles that can be assigned to noun phrases, nor to discuss how these roles can be realized syntactically, we refer the reader to Chapter V2 for more detailed discussion of verb types and the semantic roles they may assign.

II. Predicative use of the noun phrase

Although typically used as arguments, noun phrases also function as predicates, in which case the noun phrase is not used to refer to an entity or a set of entities but to predicate a property of some other noun phrase. Typical cases are found in copular and vinden-constructions, illustrated in (17a&b). In these examples, the noun phrase Jan is the logical SUBJECT of the predicatively used noun phrase een aardige jongen: Jan is referential, een aardige jongen is not. The predicative relationship between the two noun phrases is syntactically reflected by the fact that they must agree in number, as is shown by the primed examples; see Section 8.2.2 for one exception to this agreement requirement.

(17) a. Jan is een aardige jongen.
    Jan is a nice boy

    a’. [Jan en Peter]pl zijn [aardige jongens]pl
    Jan and Peter are nice boys

b. Ik vind Jan een aardige jongen.
    I consider Jan a nice boy

    b’. Ik vind [Jan en Peter]pl [aardige jongens]pl.
    I consider Jan en Peter nice boys
III. Adverbial use of noun phrases

A small number of noun phrases can be used as adverbial phrases modifying the clause. These noun phrases include head nouns that have a temporal denotation, as in examples (18a&b), or that can be used to indicate a period of time, as in example (18c). More or less the same meaning can be conveyed by a PP introduced by *gedurende* ‘during’.

(18)  a.  Marie heeft (gedurende) deze week hard gewerkt.
Marie has during this week hard worked
‘Marie (has) worked hard this week.’

b.  Peter woont (gedurende) het hele jaar in Zuid-Frankrijk.
Peter lives during the whole year in South-France
‘Peter lives in the South of France throughout the year.’

c.  Jan heeft (gedurende) de hele reis zitten slapen.
Jan has during the whole journey sit sleeping
‘Jan slept throughout the journey.’

However, there are a number of subtle meaning differences between constructions with an *adjunct DP* and a PP introduced by *gedurende*. Apart from the fact that the latter is more formal, use of the adjunct DP *deze week* seems to suggest that Marie has been working hard all week; use of the PP *gedurende deze week* does not trigger this interpretation (even making it implausible). Furthermore, the period of time referred to may vary. In (18a), the DP *deze week* refers to the span of time stretching from Monday to Sunday directly preceding or including the speech time, whereas in the case of the PP *gedurende deze week* reference can also be made to a particular week in the past. Observe that the choice of the demonstrative plays a role here as well: when the proximate demonstrative *deze* ‘this’ is replaced by the distal demonstrative *die* ‘that’, the second meaning difference is lost, with both phrases referring then to a particular week in the past (or the future).

1.2. Classification

This section provides a semantic classification of nouns on the basis of the kind of entity they denote. Typically, the semantic differences between the noun classes that we will distinguish are also reflected in their syntactic and morphological properties. Although there seem to be as many different typologies of Dutch nouns as there are grammatical descriptions, there nevertheless are a number of distinctions that are more or less generally accepted. In traditional grammar, the distinctions in (19a-c) have generally been used for classifying nouns; cf. Haeseryn et al. (1997: 140ff). More recently, theory-specific approaches like Dik’s (1997) Functional Grammar and Lexical Functional Grammar have added the distinctions in (19d-e). Unfortunately, the relation(s) between these various distinctions is not always clear: some are complementary, some overlap, whereas others operate independently. In what follows, we will describe the distinctions in (19) in some detail in an attempt to clarify the relations between them. In addition, examples will be given of non-prototypical uses of the various noun types, that is, of the ways in which nouns belonging to one category can be used, semantically as well as syntactically, as though they belonged to another category.
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(19) a. Proper and common (or descriptive) nouns  
   b. Concrete and abstract nouns  
   c. Mass, count and collective nouns  
   d. Nouns denoting states of affairs, propositions, speech acts and properties  
   e. Relational and non-relational nouns

This section presents a classification that includes all five distinctions in (19) but reduces them to three partly overlapping, but nevertheless independent, main categories. The discussion is structured as follows. Section 1.2.1 starts with a discussion of the differences between proper nouns, such as Jan and De Alpen ‘The Alps’, and common nouns, such as jongen ‘boy’ and berg ‘mountain’. In Section 1.2.2, common nouns will be divided into concrete and abstract nouns, which will each in their turn be divided into several other subclasses, as shown in Table 4. The table also shows that some of the resulting subclasses will be further divided into subcategories.

Table 4: Classification of common nouns

<table>
<thead>
<tr>
<th>CONCRETE NOUNS</th>
<th>ABSTRACT NOUNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>substance nouns</td>
<td>water ‘water’</td>
</tr>
<tr>
<td>individual nouns</td>
<td>auto ‘car’</td>
</tr>
<tr>
<td>mass nouns</td>
<td>vee ‘cattle’</td>
</tr>
<tr>
<td>collective nouns</td>
<td>kudde ‘flock’</td>
</tr>
<tr>
<td>state-of-affairs nouns</td>
<td>actions verwoesting ‘destruction’</td>
</tr>
<tr>
<td>processes</td>
<td>val ‘fall’</td>
</tr>
<tr>
<td>positions</td>
<td>(het) wonen ‘living’</td>
</tr>
<tr>
<td>states</td>
<td>verblijf ‘stay’</td>
</tr>
<tr>
<td>proposition nouns</td>
<td>geloof ‘belief’</td>
</tr>
<tr>
<td>speech-act nouns</td>
<td>vraag ‘question’</td>
</tr>
<tr>
<td>property nouns</td>
<td>physical hoogte ‘height’ mental geduld ‘patience’</td>
</tr>
<tr>
<td>emotion nouns</td>
<td>haat ‘hatred’</td>
</tr>
</tbody>
</table>

Section 1.2.3, finally, discusses the differences between relational nouns like vader ‘father’ versus non-relational nouns like jongen ‘boy’. Chapter 2 will discuss in more detail the differences between the classes distinguished above with regard to complementation within the NP.

1.2.1. Proper nouns

We start the discussion of the typology of nouns with what appears to be the most basic distinction: that between proper nouns and common nouns. Common nouns are nouns with descriptive content or meaning in the sense that they denote entities by providing an appropriate description of the entities. Syntactically, common nouns constitute the head of a noun phrase: they are preceded by a determiner (an article, demonstrative or possessive pronoun, etc.), they may be modified by adjectives or postnominal adjuncts and they may take one or more complements. Proper nouns like Jan, on the other hand, have little or no descriptive content. Typically, they form noun phrases all by themselves and lack modifiers and complements.
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(20) Difference between proper nouns and common nouns

<table>
<thead>
<tr>
<th>HAVE DESCRIPTIVE CONTENT</th>
<th>PROPER NOUNS</th>
<th>COMMON NOUNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN BE PRECEDED BY A DETERMINER</td>
<td>—–</td>
<td>+</td>
</tr>
<tr>
<td>CAN BE MODIFIED</td>
<td>—–</td>
<td>+</td>
</tr>
<tr>
<td>MAY TAKE COMPLEMENTS</td>
<td>—–</td>
<td>+</td>
</tr>
</tbody>
</table>

This section will be mainly devoted to a discussion of the class of proper nouns: Sections 1.2.1.1 and 1.2.1.2 will discuss, respectively, their semantic syntactic properties.

1.2.1.1. Semantic properties

Proper nouns can refer to both concrete and abstract entities. Some obvious examples are given in (21), which simply provides some examples and is certainly not intended as an exhaustive classification.

(21) Types of proper nouns (not exhaustive)

<table>
<thead>
<tr>
<th>TYPE</th>
<th>NAME OF</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>persons, animals and brands</td>
<td><em>Jan, Flipper, Heineken</em></td>
</tr>
<tr>
<td></td>
<td>cities and countries, etc.</td>
<td><em>Amsterdam, België ‘Belgium’</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>De Verenigde Staten ‘the United States’</em></td>
</tr>
<tr>
<td></td>
<td>buildings, restaurants, etc.</td>
<td><em>de Westertoren, Villa des Roses</em></td>
</tr>
<tr>
<td></td>
<td>books, paintings, etc.</td>
<td><em>Karakter (novel by Bordewijk)</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>De aardappeleters (by Van Gogh)</em></td>
</tr>
<tr>
<td>Abstract</td>
<td>historic events</td>
<td><em>de Franse Revolutie ‘the French Revolution’</em></td>
</tr>
<tr>
<td></td>
<td>historical and geological</td>
<td><em>de Renaissance ‘the Renaissance’</em></td>
</tr>
<tr>
<td></td>
<td>periods</td>
<td><em>het Quartair ‘the Quaternary’</em></td>
</tr>
<tr>
<td></td>
<td>theories and ideologies</td>
<td><em>Relativiteitstheorie ‘Theory of Relativity’</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Communisme ‘Communism’</em></td>
</tr>
<tr>
<td></td>
<td>days, months, etc.</td>
<td>*maandag ‘Monday’, januari ‘January’, Pasen ‘Easter’</td>
</tr>
</tbody>
</table>

Semantically, these proper nouns are characterized by the fact that they normally contain little or no descriptive content; they can be said to have no denotation, only reference. In other words, whereas common nouns enable the addressee to pick out the intended referent (set) by means of the descriptive content of the noun, proper nouns normally do not have such descriptive content (they do not denote a set with the property mentioned). As a result, proper nouns will normally not be translatable; the English rendering of Dutch *Jan* is just *Jan* (and not *John* or something of the sort), although there are many exceptions to this general rule. For example, *de Franse Revolutie ‘the French Revolution’* does have descriptive content and can, indeed, be translated. The same thing holds for geographical names that have descriptive content: *het Zwarte Woud ‘the Black Forest’, de Dode Zee ‘the Dead Sea’ and de Verenigde Staten ‘the United States’. Note that many other geographical names have their own form in different languages (e.g., *Duitsland*...
‘Germany’, Noorwegen ‘Norway’), but these, obviously, are not true instances of translation.

Let us compare common nouns and proper nouns to clarify matters. The noun phrase de aansteker ‘the lighter’ in (22a) has denotation as well as reference: its head noun, aansteker ‘lighter’, denotes the set of things with the particular property of being a lighter; the noun phrase de aansteker as a whole refers to a unique entity (in the given context) which is identifiable on account of this description. The noun Jan in (22b), on the other hand, lacks a denotation: it has no meaning and does not denote a set of entities by providing an appropriate description of these entities. It does, however, have (unique) reference: the proper noun by itself is sufficiently informative (in the given context) for any addressee to identify the person referred to.

(22) a. Mag ik de aansteker, alsjeblieft?
    may I the lighter please
    ‘Can I have the lighter, please?’

b. Heb jij Jan nog gezien?
    have you Jan yet seen
    ‘Have you seen Jan (lately)?’

In essence, what distinguishes proper nouns from common nouns is that the former by definition “uniquely identify” their referent: when using a proper noun, the speaker assumes that the addressee will be able to pick out the intended referent without any need for further description.

1.2.1.2. Syntactic properties

Section 1.2.1.2.1 will show that, with regard to syntactic behavior, proper nouns behave differently from common nouns in a number of ways. As will be discussed in Section 1.2.1.2.2, however, there are cases in which proper nouns can be used as regular common nouns. Conversely, there are also cases in which common nouns are used as proper nouns, and these cases are discussed in Section 1.2.1.2.3.

1.2.1.2.1. Proper nouns: prototypical and non-prototypical use

Proper nouns behave differently from common nouns in a number of ways. These differences are largely due to the fact that proper nouns, in their prototypical use, have unique reference. In what follows we will first describe this prototypical use and the consequences with regard to modification and determination. This is followed by a discussion of more exceptional cases.

I. Prototypical use

In their prototypical use, proper nouns exhibit a number of typical restrictions with respect to pluralization, restrictive modification, and the selection of determiners. These restrictions can all be related to the fact that, in its prototypical use, a proper noun has unique reference: this makes the addition of restrictive modifiers superfluous and the addition of a determiner and pluralization impossible.
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A. Pluralization

The primeless examples in (23) show that proper nouns cannot be pluralized, except when the proper noun phrase itself is formally plural. Example (23b′) shows that in the latter case the singular will not be available (at least not as a proper noun).

(23)  a. *de Jannen/de Maries
    b. de Alpen/de Verenigde Staten
        the Alps/the United States
    b′. een #Alp/Verenigde Staat

B. Restrictive modification

The (a)-examples in (24) show that proper nouns do not allow any form of modification aimed at restricting the number of potential referents: (24a) is acceptable but only when the attributive adjective is used non-restrictively, that is, provides additional information about the referent of the noun phrase; (24a′) becomes acceptable when the relative clause is preceded by an intonation break, which is the landmark of the non-restrictive use of such clauses. Example (24b) shows that if the proper noun itself contains a (restrictive) modifier, this cannot be omitted without the noun phrase losing its status of proper noun.

(24)  a. #de hoge Westertoren
      the high Westertoren
    a′. *De Westertoren die hoog is.
      the Westertoren that high is
    b. de #(Franse) Revolutie
      the French Revolution

C. Determiners

Unlike common nouns, proper nouns typically are not acceptable with an article, except in those cases where the article can be regarded as part of the name (sometimes spelt with a capital: De Volkskrant). Proper nouns similarly fail to co-occur with demonstrative pronouns or with other determiners. These restrictions are illustrated in (25).

(25)  a. (*de/*die) Jan/Marie
    b. het Zwarte Woud
      the Black Forest
    b′. *dit/dat Zwarte Woud
        this/that Black Forest

It must be noted, however, that in certain southern dialects of Dutch, use of the definite article or a possessive pronoun is acceptable with proper nouns referring to persons: de/ onze Jan.

II. Non-prototypical use

There are numerous occasions where proper nouns exhibit deviant behavior, that is, in which they can be pluralized, or in which they are compatible with determiners and with modifiers. This is generally the result of failure of the proper noun to refer
Characterization and classification 21

uniquely within the given context. A more detailed discussion of these non-
prototypical uses of the proper nouns can be found in Section 5.1.2.1 and (to a
lesser extent) in Section 5.2.3.2.

A. Pluralization

The differences in syntactic behavior between common nouns and proper nouns can
be accounted for by the fact that proper nouns are supposed to refer “uniquely”
within a given context, providing the addressee with sufficient information to
identify the intended referent. When the proper noun fails in this respect, as in the
examples in (26), pluralization becomes possible.

(26)  a.  Er  zitten  drie Barten  bij mij  in  de klas.
     there  sit    three Barts  with me in the class
     ‘There are three Barts in my class.’

     b.  De twee Duitslanden  zijn  voorgoed     verenigd.
     the two Germanies are permanently united
     ‘The two Germanies have been united permanently.’

B. Restrictive modification

Whenever a modifier is present, it forces a reading in which there is more than one
accessible referent which can be referred to by the same proper noun. This shows
that adding modifiers becomes acceptable when unique identification is not possible
on the basis of the proper noun alone. This is shown in the examples in (27).

(27)  a.  Wie bedoel je?   Kleine Bob of grote Bob?
     who mean you    Little Bob or big Bob
     ‘Who do you mean? Little Bob or big Bob?’

     b.  de  Zwitserse  Alpen
     the Swiss Alps
     c.  Hij  komt   de woensdag    na Pasen.
     he comes  the Wednesday  after Easter
     ‘He’s coming the Wednesday after Easter.’

C. Determiners

The examples in (28) contain the proper nouns Jansen and Italië, which normally
do not occur with an article, and show that restrictive modification triggers the
addition of a determiner: singular proper nouns denoting an animate object co-occur
with a non-neuter determiner like the article *de* in (28a), whereas singular proper
nouns denoting a geographical name take a neuter determiner like the article *het* in
(28b).

(28)  a.  De Jansen die ik ken    woont  in Den Haag.
     the Jansen that I know  lives    in Den Haag
     b.  het Italië  uit de middeleeuwen
     the Italy  from the Middle Ages
     ‘Italy in the Middle Ages’
When an article is used in combination with proper nouns that themselves already include a definite article, like *De Volkskrant* in the (a)-examples in (29), the latter is typically left out. This does not hold, however, when the article is an old case form like *den* in example (29b), which suggests that present-day speakers no longer recognize these elements as articles.

(29) a. Heb jij *De* Volkskrant van gisteren gelezen?
    have you *the* Volkskrant of yesterday read
    ‘Did you read yesterday’s Volkskrant?’

    a’. Heb jij vandaag al een *De* Volkskrant gekocht?
    have you today already a *De* Volkskrant bought
    ‘Did you buy a Volkskrant today?’

    b. Het *den* Haag uit mijn jeugd was een prachtige stad.
    the *the* Hague from my childhood was a wonderful town
    ‘The Hague of my childhood was a wonderful town.’

As illustrated in example (27c), the names of the days of the week can also be used in combination with the definite article and an identifying modifier. When we are referring to a particular day close to the moment of speech, the determiner is normally left out, even when the noun is modified. However, when the intended day is more remote, the definite article is normally used. This is shown in (30).

(30) a. Hij is (afgelopen) woensdag hier geweest.
    he is last Wednesday here been
    ‘He has been here on Wednesday.’

    b. Hij komt komende woensdag hier.
    he comes next Wednesday here
    ‘He will come here next Wednesday.’

    c. Hij komt de (tweede) woensdag voor/na Pasen hier.
    he comes the second Wednesday before/after Easter here
    ‘He will come here the (second) Wednesday before/after Easter.’

The indefinite article is also possible, indicating a specific but not further identified, or a nonspecific, Wednesday, as in (31a) and (31b), respectively.

(31) a. Hij is op een woensdag gekomen.
    he has on a Wednesday come
    ‘He came on a Wednesday.’

    b. Hij wil op een woensdag komen (maakt niet uit welke).
    he wants on a Wednesday come (makes not wtch one).
    ‘He wants to come on a Wednesday (doesn’t matter which one).’

Proper nouns referring to seasons and names of the months are more restricted with respect to the determiner. The examples in (32) show that the names of the seasons must be preceded by a definite determiner, regardless of whether a restrictive modifier is present or not.
Characterization and classification

(32) a. Zij is in de herfst (van 1963) geboren.
    she is in the autumn of 1963 born
b. *Zij is in herfst (van 1963) geboren.
    she is in autumn of 1963 born

The examples in (33), on the other hand, show that the names of the months cannot be preceded by a definite determiner, again regardless of whether a restrictive modifier is present or not. Note that, for one reason or another, it is not possible to modify the names of months by means of a PP like van 1963; either the proper noun is immediately followed by the year or (more formally) by the PP van het jaar 1963.

    she is in January 1963/of 1963/of the year 1963 born
    she is in the January 1963/of 1963/of the year 1963 born

The examples in (34) show that neither the names of seasons nor the names of months can be preceded by an indefinite article, again regardless of whether a restrictive modifier is present or not.

(34) a. *Zij is in een herfst (tussen 1963 en 1965) geboren.
    she is in the autumn between 1963 and 1965 born
b. *?Zij is in een januari (tussen 1963 en 1965) geboren.
    she is in a January between 1963 and 1965 born

Finally, proper nouns can co-occur with the demonstrative determiner die in the informal expressions given in example (35), which are used to express surprise, usually combined with a touch of admiration (“who would have thought it!”) or commiseration (“poor fellow/girl”). Note that die is the only form available, even when it precedes a [+NEUTER] noun like the diminutive in (35b); see Section 5.2.3.2.2, sub V, for more discussion.

(35) a. Die Jan toch!
    that Jan PART
b. Die Marietje toch!
    that Marie\textsubscript{dim} PART

1.2.1.2.2. Proper nouns used as common nouns

Proper nouns often shift in the direction of a regular common noun. This is a very frequent phenomenon with the names of artists (painter, sculptor, author, designer), in which case the noun can be used to refer to work by the particular artist; this may involve a specific creation of the artist, as in (36a), in which case the noun behaves as a count noun, or to the work of the artist in general, as in (36b), in which case we are dealing with a mass noun. As shown in example (36c), the name of an artistic school can refer to the creations/artistic objects produced by this school; in this case the noun exhibits the behavior of a mass noun.
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(36) a. Ik heb een Van Gogh/twee van Goghs gezien.
    'I have seen a Van Gogh/two Van Goghs.'

b. Hij leest veel Vondel.
    'He reads a lot of Vondel.'

c. Hij heeft heel wat Art Deco in huis.
    'He has quite a lot of Art Deco in his house.'

The names of well-known brands are often used to refer to specific products. The noun phrase *een Heineken* in example (37), for example, can be used to refer to a glass of beer of that particular brand. Other well-known examples include *een Miele* (a washing machine), *een Batavus* (a bicycle), *een Renault* (a car), and *een Kleenex* (a paper tissue).

(37) Geeft u mij maar een Heineken.
    'Can I have a Heineken?'

In some cases, the use of the brand name becomes more common than the use of the common noun denoting the product. This may result in substituting the brand name for the common noun denoting the product: for example, the brand names *Aspirine* and *Spa* are often used to refer to, respectively, pain-killers and mineral water in general, so that the examples in (38) have actually become ambiguous.

(38) a. Mag ik een aspirientje?
    'Can I have an Aspirine/a painkiller?'

b. Een Spa, graag!
    'One Spa/mineral water, please!'

1.2.1.2.3. Common nouns used as proper nouns

The examples in (39) illustrate the use of common nouns as proper nouns, which is restricted to nouns referring to members of the family (*vader* ‘father’, *moeder* ‘mother’, *oom* ‘uncle’, *zus* ‘sister/sis’) or to uniquely identifiable and well-respected members of the community (*dominee* ‘vicar’, *dokter* ‘doctor’, *meester* ‘teacher’). This use of common nouns tends to be regarded as rather old-fashioned.

(39) a. Heb je het al aan vader gevraagd?
    'Have you asked father?'

b. Dokter heeft gezegd dat ...
1.2.2. Common nouns

This section provides a classification of the common nouns. The basic semantic distinction to be made is that between CONCRETE and ABSTRACT NOUNS (which can also be made in the case of the proper nouns; cf. (21)). Concrete nouns are usually defined as nouns denoting objects that are “tangible” (that one can see or take hold of), whereas abstract nouns denote “non-tangible” entities such as processes, phenomena, emotions, properties, etc. As a result, some classifications include nouns like geur ‘smell’ and geluid ‘sound’ in the set of abstract nouns, but we will not follow this; in the classification presented here, concrete nouns will be defined in terms of physical existence, and therefore include nouns denoting entities that can be heard, tasted or smelled, or, in some cases, only observed indirectly (e.g., microbes, gases, black holes, or force fields). Within the category of concrete nouns, various subcategories can be distinguished, which are discussed in 1.2.2.1. Like concrete nouns, the category of abstract nouns can be shown to consist of a number of subcategories, which are discussed in 1.2.2.2. It is possible for a noun belonging to one subclass to be used as a noun belonging to another subclass; such non-prototypical uses (traditionally referred to as “conversion” between the two subcategories) are dealt with as well.

1.2.2.1. Concrete nouns

Concrete nouns are used to denote objects that have physical properties: typically they can be perceived by means of the human senses (sight, hearing, taste, smell, and touch), although the observation might also be more indirect. The physical properties of the entities denoted by concrete nouns include color, size, weight, intensity, strength, etc. Obvious examples of concrete nouns are auto ‘car’, tafel ‘table’, gebouw ‘building’, water ‘water’ and hout ‘wood’.

(40)  a.  De grote, rode auto   reed    langzaam  voorbij.
     the large red car    drove  slowly     passed
     ‘The large, red car slowly drove by.’

     b.  Jan tilde  de zware tafel   op.
     Jan lifted  the heavy table  prt.
     ‘Jan lifted the heavy table.’

     c.  Het zwarte hout  maakte  de kamer  erg somber.
     the black wood   made    the room  very gloomy

This section is organized as follows. Section 1.2.2.1.1 will start by distinguishing four types of concrete nouns on the bases of two semantic features ([±SHAPE] and [±SET]). Section 1.2.2.1.2 discusses the semantic and distributional differences between the four types of concrete nouns on their prototypical use, which is followed in Section 1.2.2.1.3 by a discussion of the non-prototypical uses of these subclasses. Section 1.2.2.1.4 concludes with a discussion of a number of special uses of these concrete nouns.
1.2.2.1.1. Subclassification

The class of concrete nouns can be subdivided on the basis of the features [±SHAPE] and [±SET] in (41); cf. Rijkhoff (2002).

(41) • Features of concrete nouns
  a. [+SHAPE]: entities denoted are conceptualized as having a definite outline.
  b. [-SHAPE]: entities denoted are not conceptualized as having a definite outline.
  c. [+SET]: entities denoted are conceived of as a group or a non-singleton set.
  d. [-SET]: entities denoted are conceived of as individuals.

The combination of these features results in the four subclasses in Table 5, where the names given in bold are the names that we will use for these noun classes in what follows.

Table 5: Four subclasses of concrete nouns

<table>
<thead>
<tr>
<th>[-SHAPE]</th>
<th>[+SHAPE]</th>
</tr>
</thead>
<tbody>
<tr>
<td>[-SET]</td>
<td>[+]SET</td>
</tr>
</tbody>
</table>
| **Substance nouns:** | **Mass nouns:**
| **Individual nouns:** | **Collective nouns:**

The semantic difference between [-SHAPE] and [+SHAPE] nouns corresponds to a number of formal differences with regard to countability and pluralization. The distinction between [+SET] and [-SET], on the other hand, seems purely semantic in nature and does not seem to correspond to any obvious formal difference.

I. [-SHAPE]: non-count nouns

Substance and mass nouns (i) cannot co-occur with the indefinite article een, but require the use of the zero-article instead, (ii) cannot be pluralized, and (iii) can be modified by [-COUNT] quantifying expressions as veel ‘much’, weinig/een beetje ‘a little’, wat ‘some’, niet genoeg ‘not enough’ and een hoeveelheid ‘an amount’. It is on account of these features that these nouns have traditionally been called mass or non-count nouns. We will use these notions in a slightly different way: the notion of non-count noun will be used to refer to the superset comprising the mass and substance nouns, whereas mass noun will be used for the more restricted concept defined by Table 5.

II. [+SHAPE]: count nouns

The most conspicuous difference between the [+SHAPE] and [-SHAPE] nouns is that the former can be pluralized whereas the latter cannot. It is on account of this fact that the two sets have traditionally been called count and non-count nouns. Singular [+SHAPE] nouns further differ from the [-SHAPE] nouns in that they can be preceded by the indefinite article but not by quantifying expressions like wat/een beetje ‘a little’. Plural [+SHAPE] nouns further differ from the [-SHAPE] nouns in that they can
be modified by quantifying expressions like \textit{enkele} ‘some/a few’ and \textit{een aantal} ‘a number’.

(42) Comparison of [+SHAPE] and [-SHAPE] nouns

<table>
<thead>
<tr>
<th>PLURALIZATION</th>
<th>INDIVIDUAL/COLLECTIVE [+SHAPE]</th>
<th>SUBSTANCE/MASS [-SHAPE]</th>
</tr>
</thead>
<tbody>
<tr>
<td>possible</td>
<td>not possible</td>
<td></td>
</tr>
<tr>
<td>ARTICLES</td>
<td>definite: \textit{de/het}</td>
<td>definite: \textit{de/het}</td>
</tr>
<tr>
<td></td>
<td>indefinite: \textit{een}</td>
<td>indefinite: \emptyset</td>
</tr>
<tr>
<td>QUANTIFIERS</td>
<td>*\textit{wat/een beetje} + N_{sg}</td>
<td>\textit{wat/een beetje} + N_{sg}</td>
</tr>
<tr>
<td></td>
<td>\textit{een aantal/enkele} + N_{pl}</td>
<td>*\textit{een aantal/enkele} + N_{sg}</td>
</tr>
</tbody>
</table>

Note in this connection that Dutch differs from English in that it does not distinguish between [-COUNT] quantifiers like \textit{little/much} and [+COUNT] quantifiers like \textit{few/many}; Dutch uses \textit{weinig} ‘little/few’ and \textit{veel} ‘much/many’ both for non-count nouns and for plural count nouns. Nevertheless, the quantifier \textit{een beetje} (but not \textit{wat}) can be considered a [-COUNT] quantifier given that it cannot be used on the intended quantificational meaning with (singular or plural) count nouns: *\textit{een beetje boek(en)} ‘a little books’. Similarly, quantifiers like \textit{een aantal/enkele} can be considered [+COUNT] quantifiers given that they can only co-occur with plural count nouns. For a detailed discussion of the distribution and function of the various determiners and quantifiers, see Chapter 5 and Chapter 6.

III. [+]SET] and [-SET]

Mass and collective nouns are [+SET] nouns and denote entities that themselves consist of two or more members. Substance and individual nouns are [-SET] nouns and denote unitary entities that do not consist of more members. It must be noted, however, that plural individual noun phrases like (de) \textit{mannen} ‘(the) men’ also refer to a set; the feature [+SET] must therefore be considered a feature of the bare noun, which can be overridden by the feature of the plural morpheme.

1.2.2.1.2. Differences between the subclasses

The following subsections will discuss in more detail some differences between the four subclasses of concrete nouns on their prototypical uses; the non-prototypical uses of these subclasses will be discussed in 1.2.2.1.3.

I. Substance nouns [-SHAPE] [-SET]

Substance nouns like \textit{water} ‘water’ or \textit{hout} ‘wood’ have the feature [-SHAPE]: the entities described by such nouns have measure (weight, volume) but no outline, and for this reason they can be included in the supercategory of non-count nouns. The entities denoted by the substance nouns do not qualify as sets either, given that the entities denoted by substances do not consist of individual members.

Since substance nouns lack a definite outline, they cannot co-occur with the indefinite article, but require the use of the zero-article instead, as is shown by example (43a). Example (43b) shows that substance nouns cannot be pluralized either; consequently, when noun phrases headed by these nouns function as subjects, there is always singular agreement on the verb.
(43) a.  In het glas zat ∅/*een water.
    ‘There was water in the glass.’

b. *In het glas zaten drie waters.
    ‘There were three waters.’

Substance nouns can be modified by a [-COUNT] quantifying expression like *een beetje ‘a little’ in example (44a), but not by [+COUNT] quantifying expressions like enkele ‘some/a few’ in example (44b).

(44) a.  In het glas zat wat/een beetje water.
    ‘There was a little water in the glass.’

b. *In het glas zat enkele/een aantal water.

II. Individual nouns [+SHAPE] [-SET]

Individual nouns have the feature [+SHAPE]: they denote entities with a definite outline, such as auto ‘car’ or tafel ‘table’, and for this reason they can be included in the supercategory of count nouns. They can be used to refer to persons, animals and things (e.g., man ‘man’, hond ‘dog’, auto ‘car’). Since the entities denoted by individual nouns are conceived of as individuals, they also have the feature [-SET].

Example (45a) shows that, in singular indefinite noun phrases, individual nouns cannot be preceded by the indefinite zero-article ∅, but must be preceded by the indefinite article een ‘a’. If more than one entity is referred to, the plural form of the noun is preceded by the zero-article, as in (45b). When they function as subjects, noun phrases headed by individual nouns trigger number agreement on the verb: the verb is singular in (45a) and plural in (45b).

(45) a.  Op de tafel lag een/*∅ boek.
    ‘There was a book on the table.’

b.  Op de tafel lagen ∅ boeken.
    ‘There were books on the table.’

Note in passing that Section 8.2.2 will show that there is an exception to the general rule that singular individual nouns must be preceded by the indefinite article een ‘a’: predicatively used individual nouns denoting a profession, function or position can be used without the indefinite article: Jan is leraar ‘Jan is a teacher’.

Plural individual nouns refer to non-singleton sets and can therefore be modified by [+COUNT] quantifying expressions like enkele ‘some/a few’. Singular individual nouns, however, cannot co-occur with [-COUNT] quantifiers like een beetje ‘a bit’. This is illustrated by (46a) and (46b), respectively.

    ‘There were some/a number of books on the table.’
   on the table lay<sub>sg/pl</sub> a bit book

III. Mass nouns [-SHAPE] [+SET]

Mass nouns have the features [+SET] and [-SHAPE]: they denote entities that are conceived of as a non-singleton set, but the set as a whole lacks a definite outline. Examples of these nouns are vee ‘cattle’, politie ‘police’, geboomte ‘trees’ and meubilair ‘furniture’. Example (47a) shows that, like substance nouns, mass nouns cannot co-occur with the indefinite article, but use the zero-article instead, and (47b) shows that they cannot be pluralized. Accordingly, they only combine with singular verb forms when heading a subject noun phrase.

(47)  a.  In de kamer stond ∅/een meubilair.
      in the room stood<sub>sg</sub> ∅/a furniture
      ‘There was a bit of furniture in the room.’
   b.  *In de kamer stonden drie meubilairs.
      in the room stood<sub>pl</sub> three furnitures

Being non-count nouns, mass nouns can be modified by [-COUNT] quantifying expressions like een beetje ‘a little’, but not by [+COUNT] quantifiers like enkele ‘some/a few’. This is shown by (48a) and (48b), respectively.

(48)  a.  In de kamer stond wat/een beetje meubilair.
      in the room stood<sub>sg</sub> a little furniture
      ‘There was a bit of furniture in the room.’
   b.  *In de kamer stonden enkele/een aantal meubilair.
      in the room stood<sub>sg/pl</sub> some/a.number.of furniture

A further distinction can be made according to whether the set denoted by the mass nouns is homogeneous (consisting of identical or similar members) or heterogeneous (consisting of members differing in shape, color, function etc.). Nouns belonging to the former category, such as politie ‘police’, do not allow modification by means of allerlei ‘all sorts of’ or velerlei ‘many sorts of’, whereas nouns belonging to the latter class, like vee or meubilair, speelgoed ‘toys’, snoepgoed ‘sweets’ do (Vossen 1995).

(49)  a.  ??Er was allerlei politie op straat.
      there was all sorts of police in the.street
      ‘There were all sorts of police in the street.’
   b.  De kinderen kregen allerlei speelgoed/snoepgoed.
      the children got all sorts of toys/sweets
      ‘The children were given all sorts of toys/sweets.’

IV. Collective nouns [+SHAPE] [+SET]

Collective nouns differ from mass nouns in that they have the feature [+SHAPE]: they denote entities that are conceived of as a non-singleton set that has a definite outline in the sense that it consists of a restricted (though possibly unknown) number of members and is, as such, bounded. Examples of collective nouns are groep ‘group’, kudde ‘flock’, verzameling ‘set’, club ‘club’, vereniging ‘club/society’, regering ‘government’ and collectie ‘collection’. Collective nouns
behave largely like individual nouns; example (50a) shows that they can be preceded by the indefinite article *een*, but not by the zero-article, and (50b) shows that the plural is used when more than one set is referred to. Consequently, when noun phrases headed by these nouns function as subjects, they will trigger number agreement on the verb.

(50)  a.  Op de foto    stond   een/*∅  regering afgebeeld.  
    on the photo    stood   a/∅  government  depicted
    ‘The photo showed a government.’

  b.  Op de foto    stonden  twee regeringen afgebeeld.  
    on the photo    stoodpl  two governments  depicted
    ‘The photo showed two governments.’

Plural collective nouns can be modified by [+COUNT] quantifying expressions like *enkele* ‘some/a few’; singular collective nouns, however, cannot be preceded by [-COUNT] quantifiers like *een beetje* ‘a little’. This is shown by (51a) and (51b), respectively.

(51)  a.  Op de foto    stonden  enkele/een aantal  regeringen.  
    on the photo    stood    some/a number    governments
    ‘The photo showed some/a number of governments.’

    on the photo    stood    a little        government

A substantial subclass of collective nouns exhibit special behavior in the sense that they cannot readily occur on their own, but are preferably followed by a plural individual noun, specifying their members. Collective nouns like *kudde* therefore normally occur as the first noun in a binominal noun phrase. An example involving the collective noun *kudde* ‘flock’ is given in (52).

(52)  a.  In de wei       stond  een kudde ?(schapen).  
    in the meadow  stood  a flock [of] sheep
    ‘There was a flock of sheep in the meadow.’

  b.  In de wei       stonden  twee/enkele/een aantal  kuddes ?(schapen).  
    in the meadow  stood    two/some/a.number.of  flocks [of] sheep
    ‘There were two/some/a few/a number of flocks of sheep in the meadow.’

Although binominal noun phrases often contain collective nouns (because these denote a designated number of members), it is not a prerequisite that the first noun be a collective noun; Chapter 4 will show that the collective nouns form only one subtype of a wider range of nouns that can be used in binominal noun phrases.

1.2.2.1.3. Non-prototypical uses

This section will show that the classification presented in the preceding sections is characterized by a certain degree of flexibility in the sense that it is sometimes possible to use nouns belonging to one category in a way that is more appropriate for another category. In the following three subsections we discuss three cases of such non-prototypical uses, which all involve a shift in the value of the feature [+SHAPE]. The most common shift from the feature [-SHAPE] to [+SHAPE] involves
the use of a substance noun as an individual noun, but there are also some more marked cases in which a substance noun is used as an individual noun. There is just a single case that involves a shift from the feature [+SHAPE] to [-SHAPE], namely, the use of an individual noun as a substance noun.

I. Substance Nouns Used as Individual Nouns ([-SHAPE] → [+SHAPE])

Substance nouns can occasionally be used as individual nouns. This may take place through conversion (Ø-derivation), by adding the diminutive suffix -je or one of its allomorphs, or by combining the noun with the indefinite article een ‘a’. We will discuss the three cases in the order indicated.

A. Conversion

Individualization through conversion may result in a noun denoting objects made of the substance in question. Example (53) shows that the converted noun can be combined with either an indefinite or a definite article and be pluralized. Note that in these cases both uses are common, with the result that it is difficult to establish whether one use is dominant over the other or in what direction the conversion goes.

(53) Conversion to Count Noun

<table>
<thead>
<tr>
<th>Substance Noun</th>
<th>Individual Noun</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>glas ‘glass’</td>
<td>een/het glas ‘a/the glass’</td>
<td>glazen ‘glasses’</td>
<td></td>
</tr>
<tr>
<td>steen ‘stone’</td>
<td>een/de steen ‘a/the stone’</td>
<td>stenen ‘stones’</td>
<td></td>
</tr>
<tr>
<td>brood ‘bread’</td>
<td>een/het brood ‘a/the loaf of bread’</td>
<td>broden ‘loaves of bread’</td>
<td></td>
</tr>
</tbody>
</table>

Conversion can also result in a noun denoting a specific type of the substance denoted by the substance noun; the individual noun gas in (54) denotes a particular gas, and the individual nouns bier and wijin denote certain kinds or brands of beer and wine. In both cases, the converted noun can be combined with an indefinite article and be pluralized. Not that, when we want to maintain that we are dealing with a shift in the feature [+SHAPE], we again have to give the feature [+SHAPE] a wide interpretation by assuming that, cognitively speaking, types of gases and liquids do have a certain definite outline in the sense that, e.g., different types of gases do, chemically speaking, have different, characteristic structures.

(54) Conversion to Count Nouns Denoting a Specific Type of Substance

<table>
<thead>
<tr>
<th>Substance Noun</th>
<th>Individual Noun</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>gas ‘gas’</td>
<td>een/het gas ‘a/the gas’</td>
<td>gassen ‘gases’</td>
<td></td>
</tr>
<tr>
<td>wijn ‘wine’</td>
<td>een/de wijn ‘a/the wine’</td>
<td>wijnen ‘wines’</td>
<td></td>
</tr>
<tr>
<td>bier ‘beer’</td>
<td>een/het bier ‘a/the beer’</td>
<td>bieren ‘beers’</td>
<td></td>
</tr>
</tbody>
</table>

Example (54) also shows that definite determiners are not possible under the intended reading; a definite noun phrases like het gas ‘the gas’ instead seems to refer to a contextually determined quantity of gas. Still, definite determiners are
possible on the type reading in examples like (55), where the restrictive modifiers create a contrastive context.

(55) a. De witte wijn is erg goed (maar de rode niet).
    the white wine is very good but the red not
    ‘The white wine is very good (but the red wine is not).’

b. De Franse wijn was erg duur (maar de Italiaanse niet).
    the French wine was very expensive but the Italian not
    ‘The French wine was very expensive (but not the Italian wine).’

It is not only in cases like (55) that restrictive modifiers facilitate the type reading. Conversion often leads to very marked results: using an example like *een melk* to refer to a particular type of that substance is only possible in very specific contexts, but the addition of a restrictive modifier often makes such indefinite noun phrases fully acceptable.

(56) a. *een melk (met extra veel calcium)*
    a milk with extra much calcium

b. *een zand (dat zeer geschikt is voor het bouwen van zandkastelen)*
    a sand that very suitable is for the building of sand castles
    ‘a kind of sand that is very suitable for building sand-castles’

c. *een (voor quiches en soepen erg geschikte) spinazie*
    a for pies and soups very suitable spinach
    ‘a type of spinach that is very suitable for pies and soups’

B. Diminutive

The diminutive form of substance nouns denotes a small object made (up) of the substance in question, usually of a very specific type or character. For example, while *krijt* denotes chalk in general, *krijtje* denotes a piece of chalk used for writing on a blackboard. The derived nouns in (57) can be combined with either an indefinite or definite article and can be pluralized.

(57) Derivation of count nouns by means of the diminutive suffix

<table>
<thead>
<tr>
<th>SUBSTANCE NOUN</th>
<th>INDIVIDUAL NOUN SINGULAR</th>
<th>PLURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>krijt</em> ‘chalk’</td>
<td><em>een/het krijtje</em> ‘a/the piece of chalk’</td>
<td><em>krijtjes</em> ‘pieces of chalk’</td>
</tr>
<tr>
<td><em>stof</em> ‘dust’</td>
<td><em>een/het stofje</em> ‘a/the particle of dust’</td>
<td><em>stofjes</em> ‘particles of dust’</td>
</tr>
<tr>
<td><em>ijs</em> ‘ice-cream’</td>
<td><em>een/het ijsje</em> ‘an/the ice-cream’</td>
<td><em>ijsjes</em> ‘ice-creams’</td>
</tr>
</tbody>
</table>

Derivation by means of the diminutive suffix is restricted in its application. The diminutive forms in (57), for example, are so commonly used that they may be said to have gained full lexical status, each having a specific meaning transcending the sum of head noun and diminutive suffix. Other combinations of substance noun and diminutive suffix, however, lead to varying degrees of markedness, as can be seen in (58).

(58) a. *een melkje* a milk\textsubscript{dim} b. *een theetje* a tea\textsubscript{dim} c. *een zilvertje* a silver\textsubscript{dim}
Judgments on the acceptability of the diminutive forms in the examples in (58) will doubtlessly vary from speaker to speaker, and they largely depend on socio-cultural phenomena. For example, a diminutive form like *melkje* ‘little milk’ will definitely be marked (although acceptable in baby-talk), whereas a form like *yoghurtje* ‘little yogurt’ is acceptable, due to the fact that yogurt is often sold in small cups. Similarly, the diminutive form often refers to drinks served in certain quantities without explicit mention of that quantity.

(59) a. een cognacjé a. een biertjé
   *a cognac dim* *a beer dim*

   ‘a glass of cognac’ ‘a glass of beer’

C. Combining the indefinite article een and a substance noun

The combination of indefinite article and substance noun can also be used to refer to (culturally defined) fixed quantities or individual entities in constructions such as those given in (60). This particular use is more or less restricted to situations in which listed or displayed items (especially food) are ordered. In these and some of the earlier cases, there is reason to assume that we are dealing with ellipsis. Thus, the phrase *een koffie* ‘a coffee’ in (60a) might be taken as the elliptical form of the binominal noun phrase *een kop(je) koffie* ‘a cup of coffee’. Similarly, the noun phrase *een melk* ‘a milk’ in example (56a) above may be taken as the simplified form of the noun phrase *een soort melk* ‘a kind of milk’. Evidence in favor of such an analysis can be found in the fact, illustrated in example (60b), that it is possible to use a cardinal numeral to indicate that we are referring to a non-singleton set in combination with a singular substance noun. This can be accounted for by assuming that agreement holds between the numeral and the empty or elided noun; cf. the primed examples.

(60) a. Een koffie, alstublieft.       a’. een (kop) koffie
   *a coffee* please       *a cup of coffee*

   b. Mag ik twee bier van u?      b’. twee (glazen) bier
   *may I two beer from you*   *two glasses of beer*

   c. Een spaghetti, graag.       c’. een (bord) spaghetti
   *a spaghetti* please      *a plate of spaghetti*

Note that the northern variety of Dutch may differ in this respect from other varieties of Dutch; in Flemish Dutch, for example, *twee koffie/bier* is not acceptable. Instead a plural (diminutive) form is used: *Twee koffies/biertjes* ‘two coffees/beers’.

Not all of the non-prototypical uses of substance nouns discussed earlier can be analyzed as involving ellipsis. For example, the fully lexicalized nouns in examples (53) and (54) do not seem to have an appropriate semantic correlate that can be taken as its basic form. This will be clear from the examples in (61), which show that when the noun *bier* refers to a certain kind of beer, it must be pluralized when preceded by a cardinal numeral, whereas this is not possible in the corresponding binominal construction; an ellipsis account is therefore not plausible.
Something similar holds for the noun phrase *een bier* in (59b). The fact that the diminutive ending attaches to the substance noun *bier* suggests that this noun must be the underlying head and that there is no reason to assume the presence of another (empty or elided) noun: see the contrast in (62), which shows that in the binominal construction the diminutive suffix cannot be attached to the substance noun.

(62)  

a.  Ze vroeg een glas bier/*biertje.
    she asked for a glass [of] beer/beer
b.  Ze vroeg een glaasje bier.
    she asked for a glassdim. [of] beer

II. Mass nouns used as individual nouns ([-SHAPE] → [+SHAPE])

Instances where mass nouns are used as individual nouns are rare and idiosyncratic, which might be expected given that they involve an additional shift in the feature [+SET], but not impossible. Such instances always involve the use of a pluralized mass noun referring to different kinds of the entity denoted, rather than to the mass itself. Thus example (63a), although definitely marked, is acceptable in an informal context, where different kinds of police (e.g., state police, county police, municipal police) are being distinguished. Clearly, cases like these cannot be regarded as involving ellipsis given that the corresponding binominal construction requires the noun to be singular: *drie (soorten) politie* ‘three kinds of police’.

(63)  

a.  ??Al heb je drie polities, dan ben je nog niet veilig.
    even have you three police then are you still not safe
    ‘Even if you have three police forces, you still won’t be safe.’
b.  Al heb je drie soorten politie, dan ben je nog niet veilig.
    even have you three kinds of polices then are you still not safe
    ‘Even if you have three kinds of police forces, you still won’t be safe.’

Still, it must be noted that the conversion in (63a) is quite rare: the examples in (64) show that it is impossible with most mass nouns and that a binominal construction or compound noun must be used in order to convey the intended message.

(64)  

a.  *Je vindt verscheidene veeën in dit gebied.
    one finds several cattles in this area
b.  Je vindt verscheidene soorten vee/veesoorten in dit gebied.
    one finds several sorts of cattle/cattle.kinds in this area

III. Individual nouns used as substance nouns ([+SHAPE] → [-SHAPE])

The use of [+SHAPE] as [-SHAPE] nouns only involves the use of individual nouns as substance nouns. In all cases we are dealing with conversion. Contexts in which
Characterization and classification

Reference is made to food are typical for this kind of use: the nouns *kip/appel* ‘chicken/apple’, which normally refer to entities, are used in (65a&b) to refer to an unbounded quantity of edible parts of these entities.

(65)  

a.  We aten gisteravond  *kip.*
    we ate yesterday.evening chicken
    ‘We had chicken last night.’

b.  Mijn neefje  is dol op meloen.
    my little cousin is fond of melon
    ‘My little cousin is fond of melon.’

Not all individual nouns referring to edible entities accept this kind of conversion quite so readily. In particular, nouns denoting small objects like *bes* ‘berry’ or *rozijn* ‘raisin’ in (66a) defy a substance interpretation. This, however, seems to hold only for objects that are normally conceptualized as separate objects, possibly because they are consumed that way. This would account for the fact that the examples in (66b), which also involve small objects with a definite shape, are acceptable.

(66)  

a. ??Mijn neefje  is dol op bes/rozijn.
    my little cousin is fond of berry/raisin
    ‘My little cousin is fond of berries/raisins.’

b.  Zij  houdt  niet van groene peper/kruidnagel.
    she likes not of green pepper/clove
    ‘She doesn’t like green pepper/cloves.’

However, it must be noted that nouns like *bes* ‘berry’ or *aardbei* ‘strawberry’ also resist conversion in examples like (67), which intend to refer to substances which are flavored by means of, e.g., an extract of berries/strawberries, whereas this is readily possible with nouns like *meloen* ‘melon’. It seems, therefore, that it is the prototypical and not the actual use of the noun that counts.

(67)  

a.  *Er  zit  bes/rozijn  in de thee.*
    there is berry/raisin in the tea

b. ??Er  zit aardbei  in dit ijs.
    there is strawberry in this ice cream

c.  Er  zit meloen  in dit drankje.
    there is melon in this drink

Conversion is also less common in non-culinary contexts and often yields less acceptable results. Nevertheless examples like (68) are conceivable, especially on a generic reading.

(68)  

a.  Ik  houd  erg  van *(de) zee.*
    I like very much of the sea
    ‘I like (the) sea very much.’

b. ??Veel bos  is goed voor het milieu.
    much forest is good for the environment
    ‘A lot of forest is good for the environment.’
Another case that may involve the use of [+SHAPE] nouns as [-SHAPE] nouns is discussed in Section 1.2.2.1.4, sub II.

1.2.2.1.4. Special uses: exclamative and evaluative constructions

In (42), we have seen that the feature [+SHAPE] has an effect on the determiners the nouns may co-occur with: count nouns take the indefinite article *een*, whereas the non-count nouns take the zero-article. In some constructions, however, these co-occurrence restrictions do not seem to apply. We will discuss two of these cases.

I. Exclamative use of [-SHAPE] nouns

Combinations of an indefinite article and a non-count noun are normally not acceptable, and the same thing holds for plural individual nouns. This is illustrated here again in the primeless examples in (69). These combinations become fully acceptable when preceded by the exclamative element *wat*, as in the primed examples. In these cases, the noun phrases form an exclamation, conveying the idea of an unexpectedly large quantity, or an unexpected quality; the water may be very dirty, the furniture extremely beautiful, and the books of extraordinary quality.

\[(69)\]  
a. *een water \quad a’. Wat een water!  
\text{a} \quad \text{water} \quad \text{what a water}  
b. *een meubilair \quad b’. Wat een meubilair!  
\text{a} \quad \text{furniture} \quad \text{what a furniture}  
c. *een boeken \quad c’. Wat een boeken!  
\text{a} \quad \text{books} \quad \text{what a books}  

The use of the indefinite article also become possible in other exclamative surroundings, as shown by (70); the exclamative use is triggered by the use of the ethical dative *me* and/or the empathic particle *toch*, and the use of the noun phrases in the primeless examples in (69) is licensed.

\[(70)\]  
a. Na die stortbui lag er een water op de weg!  
\text{after that downpour lay me there a water on the road}  
‘After that downpour, the quantity of water on the road was incredible.’  
b. In die kamer stond me toch een meubilair!  
in that room stood me PRT a furniture  
‘That room was absolutely packed with furniture.’  
c. Er lagen me toch een boeken over de grond verspreid!  
there lay me PRT a books on the ground scattered  
‘An incredible quantity of book was scattered over the floor!’

II. Evaluative use of [+SHAPE] nouns

A quantifier like *een beetje* ‘a little bit’ normally only occurs with non-count nouns like the substance noun *water* ‘water’ in (71a) and the mass noun *meubilair* ‘furniture’ in (71b). With individual nouns like *boek* ‘book’ in (71c), the modifier *een beetje* is normally not possible.
Characterization and classification

(71) a. een beetje water c. "een beetje boek
   a bit [of] water  a bit [of] book
b. een beetje meubilair
   a bit [of] furniture

Nevertheless, example (71c) is marked with “#”, since it may be acceptable on a very specific reading, and in a context characterized by a high degree of informality. Illustrations are given in (72). These examples express a (positive or negative) evaluation on the part of the speaker: the speaker is talking about books/men with certain characteristics that make them worthy of that name, that is, the speaker is talking about qualities, not entities, and in this sense it can be said that the individual nouns boek and man are used as substance nouns.

(72) a. Een beetje boek kost al gauw € 25.
   a bit [of] book costs already soon € 25
   ‘A book that is worthy of the name costs at least € 25.’
b. Een beetje man pikt zoiets niet.
   a bit [of] man takes something like that not
   ‘A real man wouldn’t stand for that.’

Given the right context, every individual noun can be converted into a substance noun in this way, although the result is always at least stylistically marked. The examples in (73) show that quantifying expressions like te veel ‘too much’, niet genoeg ‘not enough’ and een hoeveelheid ‘a quantity’, which are normally restricted to substance nouns or plural count nouns, may trigger a similar interpretative effect as een beetje, when they are used in combination with singular individual nouns.

(73) a. Hij is mij teveel manager/niet genoeg manager.
   he is me too much manager/not enough manager
   ‘He is too much of a manager/not enough manager to my taste.’
b. Dat is een flinke hoeveelheid boek die je daar mee zeult!
   that is a fair quantity book that you there prt. tote
   ‘That’s quite a number of books you’re toting around!’

In a similar way, collective nouns can be used as mass nouns. Use and effect are comparable to conversion from individual to substance noun. Here, too, conversion is more likely to be acceptable in contexts involving an evaluation on the part of the speaker. In (74a), for instance, the impression given is that of a sports club with a fair number of members and a certain status, while in (74b), the stamp collection in question must be considerable in size.

(74) a. Een beetje sportclub heeft tegenwoordig een sponsor.
   a little bit [of] sports club has nowadays a sponsor
   ‘Any self-respecting sports club has a sponsor nowadays.’
b. Een beetje postzegelverzameling kost al gauw duizenden euro’s.
   a bit [of] stamp collection costs already soon thousands euros
   ‘Any reasonably-sized stamp collection costs easily thousands of euros.’
1.2.2.2. Abstract nouns

Abstract nouns denote entities that have a mental existence only, and therefore do not have any physical properties. Obvious examples are nouns like betekenis ‘meaning’, liefde ‘love’ and geloof ‘belief’. The set of abstract nouns also include nouns like verwoesting ‘destruction’; these nouns denote events, which are not directly perceivable and have no objective existence in the physical world, but are rather mental constructs built on the basis of observations relating to the participants and the results of the events in question. Nouns like aannname ‘assumption’ or verzoek ‘request’ are also taken to be abstract nouns; they denote mental constructs that are used to refer to propositional contents. The same thing holds for nouns like grootte ‘size’ or schoonheid ‘beauty’ that, instead of denoting concrete objects, denote properties of these objects.

1.2.2.2.1. Subclassification

Most traditional (and also many theory-specific) discussions of abstract nouns treat these nouns as belonging to one heterogeneous group, their common feature being that they are not concrete. This is hardly surprising, since the category seems to defy systematic classification in terms of clear-cut features comparable to [±SHAPE] and [±SET], which were used in 1.2.2.1 for the classification of the concrete nouns. Nevertheless, attempts have been made to come to a subclassification depending on the type of abstract entity denoted. Table 6 gives an overview of the types of abstract nouns that will be distinguished here together with a number of examples.

<table>
<thead>
<tr>
<th>TYPE OF NOUN</th>
<th>DENOTATION</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>State-of-affairs nouns</td>
<td>action</td>
<td>verwoesting ‘destruction’</td>
</tr>
<tr>
<td></td>
<td>[+CONTR][+DYN]</td>
<td>behandel ‘treatment’</td>
</tr>
<tr>
<td></td>
<td>process</td>
<td>val ‘fall’</td>
</tr>
<tr>
<td></td>
<td>[-CONTR][+DYN]</td>
<td>vooruitgang ‘progress’</td>
</tr>
<tr>
<td></td>
<td>position</td>
<td>verblijf ‘stay’</td>
</tr>
<tr>
<td></td>
<td>[+CONTR][DYN]</td>
<td>volharding ‘perseverance’</td>
</tr>
<tr>
<td></td>
<td>state</td>
<td>bewusteloosheid ‘unconsciousness’</td>
</tr>
<tr>
<td></td>
<td>[-CONTR][-DYN]</td>
<td>ligging ‘position’</td>
</tr>
<tr>
<td>Proposition nouns</td>
<td>Propositional content</td>
<td>feit ‘fact’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aannname ‘assumption’</td>
</tr>
<tr>
<td>Speech-act nouns</td>
<td>statement</td>
<td>verklaring ‘statement’, belofte ‘promise’</td>
</tr>
<tr>
<td></td>
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<td>vraag ‘question’, verzoek ‘request’</td>
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<td></td>
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</tr>
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<td>Property nouns</td>
<td>Physical property</td>
<td>lengte ‘length’, schoonheid ‘beauty’</td>
</tr>
<tr>
<td></td>
<td>Mental property</td>
<td>geduld ‘patience’, verlegenheid ‘shyness’</td>
</tr>
<tr>
<td>Emotion nouns</td>
<td>Emotion</td>
<td>liefde ‘love’, angst ‘fear’</td>
</tr>
</tbody>
</table>

In what follows, these types will be described in some detail. A brief discussion of differences in syntactic and morphological behavior between these subcategories will also be included.
I. State-of-affairs nouns

State-of-affairs nouns, which are sometimes also referred to as event or process nouns, can be used to refer to states of affairs, that is, to actions (like verwoesting ‘destruction’), processes (like val ‘fall’), positions (like verblijf ‘stay’), states (like bewusteloosheid ‘unconsciousness’), and the like. As these states of affairs take place or obtain at a particular time and place, state-of-affairs nouns can be modified by time or place adverbials. Similarly, as states of affairs have participants, these nouns have arguments like agents, themes and recipients, even if these arguments are often not overtly present.

Let us consider some examples. The head noun verwoesting ‘destruction’ in (75a) is used to denote an action, the noun val ‘fall’ in (75b) denotes a process, the noun wonen ‘living’ in (75c) denotes a position and the noun hebben ‘having’ in (75d) denotes a state. In all these examples, the head noun is complemented by one or more noun phrases referring to the participant(s) in the state of affairs referred to by the noun phrase as a whole; see Section 2.2.3 for a more detailed discussion of these complements. Note that in all these examples the state-of-affairs nouns are typically derived from verbs; in view of their meaning, this will not come as a surprise.

(75)  a.  de verwoesting  van de stad          [action: [+dynamic][+controlled]]
the destruction of the city

b.  de val   van de regering               [process: [+dynamic][-controlled]]
the fall of the government

c.  het wonen  in een stad                [position: [-dynamic][+controlled]]
the living in a city
‘living in a city’

d.  het hebben  van blauwe ogen          [state: [-dynamic][-controlled]]
the having of blue eyes
‘having blue eyes’

II. Proposition nouns

Proposition nouns are sometimes also referred to as content nouns; they denote entities that are assumed to have contents, such as facts, ideas, assumptions, beliefs etc. These entities function as propositions in the sense that they can be given a truth-value: they can be said to be true or untrue, they can be believed or denied, agreed with or rejected etc. The nouns in question have a complement, which typically takes the form of a clause or a PP: in (76a-c) the noun is complemented by a dat-clause denoting the content of the proposition and in (76d) a prepositional van-phrase is used.

(76)  a.  het feit  dat   de aarde  rond   is
the fact that the earth round is
‘the fact that the earth is round’

b.  het idee dat   schapen gekloond kunnen worden
the idea that sheep cloned can be
‘the idea that sheep can be cloned’
Like state-of-affairs nouns, proposition nouns are typically, though not necessarily, deverbal; cf. the use of the simple nouns *feit* ‘fact’ and *idee* ‘idea’ in (76a&b). With the deverbal cases, the input verb belongs to the class of so-called verbs of thinking (such as *geloven* ‘to believe’, *aannemen* ‘to assume’, *veronderstellen* ‘to suppose’, *denken* ‘to think’, *menen* ‘to think/believe’, *argumenteren* ‘to argue/reason’, *redeneren* ‘to reason’, etc.) or verbs denoting actions requiring some mental activity on the part of the speaker or hearer (like *impliquer* ‘to imply’, *bewijzen* ‘to prove’).

The primed examples in (77) show that deverbal proposition nouns all seem to have infinitival counterparts that are clearly related in meaning.

(77) a. de aannamer  a’. het aannemen
    ‘the assumption’  ‘the assuming’

b. de argumentatie  b’. het argumenteren
    ‘the argumentation’  ‘the arguing’

c. de redenering  c’. het redeneren
    ‘the reasoning/argumentation’  ‘the reasoning’

Nevertheless, there are important semantic and syntactic differences between the two forms. As far as the semantics is concerned, deverbal proposition nouns like *aannamer*, *argumentatie*, and *redenering* denote the *content* of the argumentation or (line of) reasoning, whereas the infinitival nouns function as state-of-affairs nouns, denoting the *action* of arguing or reasoning. In other words, while the former are preferred in contexts like (78a) where it is the content that is referred to, the latter are more acceptable in contexts like (78b) where some action is referred to.

(78) a. Zijn redenering was niet bepaald logisch.
    his reasoning was not exactly logical
    a’. ??Zijn redeneren was niet bepaald logisch.
    his to.reason was not exactly logical

b. Logisch redeneren is niet zijn sterkste punt.
    logically to.reason is not his strongest point
    b’. ??Logische reasoning is not his strongest point.

Section 2.2.3.2 includes a more detailed discussion of these forms and the syntactic differences between them (like the optional/obligatory realization of the complement).

III. Speech-act nouns

Speech-act nouns denote a type of abstract entity that can be described as a speech act. Nouns of this type, such as *vraag* ‘question’, *bevel* ‘order’, *belofte* ‘promise’, *verzoek* ‘request’, *mededeling* ‘announcement’ denote some form of verbal
interaction, and are typically derived from verbs denoting such activities, that is, the input verb is a verb of saying like vragen ‘to ask’, bevelen ‘to order’, beloven ‘to promise’, verzoeken ‘to request’, etc.

Like proposition nouns, speech-act nouns can take a clausal complement introduced by a complementizer denoting the contents of the speech act. This is illustrated in example (79) for the speech-act nouns mededeling ‘announcement’ and verzekering ‘assurance’, which take a clausal complement introduced by the complementizer dat ‘that’.

(79) a. De mededeling dat de trein vertraagd was, was niet te verstaan.
   ‘The announcement that the train was delayed couldn’t be heard.’

b. De verzekering dat het probleem niet ernstig was, stelde ons gerust.
   ‘The assurance that the problem wasn’t serious put our minds at ease.’

Speech-act nouns can also take an infinitival complement introduced by the complementizer om, provided the input verb is able to do so, too. The implied subject °PRO of the infinitival complement clause is interpreted as being coreferential with an argument of the speech-act noun. Which argument functions as antecedent depends on the context. The examples in (80) serve to illustrate this: in (80a), it is the genitive noun phrase Jans, referring to the person making the request, that will be interpreted as coreferential with PRO, and in (80b), it is the noun phrase Peter, the recipient of the request, that is interpreted as the PRO subject of the interpretation.

   ‘Jan’s request to Peter to stay was ignored.’

   ‘Jan’s request to Peter to stay was ignored.’

The clausal complement of the speech-act noun vraag ‘question’ is interrogative. As with the verb vragen ‘to ask’, the interrogative complement can be a yes/no-question, introduced by the complementizer of, or a wh-question, introduced by a wh-phrase.

(81) a. de vraag [of we moesten komen] [yes/no-question]
   the question COMP we must come
   ‘the question whether we had to come’

b. de vraag [hoe we nu moesten handelen] [wh-question]
   the question how we now must act
   ‘the question how we should act in such cases’

Speech-act nouns can also take PP-complements. These complements can denote the contents of the speech act, in which case the choice of preposition often depends on the speech-act noun.
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(82) a. zijn verzoek om salarisverhoging
   his request for pay rise
b. zijn mededeling over het volgende uitje
   his announcement about the next excursion
c. het verbod op roken in dit gebouw
   the ban on smoking in this building
d. de vraag naar olie
   the request for oil

A postnominal PP can, of course, also refer to the participants of the speech act, in which case the prepositions *van* ‘of’ and *aan* ‘to’ are used, followed by a noun phrase referring to the speaker and the addressee, respectively, as in (83). Note that both the *van*-PP and the *aan*-PP precede the *om*-complement in (83), regardless of whether the latter is a PP or a clause.

(83) a. het verzoek van Marie aan de commissie om extra hulp
   the request of Marie to the committee for extra help
b. het verzoek van Marie aan de commissie [om PRO te worden toegelaten]
   the request of Marie to the committee COMP to be admitted

The examples in (84) show that a postnominal PP can also have the function of an adverbial adjunct. These examples also show that a PP-complement must precede the PP-adjunct, whereas a complement clause follows it instead. For more details on the complementation of speech-act nouns, see Section 2.3.

(84) a. het verbod <op stelen> in de Bijbel <op stelen>
   the ban on stealing in the Bible
b. het verbod <[om PRO te stelen]> in de Bijbel <[om PRO te stelen]>
   the ban COMP to steal in the Bible

IV. Property nouns

Property nouns are those nouns that denote properties of entities. Two basic subtypes can be distinguished: (i) nouns describing physical/perceptible properties of concrete entities, such as *hoogte* ‘height’, *grootte* ‘size’, *vorm* ‘form’, etc. and (ii) nouns describing abstract properties, such as character traits, like *geduld* ‘patience’ or *beleefdheid* ‘politeness’. Property nouns, if derived, typically have an adjectival basis, such as *hoog* ‘high’, *breed* ‘wide’, *groot* ‘big’, *beleefd* ‘polite’, etc. Some basic property nouns, such as *duur* ‘duration’ and *kleur* ‘color’ have a verbal counterpart (*duren* ‘to last’ and *kleuren* ‘to color’), but whether these nouns have been derived from the verbs in question or the other way round is an open question.

A. Physical property nouns

Since the physical properties denoted by property nouns are typically used to describe some other entity, they usually occur with a *van*-complement, as shown by examples (85a&b). Example (85c) shows that it is sometimes also possible to use a possessive pronoun or a genitive noun phrase.
Characterization and classification

Genitive noun phrases can only be used when the referent is [+HUMAN], as in (85c), but possessive pronouns can also be used to refer to a [-ANIMATE] entity. This is, however, subject to certain restrictions that are not fully understood, and using a pronominalized van-PP is often preferred; see Section 5.2.2.1 for detailed discussion. Example (86c) shows that using a pronominalized van-PP to refer to a [+HUMAN] referent gives rise to a degraded result.

(86)  a.  De hoogte ervan/ Zijn hoogte  is indrukwekkend.
   the height of.it/his height      is impressive
   ‘Its height is impressive.’

b.  De vorm ervan/ Zijn vorm  is belangrijk.
   the form of.it/his form      is important
   ‘Its form is important.’

c.  Zijn [+human] lengte/??de lengte ervan [+human]
   his height/the height of him

A van-complement is not used when the reference is nonspecific or generic: in the former case the property noun will be preceded by the indefinite article, as in (87a), and in the latter case it may appear without a determiner, as in (87b).

(87)  a.  Elk gebouw  heeft  een hoogte,  een lengte  en   een breedte.
   every building  has   a height     a length    and  a width

b.  Vorm  is belangrijker  dan inhoud.
   form   is more important  than content
   ‘Form is more important than content.’

B. Abstract property nouns

The second subcategory of property nouns consists of nouns that denote properties that cannot be observed or measured in a direct way, but which form part of the mental make-up of the entity described. They include nouns denoting (more or less) permanent character traits like geduld ‘patience’, intelligentie ‘intelligence’ or luiheid ‘laziness’. As with the physical property nouns, these nouns typically occur in combination with a van-PP or, when the property is assigned to a [+HUMAN] entity, with a genitive noun phrase or possessive pronoun. This is illustrated in example (88).

(88)  a.  de aantrekkingskracht  van drugs
   the attraction         of drugs

b.  het geduld  van Peter
   the patience  of Peter

b’.  Peters/zijn geduld
   Peter’s/his patience
V. Emotion nouns

The emotion nouns are the final type of abstract nouns that we will discuss here. These nouns denote (more or less) temporary emotions, like *haat* ‘hatred’, *begeerte* ‘desire’, *behoefte* ‘need’ and *verdriet* ‘grief’. In most cases, the emotion denoted involves some other, affected, entity. In this respect, the nouns exhibit a structural parallelism with the verbs to which they are semantically related; this will become clear from comparing the primeless, verbal constructions in (89) with the primed, nominal ones. However, the fact that these nouns select their own preposition (*voor*, *aan*, *naar*, *tegen/jegens*), which is typically lacking in the verbal constructions, suggests that these nouns cannot be considered derived from the related verbs. See Section 2.1.5, sub E, for some more discussion on the emotion nouns.

(89)   a.  Peter   behoeft rust.                                     [archaic]  
       Peter needs quiet  
       a′.  Peters   behoefte aan rust                             [colloquial]  
            Peter’s need for quiet  
       b.  Zij    begeert macht.                                        
            she craves power  
            b′. haar begeerte naar macht         
                  her craving for power  
       c.  Hij    haat zijn rivaal.                   
            he hates his rival  
            c′. zijn haat tegen/jegens zijn rivaal  
                  his hatred of his rival

1.2.2.2.2. Non-prototypical uses

In many cases nouns that can be used to refer to abstract entities can also be used to refer to concrete entities. This type of ambiguity has often been referred to as the difference between state-of-affairs nouns and result nouns, with the former denoting an event and the latter the concrete result of that event; cf. Abney (1987: 115), Grimshaw (1990), De Haas & Trommelen (1993: 241) and Alexiadou et al. (2007: part IV, section 1.3). Examples of such nouns are *uitvinding* ‘invention’ and *bestrating* ‘surfacing/surface’ in example (90). Observe the difference in complementation between the two (a)0examples in (90), with the *van*-PP referring to the invention and the inventor, respectively; see Section 2.2.3.3 for more details on the complementation of ING-nominalizations.

(90)   a.  De uitvinding van de telefoon  dateert uit de 19e eeuw.        [process noun]  
            the invention of the telephone  dates from the 19th century  
       a′.  De uitvinding van Bell  hing aan de muur.               [result noun]  
            the invention of Bell  hangs on the wall  
            ‘Bell’s invention is hanging on the wall.’  
       b.  De bestrating van de weg  duurde drie weken.           [process noun]  
            the surfacing of the road  took three weeks  
       b′.  De bestrating van deze weg  moet vernieuwd worden.      [result noun]  
            the surface of this road  needs renewed be  
            ‘This road is in need of a new surface.’

The distinction between result and process nouns covers only a small number of the many ambiguities that may occur with abstract nouns. Many nouns can be used to denote an abstract entity like an action or process as well as a concrete entity that is
not the result of the state of affairs but in some other way related to it. In examples (91a′&b′), for instance, the nouns vergadering and bezoek refer to participants (namely, the agents) of the action denoted by the verbs vergaderen ‘to meet’ and bezoeken ‘to visit’, and in (91c′) the noun huisvesting ‘housing’ refers to the (concrete) means through which the action of housing is accomplished. In all three cases the nouns in the primeless sentences are state-of-affairs nouns.

(91) a. De vergadering duurde drie uur. [process noun]
    the meeting lasted three hours

    a′. De vergadering bestond uit oudere heren. [‘participant’ noun]
    the meeting consisted of elderly gentlemen

    b. Het bezoek duurde erg lang. [process noun]
    the visit lasted very long

    b′. Het bezoek bleef erg lang. [‘participant’ noun]
    the visitors stayed very long

    c. De huisvesting van asielzoekers duurt te lang. [process noun]
    the housing of asylum seekers takes too long

    c′. We waren op zoek naar geschikte huisvesting. [‘means’ noun]
    we were looking for suitable housing
    ‘We were looking for suitable accommodation.’

In other cases, the abstract noun in question does have an event and a result reading, but instead of the result being a concrete entity, its referent, too, is abstract. An example is given in (92): in (92a) the noun veroordeling is used to refer to the action of sentencing performed by the jury, whereas in (92b) it is used to refer to the punishment resulting from this action.

(92) a. De veroordeling van de beklaagde door de jury verliep moeizaam.
    the sentencing of the accused by the jury went difficult
    ‘The sentencing of the accused by the jury was problematic.’

    b. De verdachte wachtte een zware veroordeling.
    the accused waited a heavy sentence
    ‘The accused was in for a heavy sentence.’

Finally, example (93) shows that the abstract noun need not be a state-of-affairs noun. Instead the ambiguity here is between an abstract, speech act reading of the nouns vraag ‘question’ and bevel ‘order’ and a concrete reading. In these cases, the speech-act reading is clearly the prototypical one.

(93) a. Hij had de vraag/het bevel niet goed begrepen. [abstract]
    he had the question/the order not well understood
    ‘He hadn’t quite understood the question/order.’

    b. De vraag/het bevel was moeilijk te lezen. [concrete]
    the question/the order was difficult to read

1.2.3. Relational versus non-relational nouns

Non-derived nouns normally do not have an argument structure. This section will discuss a class of nouns that is exceptional in this respect, the so-called relational
nouns. The distinction between relational and non-relational nouns is generally assumed to be relevant for the subclass of concrete nouns. Relational nouns require, or at least imply, an argument; the entities they denote can only be identified on the basis of a relation to some other entity. Thus, ordinarily speaking, one cannot refer to a father without including a reference to one or more children; nor can one refer to a body part without relating the object to its possessor. In the former case, the relation is one of kinship, and in the latter we are dealing with a “part-of” relationship. In either case, the relationship is in a sense inherent: the nouns vader ‘father’ and hoofd ‘head’ denote INALIENABLY POSSESSED entities (Fillmore 1968).

Example (94a) is odd because there is no mention of a related entity; the addition of the genitive noun phrase/van-PP in (94b) renders the sentence acceptable.

(94)  a. ??Ik zag de/een vader in het park.
     I saw the/a father in the park

b.  Ik zag Jans vader/de vader van Jan in het park.
     I saw Jan’s father/the father of Jan in the park

Similarly, the examples in (95) are odd when the possessive pronoun is replaced by an indefinite article: a noun denoting a body part like hoofd ‘head’ or neus ‘nose’ is only possible if a “possessor” is available. Note that using the indefinite article in (95b) leads to an interpretation in which Jan broke an arbitrary (that is, someone else’s) nose.

(95)  a.  Ik heb pijn in mijn/*een hoofd.
     I have pain in my/a head
     ‘I have a headache.’

b.  Jan brak zijn/*een neus.
     Jan broke his/a nose

Generally speaking, the examples in (94) and (95) show that relational nouns obligatorily take an argument that refers to a related entity. However, when a restrictive modifier is present, the argument need not be present. Here, we illustrate this with the relational noun kaft ‘cover’, which is in an inherent relation with the noun boek ‘book’. As is shown by (96a), dropping the PP-complement van het boek gives rise to a marginal result. However, the addition of a restrictive relative clause or an attributive adjective, as in (96b&c), makes the construction completely acceptable again.

(96)  a.  Ik zag een kaft ??(van een boek).
     I saw a cover of a book

b.  Ik zag een kaft die knalgeel was.
     I saw a cover that canary.yellow was

c.  Ik zag een knalgele kaft.
     I saw a canary.yellow cover

Occasionally, nouns are ambiguous between a relational and a non-relational reading. The clearest examples involve the nouns man and vrouw: when no argument is present the noun phrase only allows a non-relational reading, that is, the noun phrase simply refers to some male/female person; when a genitive noun
Characterization and classification

phrase or a *van-PP* is present, on the other hand, these nouns are interpreted as relational nouns meaning “husband” and “wife”, respectively.

(97) a. de man a’. Maries man
    the man Maries husband
b. de vrouw b’. de vrouw van Jan
    the woman the wife of Jan

The examples in (98) suggest that relational nouns differ syntactically from non-relational nouns in that extraction of the *van-PP* is possible with the former, whereas with the latter this is normally excluded (regardless of whether the PP in question is introduced by *van* or some other preposition). See Section 2.2.1.5 for a more detailed discussion of PP-extraction (as well as De Haan 1979, Guéron 1980 and Kaan 1992). For further discussion of complementation of the relational nouns, see Section 2.2.2.

(98) a. Van JAN heb ik de vader gezien (en van PETER de moeder).
    of Jan have I the father seen and of Peter the mother
    ‘It was Jan’s father I saw (and Peter’s mother).’
b. Ik heb een taalkundige van hoog aanzien ontmoet.
    I have a linguist of great standing met
    ‘I have met a linguist of great standing.’
b’. *Van groot aanzien heb ik een taalkundige ontmoet.
    of great standing have I a linguist met

Closely related to the class of relational nouns are deverbal person nouns that require a complement. Thus, person nouns like *maker* ‘maker’ or *schrijver* ‘writer’ in (99a&b) also require the presence in the discourse situation of some other entity, in this case the object of the input verb. As shown by the primed examples, noun phrases headed by nouns of this kind also allow PP extraction.

(99) a. Jan is de maker ??(van dit kunstwerk).
    Jan is the maker of this work.of.art
    a’. Van dit kunstwerk is Jan de maker.
b. Marie is de schrijver ??(van deze scriptie).
    Marie is the writer of this essay
    b’. Van deze scriptie is Marie de schrijver.

When a deverbal relational noun of this sort is preceded by an indefinite article, there is a relation between the interpretation of the noun phrase as a whole and that of the complement of the *van-PP*. Example (100a) shows that the noun phrase as a whole can only be interpreted as nonspecific indefinite when the complement of the *van-PP* is nonspecific indefinite as well. When the complement of the *van-PP* is definite, as in (100b), the noun phrase as a whole will receive a specific indefinite interpretation.

(100) a. Ik heb een schrijver van kinderboeken ontmoet.
    I have a writer of children’s books met
    ‘I’ve met a writer of children’s books.’
b. Ik heb een schrijver van die kinderboeken ontmoet.
   I have a writer of those children’s books met
   ‘I’ve met one of the writers of those children’s books.’

Note further that substituting a definite article for the indefinite article of the complete noun phrase triggers a contrastive reading in the (a)- but not in the (b)-example. Thus, (101a) can only be used when there is a pre-established set of writers, one of whom writes children’s book; in other cases, the use of this example gives rise to an infelicitous result. Example (101b), on the other hand, is not restricted in this way.

(101)  
  a. #Ik heb de schrijver van kinderboeken ontmoet.
       I have the writer of children’s books met
       ‘I’ve met the writer of children’s books.’
  b. Ik heb de schrijver van die kinderboeken ontmoet.
       I have the writer of those children’s books met
       ‘I’ve met the writer of those children’s books.’

The other deverbal nouns also seem to require an object complement: the state-of-affairs noun vernietiging ‘destruction’, for example, is unacceptable when the theme is not expressed: de vernietiging *(van de stad) ‘the destruction of the city’, and normally cannot be used with an indefinite article: *een vernietiging van de stad ‘a destruction of the city’. For a detailed discussion of such deverbal nouns, see Sections 1.3.1 and 2.2.3.

1.3. Derivation of nouns

Like verbs and adjectives, nouns form an open syntactic class that can be extended by means of various word formation processes, some of which are fully productive, while others are only partially productive or nonproductive. This section briefly lists the most important derivational processes in the formation of nouns; compounding will be discussed in Section 1.4. This section is organized according to the category of the input word. We will discuss derivation on basis of a verb, an adjective and a noun. We do not aim at providing an exhaustive discussion but will focus on those derived nouns that inherit the denotation and the °argument structure (the °thematic roles) of their stem, in order to clear the ground for the later discussion of complementation of nouns in Chapter 2. For more detailed overviews of noun formation, we refer the De Haas & Trommelen (1993), Haeseryn et al. (1997), and also Van der Putten (1997).

1.3.1. Deverbal nouns

This section deals with the derivation of deverbal nouns. We will start in 1.3.1.2 with the most productive process, which involves the formation of infinitival nominalization by means of conversion (zero-derivation), as illustrated in the first two rows of Table 7. Two types of conversion are distinguished depending on whether the infinitival nominal is preceded by a determiner or not, and they will be referred to as DET-INF and BARE-INF nominalization, respectively. Conversion results in nouns that denote the same state of affairs as denoted by the input verb.
The process of deriving deverbal nouns by means of affixation is far less productive than the derivation of infinitival nominals by conversion. Affixation typically derives nouns denoting state of affairs or (mostly human) objects. In 1.3.1.3 to 1.3.1.5 we will discuss the following affixes: the suffix -ing, which typically derives nouns denoting states of affairs or person nouns; the prefix ge-, which derives nouns denoting durative or iterative states of affairs; the suffix -er/-aar, which derives either person nouns or nouns denoting non-human agents/instruments.

Table 7: Nominalization

<table>
<thead>
<tr>
<th>TYPE</th>
<th>EXAMPLE</th>
<th>SECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARE-INF nominalization</td>
<td>[Boeken lezen] is leuk.</td>
<td>1.3.1.2</td>
</tr>
<tr>
<td></td>
<td>books read is fun</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘To read books is fun.’</td>
<td></td>
</tr>
<tr>
<td>DET-INF nominalization</td>
<td>[Het lezen van boeken] is leuk.</td>
<td>1.3.1.2</td>
</tr>
<tr>
<td></td>
<td>the read of books</td>
<td></td>
</tr>
<tr>
<td></td>
<td>is fun</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘The reading of books is fun.’</td>
<td></td>
</tr>
<tr>
<td>ING-</td>
<td>[De behandeling van de patiënt] was succesvol.</td>
<td>1.3.1.3</td>
</tr>
<tr>
<td>nominalization</td>
<td>the treatment of the patient</td>
<td></td>
</tr>
<tr>
<td></td>
<td>was successful</td>
<td></td>
</tr>
<tr>
<td>GE-</td>
<td>[Het gezeur over zijn ouders] wordt vervelend.</td>
<td>1.3.1.4</td>
</tr>
<tr>
<td>nominalization</td>
<td>the nagging about his parents</td>
<td></td>
</tr>
<tr>
<td></td>
<td>becomes annoying</td>
<td></td>
</tr>
<tr>
<td>ER-</td>
<td>[De bedelaar] werd gearresteerd.</td>
<td>1.3.1.5</td>
</tr>
<tr>
<td>nominalization</td>
<td>the beggar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>was arrested</td>
<td></td>
</tr>
</tbody>
</table>

Recall that we are not trying to be exhaustive here. There are other suffixes that can be used to derive nouns from verbs, such as –sel and –erij. These are, however, less productive than the suffixes discussed here, and typically (though not necessarily) appear without arguments. A discussion of these suffixes can be found in, e.g., De Haas & Trommelen (1993), Haeseryn et al. (1997), and Knopper (1984).

1.3.1.1. General properties of nominalization

This section will briefly introduce four aspects that will be discussed in the following sections for all types of nominalization in Table 7. Furthermore, in order to avoid unneeded redundancy we will discuss a number of general restrictions concerning the types of verb that can be used as input for nominalization.

I. The form of the derived noun

The sections devoted to the morphological properties of derived nouns briefly discuss the affixes (suffixes or prefixes) used and the distribution and productivity of the morphological processes by which they are derived.

II. The relation of the derived noun to the base verb

The sections on the relation between the derived noun and the base verb are mainly concerned with the effects of the derivational process, in particular concerning the inheritance of arguments (with or without a selected preposition) and the semantic
roles of these arguments. The discussions in this section will only briefly discuss these matters, since a more extensive discussion can be found in Chapter 2.

III. Restrictions on the derivational process

None of the nominalization processes in Table 7 is fully productive in the sense that it can take any (type of) main verb as input. Restrictions on the nominalization process relate to the type of input verb and, in some cases, to the thematic role(s) of the argument(s). It will be shown that the different types of deverbal noun impose different restrictions on the types of input verb they allow. For instance, whereas infinitival nominalizations (especially the bare ones) are almost fully productive, the process of ER-nominalization is much more restricted, both in terms of type of input verb and in terms of the thematic role of the external argument (the subject) of the input verb. There exist also a number of general restrictions on the input verbs that are common to all types of nominalizations. Rather than discussing these in each of the sections, the crucial points will be summarized here.

A. Auxiliary and modal verbs

The perfect auxiliaries hebben and zijn and modal verbs like kunnen ‘to be able’ allow only infinitival nominalization. Some examples are given in (102). The primeless examples are BARE-INF nominalizations: in these cases the complements of the input verb appears as a noun phrase to the left of the derived nouns. The primed examples are DET-INF nominalizations: in these cases the complements of the input verb appears as a postnominal van-PP. All other types of nominalization resist the auxiliary and modal verbs as their input.

(102) a. [Zo’n boek gelezen hebben] is niet genoeg om je taalkundige te noemen.
    ‘To have read such a book is not enough to call yourself a linguist.’

b. [Het gelezen hebben van zo’n boek] is een voorwaarde voor deze baan.
    ‘Having read such a book is a requirement for this job.’

A’. [Het gelezen hebben van zo’n boek] is ...
    the read have of such a book is
    ‘Having read such a book is ...’

B. Copular verbs

Copular verbs allow only infinitival nominalization. As can be seen from the examples in (103), the predicate normally precedes the noun both in BARE-INF and in DET-INF nominalizations. It is nevertheless not hard to find on the internet DET-INF nominalization in which a nominal predicate is realized as a postnominal van-PP; cf. (103a’). Realizing of a non-nominal predicate as a postverbal van-PP, as in (103b’), is categorically impossible.
(103) a. [(Het) moslim zijn] is niet gemakkelijk in de Westerse wereld.

the Muslim be is not easy in the Western world

‘Being a Muslim is not easy in the Western world.’

a’. %[(Het zijn van (een) moslim)] is niet gemakkelijk in de Westerse wereld.

the be of a Muslim is not easy in the Western world

‘Being a Muslim is not easy in the Western world.’

b. [(Dat) ziek zijn] is geen pretje.

that ill be is no fun

‘Being ill is no fun.’

b’ .*[(Het/Dat zijn van ziek)] is geen pretje.

the/that be of ill is no fun

C. Raising verbs

So-called ‘raising verbs like schijnen/lijken ‘to seem’ and blijken ‘to appear’ are categorically rejected as input verbs for nominalization; cf., e.g., Booij (1986b). As shown by (104), the ban on nominalization extends to infinitival nominalization, regardless of whether ‘Subject Raising has taken place, as in (104b’), or not, as in (104a’).

(104) a. Het schijnt dat Jan ziek is.

it seems that Jan ill is

‘It seems that Jan is ill.’

b. dat Jan ziek schijnt te zijn.

that Jan ill seems to be

‘that Jan seems to be ill.’

D. Object-experiencer verbs

None of the nominalization types can take object-experiencer verbs as their input. Object-experiencer verbs can be divided into two groups, depending on the case assigned to the non-nominate argument in languages like German, which do express case morphologically (cf. Den Besten 1985 and references cited there): with the NOM-DAT verbs, the object is assigned dative case, whereas with NOM-ACC verbs, the object is assigned accusative case. Neither of these types can be nominalized.

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NOM-DAT verbs like lukken ‘to succeed’ and spijten ‘to regret’ in (105) and (106) are dyadic ‘unaccusative verbs, whose nominative argument is not an agent but a theme (it is the object experienced). They take an experiencer NP-complement that appears in the dative case. As is shown by the primed examples, these verbs cannot be the input for BARE/DET-INF, ING- or GE-nominalizations.

(105) a. Al zijn plannen lukken hem.

all his plans succeed him

‘He succeeds in all his plans.’

b. *[(Het) hem lukken van al zijn plannen] is nogal irritant.

the him succeed of all his plans is rather annoying

c. *[De hem lukking van al zijn plannen] is nogal irritant.

the him succeeding of all his plans is rather annoying

d. *[Het hem geluk van al zijn plannen] verheugde hem.

the him succeeding of all his plans delighted him
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    his cowardly behavior regretted him much
    ‘He regretted his cowardly behavior very much.’

b. *[[(Het) hem spijten van zijn laffe gedrag] is niet oprecht.
    the him regret of his cowardly behavior is not sincere

c. *[De hem spijting van zijn laffe gedrag] is niet oprecht.
    the him regretting of his cowardly behavior is not sincere

d. *[Het hem gespijt van zijn laffe gedrag] is nooit oprecht.
    the him regretting of his cowardly behavior is never sincere

ER-nominalization is also excluded, which is of course due to the fact that the resulting noun must refer to the agent of the input verb, which is lacking with these verbs. So even for those NOM-DAT verbs that have a [+HUMAN] subject, ER-nominalization is excluded. This is illustrated in (107) for the NOM-DAT verbs opvallen ‘to strike’ and bevallen ‘to please’.

(107) a. De man viel haar op (door zijn gedrag).
    the man struck her prt. by his behavior
    ‘The man struck her (because of his behavior).’

a′. *een haar opvaller (door zijn gedrag)
    a her strik-er by his behavior

b. De nieuwe werknemer beviel ons goed.
    the new employee pleased us well
    ‘We were pleased with the new employee.’

b′. *een ons goede bevaller
    an us good pleas-er

The NOM-ACC verbs, which are also known as psych-verbs, take an accusative object. As in the case of NOM-DAT verbs, the object has the thematic role of experiencer (it is the argument who experiences the psychological state denoted by the verb), while the subject does not perform the role of agent. Examples with the psych-verbs amuseren ‘to amuse’ and ergeren ‘to irritate’ are given in (108) and (109). As can be seen, neither BARE/DET-INF nor ING- nor GE-nominalization of these verbs is possible.

(108) a. Dat boek/Hij amuseerde mij zeer.
    that book/he amused me much

b. *[[(Het) mij amuseren van/door dat boek/hem] was de bedoeling.
    the me amuse of/by the book/him was the intention

c. *[De amusering van/door dat boek/hem] was de bedoeling.
    the amusing of/by the book/him was the intention

d. *[Zijn geamuseer van mij] was de bedoeling.
    his amusing of me was the intention

(109) a. *Dat boek/Hij erger Marie.
    that book/he irritates Marie

    the Marie irritate of/by that book/him surprises me
c. *[De ergering van Marie van/door dat boek/hem] verbaast mij.
   the irritating of Marie of/by that book/him surprises me

d. *[Zijn ge-erger van Marie] verbaast mij.
   his irritating of Marie surprises me

As in the case of NOM-DAT verbs, NOM-ACC verbs cannot constitute the input to ER-
nominalization. This is shown in (110) for the [+HUMAN] versions of examples
(108a) and (109b). These examples again suggest that it is the lack of agentivity of
the subject that plays a role here, and not the animacy of the subject.

(110) a. *een <mij> amuseerder <van mij>
   a me amus-er of me
   b. *een <Marie> ergeraar <van Marie>
   a Marie irritat-er of Marie

IV. The degree of verbalness/nominalness of the nominalization

Nominalization results in forms that have the syntactic distribution of a noun. However, these forms retain a number of the syntactic and semantic characteristics
of the input verb. They are in a sense a hybrid category, partly nominal and partly
verbal. For each type of nominalization, we will discuss the degree of
verbalness/nominalness on the basis of the features in Table 8; cf. Dik (1985a), and
also Hoekstra & Wehrmann (1985).

Table 8: Verbal and nominal characteristics of nominalizations

<table>
<thead>
<tr>
<th>VERBAL PROPERTIES</th>
<th>NOMINAL PROPERTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>presence of arguments</td>
<td>adjectival modification</td>
</tr>
<tr>
<td>prenominal theme/recipient with objective case</td>
<td>theme with genitive case</td>
</tr>
<tr>
<td>prenominal recipient-PP</td>
<td>theme/recipient realized as postnominal PP</td>
</tr>
<tr>
<td>adverbal modification</td>
<td>definiteness</td>
</tr>
<tr>
<td></td>
<td>indefiniteness</td>
</tr>
<tr>
<td></td>
<td>quantification</td>
</tr>
<tr>
<td></td>
<td>pluralization</td>
</tr>
</tbody>
</table>

It will turn out that ER-nominalizations come closest to what may be thought of as
prototypical nouns in the sense that they have all the relevant nominal properties,
with the addition of one verbal feature, namely the presence of arguments. Bare
infinitival nominalizations, on the other hand, retain almost all verbal features,
while exhibiting none of the listed nominal characteristics. They are nominal in the
sense that they have the distribution of nouns and that they lack the grammatical
features of verbs such as tense or number agreement. The other types of
nominalizations hold an intermediate position. The overall picture of nominal and
verbal characteristics of deverbal nouns is presented in Section 1.3.1.6.
1.3.1.2. INF-nominalization (Infinitival nominals)

Infinitival nominals (henceforth: INF-nominalizations) are characterized by the fact that they inherit the denotation (namely, state of affairs) and the argument structure of the verb they are derived from. In this sense, they are not fully nominal, which is also reflected by the fact that, unlike most nouns, they can in principle assign case to a theme and/or recipient argument. In the sections below, we will discuss the form of the derived noun, its relation to the base verb and the restrictions on the derivational process; a comprehensive discussion of complementation of INF-nominalizations can be found in Section 2.2.3.2.

1.3.1.2.1. Form of the derived noun

INF-nominalizations constitute the most productive type of nominalization in Dutch: virtually any infinitive, regardless of the type of verb, can be nominalized and thus be given the external distribution of a noun. The examples in (111) and (112) show that this type of category change is achieved by conversion (zero-derivation): it is not morphologically marked. The two sets of examples present two different types of nominalization: in (111) we find bare nominalizations (henceforth: BARE-INF), and in (112) nominalizations preceded by a determiner (henceforth: DET-INF).

(111) **BARE-INF nominalizations**
   a. Zeilen is leuk.
      sail is nice
   b. Jan houdt van zeilen.
      Jan likes prt. sail
   c. Fruit eten is gezond.
      fruit eat is healthy
      ‘To eat fruit is healthy.’

(112) **DET-INF nominalizations**
   a. Het eten van fruit is erg gezond.
      the eat of fruit is very healthy
      ‘The eating of fruit is very healthy.’
   b. Jan vermaakte zich met het tekenen van poppetjes.
      Jan amused himself with the draw of dolls
      ‘Jan amused himself by drawing human figures.’
   c. Het bonken van de machines was goed te horen.
      the pound of the engines was well to hear
      ‘The pounding of the machines could be heard very clearly.’

1.3.1.2.2. Nominal properties

Apart from the fact that they have the distribution of noun phrases, INF-nominalizations do not exhibit many nominal properties; they rather retain a number of verbal properties. We will illustrate this below by means of article selection, pluralization and modification.
I. Determiners

The examples in (113) show that the determiner of DET-INF nominalizations can be realized by the definite article, a demonstrative, or a possessive pronoun; a genitive form of a proper noun is also possible. These examples further show that DET-INF nominalizations have the feature [+NEUTER]: they take the definite article het and the demonstrative determiners dat ‘that’ and dit ‘this’; cf. Table 1.

(113) a. Het zeilen verveelde hem nooit.
    the sail bored him never
b. Dat/Dit zeilen begint me aardig te vervelen.
    that/this sail begins me considerably to bore
    ‘I’m beginning to get fed up with this sailing.’
    Peter’s/his sail costs him much money

Although DET-INFS can be preceded by a definite determiner, they do not normally co-occur with an indefinite article, as is shown by (114a). Still, there are some cases in which an indefinite article can be used. These concern noun phrases like (114b&)b), which are headed by a nominalization derived from an input verb that denotes an emission of sounds, and in which the infinitive is usually pre- or postmodified.

    a sail bored him never
b. Een luid ruisen van water werd hoorbaar.
    a loud rustle of water became audible
b’. We hoorden een eigenaardig tikken op zolder.
    we heard a strange tick on attic
    ‘We heard a strange ticking in the attic.’

In addition, there are occasional INF-nominalizations that obligatorily combine with the indefinite article. This particular use of the infinitive is either entirely nonproductive, as in the idiomatic constructions in (115a), or very restricted, as in the more or less fixed template het op een V_{infinitive} zetten (115b), in which the position $V_{infinitive}$ can be filled only by a limited number of verbs.

(115) a. Het was er een (voortdurend) komen en gaan van belangrijke mensen.
    it was there a constant come and go of important people
    ‘There was a (constant) coming and going of important people.’
b. Hij zette het op een lopen/huilen/schreeuwen.
    he set it on a walk/cry/scream
    ‘He took to his heels/he turned on the waterworks.’

II. Pluralization, quantification and questioning

Another difference with most nouns is that INF-nominalizations cannot be pluralized. They also differ from true nouns in that they cannot be quantified or questioned. These characteristics are illustrated in (116).
(116) a. *Peter houdt erg van zeilens.  
   Peter loves very much of sailpl
   b. *De zeilens van Peter kosten hem veel geld.  
   the sailpl of Peter cost him much money
   c. *Elk zeilen is weer een nieuw avontuur.  
   every sail is again a new adventure
   d. *Welk zeilen vind jij nu het prettigst (hier of op het IJsselmeer)?  
   which sail consider you most pleasant here or on the IJsselmeer

III. Modification

All INF-nominalizations denote abstract entities, more specifically states of affairs: they refer to the event or situation denoted by the verb from which they derive. As such, they exhibit a number of properties characteristic of verbs. First, (117) shows that INF-nominalizations may be modified for manner, frequency or duration. Second, example (117b) shows that in the DET-INF pattern, the adverbial (= bare) form of the adjective can be used alongside the adjectival form, ending in -e. Note that it cannot be established which of the two forms is used in the BARE-INF pattern in (117a), since the -e ending only surfaces when the adjective is preceded by a definite determiner.

(117) a. Uitgebreid/regelmatig/lang vergaderen over triviale zaken is nutteloos.  
   extensively/frequently/long meet over trivial matters is pointless
   ‘Meeting extensively/frequently/long over trivial matters is pointless.’
   b. het uitgebreid(e)/regelmatig(e)/lang(e) vergaderen over triviale zaken  
   the extensive(ly)/frequent(ly)/lengthy meet over trivial matters
   is nutteloos.
   is pointless

IV. The form of the complement

Unlike what is the case with the deverbal ING-, GE- and ER-nouns, the theme argument of the BARE-INF nominalizations may appear as a noun phrase in prenominal position, as shown in (118a); realizing the theme as a postnominal van-PP, as in (118b), is also possible, but this is a less preferred option. Again this is a property typical for verbs, not nouns.

(118)  
  • BARE-INF nominalizations
  a. Postzegels verzamelen is een onschuldig tijdverdrijf.  
   stamps collect is an innocent pastime
   ‘Collecting stamps is an innocent pastime.’
  b. ?Verzamelen van postzegels is een onschuldig tijdverdrijf.  
   collecting of stamps is an innocent pastime

The preferred pattern for realizing the theme in DET-INF nominalizations like those in (119) is the opposite of that in BARE-INF nominalizations: the theme can appear as a prenominal noun phrase, as in (119a), but it is preferred to have it as a postnominal van-PP, as in (119b); see Section 2.2.3.2 for more discussion.
(119) • DET-INF nominalizations
   a. Het postzegels verzamelen is een onschuldig tijdverdrijf.
      the stamps collect is an innocent pastime
      ‘The collecting of stamps is an innocent pastime.’
   b. Het verzamelen van postzegels is een onschuldig tijdverdrijf.
      the collect of stamps is an innocent pastime
      ‘The collecting of stamps is an innocent pastime.’

1.3.1.2.3. Relation to the base verb

INF-nominalizations can be said to inherit the argument structure of the input verb. Apart from the change in syntactic category (from V to INF-N), the argument structure of the verb remains unaffected by the derivational process: both the number of arguments and their thematic functions remain essentially the same. The only difference is that while the arguments of a verb normally are obligatorily present, those of the derived noun are not. We will illustrate this below for a number of verb types.

I. Intransitive verbs

An INF-nominalization of an intransitive verb always has one argument (typically the agent), although, unlike what is the case with the verbal construction, the realization of the agent is not compulsory. If the agent is realized, it may appear either postnominally in the form of a van-PP, or prenominally in the form of a genitive noun phrase or a possessive pronoun. This is illustrated in (120b&b′) for the nominal infinitive derived from the intransitive verb lachen ‘to laugh’. Observe that, although we are dealing with a case of nominalization, the deverbal noun is given the category INF-N, rather than N, in order to signal the special nature of the nominal infinitive, with its combination of nominal and verbal features.

(120) • Nominal infinitive derived from an intransitive verb
   a. LACHEN_{INF-N} (Agent)
      to laugh/laughing
   b. (Het) lachen (van kinderen) vrolijkt hem op.
      the laugh of children cheers him up
   b′. Jans (harde) lachen is irritant.
      Jan’s loud laugh is irritating

II. Transitive verbs

An INF-nominalization of a transitive verb inherits both arguments of the input verb. This is illustrated in (121a) for the INF-nominalizations derived from the verb verzamelen ‘to collect’. Example (121b) shows that, just as in the case of the agent, realization of the theme is optional.

(121) • Nominal infinitive derived from a monotransitive verb
   a. VERZAMELEN_{INF-N} (Agent, Theme)
      to collect/collecting
   b. (Postzegels) verzamelen is een onschuldig tijdverdrijf.
      stamps collect is an innocent pastime
      ‘Collecting stamps is an innocent pastime.’
However, when the agent is realized, the theme is normally obligatorily expressed by means of a prenominal noun phrase or a postnominal van-PP. This is illustrated in (122) for cases in which the agent is expressed by means of a prenominal genitive noun phrase or possessive pronoun.

(122) a. ?Peters/Zijn postzegels verzamelen is een onschuldig tijdverdrijf.
   Peter’s/his stamps collect is an innocent pastime
   ‘Peter’s collecting of stamps is an innocent pastime.’
   b. ?Peters/Zijn verzamelen van postzegels is een onschuldig tijdverdrijf.
   Peter’s/his collect of stamps is an innocent pastime
   ‘Peter’s collecting of stamps is an innocent pastime.’

When the agent is expressed as a postnominal PP, its form depends on the realization of the theme: when the theme argument occurs prenominally as a noun phrase, the agent will be expressed by means of a van-PP, as shown in (123b); when the theme is realized postnominally as a van-PP, the agent will normally be realized by means of a door-PP, as shown in (123b). Since (123b) is probably the most unmarked way of expressing the intended contention, we marked the other examples with a question mark.

(123) a. ?Het postzegels verzamelen (van Peter) is een onschuldig tijdverdrijf.
   the stamps collect of Peter is an innocent pastime
   ‘Peter’s collecting of stamps is an innocent pastime.’
   b. Het verzamelen van postzegels (door Peter) is een onschuldig tijdverdrijf.
   the collect of stamps by Peter is an innocent pastime
   ‘The collecting of stamps by Peter is an innocent pastime.’

It must be noted, however, that in construction with a postnominal theme PP introduced by van, it is sometimes possible to add an agent PP also introduced by van. Example (124a) shows that such constructions are fully acceptable only when the determiner takes the form of a demonstrative. The contrast between (124a) and (124b) furthermore suggests that the theme PP must contain an indefinite noun phrase. This restriction may be due to the fact that in the case of a definite noun phrase, the second van-PP is likely to be interpreted as modifying the noun postzegels, i.e., with Peter as the possessor of the stamps; see Section 2.2.3.2.1 for more details.

(124) a. Dat/?Het verzamelen van postzegels van Peter is een ware obsessie.
   that/the collect of stamps of Peter is a true obsession
   ‘This collecting of stamps by Peter is a true obsession.’
   b. ?*Dat/Het verzamelen van de postzegels van Peter is een ware obsessie.

III. Ditransitive verbs

Deverbal nouns derived from ditransitive verbs also inherit the argument structure of the input verb, but instances where all three arguments are explicitly mentioned are not very common: realization of the recipient (and the agent) is typically optional, whereas the theme argument is normally present. Like the theme argument, the recipient may appear in prenominal position, in which case it may take the form of a noun phrase as in (125b). As in clauses, the recipient can also be
realized as an *aan*-PP, in which case it may occur either in pre- or postnominal position, as shown by (125b’). When the theme argument is realized as *van*-PP, the recipient must also appear in postnominal position, as shown by (125b’’).

\[(125)\]

- Nominal infinitive derived from a ditransitive verb
  a.  **SCHENKEN**\_INF\_N  (Agent, Theme, Recipient)  
  to donate/donating  
  b.  De kerk geld schenken is een goede zaak.  
  the church money donate is a good thing  
  b’  Geld <aan de kerk> schenken <aan de kerk> is een goede zaak.  
  money to the church donate is a good thing  
  b’’. Het schenken van geld aan de kerk is een goede zaak.  
  the donate of money to the church is a good thing

**IV. Unaccusative verbs**

Unaccusative verbs can also be the input for infinitival nominalization. The theme argument is inherited from the input verb, but is normally optionally expressed. The theme argument cannot occur as a prenominal noun phrase, but must be realized as a postnominal *van*-PP, as is shown by (126b’&b’’). Since BARE-INF nominalizations prefer the realization of their argument as a prenominal noun phrase, they only occur when the theme argument is left implicit, as in the generic example in (126b).

\[(126)\]

- Nominal infinitive derived from an unaccusative verb
  a.  **VALLEN**\_INF\_N  (Theme)  
  to fall/dropping  
  b’. *(het) bladeren vallen  
  the leaves fall  
  b’’. Het vallen van bladeren  
  the fall of leaves

**V. Verbs with a PP-complement**

Verbs such as *jagen op* ‘to hunt’, which select a PP-theme, can also be nominalized. Again the nominalized structure may take the form of a BARE-INF or a DET-INF. In either case the preposition selected by the input verb is inherited by the nominalization. In the BARE-INF nominalization in (127b), the PP-themes are acceptable both in pre- and in postnominal position, whereas in the DET-INF nominalization in (127b’): there is a clear preference for placing the PP-theme in postnominal position.

\[(127)\]

- Nominal infinitive derived from a verb selecting a PP-theme
  a.  **JAGEN OP**\_INF\_N  (Agent, Theme)  
  to hunt/hunting  
  b.  <Op groot wild> jagen <op groot wild> is een populair tijdverdrijf.  
  on big game hunt is a popular pastime  
  ‘Hunting big game is a popular pastime.’  
  b’’. Het <Op groot wild> jagen <op groot wild> is een populair tijdverdrijf.  
  the on big game hunt is a popular pastime  
  ‘Hunting big game is a popular pastime.’
INF-nominalization is an almost fully productive process in the sense that it is possible with most verbs. As is shown in (128), repeated from (102), it can even take the perfect auxiliaries and the modal verbs as its input.

(128)  a. [Het gelezen hebben van zo’n boek] is niet voldoende om je taalkundige te noemen.
the read have of such a book is not enough to yourself linguist to call
‘Having read such a book is not enough to call yourself a linguist.’

b. [Het kunnenrijden met een auto] is een voorwaarde voor deze baan.
the be.able drive with a car is a requirement for this job
‘Being able to drive a car is a condition for this job.’

INF-nominalization is also possible with inherently reflexive verbs like zich bedrinken ‘to get drunk’. When an antecedent for the pronoun is present, the antecedent determines the form of the reflexive; in (129a&b), for example, the reflexive is realized as zich, due to the presence of the third person antecedent Jan. When no antecedent is present, the generic reflexive je is used, as in (129c).

(129)  a. (?)Jans zich voortdurend bedrinken is ziekelijk.
Jan’s REFL continuously get.drunk is morbid
b. (?)Het zich voortdurend bedrinken van/door Jan is ziekelijk.
the REFL continuously get.drunk of/by Jan is morbid

c. Het je voortdurend bedrinken is ongezond.
the REFL continuously get.drunk is unhealthy

Note that the reflexive pronoun must be in prenominal position; the examples in (130), where the reflexive is realized in a postnominal van-PP, are ungrammatical. It is not clear whether this is a syntactic property of the construction, given that the reflexive zich normally only occurs as the complement of an adposition when the latter is stressed. The fact that the examples become somewhat better when we make the °weak form zich heavier by adding the emphatic morpheme zelf ‘himself’, suggests that we are dealing with a phonological restriction.

(130)  a. Jans voortdurend bedrinken van zich *(zelf) is ziekelijk.
b. Het voortdurend bedrinken van/door Jan is ziekelijk.
c. Het voortdurend bedrinken van je *(zelf) is ongezond.

The fact that (unlike what is the case with the other types of nominalizations) the deverbal nouns in (128) and (129) are grammatical shows that the process of INF-nominalization is extremely productive. However, remember that as is the case for the other types of nominalization, an infinitival nominal cannot take a raising verb or an object-experiencer verb as its input; cf. Section 1.3.1.1.

1.3.1.2.5. The degree of verbalness/nominalness

Both types of INF-nominalization retain all the verbal properties listed in Table 9. Thus, INF-nominalizations have arguments, and these arguments can be realized as
nominal objects in prenominal position. The fact illustrated in (117) that INF-nominalizations can be modified by means of an adverbial phrase also points in the direction of verbal status.

While retaining their verbal properties, INF-nominalizations acquire few exclusively nominal ones: the two subtypes cannot co-occur with indefinite determiners or quantifiers, and both lack the ability to undergo pluralization. Still, DET-INF (but not BARE-INF) nominalizations do exhibit some of the nominal characteristics in Table 9: they can be modified by an adjective, can be preceded by the definite article *het* or a demonstrative/possessive pronoun, and are compatible with a theme-PP in postnominal position.

Table 9: The degree of verbalness/nominalness of INF-nominalizations

<table>
<thead>
<tr>
<th>PROPERTIES</th>
<th>BARE-INF</th>
<th>DET-INF</th>
</tr>
</thead>
<tbody>
<tr>
<td>presence of arguments</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>prenominal theme/recipient with objective case</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>prenominal recipient-PP</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>adverbial modification</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>adjectival modification</td>
<td>?</td>
<td>yes</td>
</tr>
<tr>
<td>theme with genitive case</td>
<td>no</td>
<td>no?</td>
</tr>
<tr>
<td>theme/recipient realized as postnominal PP</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>definiteness</td>
<td>—</td>
<td>yes</td>
</tr>
<tr>
<td>indefiniteness</td>
<td>—</td>
<td>no</td>
</tr>
<tr>
<td>quantification</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>pluralization</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

On the basis of these data, we may conclude that although both BARE-INF and DET-INF have the external distribution of nouns, they are to a considerable degree still verbal. Table 9 also shows that there is a difference between BARE-INF and DET-INF in the sense that BARE-INF nominalizations are more verbal than DET-INF nominalizations. For a comparison of the INF-nominalizations with other types of nominalization, see Table 17 in Section 1.3.1.6.

1.3.1.3. ING-nominalization

Deverbal nouns ending in *-ing* as well as a small set of other, less productive affixes (henceforth: ING-nominalizations) are characterized by the fact that, like INF-nominalizations, they can be seen as inheriting the denotation (namely, state of affairs) and the argument structure of the verb they are derived from. In this sense, they retain verbal properties and hence are not fully nominal. Unlike INF-nominalizations, however, ING-nominalizations have lost the ability for the base verb to assign case to a theme and/or recipient argument, which must therefore be realized as a postnominal PP. This section will discuss the form of the derived noun, its relation to the base verb and the restrictions on the derivational process. In Section 2.2.3.3, a comprehensive discussion of complementation of ING-nouns can be found.
The term **ING-nominalization** refers to the process that derives abstract deverbal nouns denoting the same state of affairs as the base verb. It is however not the case that all so-called **ING-nominalizations** involve the suffix **-ing** (cf. I below), and neither is it the case that all nouns derived by means of the suffix **-ing** are **ING-nouns** (cf. II and III below).

**I. Types of ING-nominalization**

The most frequently used suffix in the formation of abstract deverbal nouns is **–ing**. This suffix is commonly used to derive a noun denoting the same state of affairs as that denoted by the input verb. Like **INF-nominalizations**, **ING-nominalizations** can be said to inherit the arguments of the base verbs. Two examples, one with an unaccusative verb and one with a transitive verb, are given in (131a&b).

(131)  a.  De stijging  van de prijzen  veroorzaakte  paniek.
    the rise     of the prices   caused  panic
  b.  De vernietiging  van de steden  door de vijand  eiste  veel slachtoffers.
    the destruction of the cities by the enemy cost many victims

Although many verbs have a corresponding **ING-nominalization**, the process cannot indiscriminately be applied to all verbs, that is, unlike **INF-nominalization**, **ING-nominalization** is not fully productive. Furthermore, the form of the resulting nominalization is not fully predictable; the set of **ING-nominalizations** includes the forms in Table 10. With the exception of the class of nouns ending in **-ing**, all classes are the result of nonproductive processes, with the endings **-age** and **-atie** typically attaching to verbs of non-Germanic origin. Though they do not end in **-ing**, we count these nouns as **ING-nominalizations** on the basis of their denotation (state of affairs) and their syntactic behavior (distribution, complementation etc.).

**Table 10: Types of ING-nominalizations**

<table>
<thead>
<tr>
<th>AFFIX</th>
<th>VERBAL STEM</th>
<th>EXAMPLE</th>
<th>TRANSLATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>-ing</td>
<td>stijgen ‘to rise’</td>
<td>stijging</td>
<td>rise</td>
</tr>
<tr>
<td></td>
<td>vernietigen ‘to destroy’</td>
<td>vernietiging</td>
<td>destruction</td>
</tr>
<tr>
<td>-age</td>
<td>fabriceren ‘to manufacture’</td>
<td>fabricage</td>
<td>manufacture</td>
</tr>
<tr>
<td></td>
<td>monteren ‘to assemble’</td>
<td>montage</td>
<td>assembly</td>
</tr>
<tr>
<td>-atie</td>
<td>argumenteren ‘to argue’</td>
<td>argumentatie</td>
<td>argumentation</td>
</tr>
<tr>
<td></td>
<td>isoleren ‘to isolate’</td>
<td>isolatie</td>
<td>isolation</td>
</tr>
<tr>
<td></td>
<td>repareren ‘to repair’</td>
<td>reparatie</td>
<td>repair</td>
</tr>
<tr>
<td>-ering</td>
<td>automatiseren ‘to automate’</td>
<td>automatisering</td>
<td>automation</td>
</tr>
<tr>
<td></td>
<td>isoleren ‘to isolate’</td>
<td>isolering</td>
<td>isolation</td>
</tr>
<tr>
<td></td>
<td>formuleren ‘to formulate’</td>
<td>formulering</td>
<td>formulation</td>
</tr>
<tr>
<td>-st</td>
<td>komen ‘to come’</td>
<td>komst</td>
<td>coming</td>
</tr>
<tr>
<td></td>
<td>vinden ‘to find’</td>
<td>vondst</td>
<td>discovery/finding</td>
</tr>
<tr>
<td></td>
<td>vangen ‘to catch’</td>
<td>vangst</td>
<td>catch</td>
</tr>
</tbody>
</table>
Semantically, the forms in (132) also seem to belong to the class of ING-nominalization. However, since formally they correspond to either the stem or the infinitival form of the verb, it seems hard to determine whether they are derived from the verbs or whether the verbs are derived from them.

(132) a. Nominalizations of verbs of saying:
   vraag ‘question’, bevel ‘order’, verzoek ‘request’
   b. Nominalizations of verbs of believing:
      geloof ‘belief’, twijfel ‘doubt’, vermoeden ‘suspicion’

Finally, there are completely idiosyncratic nominal forms like the ones in (133). Since it does not seem plausible that these forms are really derived from the verbs in the first column of the table in (133), it seems reasonable to assume that these verbs cannot be the input of ING-nominalization due to lexical blocking. Nevertheless, we will treat the idiosyncratic nominal forms on a par with the ING-nominalizations.

(133) Regular ING-nouns blocked by idiosyncratic forms

<table>
<thead>
<tr>
<th>VERB</th>
<th>IDIOSYNCRATIC FORM</th>
<th>“BLOCKED” REGULAR FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>bieden ‘to offer’</td>
<td>bod ‘offer’</td>
<td>*bieding</td>
</tr>
<tr>
<td>jagen ‘to hunt’</td>
<td>jacht ‘hunt’</td>
<td>*jaging</td>
</tr>
<tr>
<td>aannemen ‘to assume’</td>
<td>aannemer ‘assumption’</td>
<td>*aanneming</td>
</tr>
<tr>
<td>stelen ‘to steal’</td>
<td>diefstal ‘theft’</td>
<td>*steling</td>
</tr>
<tr>
<td>rijden ‘to drive’</td>
<td>rit ‘drive’</td>
<td>*rijding</td>
</tr>
<tr>
<td>vliegen/vluchten ‘to fly/flee’</td>
<td>vlucht ‘flight’</td>
<td>*vlieging/*vluchting</td>
</tr>
</tbody>
</table>

II. Result nouns ending in -ing

Not all nouns ending in -ing belong to the category of ING-nominalizations. Many nouns ending in -ing have acquired a specialized meaning, which, even though this meaning is still related to the meaning of the input verb, is associated with the nominal rather than the verbal aspects of the nouns. This particular group of derived nouns is often referred to as “result” nouns as opposed to the “verbal” nouns illustrated in Table 10: rather than referring to the event in question, such result nouns denote the (concrete or abstract) result of that event. Examples of result nouns denoting concrete objects are given in (134).

(134) • Result nouns ending in -ing
   a. verzameling ‘collection’
   b. uitvinding ‘discovery’
   c. beschadiging ‘damage’
   d. vertaling ‘translation’

These nouns do not refer to the activity of collecting, discovering, damaging and translating as such, but to the result of these activities. Although perhaps less clearly so, the same phenomenon is also illustrated by the noun onderneming ‘company’ and vereniging ‘society/club’ inasmuch as a company can be seen as the result of some enterprise and the club as the result of the uniting of a group of people. Example (135), taken from Dik (1985a), further shows that the noun onderneming
‘enterprise’, although related to the state of affairs denoted by the input verb *ondernemen* ‘to undertake’, has acquired a specialized meaning that makes it impossible to refer to the actual event itself by means of this noun, which is therefore not an ING-noun.

(135) Om de slachtoffers te bereiken moet men een gevaarlijke tocht over het ijs in order to the victims to reach must one a dangerous journey over the ice ondernemen/*De onderneming van deze tocht ... undertake The undertake/The undertaking of this journey ‘To reach the victims a dangerous journey across the ice had to be undertaken. The undertaking of this journey ...’

Abstract result nouns, although intuitively closely related to the input verb, are not true ING-nominalizations either. Again, they fail to denote the state of affairs denoted by the verb. Examples are the lexicalized nouns in (136).

(136)  ● Lexicalized nouns ending in –ing
 a. *veroordeling* ‘conviction’
 b. *verbazing* ‘surprise’
 c. *verontwaardiging* ‘indignation’

The (a)-examples in (137) show that these nouns can be modified by postnominal *van*-PPs and prenominal genitive noun phrases and possessive pronouns, but, unlike what is the case with the INF-nominalization in (137b), these modifiers will not primarily be interpreted as arguments of the head noun. Thus in (137b) the jury is having a hard time reaching a verdict: it is the act of convicting, a state of affairs, that presents problems. In the (a)-examples, on the other hand, it is the conviction itself, the result of an act of convicting performed by someone else that the jury finds hard to take. This implies that the relation between head noun and modifiers in the (a)-examples is one of possession (in addition to that of noun-theme or noun-agent).

(137) a. De jury had moeite met de veroordeling van de beklaagde. the jury had trouble with the conviction of the defendant ‘The jury felt qualms about the defendant’s conviction.’
 a’ De jury had moeite met zijn veroordeling. the jury had trouble with his conviction
 b. De jury had moeite met het veroordelen van de beklaagde. the jury had trouble with the convict of the defendant ‘The jury had trouble convicting the defendant.’

For the sake of completeness, let us add that some of the nominals ending in -ing mentioned earlier are ambiguous between an abstract and a concrete reading. In (138) this is shown for the nouns *uitvinding* ‘discovery’ and *vereniging* ‘society/club’: the primeless examples exemplify their (concrete) result reading, and the primed examples their use as ING-nominalizations; cf. Grimshaw (1990).
III. Person and object denoting names ending in -ing

There are also person and object denoting names ending in -ing, which, although semantically related to the verb from which they derive, do not denote the result of the state of affairs denoted by the verb. Examples of such nouns are person nouns like beschermeling ‘protégé’, zuigeling ‘baby’, leiding ‘leadership/management’ and object denoting nouns like leuning ‘railing’, sluiting ‘fastener’, leiding ‘pipe/wire’. These nouns behave entirely like normal, basic, nouns: not only do they display all the typically nominal characteristics like (in)definiteness, pluralization, etc., but in addition, they lack an argument structure: despite their obvious relation to some verb, there is no inheritance of arguments. This is illustrated for some of these nouns in (139) and (140).

(139) a. Mijn oom leidt een groot orkest.
   my uncle  leads a big orchestra
   ‘my uncle leads a big orchestra’

   b. het leiden/*de leiding van het orkest door mijn oom
   the lead/the management of the orchestra by my uncle
   ‘the leading of the orchestra by my uncle’

(140) a. Jan leunde op de balustrade.
   Jan leaned on the railing
   ‘Jan’s leaning on the railing’

   b. het leunen/*de leuning van Jan op de balustrade
   the lean/railing of Jan on the railing

   c. Jans leunen/*leuning op de balustrade
   Jan’s lean/railing on the railing
   ‘Jan’s leaning on the railing’

IV. Summary

Nouns ending in -ing can have a number of denotations; the various possibilities are listed in Table 11. In the remainder of this section, we will be concerned only with what we called ING-nominalizations, that is, with deverbal nouns denoting a state of affairs.
Table 11: Deverbal nouns ending in -ing

<table>
<thead>
<tr>
<th>STATES OF AFFAIRS</th>
<th>VERBAL STEM</th>
<th>DERIVED FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>stijgen ‘to rise’</td>
<td>stijging ‘rise’</td>
<td></td>
</tr>
<tr>
<td>aarzelen ‘to hesitate’</td>
<td>aarzeling ‘hesitation’</td>
<td></td>
</tr>
<tr>
<td>behandelen ‘to treat’</td>
<td>behandeling ‘treatment’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESULTS</th>
<th>ABSTRACT</th>
<th>VERBAL STEM</th>
<th>DERIVED FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>(zich) verontwaardigen ‘to be indignant’</td>
<td>verontwaardiging ‘indignation’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(zich) verbazen ‘to surprise’</td>
<td>verbazing ‘surprise’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>behandelen ‘to treat’</td>
<td>behandeling ‘treatment’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONCRETE</th>
<th></th>
<th>VERBAL STEM</th>
<th>DERIVED FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>beschadigen ‘to damage’</td>
<td>beschadiging ‘damage’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>uitvinden ‘to invent’</td>
<td>uitvinding ‘invention’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>verzamelen ‘to collect’</td>
<td>verzameling ‘collection’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OBJECTS</th>
<th>[+HUMAN]</th>
<th>VERBAL STEM</th>
<th>DERIVED FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>beschermen ‘to protect’</td>
<td>beschermeling ‘protégé’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>leiden ‘to lead’</td>
<td>leiding ‘leadership’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>verbannen ‘to exile’</td>
<td>verbanneling ‘exile’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[-HUMAN]</th>
<th>leunen ‘to lean’</th>
<th>leuning ‘railing’</th>
</tr>
</thead>
<tbody>
<tr>
<td>leiden ‘to direct’</td>
<td>leiding ‘pipe/wire’</td>
<td></td>
</tr>
<tr>
<td>zitten ‘to sit’</td>
<td>zitting ‘seat/session’</td>
<td></td>
</tr>
</tbody>
</table>

For completeness’ sake, note that there are also nouns ending in -ing that are not derived from verbs, such as dorpeling ‘villager’ and ellendeling ‘wretch’ (which have a nominal base), stommeling ‘fool’ and zwakkeling ‘weakling’ (which have an adjectival base), and tweeling ‘twins’ (which has a numeral base). As these nouns do not involve inheritance of arguments, and behave like nominals in all respects, they will not be included in the following discussion.

1.3.1.3.2. Nominal properties

Like INF-nominalizations, ING-nominalizations can be used in all regular NP positions. Moreover, they exhibit most of the other nominal characteristics.

I. Determiners

ING-nominalizations can be both indefinite and definite, and may co-occur with various definite [-NEUTER] determiners like the definite article de, the demonstratives deze/die ‘this/that’ and possessive pronouns. They can also be modified by means of quantifiers like elke/iedere ‘each/every’, alle ‘all’, veel/weinig ‘many/few’ and cardinal numerals. Some examples are given in (141).

(141) a. Een behandeling van deze patiënt zou succesvol kunnen zijn.  
‘A treatment of this patient could be successful.’

b. De/Deze/Zijn behandeling van de patiënt bleek succesvol.  
‘The/This/His treatment of the patient proved successful.’

c. Elke behandeling van deze patiënt veroorzaakte nieuwe complicaties.  
‘Every treatment of this patient caused new complications.’
II. Wh-movement and Topicalization

ING-nominalizations can also be preceded by interrogative determiners like welke, and (142a) shows that they can be wh-moved as a result. Example (142b) shows that they can also be topicalized.

(142)  a.  Welke behandeling van deze patiënt zou het meest succesvol zijn?  
    which treatment of this patient would the most successful be  
    ‘Which treatment of this patient would be most successful?’

  b.  Deze behandeling van de arts afdoende.  
    this treatment of the patient found the doctor sufficient  
    ‘The doctor considered this treatment of the patient sufficient.’

III. Pluralization

Pluralization of ING-nouns is possible, but often leads to a marked result. In the examples in (143a&b), for instance, with explicit mention of the theme argument, Dutch seems to prefer the use of a compound noun.

(143)  a.  De verhogingen/dalingen van de prijzen veroorzaakten paniek.  
    the increases/decreases of the prices caused panic  
    ‘The increases/decreases in the prices caused a total panic.’

  b.  De prijssverhogingen/prijsstijgingen veroorzaakten paniek.  
    the price increases/price rises caused panic  
    ‘The increase in prices caused a total panic.’

In contexts with implied (contextually recoverable) arguments, or with adjectivally modified ING-nouns, on the other hand, pluralization seems to be fully acceptable; this is shown in the examples in (144).

(144)  a.  De prijzen stegen dit jaar twee keer.  Deze verhogingen leidden tot paniek.  
    the prices rose this year twice  the rises led to panic  
    ‘The prices rose twice this year. All rises caused a total panic.’

  a’.  De voorspelde verhogingen van de prijzen veroorzaakten paniek.  
    the predicted increases of the prices caused panic  
    ‘Both treatments of the patients were successful’

  b.  Beide behandelingen (van de patiënten) waren succesvol.  
    both treatments of the patients were successful  
    ‘The experimental treatments of the patients were all successful.’

  b’.  De experimentele behandelingen van de patiënten waren alle succesvol.  
    the experimental treatments of the patients were all successful  
    ‘The experimental treatments of the patients were all successful.’

Generic contexts, too, allow pluralization of ING-nominalizations, as shown by example (145). Recall that the noun overname also count as an ING-noun due to its abstract denotation; cf. 1.3.1.3.1, sub I.

(145)  a.  Alle overnames door Philips bleken onsuccesvol.  
    all take.overs by Philips proved unsuccessful  
    ‘All take-overs by Philips proved unsuccessful.’
b. Eerdere mislukkingen konden hem niet ontmoedigen.
   earlier failures could him not discourage
   ‘Earlier failures didn’t discourage him.’

Note, finally, that pluralization of result and person/object denoting nouns ending in –ing like onderneming ‘company/enterprise’, leiding ‘management’ or leuning ‘railing’ (cf. Section 1.3.1.3.1, sub II/III) is never problematic. This may provide additional justification for not including these nouns in the set of ING-nouns.

IV. Modification

ING-nominalizations also behave like nominals with respect to adjectival modification: the obligatory presence of the suffix -e on the prenominal adjectives in (146a&b) shows that we are indeed dealing with adjectival modification of a nominal, and not with adverbial modification. Note, however, that the primed examples show that modification by means of adjectives expressing frequency or duration is also possible, which is related to the verbal quality of these nominals.

(146) a. de sterk*(e)/voorspeld*(e) stijging van de prijzen
   the steep/predicted increase in of the prices
   a’. de regelmatig*(e)/voortdurend*(e) stijging van de prijzen
   the frequent/constant increase of the prices
   b. de succesvol*(le)/uitgebreid*(e) behandeling van de patiënt
   the successful/extensive treatment of the patient
   b’. de regelmatig*(e)/voortdurend*(e) behandeling van de patiënt
   the frequent/constant treatment of the patient

1.3.1.3.3. Relation to the base verb

ING-nominalizations can be said to inherit the argument structure of the input verb. Apart from the change in syntactic category (from V to ING-N), the argument structure of the input verb remains unaffected by the derivational process: both the number of arguments and their thematic functions remain essentially the same. The only difference is that while the arguments of the input verb normally are obligatorily present, those of the derived noun are not. We will illustrate this below for a number of verb types.

I. Intransitive verbs

As far as we know, there are no ING-nominalizations derived from intransitive verbs; see 1.3.1.3.4 for discussion.

II. Transitive verbs

An example of ING-nominalization of a transitive verb is given in (147), where the deverbal noun behandeling ‘treatment’ inherits the argument structure from the monotransitive verb behandelen ‘to treat’; the derived form is given the category ING-N, rather than N, in order to express its special nature, with its combination of nominal and verbal features. The agent argument can be realized either by a prenominal genitive, as in (147b), or by a postnominal door-PP, as in (147b’). In contrast to what is the case in INF-nominalizations, the theme argument of an ING-
nominalization cannot appear in the form of a prenominal accusative noun phrase: it must appear either postnominally in the form of a *van-PP*, as in (147b), or prenominally in the form of a possessive pronoun or genitive noun phrase, as in (147b'). The argument structure of the base verb remains basically unchanged; see Section 2.2.3.3.1 for more details.

(147) • ING-nominalization derived from a monotransitive verb  
   a. BEHANDELINGING-N (Agent, Theme)  
      JansAgent behandeling van de patiëntTheme bleek uiterst succesvol.  
      Jan’s treatment of the patient proved extremely successful  
   b'. JansTheme behandeling door de dokterAgent was uiterst succesvol.  
      Jan’s treatment by the doctor was extremely successful

III. Ditransitive verbs

ING-nominalizations of ditransitive verbs like *uitreiken* ‘to present’ also preserve the argument structure of the base verb, although instances of such nominalizations with all three arguments expressed are rare. Here, too, the theme argument typically appears postnominally as a *van-PP*. The agent and recipient argument (if present) take the form of, respectively, a *door- and an aan-PP*, which must also occur in postnominal position.

(148) • ING-nominalization derived from a ditransitive verb  
   a. UITREIKINGING-N (Agent, Theme, Recipient)  
      De uitreiking van de prijzen (aan de winnaars) (door de burgemeester).  
      the presentation of the prizes to the winners by the major  
   b. De uitreiking van de prijzen (aan de winnaars) (door de burgemeester).  
      the presentation of the prizes to the winners by the major

IV. Unaccusative verbs

The derived ING-nominalization *aankomst* ‘arrival’ in (149) is given an argument structure similar to that of the °unaccusative input verb *aankomen* ‘to arrive’. The two (b)-examples show that the inherited argument may appear either postnominally in the form of a *van-PP* or prenominally in the form of a genitive noun phrase or a possessive pronoun.

(149) • ING-nominalization derived from an unaccusative verb  
   a. AANKOMSTING-N (Theme)  
      De aankomst van Jan op Schiphol trok veel aandacht.  
      the arrival of Jan on Schiphol attracted much attention  
   b'. Jans/zijn aankomst op Schiphol trok veel aandacht.  
      Jan’s/his arrival on Schiphol attracted much attention

V. Verbs with a PP-complement

ING-nominalizations can also be derived from verbs selecting a PP-theme like *jagen op* ‘to hunt’. As can be seen from example (150), the preposition selected by the input verb is inherited by the ING-nominalization. In these constructions the theme-PP can only occur in postnominal position.
(150) • ING-nominalization derived from a verb selecting a PP-theme
  a. JACHT OPING-N (Agent, Theme)
     hunt for
  b. Jans jacht op groot wild was illegaal.
     Jan’s hunt for big game was illegal
     ‘Jan’s hunting big game was illegal.’

VI. Noun incorporation (compounding)

It is quite common for the theme arguments of an ING-nominalization to be incorporated into the noun. As shown by example (151), this is possible regardless of the type of input verb. As may be expected, incorporation of this kind results in reduction of the number of arguments of derived noun, as the argument slot of the incorporated argument is no longer available.

(151) a. De patiëntenbehandeling *(van de dagpatiënten) was ontoereikend.
     the patient’s treatment of the day patients was inadequate
     ‘The treatment of patients left much to be desired.’
  b. De prijsuitreiking *(van de Oscars) is volgende week.
     the prize presentation of the Oscars is next week
     ‘The presentation of prizes is next week.’
  c. De plotselinge prijsstijging *(van de benzineprijs) veroorzaakte veel paniek.
     the sudden price increase of the gas prices caused much panic
     ‘The sudden increase in prices caused a lot of panic.’
  d. De vossenjacht *(op jonge vossen) zou verboden moeten worden.
     the fox hunt on young foxes should prohibited must be
     ‘The foxhunt should be prohibited.’

Note that examples like (152) are acceptable, but this does not refute the claim that incorporation results in valency reduction, since the noun phrase de benzine ‘the petrol’ is clearly not the theme of the construction; cf. example (152b).

(152) a. de plotselinge prijsstijging van de benzine
     the sudden price increase of the petrol
  b. De prijs van de benzine/*De benzine stijgt.
     the price of the petrol/the petrol increases

1.3.1.3.4. Restrictions on the derivational process

ING-nominalization differs from INF-nominalization in that it is only partially productive. Among the verbs that do not allow ING-nominalization are the object-experiencer verbs, auxiliary/modal verbs, and the raising verbs, which do not allow any form of nominalization; cf. Section 1.3.1.1. In addition, there are a number of other groups of verbs that seem to defy ING-nominalization.

I. Intransitive verbs

Intransitive verbs do not allow ING-nominalization: the intransitive verbs given in the primeless examples of (153) do not have a corresponding ING-noun. The deverbal nouns in the primed examples of (153) preceded by the mark ‘#’ do exist,
but not with the intended meaning, that is, they do not denote the same state of affairs as their verbal stem.

\[(153)\]  
- **ING-nominalization derived from an intransitive verb**
  
  a. *dansing*
  
  b. *droming*
  
  c. *hoesting*
  
  d. *huiling*
  
  e. *laching*
  
  f. *morring*
  
  g. *slaping*
  
  h. *speling*
  
  i. *wandeling*

A possible exception might be the ING-noun *aarzeling* ‘hesitation’, as exemplified in (154). It is, however, far from clear that this noun is a true ING-nominalization. First of all, the noun *aarzeling* also has a fully lexicalized form, which can be used without an argument. Second, it might be argued on the basis of the (a)-examples in (154) that the verb *aarzelen* ‘to hesitate’ takes an optional CP- or PP-complement, and as such does not belong to the class of true intransitives.

\[(154)\]

\begin{enumerate}
\item Jan aarzelde om de beslissing te nemen.
\item Jan aarzelde over de beslissing.
\end{enumerate}

\[(155)\]

\begin{enumerate}
\item Hij schaamde zich over/voor zijn gedrag.
\item *Zijn schaming van zich (zelf) over/voor zijn gedrag was terecht.
\end{enumerate}

**II. Inherently reflexive verbs**

Example (155) illustrates that inherently reflexive verbs normally cannot undergo ING-nominalization. This is not really surprising given that Section 1.3.1.2.4 has shown that the reflexive pronoun cannot occur postnominally in INF-nominalizations but must be realized in prenominal position. Since ING-nominalizations only take post-nominal complements, the impossibility of ING-nominalization of inherently reflexive verbs is therefore exactly what one would expect. It must be noted, however, that adding the emphatic element *zelf*, which corresponds to English *himself* in *he himself*, does not improve the result of the primed examples in (155), which means that in this case we cannot assume that the restriction is of a phonological nature.
b. Hij vergiste zich in de weg.
   he was mistaken in the route
   ‘He was mistaken in the strength of the opponent.’

b’. *Zijn vergissing van zich (zelf) in de route bleek fataal.
   his being mistaken in the route proved fatal
   ‘His mistake proved fatal’. The ING-noun verbazing ‘surprise’, derived from
   the inherently reflexive verb zich verbazen (over) ‘to be surprised (about)’, patterns
   somewhat differently: example (156b) shows that verbazing does not allow the
   expression of the reflexive pronoun but does allow the expression of the PP-
   complement.

(156)  a.  Peter verbaasde zich over de sterkte van zijn tegenstander.
   Peter surprised about the strength of his opponent
   ‘Peter was surprised about his opponent’s strength.’

b.  Peters verbazing (van zich) over de sterkte van zijn tegenstander
   Peter’s surprise about the strength of his opponent
   ‘Peter’s surprise about his opponent’s strength’

As can be seen in example (157), ING-nominalization is possible when the base
verb is not necessarily inherently reflexive. Verbs like verzorgen ‘to take care’ and
verdedigen ‘to defend’ can take either the simple reflexive zich, which can be
considered a part of the verb, or the complex form zichzelf ‘himself’, which can be
seen as a regular argument of the verb just like the lexical noun phrase Marie.

(157)  a.  Hij verzorgt zichzelf/Marie slecht.
   he treats himself/Marie badly

   a’. Zijn verzorging van zichzelf/Marie is slecht.
   his treatment of himself/Marie is bad

b.  Hij verdedigt zichzelf/Marie zeer gewiekst.
   he defends himself/Marie very astutely

   b’. Zijn verdediging van zichzelf/Marie was zeer gewiekst.
   his defending of himself/Marie was very astute

III. Other restrictions

The classes of verbs in (158) also defy ING-nominalization. Although this list is far
from complete, it will give an impression of the nature of the restrictions on this
type of nominalization. Again, the nouns preceded by the mark “#” do exist, but not
with the intended meaning, that is, they do not denote the same state of affairs as the
verbal stem.

(158)  a.  Verbs of sensory perception: voelen ‘to feel’ (#voeling), tasten ‘to feel’
   (*tasting), luisteren ‘to listen’ (*luistering), horen ‘to hear’ (*horing),
   proeven ‘to taste’ (*proeving), zien ‘to see’ (*zicht/*ziening), kijken ‘to
   watch’ (*kijking)

b.  Verbs of thinking: denken ‘to think’ (*denking), menen ‘to think’ (*mening),
   achten ‘to consider’ (*achtig), vinden ‘to consider’ (*vinding);
The abstract nouns haat ‘hatred’ and verblijf ‘stay’ do exist, but probably should not be seen as nouns derived from the stative verbs haten ‘to hate’ and verblijven ‘to stay’; cf. 1.2.2.2.1, sub V, and 2.1.5. Quite a large number of verbs that do not allow ING-nominalization do accept this process after prefixation or incorporation of a particle, though the resulting ING-noun often has a specialized meaning. Some examples are aantasting ‘infringement’, beproeving ‘ordeal’, herziening ‘revision’, overhoring ‘examination’, bedenking ‘objection’, overdenking ‘contemplation’, vergiffenis ‘forgiveness/pardon’, vergeten ‘to forget’) and, indeed, many more. Since the lexicon does not seem to provide an alternative for these forms, we cannot appeal to “lexical blocking” and must assume that these are cases of accidental “lexical gaps”.

Sometimes two forms of derived nouns exist, based on the same verb. In all such cases, however, there is a difference in meaning between the two forms. Moreover, in most cases neither of the two forms is a proper ING-nominalization in the sense that they denote a state of affairs. Some examples are given in (159).

(159) a. draai ‘turn’ a’. draaiing ‘rotation’
b. handel ‘trade’ b’. handeling ‘action’
c. roep ‘call’ c’. roeping ‘vocation’
d. spel ‘game’ d’. speling ‘margin/play’
e. splet ‘crack’ e’. splijting ‘splitting’
f. trek ‘migration/appetite’ f’. trekking ‘draw’
g. vergiffenis ‘forgiveness/pardon’ g’. vergeving ‘forgiveness/pardon’
h. werk ‘work’ h’. werking ‘effect’.

For the moment, we have to conclude that the exact nature of the restrictions on the productivity of ING-nominalization remains something of a mystery.

1.3.1.3.5. The degree of verbalness/nominalness

We will end this section on ING-nominalizations with a number of concluding remarks. The first of these concerns the hybrid status of ING-nominalizations, as partly verbal and partly nominal. Table 12 shows that ING-nominalizations are
verbal only to a limited extent, given that these nominalizations have acquired almost all of the specifically nominal characteristics listed.

Table 12: The degree of verbalness/nominalness of ING-nominalizations

<table>
<thead>
<tr>
<th>VERBAL PROPERTIES</th>
<th>presence of arguments</th>
<th>prenominal theme/recipient with objective case</th>
<th>prenominal recipient-PP</th>
<th>adverbial modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERBAL PROPERTIES</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOMINAL PROPERTIES</th>
<th>adjectival modification</th>
<th>theme with genitive case</th>
<th>theme/recipient realized as postnominal PP</th>
<th>definiteness</th>
<th>indefiniteness</th>
<th>quantification</th>
<th>pluralization</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOMINAL PROPERTIES</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes/no</td>
</tr>
</tbody>
</table>

Recall from Section 1.3.1.2.5 that, in contrast, INF-nominalizations retain a large number of verbal properties, while assuming only a few exclusively nominal ones. For instance, with INF-nominalizations the theme argument can be realized as a nominal object in prenominal position, which is an obvious verbal property. Moreover, they can be modified by means of an adverb. ING-nominalizations, on the other hand, are far more nominal: they still share their denotation with that of verbs (state of affairs), and they can be said to inherit the arguments of the base verb, but in all other respects, they behave almost entirely like true nominals. Thus their theme argument appears typically as a postnominal PP. Furthermore, ING-nominalizations only allow modification by means of adjectives and they are compatible with all sorts of definite and indefinite determiners and quantifiers. Only pluralization seems to be restricted in the sense that it is harder when the theme argument is expressed.

1.3.1.4. GE-nominalization

Deverbal nouns prefixed with ge- (henceforth: GE-nominalizations) are characterized by the fact that they inherit the denotation (namely, state of affairs) and the argument structure of the verb they are derived from. In this sense, they are not fully nominal, although, unlike INF-nominalizations, they cannot assign case to a theme and/or a recipient argument. They do, however, exhibit the verbal property of expressing durative aspect. This section will discuss the form of the derived noun, its relation to the base verb and the restrictions on the derivational process. In Section 2.2.3.4, a comprehensive discussion of complementation of GE-nouns can be found.

1.3.1.4.1. Form of the derived noun

Prefixation of a verb stem with the affix ge-, resulting in the form ge-Vstem, is a reasonably productive nominalization process. GE-nominalizations share their denotation with the verb from which they are derived, that is, they denote states of affairs. Their verbal nature is also reflected in the fact that, like INF- and ING-
nominalizations, they can be said to inherit the arguments of the base verb. Some examples are given in (160).

(160)  
- **GE-nouns (denoting state of affairs)**  
  
  a. Het gewandel van de patiënten in het Vondelpark trok veel aandacht.  
     *the strolling of the patients in the Vondelpark attracted much attention*  
  b. Het getreiter van peuters door grote jongens is ontoelaatbaar.  
     *the bullying of toddlers by big boys is inadmissible*  
    ‘The pestering of toddlers by big boys is inadmissible.’

As in the case of **ING-nominalizations**, it is important to realize that not all nouns with the prefix **ge-** are **GE-nominalizations**. Some nouns starting with **ge-**, although morphologically similar to true **GE-nominalizations** and semantically still related to the base verb, have acquired a concrete meaning, and can be interpreted as result nouns. Examples are given in (161), which refer to the result of the action of building, baking and verse-writing.

(161)  
- Result nouns preceded by **ge-**  
  
  a. gebouw ‘building’  
  b. gebak ‘cake’  
  c. gedicht ‘poem’

Although in their prototypical use, the nouns in (161) denote concrete entities, it is still possible to use them as **GE-nominalizations**. Examples of both uses of the nouns **gebouw** and **gebak** are given in (162): in (162a) the concrete noun **gebouw** is modified by the PP-modifier **op de hoek** ‘on the corner’; in (162a’), the abstract noun is complemented by an (inherited) van-PP and can be replaced by an **INF-nominalization**. Similar examples are given in (162b&b’).

(162)  
- **Lexicalized nouns preceded by ge-**  
  
  a. Het grote gebouw/*bouwen op de hoek is een bank.  
     *the big building on the corner is a bank*  
    ‘The big building at the corner is a bank.’  
    a’. Er moet een einde komen aan het gebouw/bouwen van woningen hier.  
     *there must an end come to the building/build of houses here*  
     ‘The building of houses here ought to be put to a stop.’
  b. Het gebak stond op tafel.
     *the cake stood on the table*
    b’. Het ?gebak/bakken van deze taartjes duurde lang.  
     *the baking/bake of these cakes took long*  
     ‘The baking of these little cakes took a long time.’

The **GE-nouns** in the primeless examples in (163) are fully lexicalized; their relation with the corresponding verb is no longer obvious.

(163)  
- **Lexicalized nouns preceded by ge-**  
  
  a. het geval ‘the case’  
  b. het geschil ‘the dispute’  
  c. het gewaad ‘the gown’
The examples in (164) show that the state-of-affairs reading can be blocked by the lexicalized form in some cases, whereas in other cases it remains available.

(164)  a. *het geval van de bladeren
       the falling of the leaves
 b. zijn geschil van de aardappels
       his peeling of the potatoes
 c. het gewaad door koud water
       the wading through cold water

GE-nominalization is fully productive with verbs denoting sound emission, both by [+HUMAN] or [+ANIMATE] and by [-ANIMATE] entities, as is illustrated in (165). It is not hard to find more examples for each set.

(165)  • Verbs of sound emission preceded by ge-

For the verbs in (165), too, a distinction can be made between a state-of-affairs reading, in which case we are dealing with a GE-nominalization denoting the action in question, or a result reading, in which case we are dealing with a result noun denoting the sounds resulting from the action in question. Although in many cases the difference may be hard to discern, certain contexts can have a disambiguating effect. An example is given in (166): the (a)-example involves a GE-nominalization and expresses that it is the fact that he cries that annoys me; the (b)-example involves a result noun and expresses that it is the sound of his crying that kept me awake.

(166)  a. Zijn gehuil om niets irriteert mij mateloos.
       his crying for nothing annoys me immensely
 b. Zijn gehuil hield mij uit mijn slaap.
       his crying kept me out of my sleep

1.3.1.4.2. Nominal properties

Like INF- and ING-nominalizations, GE-nominalizations can be used in all regular NP positions. Moreover, they exhibit most of the other nominal characteristics.

I. Determiners

GE-nominalizations can be both indefinite and definite, allowing all kinds of definite [+NEUTER] determiners: the definite article *het, the demonstratives *dit/dat
‘this/that’ and the possessive pronouns. They can also be quantified by means of elke/iedere ‘each/every’, alle ‘all’, veel/weinig ‘many/few’ etc. Examples are given in (167).

(167) a. De vergadering ontaardde in een oeverloos gepraat over politiek.
the meeting ended in an endless talking about politics
b. Dat/Hun oeverloze gepraat over politiek is nogal irritant.
that/their endless talking about politics is rather irritating
c. Elk gepraat over politiek is volslagen zinloos.
every talking about politics is utterly pointless.
‘All talk about politics is utterly pointless.’

II. Wh-movement and Topicalization
GE-nominalizations can also be preceded by interrogative determiners like welke, and (168a) shows that they can be wh-moved as a result. Example (168b) shows that they can also be topicalized.

(168) a. Welk gepraat over politiek is nu ooit zinvol gebleken?
which talking about politics has ever useful proved
‘What talk about politics has ever proved useful?’
b. Het gepraat dat op de vergadering volgde vond Jan zinloos.
the talking that on the meeting followed found Jan pointless
‘Jan consider the talking following the meeting pointless.’

III. Pluralization
Pluralization of GE-nominalizations is not possible. This is, of course, not surprising, given that GE-nominalizations are substance nouns; cf. Section 1.2.2.1. The fact that some of the concrete ge-nouns and lexicalized nouns in (161) and (163) do allow pluralization merely confirms the view that these are not GE-nominalizations. Examples are, respectively, gebouw(en) ‘building(s)’, gedicht(en) ‘poem(s)’, and geschil(len) ‘dispute(s)’ and gewaad/gewaden ‘gowns’.

IV. Modification
GE-nominalizations also behave like nouns with respect to adjectival modification: the fact that the adjectives prefer the suffix -e in definite constructions like (169a&b) shows that we are dealing with attributive modifiers, not with adverbial phrases. Nevertheless, the fact illustrated in the primed examples, that modification by means of adjectives expressing frequency or duration is possible, underlines the verbal quality of these nominals.

(169) a. het luide/luid gepraat over politiek
the loud talking about politics
a’. het oeverloze/oeverloos gepraat over politiek
the endless talking about politics
b. het kinderachtige/kinderachtig getreiter van kleine kinderen
the childish bullying of little children
b’. het voortdurend/voortdurend getreiter van kleine kinderen
the constant bullying of little children
1.3.1.4.3. Relation to the base verb

GE-nominalization can be said to inherit the argument structure of the input verb. Apart from the change in syntactic category (from V to GE-N), the argument structure of the input verb remains unaffected by the derivational process: both the number of arguments and their thematic functions remain essentially the same. The only difference is that while the arguments of the input verb normally are obligatorily present, those of the derived noun are not. We will illustrate this below for a number of verb types.

I. Intransitive verbs

Example (170) provides a GE-nominalization with an intransitive input verb: both the verb *wandelen* ‘to stroll’ and the GE-nominalization *gewandel* ‘strolling’ have an argument structure with a position for an agent argument. As can be seen from (170b&b’), the agent can appear either postnominally as a *van*-PP or prenominally as a possessive pronoun or genitive noun phrase. Observe that the derived form is given the label GE-N, rather than N, in order to express the special nature of the derived noun, with its combination of nominal and verbal features.

(170) ● GE-nominalization derived from an intransitive verb
   a. GEWANDELGE-N (Agent)
      strolling
   b. het gewandel van de patiënten
      the strolling of the patients
   b’. hun/Peters gewandel
      their/Peter’s strolling

II. Transitive verbs

GE-nominalizations can also take a transitive verb like *treiteren* ‘to bully’ as input. Despite the change in syntactic category, the argument structure of the verb is inherited in an essentially unchanged form by the derived form *getreiter*: both the number of arguments and their thematic functions remain the same. The verb and the derived noun do differ, however, in that the arguments are obligatorily expressed with the former, but can be left implicit with the latter. The (c)-examples in (171) further show that the theme argument of a GE-nominalization can only be realized in the form of a postnominal *van*-PP; it can appear neither in the form of a prenominal noun phrase (in contrast to INF-nominalizations), nor in the form of a possessive pronoun or genitive noun phrase (in contrast to ER- and ING-nominalizations).

(171) ● GE-nominalization derived from a monotransitive verb
   a. GETREITERGE-N (Agent, Theme)
      bullying
   b. JansAgent getreiter van peutersTheme is onaanzbaarbaar.
      Jan’s bullying of toddlers is unacceptable
   c. *het peutersTheme getreiter van/door JanAgent
      the toddlers bullying of Jan
   c’. *hunTheme getreiter door JanAgent
      their bullying by Jan
III. Ditransitive verbs.

The examples in (172a&b) show that GE-nominalizations of ditransitive verbs also leave the argument structure essentially unchanged, although instances of such nominalizations where all three arguments are expressed are fairly rare. The (c)-examples show that, just like the theme argument, the recipient must be expressed as a postnominal PP; it can neither be realized as a prenominal noun phrase nor as a possessive pronoun.

(172) • GE-nominalization derived from a ditransitive verb
   a. GEGEEFGE-N (Agent, Theme, Recipient)
      giving
   b. het gegeef van cadeausTheme aan kinderenRec door SinterklaasAgent
      the giving of presents to children by Santa Claus
   c. *het kinderenRec cadeausTheme gegeef door SinterklaasAgent
      the children presents giving by Santa Claus
   c. *hunRec gegeef van cadeausTheme door SinterklaasAgent
      their giving of presents by Santa Claus

IV. Unaccusative verbs

Unaccusative verbs cannot be the input for GE-nominalization; cf. Section 1.3.1.4.4.

V. Verbs with a PP-complement

GE-nominalizations can be formed on the basis of verbs selecting a PP-argument. Example (173b) shows that the preposition selected by the verb is inherited by the GE-nominalization.

(173) • GE-nominalization derived from a verb selecting a PP-theme
   a. GEJAAG OPGE-N (Agent, Theme)
      hunting for
   b. JanAgent gejaag op groot wild is onaanvaardbaar.
      Jan’s hunting on big game is unacceptable
      ‘Jan’s hunting of big game is unacceptable.’

VI. The pejorative effect of GE-nominalization

Unlike other forms of nominalization, the process of GE-nominalization may add specific aspects of meaning to the meaning of the input verb. Thus the result of GE-nominalization is a durative substance noun, which often has a negative connotation. Such derived nouns as *gestaar ‘staring’, gedraaf ‘running’ or gepraat ‘talking’, for instance, typically express a certain amount of irritation or condescension (‘unfavorable connotation’; Kruisinga 1949) on the part of the speaker. That this pejorative effect is indeed a result of the nominalization process and not due to the semantics of the base verb is illustrated in (174), where GE-nominalization has a negative effect on such neutral base verbs as praten ‘to talk’, regelen ‘to regulate/arrange’ and wandelen ‘to walk’. Note that use of the expressive demonstrative dat ‘that’ has the effect of enhancing the negative connotation of the deverbal noun.
(174) a. dat gepraat over politiek
    that talking about politics
    ‘this talk about politics’

b. dat geregel van bovenaf
    that regulating from the top
    ‘this control from up-high’

c. dat gewandel van patiënten
    that strolling of patients
    ‘this strolling of patients’

Naturally, the pejorative effect cannot be detected with GE-nominalizations derived from verbs already carrying a negative meaning aspect, like jengelen ‘to whine’, klagen ‘to complain’, leuteren ‘to drivel’, mekkeren ‘to yammer’, zeuren ‘to nag’, zwammen ‘to twaddle’, etc.; it appears, however, that such verbs are particularly popular as input to GE-nominalizations (Mackenzie 1985a). GE-nominalizations derived from verbs of sound emission are exceptional in that they lack this negative connotation (except for those cases where the input verb already contains such a meaning aspect); the meaning of nouns like gefluister ‘whispering’, gefluit ‘whistling’, geronk ‘throbbing’, gezoem ‘buzzing, humming’, etc., can but need not be negatively affected by the nominalization process.

1.3.1.4.4. Restrictions on the derivational process

Although a large number of verbs do allow the formation of a GE-nominalization, certain verb classes do not allow this type of nominalization. Among these are the object-experiencer verbs, the auxiliary/modal verbs, and the raising verbs, which do not allow any form of nominalization; cf. Section 1.3.1.1. In addition, there are a number of restrictions that apply specifically to GE-nominalizations.

I. Unaccusative verbs

Unaccusative verbs cannot be nominalized by means of ge-prefixation; cf., e.g., Hoekstra (1984a) and Knopper (1984). This is not only true of dyadic unaccusative (object-experiencer) verbs like ongaan ‘to escape’, behalen ‘to please’ and lukken ‘to succeed’, but also for monadic unaccusatives. This means that the nouns in (175) are all ungrammatical.

(175) a. gaan ‘to go’
    b. komen ‘to come’
    c. sterven ‘to die’
    d. vallen ‘to fall’
    e. zinken ‘to sink’
    f. stijgen ‘to rise’

a’. *genga
b’. *gekom
c’. *gesterfd
d’. *geval
e’. *gezink
f’. *gestijgd

This conclusion is supported by the fact that with those motion verbs that have both an unaccusative and an intransitive use, only the latter use allows GE-nominalization. This becomes clear from the examples in (176). The verb in example (176a) can be construed as the intransitive form of the verb springen ‘to jump’, with the PP functioning as a locational adjunct, and (176a’) shows that GE-nominalization is possible. Since the postpositional phrase in (176b) must be construed as an °complementive, the verb can only be interpreted as an unaccusative verb, and (176b’) shows that GE-nominalization is excluded.
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(176) a. Jan springt op het bed.  
Jan jumps on the bed  
‘Jan is jumping on the bed.’  
a’.  Jans gespring op het bed  
Jan’s jumping on the bed  

b. Jan springt het bed in.  
Jan jumps the bed into  
‘Jan jumps into the bed.’  
b’.  *Jans gespring het bed in  
Jan jumping the bed into

An exception is formed by generic contexts like (177a&b), in which it is at least marginally possible for unaccusative verbs like sterven ‘to die’ and trouwen ‘to marry’ to undergo GE-nominalization. In these cases, the nouns obtain an iterative meaning aspect: the primed examples are unacceptable, since they do not allow an iterative reading.

(177) a. *het gesterf van varkens  
the dying of pigs  
a’.  *Haar gesterf duurde erg lang.  
her dying took very long  
b.  We zouden dat getrouw op jonge leeftijd moeten ontmoedigen.  
we should that marrying on young age must discourage  
‘We ought to discourage this marrying at a young age.’  
b’.  *Zijn getrouw met mijn zus bevalt me niet.  
his marrying with my sister pleases me not

II. Controllability

The impossibility for unaccusative verbs to function as the input for GE-nominalization might be related to the fact that GE-nominalization is also disallowed with verbs denoting events that cannot be controlled by the participants in the event. As a result, verbs of expressing opinion such as menen ‘to think’ (#gemeen), achten ‘to consider’ (#geacht), and vinden ‘to consider’ (*gevind) are excluded from GE-nominalization.

The same thing is true for such typically [-CONTROLLED] verbs as slapen ‘to sleep’ (*geslaap), liggen ‘to lie’ (*gelig), zitten ‘to sit’ (*gezit), kennen ‘to know’ (*geken), blijven ‘to stay’ (*geblijf), weten ‘to know’ (*geweet). It is important to realize, however, that GE-nominalization is only excluded on the regular use of these verbs. If, in a certain context, the verbs can be given a [+CONTROLLED] interpretation, GE-nominalization is allowed. Due to a clash between the specific meaning aspect of GE-nominalizations and the base verbs, the resulting nouns are necessarily marked and, moreover, a negative connotation is almost inevitably present. The illustrations in (178) only acceptable if the states of affairs denoted by the nouns are interpreted as controlled by a participant in the event, which is therefore typically [+HUMAN]

(178) a. dat geslaap/gelig van hem de hele dag  
that sleeping/lying of him the whole day  
‘this sleeping/lying of his all day long’  
a’.  *het gelig van dat boek op tafel  
the lying of that book on the table
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b. dat gehang voor de televisie [pejorative]
   that hanging in front of the television
   ‘this slouching in front of the television’

b’. *het gehang van die schilderijen aan de muur
   the hanging of those paintings on the wall

III. Inseparable complex verbs

Another group of verbs that is systematically excluded from GE-nominalization is that of verbs with Germanic prefixes like be-, ver-, ont-, her-, which have a participial form without the prefix ge-; cf. Schultink (1978). Historically speaking, we are dealing with the same prefix.

(179) Verbs prefixed with be-, ver-, ont-, her-, etc.

<table>
<thead>
<tr>
<th>PREFIX</th>
<th>INFINITIVE</th>
<th>GE-NOMINALIZATION</th>
<th>PAST/PASSIVE PARTICIPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>be-</td>
<td>bespreken ‘to discuss’</td>
<td>*gebespreken</td>
<td>(*ge)besproken ‘discussed’</td>
</tr>
<tr>
<td></td>
<td>*gebespreek</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ver-</td>
<td>verbieden ‘to prohibit’</td>
<td>*geverbied</td>
<td>(*ge)verboden ‘prohibited’</td>
</tr>
<tr>
<td></td>
<td>verboden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ont-</td>
<td>ontkennen ‘to deny’</td>
<td>*geontken</td>
<td>(*ge)ontkend ‘denied’</td>
</tr>
<tr>
<td></td>
<td>ontkend</td>
<td></td>
<td></td>
</tr>
<tr>
<td>her-</td>
<td>herlezen ‘to re-read’</td>
<td>*geherlees</td>
<td>(*ge)herlezen ‘re-read’</td>
</tr>
<tr>
<td></td>
<td>herlezen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There seems to be a motivated relation between the possibility of GE-nominalization and the form of the past/passive participle: particle verbs, which do form their past participles by mean of affixation with ge-, also allow GE-nominalization, although it must be noted that the result is sometimes marked and a negative connotation is always present. Some examples are given in the table below.

(180) Particle verbs

<table>
<thead>
<tr>
<th>INFINITIVE</th>
<th>GE-NOMINALIZATION</th>
<th>PAST/PASSIVE PARTICIPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>doordrammen ‘to nag/push’</td>
<td>?/doorgedram ‘nagging, pushing’</td>
<td>doorgedramd</td>
</tr>
<tr>
<td>uitzoeken ‘to figure out’</td>
<td>?/?uitgezoek ‘figuring out’</td>
<td>uitgezocht</td>
</tr>
<tr>
<td>aanmoedigen ‘to encourage’</td>
<td>?/?aangemoedig ‘encouraging’</td>
<td>aangemoedigd</td>
</tr>
<tr>
<td>tegensputeren ‘to protest’</td>
<td>tegengesputteren ‘protesting’</td>
<td>tegengesputterd</td>
</tr>
</tbody>
</table>

The same thing can be illustrated by means of verbs with non-Germanic prefixes: they also have a past/passive participle preceded by ge-, and in most cases GE-nominalization does not seem to give rise to an outright ungrammatical result in the way the GE-nouns derived from verbs with a Germanic prefix are ungrammatical. At worst, they are unusual, which is clear from the fact that the cases marked as fully acceptable in (181) can be readily found on the internet and that the cases marked with a single question mark do occur on the internet, but are rare. Note that the case with two question marks has not been attested, but this might be due to the fact that it belongs to a more elevated register.
A potential problem for the suggested relation between the possibility of GE-nominalization and the form of the past/passive participle is that example (182) shows that the ge- prefix can be found with verbs like herhalen ‘to repeat’; we found more than 50 occurrences of the form geherhaal on the internet. The relative acceptability of this example may be due to the fact that herhalen (unlike herlezen in (179)) is not interpreted as consisting of a base verb (halen ‘to fetch’) and a prefix her-, but as a monomorphemic verb.

(182)    dat   eindeloze  geherhaal  van  oude tv-series  in de zomermaanden
that endless repeating of old TV-series in the summer months
An obvious problem with this suggestion is, however, that we would expect that the past participle form geherhaald is also quite common, but this does not seem to be borne out; we found only 28 occurrences of this form on the internet, whereas the past participle form herhaald occurred over one million times.

IV. Inherently reflexive verbs

It does not really come as a surprise that GE-nominalization of inherently reflexive verbs is rare. First, many inherently reflexive verbs are prefixed and for this reason excluded from GE-nominalization: zich vergissen ‘to be mistaken’, zich begeven naar ‘to make one’s way to’, zich bevinden ‘to be (located)’, zich vergewissen van ‘to make sure of’, zich bedrinken ‘to get drunk’, zich uitleven ‘to live it up’). Second, we have seen that the reflexive pronoun cannot occur postnominally in ING-nominalizations but must be realized in prenominal position; cf. Section 1.3.1.2.4. Given that ING-nominalizations only take post-nominal complements, the impossibility of the ING-nominalizations of inherently reflexive verbs in (183) is exactly what one would expect.

(183) a. Hij schaamde zich over/voor zijn gedrag.
   he was ashamed REFL about for his behavior
   ‘He was ashamed of his behavior.’
   a’. *Zijn geschaam van zichzelf over/voor zijn gedrag was terecht.
   his being ashamed of REFL about for his behavior was right
b. Hij haastte zich om de trein te halen.
   he hurried REFL COMP the train to catch
   ‘He hurried to catch the train.’
b’. *Zijn gehaast van zichzelf om de trein te halen was tevergeefs.
   his hurried of REFL COMP the train to catch was in vain
However, it seems at least marginally possible to use the corresponding ING-nominalizations when the postnominal PP containing the reflexive is dropped, as is shown in the examples in (184), which are both adapted versions of examples found on the internet.

(184) a. ‘Ik ben moe van dat gescham.
    I am fed up with that being ashamed
    b. Rustig aan, dat gehaast is nergens goed voor.
       easy that hurrying is nowhere good for
       ‘Easy, as that rushing is good for nothing.’

Example (185b) shows that with non-inherently reflexive verbs, GE-nominalization is possible; zichzelf can be treated as a regular argument comparable to Marie.

(185) a. Hij prijst zichzelf/Marie voortdurend.
    he praises himself/Marie continuously
    ‘He praises himself/Marie all the time.’
    b. Zijn voortdurende geprijs van zichzelf/Marie is irritant.
       his continuous praising of himself/Marie is irritating

1.3.1.4.5. The degree of verbalness/nominalness

We conclude with a discussion of the syntactic category of GE-nominalizations. Table 13 shows that GE-nominalizations exhibit partially verbal and partially nominal properties. On the basis of this overview, we conclude that GE-nominalizations take their place in between INF- and ING-nominalizations on a scale of verbal/nominalness.

<table>
<thead>
<tr>
<th>VERBAL PROPERTIES</th>
<th>presence of arguments</th>
<th>yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>prenominal theme/recipient with objective case</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>prenominal recipient-PP</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>adverbial modification</td>
<td>yes?</td>
<td></td>
</tr>
<tr>
<td>NOMINAL PROPERTIES</td>
<td>adjectival modification</td>
<td>yes</td>
</tr>
<tr>
<td>theme with genitive case</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>theme/recipient realized as postnominal PP</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>definiteness</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>indefiniteness</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>quantification</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>pluralization</td>
<td>no</td>
<td></td>
</tr>
</tbody>
</table>

Like INF- and ING-nominalizations, GE-nominalizations are verbal in the sense that they denote abstract entities, namely states of affairs. Moreover, like INF-nominalizations, they are verbal in that they can be modified by means of an adverb (although this may be marked), and that their theme argument cannot occur prenominally as a pronoun or genitive noun phrase.

Like ING-nominalizations, however, they behave in many respects like true nominals: their arguments appear typically as PPs in postnominal position, and the
Characterization and classification

A character can occur prenominally as a pronoun or a genitive noun phrase. Furthermore, they allow modification by means of adjectives and can take all sorts of definite and indefinite determiners and quantifiers; only pluralization is impossible.

1.3.1.5. Er-nominalization

Er-nominalization involves the formation of deverbal person nouns by means of one of the allomorphs of -er/-ster, and a number of other, less productive affixes. In contrast to the nominalization processes discussed in the previous sections, ER-nouns do not inherit the denotation of the verb they are derived from; they denote persons, not states of affairs. They do, however, inherit the argument structure of the verb, and in this sense they can be said not to be fully nominal. This section will discuss the form of the derived noun, its relation to the base verb and the restrictions on the derivational process. In Section 2.2.3.1, a comprehensive discussion of complementation of ER-nouns can be found.

1.3.1.5.1. Form of the derived noun

Deverbal nouns denoting concrete objects can take a number of forms. The most productive form of noun formation is that by which so-called person nouns are derived. Normally, these deverbal nouns take the masculine ending -er (which is realized as -der when following an /r/), the feminine ending -ster, or one of their allomorphs (respectively, masculine -aar and feminine -eres and -aarster). Table 14 shows that other suffixes, both native and non-native, are also possible.

Table 14: Deverbal person nouns

<table>
<thead>
<tr>
<th>SUFFIX</th>
<th>INPUT VERB</th>
<th>DERIVED FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masc: -(d)er</td>
<td>lezen ‘to read’</td>
<td>lezer/lezeres ‘reader’</td>
</tr>
<tr>
<td>Fem: -ster/-eres</td>
<td>schrijven ‘to write’</td>
<td>schrijver/schrijfster ‘writer’</td>
</tr>
<tr>
<td></td>
<td>verraden ‘to betray’</td>
<td>verrader/verraadster ‘traitor’</td>
</tr>
<tr>
<td></td>
<td>uitvoeren ‘to perform’</td>
<td>uitvoerder/uitvoerster ‘performer’</td>
</tr>
<tr>
<td>Masc: -aar</td>
<td>bewonderen ‘to admire’</td>
<td>bewonderaar(ster) ‘admirer’</td>
</tr>
<tr>
<td>Fem: -aarster/-ares</td>
<td>knutselen ‘to tinker’</td>
<td>knutselaar/— ‘handyman’</td>
</tr>
<tr>
<td></td>
<td>tekenen ‘to draw’</td>
<td>tekenaar/ares ‘artist’</td>
</tr>
<tr>
<td></td>
<td>twijfelen ‘to doubt’</td>
<td>twijfelaar/— ‘skeptic’</td>
</tr>
<tr>
<td>Masc: -(a)teur</td>
<td>inspecteren ‘to inspect’</td>
<td>inspecteur/inspectrice ‘inspector’</td>
</tr>
<tr>
<td>Fem: -(a)trice</td>
<td>redigeren ‘to edit’</td>
<td>redacteur/redactrice ‘editor’</td>
</tr>
<tr>
<td></td>
<td>repareren ‘to repair’</td>
<td>reparateur/— ‘repairer’</td>
</tr>
<tr>
<td>Masc: -ator</td>
<td>organiseren ‘to organize’</td>
<td>organisator/organisatrice ‘organizer’</td>
</tr>
<tr>
<td>Fem: -atrice</td>
<td>illustreren ‘to illustrate’</td>
<td>illustrateur/illustratrice ‘illustrator’</td>
</tr>
<tr>
<td></td>
<td>improviseren ‘to improvise’</td>
<td>improvisateur/improvisatrice ‘improviser’</td>
</tr>
<tr>
<td>Masc: -eur</td>
<td>chaufferen ‘to drive’</td>
<td>chauffeur/chauffeuse ‘chauffeur’</td>
</tr>
<tr>
<td>Fem: -euse</td>
<td>regisseren ‘to direct (a movie)’</td>
<td>regisseur/regisseuse ‘(film) director’</td>
</tr>
<tr>
<td></td>
<td>masseren ‘to massage’</td>
<td>masseur/masseuse ‘masseur’</td>
</tr>
</tbody>
</table>
Derived nouns of the type given in Table 14 are always [-NEUTER], and are typically used to denote professions (like *schrijver* ‘writer’ or *leraar* teacher) or persons that habitually perform the action denoted by the verb (like *twijfelaar* ‘skeptic’), that is, they often receive a kind of “generic” interpretation.

Note that the use of the notion of masculine ending is slightly misleading in that the masculine forms are actually neutral forms, and can be used to denote both masculine and feminine individuals. For example, the referent set of the plural noun phrase *de wandelaars* in example (186a) may include female individuals. And the same thing is shown by the copular constructions in (186b&c), which were both taken from the internet.

(186)  a.  De wandelaars vertrokken na het ontbijt.
    the hikers left after breakfast
  b.  Vier van de vijf lezers zijn vrouw.
    four out of five readers are female
  c.  Marie/Zij is een echte lezer.
    Marie/she is a true reader

The unmarked use of the deverbal nouns in Table 14 is that of denoting [+HUMAN] entities, and for that reason they are normally labeled person nouns. These nouns have also been called agent nouns (or *nomina agentis*) or subject nouns because, in most cases, the individuals denoted by the noun are the agent of the input verb. Generally speaking, these terms succeed in accurately describing the set of nouns belonging to this class. The examples in (187a&b) show, however, that the suffix –er is special in that it can also derive nouns that denote non-human agents or instruments; the deverbal ER-nouns in (187c) even have abstract denotations, that is, *misser* ‘miss’ refers to the result of the event denoted by the input verb and *uitglijder* ‘slip/blunder’ refers to the event itself. For this reason, we will not use the traditional terms given earlier, but simply refer to this class of nominalizations as deverbal ER-nouns.

(187)  a.  non-human agents: *wekker* ‘alarm clock’; *zoemer* ‘buzzer’
  b.  instruments: *opener* ‘opener’; *waaier* ‘fan’
  c.  abstract: *misser* ‘miss’; *uitglijder* ‘slip/blunder’

1.3.1.5.2. Relation to the base verb

Concrete deverbal ER-nouns can be said to inherit the argument structure of the input verb. The external (agentive) argument of the verb apparently disappears, but is actually expressed by the affix: it is the deverbal noun itself that denotes the agent of the action denoted by the input verb. Consequently, ER-nouns derived from intransitive verbs like *wandelen* ‘to walk’ in (188a) do not take any arguments: the sole argument of the input verb is represented by the suffix -er. Example (188b) shows that the nominal theme argument of a transitive verb like *maken* ‘to make’ must be realized by means of a *van*-PP in the corresponding nominal construction. Example (188c) shows that when the input verb selects a PP-complement the same PP will be selected by the ER-noun; cf. *jagen op* ‘to hunt for’.

(188)  a.  *wekker* ‘alarm clock’
  b.  *opener* ‘opener’; *waaier* ‘fan’
  c.  *misser* ‘miss’; *uitglijder* ‘slip/blunder’
• ER-nouns
  a. \textsc{schrijver}N ∼ a'. \textit{de schrijver} ‘the writer’
  b. \textsc{maker}N (Theme) ∼ b'. \textit{de maker van het beeld} ‘the maker of the statue’
  c. \textsc{jager}N (Theme) ∼ c'. \textit{een jager op groot wild} ‘a hunter of big game’

1.3.1.5.3. Restrictions on the derivational process

Although ER-nominalization is a productive process with both intransitive and transitive verbs, there are a number of restrictions on its operation concerning the thematic role of the argument represented by the -\textit{er} ending and the type of input verb. The discussion of these restrictions will follow Table 15, which presents a hierarchy of ER-nominalizations in terms of the type of object denoted by the deverbal noun, the thematic role most likely to be represented by the ER-noun and the type of input verb; the prototypical use of an ER-nominalization is given at the top of the list, and the rare (often marginal) uses towards the bottom. Recall that the [-HUMAN] nouns can only be derived by affixation with -\textit{er}.

Table 15: A hierarchy of the denotation of deverbal ER-nominalizations

<table>
<thead>
<tr>
<th>DENOTATION</th>
<th>THEMATIC ROLE</th>
<th>+HUMAN</th>
<th>INPUT VERB</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>concrete</td>
<td>agent</td>
<td>+human</td>
<td>transitive</td>
<td>maker ‘maker’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>intransitive</td>
<td>fietser ‘cyclist’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-human</td>
<td>transitive</td>
<td>wekker ‘alarm clock’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>intransitive</td>
<td>zoemer ‘buzzer’</td>
</tr>
<tr>
<td></td>
<td>instrument</td>
<td>-human</td>
<td>transitive</td>
<td>opener ‘opener’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>intransitive</td>
<td>waaier ‘fan’</td>
</tr>
<tr>
<td></td>
<td>experiencer</td>
<td>+human</td>
<td>transitive</td>
<td>bewonderaar ‘admirer’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>intransitive</td>
<td>tokker ‘worrier’</td>
</tr>
<tr>
<td></td>
<td>theme</td>
<td>±human</td>
<td>transitive</td>
<td>martelaar ‘martyr’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>’unaccusative</td>
<td>stijger ‘riser’</td>
</tr>
<tr>
<td>abstract</td>
<td>—</td>
<td>-human</td>
<td>transitive</td>
<td>misser ‘miss’</td>
</tr>
<tr>
<td>(events)</td>
<td></td>
<td></td>
<td>’unaccusative</td>
<td>uitglijder ‘blunder’</td>
</tr>
</tbody>
</table>

The discussion starts with the thematic roles of the argument that can be expressed by the suffix. This is followed by a discussion of the restrictions on the input verbs.

I. Thematic role of the argument represented by the -\textit{er} ending

This section discusses the implied thematic relationships between the argument represented by the -\textit{er} ending and the input verb.

A. ER-nouns denoting [+HUMAN] agents

The vast majority of deverbal ER-nouns denote a [+HUMAN] object, which acts as the agent in the argument structure of the input verb. A representative set of examples has already been given in Table 14.

B. ER-nouns denoting [-HUMAN] (impersonal) agents

Less common are examples like (189) where the deverbal ER-noun represents a [-HUMAN] agent of the input verb. Nevertheless, these [-HUMAN] objects still
perform the action denoted by the input verb and will, therefore, be referred to as impersonal agents; cf., e.g., Van der Putten (1997) and De Caluwe (1995). As illustrated in (189a-d), the input verb is usually transitive, although the intransitive input verb *zoemen* ‘to buzz’ in (189e) is also possible.

(189) • ER-nominalization denoting [-HUMAN] (impersonal) agents
a. Deze tv-zender zendt popmuziek uit. [cf. *uitzenden* ‘to broadcast’]
   This TV station broadcasts pop.music
b. De wekker wekte hem om 7 uur. [cf. *wekken* ‘to wake up’]
   the alarm clock woke him at 7 o’clock
c. Deze versterker versterkt zonder vervorming. [cf. *versterken* ‘to amplify’]
   this amplifier amplifies without distortion
d. Deze meter meet het gasverbruik. [cf. *meten* ‘to measure’]
   this meter measures the gas.consumption
e. De zoemer zoemde erg luid. [cf. *zoemen* ‘to buzz’]
   the buzzer buzzed very loudly

ER-nouns of this type do not allow complementation; although the input verbs may obligatorily contain a theme argument, this argument is not inherited by the ER-nominalization. As a consequence, deverbal ER-nouns denoting impersonal agents cannot be followed by a *van*-PP denoting the object of the base verb. This means that in the primeless examples of (190) the ER-noun will receive its prototypical [+HUMAN] agentive interpretation; when this is not possible the result will be unacceptable. In (190a), for example, the noun *een zender* will be interpreted as denoting the person who sent the message; forcing a non-agentive interpretation, as in (190a’), leads to ungrammaticality. Similarly, *een wekker* in (190b) will be interpreted as a wake-up person, that is, a person who wakes up other people; alternatively, *een wekker* will be interpreted as an alarm clock belonging to lazy people, a reading that is more likely with a specific possessor like *Jan* in (190b’).

(190) a. de zender van het bericht
   the sender of the message
   a’. de pas in gebruik genomen zender (*van het bericht)
   the recently into use put transmitter of the message
b. een wekker van luie mensen
   a wake.up-er of lazy people
   b’. de wekker van Jan
   the alarm.clock of Jan

When the ER-noun cannot receive a [+HUMAN] interpretation, its use with a theme complement is infelicitous. This is illustrated in (191).

(191) a. een geleider (*van elektriciteit)
   a conductor of electricity
b. een versterker (*van geluid)
   an amplifier of sounds

ER-nouns denoting impersonal agents are quite common in compounds of the sort illustrated in (192). Given that the first member of the compound functions as
an incorporated theme of the input verb (and keeping in mind the discussion of the examples in (190) and (191)), it will not come as a surprise that these nouns do not accept a van-PP expressing a theme. The ER-nouns in (192) seem to be fully lexicalized in the sense that the “incorporated” theme is more or less fixed; the compound wasverzachter, for example, does not alternate with something like lakenverzachter, in which the theme (meaning “sheet”) is more specific. Furthermore, the second member often does not occur without the incorporated theme: *verzachter, *stiller, #koker.

(192) • ER-nominalization denoting [-HUMAN] agents (with incorporated themes)
   a. (?)Deze wasverzachter verzacht mijn lakens. [cf. verzachten ‘to soften’]
      this fabric.softener softens my sheets
   a’. de wasverzachter (*van mijn lakens)
      the fabric.softener of my sheets
   b. (?)De pijnstiller stilt de pijn in mijn hoofd. [cf. stillen ‘to quiet/ease’]
      the painkiller eases the pain in my head
   b’. de pijnstiller (*van mijn hoofdpijn)
      the painkiller of my headache
   c. ?(?)De eierkoker kookt eieren. [cf. koken ‘to cook’]
      the egg.cooker cooks the eggs
   c’. de eierkoker (*van mijn scharreleieren)
      the egg.cooker of my free range eggs

C. ER-nouns denoting instruments

There are also instances where it is not the external argument of the input verb that forms the denotation of the derived ER-noun. In that case, it is usually the instrument used in performing the state of affairs that is denoted by the derived noun. Such nouns are especially common as the second member of compounds in which the first member functions as an incorporated theme of the input verb. Thus, the ER-nouns in the primeless examples in (193) refer to instruments used for opening corked bottles, screwing screws, reporting a fire or playing a CD, respectively. That it is indeed an instrument that is referred to and not an impersonal agent becomes clear from the primed examples, which show that these ER-nouns cannot themselves perform the action denoted by the input verb.

(193) • ER-nominalization denoting instruments (with incorporated theme)
   a. de kurkentrekker (*van deze kurk) [cf. trekken ‘to pull’]
      the corkscrew of this cork
   a’. *De kurkentrekker trekt de kurk uit de fles.
      the corkscrew pulls the cork from the bottle
   b. de schroevendraaier (*van deze schroeven) [cf. draaien ‘to turn’]
      the screwdriver of these screws
   b’. *Deze schroevendraaier draait de schroeven in de plank.
      this screwdriver turns the screws into the board
   c. de brandmelder (*van de brand) [cf. melden ‘to report’]
      the fire.reporter of the fire
   c’. ??De brandmelder meldt een brand bij de alarmcentrale.
      the fire.reporter reports a fire at the emergency.center
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d. de CD-speler (*van mijn nieuwe CD)               [cf. afspelen ‘to play’]
   the CD-player    of my new CD

d’. De CD-speler speelt de CD af.
   the CD player    plays the CD prt.

The unacceptability of the primed examples in (193) probably resides in the fact
that the verbs in question select a [+HUMAN] agent. This selection restriction can be
overridden by adding an adverbial phrase like automatisch ‘automatically’, as in
(194), as a result of which these examples are acceptable.

(194) a. Deze kurkentrekker trekt de kurk automatisch uit de fles.
   this corkscrew      pulls    the cork automatically out.of the bottle

b. Deze brandmelder meldt een brand automatisch bij de centrale.
   this fire.detector    reports    a fire      automatically        with the center
   ‘This detector automatically alerts the emergency center in case of a fire.’

c. Deze CD-speler speelt de CD automatisch af.
   this CD-player   plays   the CD  automatically  prt.

The compound nouns in (193) exhibit more or less the same properties as those in
(192); expressing the theme argument by means of a van-PP is impossible, the first
member of the compound is more or less fixed, and the instrument ER-noun often
does not occur without the incorporated theme: #trekker, #draaier, #melder, #speler
(note that all these nouns do have an agentive reading). The latter restriction is not
absolute, however: (195) gives some instances of instrument nouns where
incorporation need not take place. Note that here we are clearly not dealing with
impersonal agents, given that the primed examples show that the instrument itself
cannot perform the action denoted by the input verb. As with impersonal agents,
explicit mention of the theme as argument of the derived noun yields an
unacceptable result or forces an often improbable [+HUMAN] reading: the
[+HUMAN] readings are marked by means of “#”.

(195)  • ER-nominalization denoting instruments (no incorporation)

   a. de (flessen)opener (*van deze fles)             [cf. openen ‘to open’]
      the bottle opener       of the bottle

   a’. *De (flessen)opener opent de fles.
      the bottle opener    opens    the bottle

   b. de (was)knijpers (*van mijn wasgoed)            [cf. knijpen ‘to pinch’]
      the clothes.pegss of my laundry

   b’. *De (was)knijpers hangen het wasgoed op.
      the clothes.pegss put    the laundry    up

   c. de kijker (*van/*naar de vogels)                [cf. kijken ‘to look’]
      the viewer      of/to the birds

   c’. *De kijker kijkt naar de vogels.
      the viewer    looks    at the birds

Note that it is possible to have a PP introduced by voor in examples like (195a&b);
cf. (196a). In that case, however, the modifier is an adjunct rather than the theme of
the underlying predication. This becomes clear from the fact, illustrated by the
examples in (196b), that placement of the PP in postcopular position is possible, which is a hallmark of adjunct status; cf. Section 2.2.1.3.

(196) a. Die opener is alleen voor dit soort flessen.
    this opener is only for this type of bottles

b. Deze knijpers zijn voor mijn wasgoed.
    these cloth. pegs are for my laundry

Finally, note that there are circumstances under which the ER-nouns kijker and knijper can be used as subjects. Like many ER-nouns, kijker has more than one meaning. In (195c) it has a [-HUMAN] reading, in which case it cannot be used as a subject of the verb kijken. When it denotes persons, it can be used as the subject of the verb kijken, as in (197a). Further, ER-nouns denoting instruments can occasionally be used with other, less active verbs, as in (197b).

(197) a. Onze kijkers kijken graag naar informatieve programma’s.
    our viewers look gladly at informative programs
    ‘Our viewers like to watch informative programs.’

b. Deze knijpers houden het wasgoed goed vast.
    these clothes. pegs keep the laundry well fixed
    ‘These clothes pegs keep the laundry securely fixed.’

The constructions in (198) with the instrument ER-noun in subject position are also acceptable. However, the instrument does not function as the agent of the action denoted by the verb: we are dealing here with so-called adjunct middle constructions, which involve some implicit or generic agent for which it is easy/pleasant to perform the action denoted by means of the instrument specified; see Section V3.2.2 for detailed discussion of these constructions.

(198) a. Deze opener opent dat soort flessen heel gemakkelijk.
    this opener opens that sort [of] bottles very easily

b. Deze kijker kijkt heel prettig.
    this viewer looks very pleasantly

D. ER-nouns denoting experiencers

Certain subject-experiencer verbs can also form the input to ER-nominalization. In that case, it is the experiencer argument that is represented by the –er ending. Once again, the input verb can be either intransitive, as in example (199a), or transitive, as in example (199b). In the transitive example the theme argument is inherited by the derived noun.

(199) a. Jan tobt veel.
    Jan worries much
    a’. Jan is een echte tobber
    Jan is a real worrier

b. Jan bewondert Picasso.
    Jan admires Picasso
    b’. Jan is een bewonderaar van Picasso.
    Jan is an admirer of Picasso

E. ER-nouns denoting themes

In addition to the cases discussed above, there are a number of rare and nonproductive occurrences like (200) in which the –er ending represents the theme
argument. The noun martelaar in (200a) denotes the person undergoing the torture, while the noun aanrader in (200b) denotes the thing that is being recommended. The correct use of the noun gijzelaar in example (200c) is a subject of discussion: on its normative reading, it is used to refer to the hostages, that is, the theme of the action of kidnapping (for which Dutch also uses the deverbal noun gegijzelde); in colloquial speech, on the other hand, it is often used to refer to the kidnappers, that is, to the agent of the action (for which Dutch also uses the noun gijzelnemer).

(200)  a. martelaar ‘martyr’                       [cf. martelen ‘to torture’]  
b. aanrader ‘something highly recommendable’ [cf. aanraden ‘to recommend’]  
c. gijzelaar ‘hostage/kidnapper’                  [cf. gijzelen ‘to kidnap’]  

The constructions in (201a&b) show that it is not possible to express the agent in these constructions by means of a van- or door-PP. Example (201a’) suggests that the agent cannot be expressed by means of a possessive pronoun/genitive noun phrase either, although it seems difficult to determine whether Jan functions as the agent or as the possessor of the construction Jans aanrader in (201b’); if the latter, the unexpected acceptability of this construction is accounted for.

(201)  a. *de martelaar  van/door de RomeinenAgent   a’. *hunAgent martelaar  
       the martyr of/by the barbarians           their martyr  
b. *de aanrader        van/door JanAgent       b’. #JanAgent aanrader  
       the recommend-er of/by JanAgent         Jan’s Agent recommend-er  

The deverbal nouns in (200) exhibit behavior similar to deverbal nouns ending in -sel, which typically represent the theme argument: verzinsel ‘fabrication’, baksel ‘baking’, bouwsel ‘building/structure’; cf. Knopper (1984). For example, the construction with van in (202a) is only acceptable on a possessive reading; this becomes clear from the fact illustrated by (202b) that placement of the PP in postcopular position is possible, which is a hallmark of adjunct status; cf. Section 2.2.1.3.

(202)  a. *het bouwsel  van/door mijn broertjeAgent    
       the building of/by my little brother  
b. Dit bouwsel is van mijn broertjePoss.     
       this building is of my little brother  
       ‘This is my littler brother’s building.’  

F. ER-nouns denoting events

There are very rare cases in which ER-nouns are used to refer to abstract entities. The actual denotation of these nouns may be either the result of the event denoted by the input verb or the event itself. Two examples are given in (203). The events involved are typically those involving actions over which the participants in the action have no control; cf. Van der Putten (1997: 147).

(203)  a. missen ‘to miss’                       a’. misser ‘miss/failure’       [result]  
b. uitglijden ‘to slip/blunder’            b’. uitglijder ‘slip/blunder’       [event]
II. Type of input verb

Section 1.3.1.5.2 has established that ER-nominalization is almost fully productive with intransitive and transitive input verbs. Among the verbs that do not allow ER-nominalization are the NOM-DAT (object experiencer) verbs, the auxiliary/modal verbs, and the raising verbs, which do not allow any form of nominalization; cf. Section 1.3.1.1. Apparent counterexamples are meevaller ‘piece of good luck’ and tegenvaller ‘disappointment’, which are derived from NOM-DAT verbs, but which denote [-HUMAN] entities; given that these nominalizations cannot occur with a complement (*een hem tegenvaller; *een haar meevaller) and have an idiomatic meaning only, we can safely assume that these ER-nouns are fully lexicalized idiomatic expressions without an argument structure. In addition to the general restrictions mentioned above, the following subsections will discuss a number of restrictions that apply specifically to ER-nouns.

A. Monadic unaccusative verbs

ER-nouns prototypically denote [+CONCRETE][+AGENT] entities, so that, as a rule, a verb must have an external argument denoting the person or thing performing the action denoted by the verb in order to qualify for input to ER-nominalization. After nominalization, this argument no longer forms part of the argument structure of the deverbal ER-noun; by denoting the referent of this argument, the nominalizing affix -er “represents”, as it were, the external argument of the base verb.

The unaccusative verbs behave differently in this respect: rather than denoting an action that is performed by the only argument, the verb denotes a process that the argument is subject to (which does not necessarily imply that the argument is not actively involved in bringing about the process). In other words, the argument of these verbs is a theme, and we therefore expect ER-nominalization to be impossible. This expectation is indeed borne out in the case of unaccusative verbs indicating movement or a change of state. Some examples are given in (204), which all at least feel extremely marked, at least when considered in isolation; see the discussion below.

(204) a. _arriveren_ ‘to arrive’
   b. _vertrekken_ ‘to leave’
   c. _verschijnen_ ‘to appear’
   d. _gaan_ ‘to go’
   e. _groeien_ ‘to grow’
   f. _vallen_ ‘to fall’
   g. _stijgen_ ‘to rise’
   h. _verstrijken_ ‘to pass by (of time)’
   i. _zinken_ ‘to sink’

   a’. *een arriverder
   b’. *een vertrekker
   c’. *een verschijnere
   d’. *een gaander
   e’. *een groeier
   f’. *een valler
   g’. *een stijger
   h’. *een verstrijker
   i’. *een zinker

Other unaccusative verbs also yield questionable results: the ER-nominalization of the unaccusative verbs in (205) yields odd results, although in Flemish Dutch, _trouwer_ can be used with the intended reading, hence the “%” sign.
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(205) a. toenemen ‘to increase’ a’. *een toenemer
b. sneuvelen ‘to be killed (in action)’ b’. *een sneuvelaar
c. sterven ‘to die’ c’. *een sterver
d. trouwen ‘to marry’ d’. *een trouwer

At the same time, it needs to be said that, given the proper context, even highly marked ER-nouns can become acceptable. Example (205c’), for instance, could conceivably be used in an example like (206a) to refer to an actor who excels in dying scenes, in which case we are dealing with a repeated and deliberately performed action. Observe that in this use verbs like sterven ‘to die’ also allow a passive, as illustrated in (206b). This shows that these unaccusative verbs can behave like intransitive verbs in more than one respect (but not in all given that the auxiliary verb cannot be changed into hebben ‘to have’).

(206) a. Hij is een fantastische/overtuigende sterver.
   he is a fantastic/convincing die-er
b. Er wordt overtuigend gestorven in die scène.
   there is convincingly died in that scene
   ‘There is some convincing dying in that scene.’

The nouns in (207) also exhibit unexpected behavior in the sense that incorporation of the theme argument may positively affect the acceptability of the derived noun. For example, although the movement verb komen ‘to come’ does not allow the derivation of *komer, the compounds like laatkomer and nieuwkomer do exist. Cases like these involve a certain degree of lexicalization, as is clear from the fact that in the case of gaan, the ER-noun has the irregular form -ganger.

(207) Compound nouns with an ER-noun derived from an unaccusative verb

<table>
<thead>
<tr>
<th>VERB</th>
<th>SIMPLE ER-NOUN</th>
<th>COMPOUND</th>
</tr>
</thead>
<tbody>
<tr>
<td>komen ‘to come’</td>
<td>*komer</td>
<td>laatkomer ‘latecomer’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>nieuwkomer ‘newcomer’</td>
</tr>
<tr>
<td>gaan ‘to go’</td>
<td>*gaander</td>
<td>vakantieganger ‘holidaymaker’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>telganger ‘ambler’</td>
</tr>
<tr>
<td>vallen ‘to fall’</td>
<td>*valler</td>
<td>uitvaller ‘drop-out’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>invaller ‘substitute’</td>
</tr>
</tbody>
</table>

In other cases, the derived noun exists as a lexicalized form, that is, with a specialized meaning. Thus the ER-noun beginner denotes an inexperienced person, not just any person who begins. Likewise, the words stijger ‘climber/riser’ and daler ‘faller/descender’ can be used in the context of a listing or a competition (as in sports, charts or financial indexes); quite predictably, their reference is in that case to the person or item that climbs or falls. Two more examples are given in (206): the noun blijvertje in (206a) denotes entities that are of a more durable nature, not just to entities that stay in a certain place, and the noun binnenkomer in (206b) refers to some funny introduction to a topic, not just to any entity that enters some place.
(208) a. De CD-speler is een blijvertje.
    the CD-player is a stay-er
    ‘The CD-player is here to stay’.

b. Die opmerking was een goede binnenkomen.
    that remark was a nice inside-come-er
    ‘That remark was a nice preamble/warming-up spiel.’

All in all, it looks as though ER-nouns derived from unaccusative verbs are either reinterpreted along the lines of a prototypical ER-noun, that is, as denoting an agent as in the case of sterwer ‘a person who repeatedly dies’, or attains a specialized meaning as in beginner ‘debutant/novice’. This means that, although in many cases highly marked, every ER-noun is in principle acceptable, provided that the right context is available. This is confirmed by the fact that many of the nouns in (205) and (206) can at least occasionally be found on the internet.

There is another group of verbs that cannot be input to the process of ER-nominalization, made up of monadic verbs such as those in (209). Although these verbs are generally regarded as intransitive, there are also reasons to regard them as unaccusative verbs; cf. Section V2.1.2. This view is supported by the fact that (on their monadic use) these verbs cannot easily undergo ER-nominalization.

(209) a. bloeden ‘to bleed’ a’. #bloeder
    b. drijven ‘to float’ b’. #drijver
    c. rotten ‘to rot’ c’. *rotter
    d. braden ‘to fry’ d’. *brader
    e. branden ‘to burn’ e’. #brander
    f. stinken ‘to smell’. f’. ?stinker

Of course, a noun like brander is possible, but this noun does not denote burning entities (like a candle), but a [+HUMAN] agent (“distiller”) or an instrument by which old paint can be removed; this noun is therefore clearly not derived from the monadic verb that we find in De kaars brandt ‘The candle is burning’, but from its transitive counterpart. The ER-nouns bloeder ‘bleeder/haemophiliac’ and drijver ‘float’ also exists, but these nouns have very specialized meanings and should hence be considered lexicalized. Another potentially problematic case is the somewhat marginal noun ?stinker ‘stinker’, which can be used to refer to a person who stinks; note that there is also a fully acceptable, but highly lexicalized, version of this noun, stinkerd ‘rascal’.

B. Inherently reflexive verbs

Example (210) shows that inherently reflexive verbs cannot undergo ER-nominalization; the reflexive pronoun zich can occur neither in prenominal nor in postnominal position. This is not really surprising, given that we have seen in Section 1.3.1.2.4 that the reflexive must be realized in prenominal position in INF-nominalizations; since ER-nominalizations take only post-nominal complements, the impossibility of ER-nominalization of inherently reflexive verbs is exactly what one would expect. Note that the ER-nominalizations in (210) are also unacceptable when the PP is dropped.
(210) a. *een schamer van zichzelf [cf. zich schamen ‘to be ashamed’]
   a be ashamed-er of REFL
b. *een vergisser van zichzelf [cf. zich vergissen ‘to be wrong’]
   a be-wrong-er of REFL

For completeness’ sake, (211) shows that with optionally reflexive verbs, ER-
nominalization is possible; in these examples zichzelf can be treated as a regular
argument comparable to Bach/het recht op zelfbeschikking.

(211) a. een bewonderaar van zichzelf/Bach
   an admirer of himself/Bach
b. een verdediger van zichzelf/het recht op zelfbeschikking
   a defender of himself/the right of self.determination

1.3.1.5.4. The degree of verbalness/nominalness

None of the various types of ER-nominalization yields fully prototypical nouns in
the sense that they all, to varying degrees, retain the verbal characteristic of taking
complements (which sometimes must be realized as the first member of a
compound). Compared to the other types of nominalization, however, they come
closest to full nouns since having an argument structure is their only verbal
property.

Table 16: The degree of verbalness/nominalness of ER-nominalizations

<table>
<thead>
<tr>
<th>VERBAL PROPERTIES</th>
<th>presence of arguments</th>
<th>yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>prenominal theme/recipient with objective case</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>prenominal recipient-PP</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>adverbial modification</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>NOMINAL PROPERTIES</td>
<td>adjectival modification</td>
<td>yes</td>
</tr>
<tr>
<td>theme with genitive case</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>theme/recipient realized as postnominal PP</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>definiteness</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>indefiniteness</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>quantification</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>pluralization</td>
<td>yes</td>
<td></td>
</tr>
</tbody>
</table>

1.3.1.6. Summary

This section has shown that the types of deverbal nouns mentioned in the header of
Table 17 differ with regard to the number of verbal features they retain and the
number of nominal characteristics they assume. What all these types have in
common is that, despite their verbal basis, they have the distribution of a nominal.
Apart from this, each type has assumed more or less nominal characteristics, which
makes it possible to order them according to the degree of verbalness (or
nominalness) they exhibit, with BARE-INF nominalizations the highest degree of
verbalness and ER-nouns exhibiting the highest degree of nominalness.

BARE-INF nominalizations clearly constitute the most verbal type, given that
they retain all the verbal characteristics included in the list while assuming none of
the nominal ones. In addition, their reference remains abstract in that it refers to the state of affairs denoted by the base verb. The ER-nominalizations are at the other end of the scale given that, apart from the fact that they have an argument structure, they are fully nominal in behavior, and are furthermore the only nominalizations that typically denote concrete entities. The other three types of nominalization come in between these two extremes. Interestingly, a higher degree of verbalness also seems to correspond to a higher degree of productivity. As we have seen in the preceding sections, INF-nominalizations can take virtually any type of verb as their input (with the exceptions of those verbs that do not allow any form of nominalization), whereas in particular ING- and ER-nominalizations are much more restricted in this respect.

This concludes our discussion of nominalization for the moment. We will return to the nominalizations in Section 2.2.3, where we will focus more specifically on their property of inheriting the argument structure of the input verb.

### Table 17: Verbal and nominal characteristics of deverbal nouns

<table>
<thead>
<tr>
<th>PRODUCTIVITY</th>
<th>BARE-INF</th>
<th>DET-INF</th>
<th>GE</th>
<th>ING</th>
<th>ER</th>
</tr>
</thead>
<tbody>
<tr>
<td>productivity</td>
<td>full</td>
<td>full</td>
<td>partial</td>
<td>partial</td>
<td>partial</td>
</tr>
<tr>
<td>reference</td>
<td>abstract</td>
<td>abstract</td>
<td>abstract</td>
<td>abstract</td>
<td>concrete</td>
</tr>
<tr>
<td>presence of arguments</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>prenominal theme/recipient with objective case</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>prenominal recipient-PP</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>adverbial modification</td>
<td>yes</td>
<td>yes</td>
<td>yes?</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>adjectival modification</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>theme with genitive case</td>
<td>no</td>
<td>no?</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>theme/recipient realized as postnominal PP</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>definiteness</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>indefiniteness</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>quantification/relativization</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>pluralization</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>yes/no</td>
<td>yes</td>
</tr>
</tbody>
</table>

### 1.3.2. Deadjectival nouns

This section discusses the formation of deadjectival nouns: 1.3.2.1 is concerned with the form and meaning of the derived noun, 1.3.2.2 continues by discussing the relation between the derived nouns and the input adjective, and 1.3.2.3 concludes with a discussion of the restrictions on the derivational process.

#### 1.3.2.1. Form and meaning of the derived noun

This section addresses the form and meaning of the deadjectival nouns, beginning with the former.
I. Form of the deadjectival noun

Not only verbs, but also adjectives can form the basis of derived nouns. This form of nominalization is usually achieved through suffixation, whereby some suffixes are (more or less) fully productive, while others are nonproductive. The most important of these suffixes are given in Table 18. As is shown in this table, a distinction must be made between derived nouns denoting [-HUMAN] entities and derived nouns with [+HUMAN] denotations. Since, generally speaking, only derived nouns of the former category can (or must) select for one or more complements, this section will only be concerned with derived adjectives of this type.

Table 18: Deadjectival nouns

<table>
<thead>
<tr>
<th>SUFFIX</th>
<th>ADJECTIVAL STEM</th>
<th>DERIVED FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>[-HUMAN]</td>
<td>+PRODUCTIVE</td>
<td>-igheid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>zwak ‘weak’, zwakheid ‘weakness’</td>
</tr>
<tr>
<td></td>
<td>-iteit</td>
<td>spontaan ‘spontaneous’, spontaneit ‘spontaneity’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>subtiel ‘subtle’, subtiliteit ‘subtlety’</td>
</tr>
<tr>
<td></td>
<td>-te/-de</td>
<td>hoog ‘high’, hoogte ‘height’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>schaars ‘scarce’, schaarste ‘scarcity’</td>
</tr>
<tr>
<td></td>
<td>-PRODUCTIVE</td>
<td>-dom</td>
</tr>
<tr>
<td></td>
<td></td>
<td>oud ‘old’, ouderdom ‘old age’</td>
</tr>
<tr>
<td></td>
<td>-nij</td>
<td>lekker ‘tasty’, lekkernij ‘delicacy’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>woest ‘savage’, woestenij ‘wilderness’</td>
</tr>
<tr>
<td></td>
<td>-nis</td>
<td>duister ‘dark’, duisternis ‘darkness’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>droef ‘sad’, droefenis ‘sadness’</td>
</tr>
<tr>
<td></td>
<td>-schap</td>
<td>blij ‘happy’, blijdschap ‘gladness’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>zwanger ‘pregnant’, zwangerschap ‘pregnancy’</td>
</tr>
<tr>
<td>[+HUMAN]</td>
<td>+PRODUCTIVE</td>
<td>-erd/aard</td>
</tr>
<tr>
<td></td>
<td></td>
<td>lui ‘lazy’, luis ‘lair’</td>
</tr>
<tr>
<td></td>
<td>-erik</td>
<td>bang ‘afraid’, bangerik ‘coward’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>vies ‘dirty’, viezerik ‘slob’</td>
</tr>
<tr>
<td></td>
<td>-PRODUCTIVE</td>
<td>-eling</td>
</tr>
</tbody>
</table>

The category of derived nouns ending in -igheid includes only nouns that do not have an adjectival counterpart ending in -ig. For example, the noun zoetigheid ‘sweet’ is probably derived from the adjective zoetig, which is itself derived from the adjective zoet ‘sweet’ by means of the productive –ig ending with the meaning “rather/more or less A”. In cases like zuinigheid ‘thrifty’ the noun is derived by means of the suffix -heid from the monomorphemic stem zuinig ‘thrifty’ (cf. *zuin). The category referred to here consists of nouns like flauwigheid ‘poor joke’, slimmigheid ‘trick/clever move’ and stommigheid ‘folly’ that can be assumed to be
derived directly from such adjectives as *slim, naar and stom, as these do not readily accept the –ig ending: *`slimmig, *`narig, *`stommig; cf. Haeseryn et al. (1997: 671) and De Haas & Trommelen (1993: 248/9; 302). Nouns ending in -igheid generally have a somewhat negative evaluative meaning, are largely lexicalized and are typical of spoken language.

In addition to the endings in Table 18, there are a number of less frequent and nonproductive endings. Examples are given in (212) for the endings –er/aar and -tje, respectively.

(212) Deadjectival nouns ending in -er/-aar and -tje

<table>
<thead>
<tr>
<th>SUFFIX</th>
<th>ADJECTIVAL STEM</th>
<th>DERIVED NOUN</th>
</tr>
</thead>
<tbody>
<tr>
<td>-er/-aar</td>
<td>eigen ‘own’</td>
<td>eigenaar ‘owner’</td>
</tr>
<tr>
<td></td>
<td>vrijwillig ‘voluntary’</td>
<td>vrijwilliger ‘volunteer’</td>
</tr>
<tr>
<td>-tje</td>
<td>blauw ‘blue’</td>
<td>een blauwtje lopen ‘to be turned down’</td>
</tr>
<tr>
<td></td>
<td>geel ‘yellow’</td>
<td>geeltje ‘25-guilder bill’</td>
</tr>
<tr>
<td></td>
<td>groen ‘green’</td>
<td>groentje ‘novice’</td>
</tr>
<tr>
<td></td>
<td>groot ‘big’</td>
<td>grootje ‘granny’</td>
</tr>
<tr>
<td></td>
<td>klein ‘small/little’</td>
<td>kleintje ‘child’</td>
</tr>
</tbody>
</table>

The examples in (213) illustrate the more or less productive process according to which the inflected form of an attributive adjective, preceded by the definite or indefinite article, can be used as a full noun phrase. This process, which is sometimes referred to as nominalization (e.g., Haeseryn et al. 1997), can derive both [-HUMAN] and [+HUMAN] nouns: in the former case the noun is preceded by the definite neuter article *het ‘the’, as illustrated in the (a)-examples; in the latter case the noun is preceded by the definite non-neuter article *de ‘the’, as shown in (213b).

(213) a. *het aardige/bijzondere/mooie (van het geval)
  the nice/special/beautiful/difficult of the case
  ‘the nice/the special/the good/the difficult thing (about the case)’
  a’. *het kwade/het goede
  the evil/the good
  ‘evil/good’
  b. de/een dakloze/blinde/zieke/geleerde
  the/a homeless/blind/ill/learned
  ‘the/a homeless/blind/ill/learned person’

It is, however, not uncontroversial that we are dealing with nominalizations in (213). An alternative analysis, which will be adopted here, is one according to which these constructions contain a phonetically empty nominal head; cf. Kester (1996). This means that we are dealing with an attributively used adjective followed by an empty noun, and for this reason these constructions are discussed in Section A5.4.

II. Meaning of the [-HUMAN] deadjectival noun

Deadjectival [-HUMAN] nouns are productively derived by means of the suffixes -heid, -iteit, and -tel/de. Haeseryn et al. (1997: 671) paraphrases the meaning of nouns ending in -heid as: *het + adjective + zijn ‘being + adjective’. A noun phrase
like *Maries nauwkeurigheid* in (214) is therefore supposed to refer to the state of Marie being accurate, and the sentence as a whole expresses that the act of saving Jan is predicated of this state. Since the function and meaning of the ending -teit is similar to that of -heid (the difference between the two being that -iteit attaches to loanwords), the derived noun *spontaniteit* ‘spontaneity’ would denote the state of being spontaneous. Haeseryn et al. (1997: 680), finally, claims that nouns formed by means of the ending -tel/-de have a meaning comparable to those ending in -heid and –iteit; with a word like *schaarste* ‘scarcity’ denoting the state of being scarce.

(214) Maries nauwkeurigheid heeft Jan gered.

Marie’s accuracy has Jan saved

A more detailed examination of the data proves such paraphrases to be unsatisfactory. Since adjectives do not denote states but properties, which are typically assigned to some entity, we may expect that deadjectival nouns denote properties as well, albeit that now the intention is to predicate something about them. Under this view, the noun phrase *Maries nauwkeurigheid* in (214) does not refer to a state of Marie being accurate, but to the property denoted by *nauwkeurig* ‘accurate’, which is said to be true of Marie; cf. Chomsky (1970: 213) and Keizer (1992b). Accordingly, example (214) does not express that it is the state of Marie being accurate that has saved Jan, but the fact that the property of being accurate applies to Marie. Similarly, in (215) it is not claimed that Jan’s being lazy has no limits, but rather that the property laziness, as assigned to Jan, has no limits.

(215) Jans luiheid kent geen grenzen.

Jan’s laziness has no limits

In (214) and (215) the difference between the two approaches may seem to be subtle, but it becomes clearer when we look at adjectives denoting physical properties. Obviously, a derived noun like *hoogte* ‘height’ in (216) does not denote the state of being high; as a matter of fact, the tower may not be high at all, which is due to the fact that the noun *hoogte* is derived from the neutral form of the measure adjective *hoog* ‘high’; cf. Section A3.1.4. Instead, *hoogte* denotes a (measurable) property of a concrete entity. In other words, (216) does not claim that the fact that the tower has a certain height is impressive; it is rather the actual height of the tower that is impressive.

(216) De hoogte van de toren is indrukwekkend.

the height of the tower is impressive

In sum, we can conclude that whereas deverbal nouns denote states of affairs (including states), deadjectival nouns denote properties.

Some deadjectival nouns are ambiguous between an abstract and a concrete reading. Examples are given in (217), with the primeless examples illustrating the abstract and the primed examples illustrating the concrete reading. The concrete nouns have entirely lexicalized.
(217) a. Zijn slordigheid is erg irritant.
   his slovenliness is very annoying
   a’. Zijn tekst zat nog vol slordigheden.
   his text sat still full inaccuracies
   ‘His text was still full of careless mistakes.’
b. De zoetigheid van dat spul is opmerkelijk.
   the sweetness of that stuff is remarkable
b’. Jan is dol op zoetigheid.
   Jan is fond of sweets

c. ??Wat opvalt aan Jan is zijn aardigheid.
   what strikes to Jan is his nice-ness
   ‘What strikes one about Jan is his kindness/humor.’
c’. Jan bracht een aardigheidje voor me mee.
   Jan brought a nice-nessdim for me prt.
   ‘Jan brought me a small present.’

In some cases, the ambiguity is not between an abstract and a concrete interpretation, but between two abstract ones. Thus, deadjectival nouns like zekerheid ‘certain-ness’ can be used either to refer to the property zeker ‘certain’, as in Peters zekerheid is nogal irritant ‘Peter’s certainty/confidence is rather irritating’ or to abstract entities that have the property certain, as in Er zijn weinig zekerheden in het leven ‘Life doesn’t have many certainties’, where the noun in question has become lexicalized.

Finally, there are deadjectival nouns that only allow a lexicalized reading. The noun liefde ‘love’, as used in Jans liefde (voor de taalkunde) ‘Jan’s love (of linguistics)’ does not refer to the property lief ‘sweet’ as assigned to Jan, but to the love Jan feels for someone/something else; as such, its argument structure differs from that of the adjective lief. Likewise, a noun like verworvenheid ‘achievement’ can only be used to refer to the things achieved, not to a property of these things. It will be clear that in those cases where the derived noun is lexicalized, it no longer shares the argument structure with the original adjective but has become avalent (like a basic noun) or may even have its own argument (like a relational noun).

1.3.2.2. Relation to the base adjective

As with deverbal nouns, deadjectival nouns can be said to inherit the argument structure of the base adjective. That adjectives have an argument structure follows directly from the fact that they have a predicative function: both in their attributive and in their predicative use, adjectives assign a property to the referent of a noun phrase. An adjective like hoog assigns the property of “being high” to the referent of the argument it is predicated of or attributed to, as (de) toren ‘the tower’ in de toren is hoog ‘the tower is high’ or de hoge toren ‘the high tower’. We will assume that this argument is assigned the semantic role “Ref”. As indicated in (218), a deadjectival noun like hoogte ‘height’ inherits this semantic role from the input adjective, which means that the denotation of the resulting noun is dependent on the presence of some other noun. Once again, we find here the ambivalence typical of nominalized elements: although the derived noun hoogte ‘height’ has a referring
function, its denotation (a property) still requires that the semantic role Ref be assigned to some other entity like de toren ‘the tower’ in (218b).

(218) • Nouns derived from a monadic adjective
   a. hoogteN (Ref)
   b. de hoogte van de toren
      the height of the tower

Observe that the argument of the deadjectival noun typically appears as a PP headed by the functional preposition van. Alternatively, the argument may appear prenominally as a genitive noun phrase or a possessive pronoun, as in Jans/zijn verlegenheid ‘Jan’s/his shyness’; see Section 2.2.4 for a more detailed discussion of the form and position of the complements).

Most adjectives, and consequently most deadjectival nouns, have only a single argument slot, which is filled by the entity to which the property denoted by the adjective is assigned. In some cases, however, adjectives have a second argument. Structurally, such adjectives bear a close resemblance to transitive verbs (from which they are sometimes derived): they have both a complement, and an argument they are predicated of. An example of such a (deverbal) adjective is ingenomen ‘pleased’ in (219), which takes a met-PP as its complement: Jan is ingenomen met het resultaat ‘Jan is pleased with the result’. Example (219b) shows that the complement of the adjective is inherited by the deadjectival noun ingenomenheid ‘satisfaction’. For the sake of convenience, and by analogy with the verbal domain, we will use the label theme to identify the role of the complement.

(219) • Nouns derived from a dyadic adjective
   a. INGENOMENHEIDN (Ref, Theme)
   b. Jans ingenomenheid met het resultaat
      Jan’s satisfaction with the result

Other examples that show that the preposition selected by the base adjective is also the one selected by the derived noun are given in (220).

(220) a. nieuwsgierig naar ... ‘curious about ...’
   a’. nieuwsgierigheid naar ... ‘curiosity about’
   b. bereid tot ...
      ‘willing to ...
   b’. bereidheid tot ...
      ‘willingness to ...
   c. blind voor ...
      ‘blind to ...
   c’. blindheid voor ...
      ‘blindness to ...

There is a small set of adjectives that, apart from the (obligatory) external argument, take two complements. An example of such a triadic adjective is boos, which may (optionally) take an op-PP and an over-PP as its complements: Jan is boos op Peter over die opmerking ‘Jan is angry with Peter about that remark’. As might be expected, all three arguments are inherited by the derived noun boosheid ‘anger’, with the complements appearing in the same form. For concreteness, we assume that the over-PP is given the thematic role of source.
Characterization and classification

1. Nouns derived from a triadic adjective
   a. **BOOSHEIDN** (Ref, Theme, Source)
   b. Jans boosheid op Peter over die opmerking
      Jans anger with Peter about that remark

1.3.2.3. Restrictions on the derivational process
As can be seen in Table 18 above, the only productive endings in the
nominalization process are -(ig)heid, -iteit and -te. This does not mean, however,
that by means of these endings all adjectives can be converted into nouns:
nominalization is restricted in several ways.

I. The affix is not entirely predictable
It is not always predictable which of the endings will be used, and in those cases
where two endings can be used, it seems impossible to account for the difference in
affixation in a systematic way. Thus, as regards their meaning, deadjectival nouns
ending in -tel/-de are comparable to those ending in -heid: what is denoted by the
derived nouns is the property denoted by their adjectival base. Yet, this does not
account for the fact that sometimes both forms are possible, as in the cases in (222).
In some cases, one of the two forms has at least one lexicalized meaning; examples
are gekte ‘craze/hype’, grootheid ‘variable/celebrity’. Often, however, the two
forms can be regarded as near-synonyms, despite the fact that they may be used in
different contexts.

(222) a. zwak ‘weak’ a’. zwakheid/zwakte ‘weakness’
   b. gek ‘crazy/funny’ b’. gekheid/jest’/gekte ‘craze/hype’
   c. groot ‘big’ c’. grootheid/variable’/grootte ‘size’
   d. vol ‘full’ d’. volheid/volte ‘fullness’
   e. koel ‘cool’ e’. koelheid/coolness’/koelte ‘coolness’
   f. leeg ‘empty’ f’. leegheid/leegte ‘emptiness’

Similarly, the choice between the endings -heid and -iteit is not always self-evident.
Whereas usually -iteit is restricted to non-Germanic adjectives (naïviteit ‘naivety’,
Germanic adjectives may, occasionally, also take this ending, as shown
by the existence of the deadjectival nouns stommiteit ‘stupidity/folly’ and
flauwiteit ‘silly remark’, which are derived from Dutch base adjectives.

II. The input adjective must be set-denoting
Only the set-denoting adjectives can readily be used as input for nominalization;
relational, evaluative and modal adjectives are more difficult to nominalized; see
Table 19. That nouns like Italiaansheid are at least marginally possible (as is clear
from the fact that they occasionally occur on the internet) is due to the fact that
relational adjectives like Italiaans ‘Italian’ may shift in the direction of the set-
denoting adjectives. as is clear from the fact that they can occur as predicates in
copular constructions when preceded by the modifier typisch ‘typically’: **Dit gedrag
is typisch Italiaans** ‘This behavior is typically Italian’. Another clear example is
regelmatig, which in some cases can be readily used as the predicate of a copular construction; see Section A1.3.3 for more discussion.

(223) a. Zijn ademhaling is regelmatig.
   his breathing is regular

   b. de regelmatigheid van zijn ademhaling
   the regularity of his breathing

---

Table 19: Input restrictions on deadjectival nominalization

<table>
<thead>
<tr>
<th>Input Adjective</th>
<th>Translation</th>
<th>Derived Noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>vriendelijk</td>
<td>kind</td>
<td>vriendelijkheid</td>
</tr>
<tr>
<td>zwak</td>
<td>weak</td>
<td>zwakheid/zwakte</td>
</tr>
<tr>
<td>breed</td>
<td>wide</td>
<td>breedte</td>
</tr>
<tr>
<td>Italiaans</td>
<td>Italian</td>
<td>??Italiaansheid</td>
</tr>
<tr>
<td>freudiaans</td>
<td>Freudian</td>
<td>??freudiaansheid</td>
</tr>
<tr>
<td>dagelijks</td>
<td>daily</td>
<td>??dagelijksheid</td>
</tr>
<tr>
<td>dadelijk</td>
<td>immediate</td>
<td>*dadelijkheid</td>
</tr>
<tr>
<td>voormalig</td>
<td>former</td>
<td>*voormaligheid</td>
</tr>
<tr>
<td>houten</td>
<td>wooden</td>
<td>*houtenheid</td>
</tr>
<tr>
<td>adellijk</td>
<td>noble</td>
<td>??adellijkheid (but: adeldom)</td>
</tr>
<tr>
<td>cultureel</td>
<td>cultural</td>
<td>*cultureelheid</td>
</tr>
<tr>
<td>deksels</td>
<td>confounded</td>
<td>*dekselsheid</td>
</tr>
<tr>
<td>drommels</td>
<td>cursed</td>
<td>*drommelheid</td>
</tr>
<tr>
<td>verrekt</td>
<td>damn’d</td>
<td>*verrektheid</td>
</tr>
<tr>
<td>vermeend</td>
<td>alleged</td>
<td>*vermeendheid</td>
</tr>
<tr>
<td>eventueel</td>
<td>possible</td>
<td>*eventueliteit/’eventualiteit</td>
</tr>
<tr>
<td>duidelijk</td>
<td>obvious</td>
<td>#duidelijkheid</td>
</tr>
</tbody>
</table>

---

III. The input adjective may not take a nominal complement

The examples in (224) and (225) show that adjectives with genitive and dative complements cannot be readily nominalized.

(224) a. Nouns derived from adjectives taking a genitive NP-complement
   a’. *de zich bewustheid van iets
to be aware of something

   b. *de gewendheid van iets
to be used to something

   c’. *de gewoonheid van iets
to be used to something

   d. *de indachtigheid van iets
to be mindful of something

   e’. *de moeheid/zatheid/beuheid van iets
to be tired of/fed up with something

   f’. *de machtigheid van iets
to have command of something
(225)  • Nouns derived from adjectives taking a dative NP-complement
a. iemand aangeboren zijn to be innate to someone  a’. *de aangeborenheid aan iemand
b. iemand bespaard zijn to be spared to someone  b’. *de bespaardheid aan iemand
c. iemand duidelijk zijn to be clear to someone  c’. *de duidelijkheid aan iemand
d. iemand goedgezind zijn to be well disposed to someone  d’. *de goedgezindheid aan iemand
e. iemand bekend zijn to be known to someone  e’. *de bekendheid aan iemand
f. iemand trouw zijn to be dedicated to someone  f’. *de trouwheid aan iemand
g. iemand vreemd zijn to be unknown to someone  g’. *de vreemdheid aan iemand
h. iemand vertrouwd zijn to be familiar to someone  h’. *de vertrouwdheid aan iemand

For some of these adjectives in (224) and (225), it is actually rather surprising that they cannot be the input for nominalization, given that they may also occur with a PP-complement instead of an NP-complement. This is illustrated for some of the above examples in (226).

(226)  a. zich bewust zijn van iets to be aware of something  a’. *de zich bewustheid van iets
b. moe/zat/beu zijn van iets to be tired of/fed up with something  b’. *de moeheid/zatheid/beuheid van iets
c. trouw zijn aan iemand to be dedicated to someone  c’. *de trouwheid aan iemand

In some cases the derived noun is acceptable when used without the NP-complement. This is especially the case with deadjectival nouns derived from adjectives that optionally take a dative complement.

(227)  a. De gevolgen zijn (haar) bekend/duidelijk.
the consequences are her known/clear
‘She is familiar with the consequences.’
a’. de bekendheid/duidelijkheid van de gevolgen (*aan haar)
the known-ness/clearness of the consequences to her
b. Peter is (zijn werk) toegewijd.
Peter is his work devoted
‘Peter is devoted to his work.’
b’. Peters toegewijdheid (*aan zijn werk)
Peter’s devotedness to his work
c. Deze omgeving is (Jan) vertrouwd.
this environment is Jan familiar
‘Jan knows these surroundings.’
c’. de vertrouwdheid van deze omgeving (*aan Jan)
the familiarity of this environment to Jan
For more details concerning the (im)possibilities of complementation of deadjectival nouns, see Section 2.2.4.

IV. Isolated cases

There are quite a large number of set-denoting adjectives that accept none of the endings -igheid, -iteit and -te, without there being a common feature accounting for this fact. Some examples are given in (228). The impossibility of examples like (228d') or (228e') could perhaps be accounted for by appealing to blocking since the lexicon already contains a synonym (respectively leeftijd/ouderdom ‘age/old age’ and jeugd/jeugdigheid ‘youth/youthfulness’), but in other cases no explanation seems to be available.

(228)  a.  dood ‘dead’                          a’. *doodheid/*doodte  
   b.  levend ‘alive’                      b’. *levendheid/*levendte  
   c.  gewond ‘wounded’                   c’. *gewondheid/*gewondte  
   d.  oud ‘old’                          d’. #oudheid/*oudte  
   e.  jong ‘young’                       e’. *jongheid/*jongte  
   f.  kapot ‘broken’                     f’. *kapotheid  
   g.  jarig ‘celebrating/one’s birthday’ g’. *jarigheid

1.3.2.4. Conclusion

Like deverbal nouns, deadjectival nouns largely exhibit the syntactic behavior of typical nouns. Thus, they have lost most of the characteristics of adjectives. For example, they can no longer be inflected; it is always the uninflected form that is input to the nominalization process and the derived noun as a whole cannot take an adjectival ending. Similarly, modification by means of °intensifiers is no longer possible, and it is no longer possible to express degrees of comparison. Illustrations of these facts can be found in (229).

(229)  a.  zwak(*ke)heid; zwakheid(*e)       weakness  
   b.  *erg zwakheid; *nogal zwakheid     very weakness; rather weakness  
   c.  *zwakkerheid; *zwakstheid         weakerness; weakestness

On the other hand, the examples in (230) show that these derived nouns possess all the typical features of nouns: they can be definite or indefinite; they allow adjectival modification, post-modification by a van-PP and premodification by a genitive noun phrase or possessive pronoun; they can be quantified, questioned and relativized; finally, on a concrete or lexicalized reading, pluralization is possible.

(230)  a.  een/de grote zwakheid (van de mens)  
    a/the big weakness of the human  
    ‘a/the big weakness (of man)’  
   b.  zijn/Jans/elke/welke zwakheid  
    his/Jan’s/each/which weakness
When we translate this in terms of the categorical status of the different types of deadjectival nouns, we may say that, apart from the inheritance of the arguments of the base adjective (including number, thematic role and optionality of these arguments), deadjectival nouns simply seem to behave as full nouns. Table 20 gives an overview of the relevant features.

Table 20 Adjectival and nominal characteristics of deadjectival nouns

<table>
<thead>
<tr>
<th>ADJECTIVAL PROPERTIES</th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>presence of arguments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>modification by intensifiers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>inflection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>degrees of comparison expressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>subject realized as noun phrase</td>
<td></td>
<td></td>
</tr>
<tr>
<td>genitive/dative NP-complements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pre-head position of PP-complements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOMINAL PROPERTIES</th>
<th>yes</th>
<th>yes/no</th>
</tr>
</thead>
<tbody>
<tr>
<td>adjectival modification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>subject realized as genitive noun phrase or van-PP</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>postnominal position of PP-complements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>definiteness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>indefiniteness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>quantification/relativization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pluralization</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.3.3. Denominal nouns

Suffixation of nouns to form new nouns can be achieved by means of a number of endings, both Germanic and non-Germanic. We start with a description of diminutive formation, which is followed by the discussion of several suffixes by means of which person nouns can be derived.

I. Diminutive form

The diminutive suffix -je and its allomorphs is probably the most productive nominal affix (apart from the plural affixes discussed in 1.1.1). The precise phonetic realization of the diminutive suffix depends on phonological properties of the stem.

(231) a. The suffix -etje is used after the nasal consonants /n/, /m/ or /ŋ/ or the liquids /l/ or /r/, when they are immediately preceded by a short vowel carrying stress.

b. The suffix -tje is used with words ending in /n/ or a liquid, provided that they are not preceded by a short stressed vowel; it also attaches to words ending in a long vowel, a diphthong or a schwa.

c. The suffix -pje is only found after words ending in /m/, again provided that the latter are not immediately preceded by a stressed short vowel.
d. The suffix -kje is found after the unstressed suffix-like ending -ing, which is pronounced as /ɪŋ/ (koning/kóninkje ‘little king’). Exceptions are cases in which the syllable preceding -ing is unstressed (cf. wándelingetje ‘little walk’) and person nouns derived by the affix -ling (léerlingetje ‘little pupil’); these always get the ending -etje.
e. In the remaining cases, the suffix -je is used.

Examples are given in Table 21; for further details on the formation of diminutives, we refer the reader to De Haas & Trommelen (1993) and Haeseryn et al. (1997).

**Table 21: Diminutive forms**

<table>
<thead>
<tr>
<th>SUFFIX</th>
<th>NOMINAL STEM</th>
<th>DERIVED FORM</th>
<th>TRANSLATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>-etje</td>
<td>kam</td>
<td>kammetje</td>
<td>little comb</td>
</tr>
<tr>
<td></td>
<td>pen</td>
<td>pennetje</td>
<td>little pen</td>
</tr>
<tr>
<td></td>
<td>bel</td>
<td>belletje</td>
<td>little bell</td>
</tr>
<tr>
<td></td>
<td>kar</td>
<td>karretje</td>
<td>little cart</td>
</tr>
<tr>
<td></td>
<td>slang</td>
<td>slangetje</td>
<td>little snake</td>
</tr>
<tr>
<td>-tje</td>
<td>tuin</td>
<td>tuintje</td>
<td>little garden</td>
</tr>
<tr>
<td></td>
<td>zaal</td>
<td>zaaltje</td>
<td>little hall</td>
</tr>
<tr>
<td></td>
<td>deur</td>
<td>deurtje</td>
<td>little door</td>
</tr>
<tr>
<td></td>
<td>la</td>
<td>laatje</td>
<td>little drawer</td>
</tr>
<tr>
<td></td>
<td>kooi</td>
<td>kooitje</td>
<td>little cage</td>
</tr>
<tr>
<td></td>
<td>tante</td>
<td>tantetje</td>
<td>little aunt</td>
</tr>
<tr>
<td>-pje</td>
<td>dakraam</td>
<td>dakraampje</td>
<td>little skylight</td>
</tr>
<tr>
<td></td>
<td>geheim</td>
<td>geheimpje</td>
<td>little secret</td>
</tr>
<tr>
<td></td>
<td>storm</td>
<td>stormpje</td>
<td>little storm</td>
</tr>
<tr>
<td>-kje</td>
<td>haring</td>
<td>harinkje</td>
<td>little herring</td>
</tr>
<tr>
<td></td>
<td>koning</td>
<td>koninkje</td>
<td>little king</td>
</tr>
<tr>
<td>-je</td>
<td>dak</td>
<td>dakje</td>
<td>little roof</td>
</tr>
<tr>
<td></td>
<td>aap</td>
<td>aapje</td>
<td>little monkey</td>
</tr>
</tbody>
</table>

**II. Person nouns**

Some of the person suffixes discussed in Section 1.3.1.5 can also take a nominal base: the suffix –er, for example, can be added to a (typically non-human) noun to form another noun denoting a person; cf., e.g., Van Santen (1992). We will call these derived nouns “neutral” person nouns, as opposed to the feminine person nouns that will be discussed shortly. Both the type of input noun and the semantic relation between the input noun and the derived noun vary.

The input noun of the “neutral” person names can be abstract like wetenschap ‘science’, concrete like kluis ‘hermitage’ or molen ‘mill’, and it can even be an abbreviation like PvdA (political party) or AOW (pension law). The referents of these derived nouns are all in some relation with the denotation of the base noun. The noun wetenschapper denotes the set of persons practicing science, kluizenaar ‘hermit’ denotes the set of persons living in a secluded environment, and an AOW-er is someone who is getting a pension on the basis of the old age pension law.
A more systematic set is constituted by the geographical person names derived from geographical place names. Here we give examples derived by means of the suffixes -aan and -ees; see Section A1.3.3.2 for a complete overview of the affixes deriving geographical person nouns. Another systematic group is the group of feminine person nouns derived from “neutral” person nouns by means of the suffixes –in, –e, and -es (among others).

Table 22: Denominal person nouns

<table>
<thead>
<tr>
<th>PERSON NOUN</th>
<th>NOMINAL STEM</th>
<th>DERIVED FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>“NEUTRAL”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-er/aar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wetenschap</td>
<td>‘science’</td>
<td>wetenschapper ‘scientist’</td>
</tr>
<tr>
<td>kluis ‘hermitage’</td>
<td></td>
<td>kluizenaar ‘hermit’</td>
</tr>
<tr>
<td>molen ‘mill’</td>
<td></td>
<td>molenaar ‘miller’</td>
</tr>
<tr>
<td>Pvda ‘labor party’</td>
<td></td>
<td>Pvda-er ‘labor party politician’</td>
</tr>
<tr>
<td>AOW ‘old age pension’</td>
<td></td>
<td>AOW-er ‘old age pensioner’</td>
</tr>
<tr>
<td>GEOGRAPHICAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-er/aan/ees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amsterdam</td>
<td>‘Dutchman’</td>
<td>Amsterdammer</td>
</tr>
<tr>
<td>Holland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amerika ‘America’</td>
<td></td>
<td>Amerikaan ‘American’</td>
</tr>
<tr>
<td>Afrika ‘Africa’</td>
<td></td>
<td>Afrikaan ‘African’</td>
</tr>
<tr>
<td>Vietnam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEMININE -in/es/e</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vriend ‘friend’</td>
<td></td>
<td>vriendin ‘girl-friend’</td>
</tr>
<tr>
<td>keizer ‘emperor’</td>
<td></td>
<td>keizerin ‘empress’</td>
</tr>
<tr>
<td>voogd ‘guardian’</td>
<td></td>
<td>voogdes ‘(woman) guardian’</td>
</tr>
<tr>
<td>baron ‘baron’</td>
<td></td>
<td>barones ‘baroness’</td>
</tr>
<tr>
<td>agent ‘policeman’</td>
<td></td>
<td>agente ‘policewoman’</td>
</tr>
<tr>
<td>student ‘student’</td>
<td></td>
<td>studente ‘female student’</td>
</tr>
</tbody>
</table>

III. Other cases

In addition to the more productive affixes discussed above, there are a number of nonproductive endings, each effecting a specific semantic change. The most frequent of these endings are listed below.

A. -dom

Derived nouns ending in –dom denote a group of entities each of which belongs to the denotation of the input noun, as in example (232a&b), or to an area (historically) reigned by or governed by the entity denoted by the input noun, as in example (232c&d).

(232) a. mens ‘human being’
       a’. mensdom ‘human race’

b. priester ‘priest’
   b’. priesterdom ‘priesthood’

c. prins ‘prince’
   c’. prinsdom ‘principality’

d. bisschop ‘bishop’
   d’. bisdom ‘bishopric’
B. -schap

A noun followed by the ending –schap can refer either to a certain capacity, function or rank, as in the examples in (233a-c), or to a branch of industry, as in (233d-g).

(233) a. moederschap ‘motherhood’
   b. vijandschap ‘enmity’
   c. leiderschap ‘leadership’
   d. agentenschap ‘branch office’
   e. genootschap ‘society’
   f. landbouwschap ‘agricultural board’
   g. waterschap ‘district water board’

C. ge-N-te

This compound affix typically changes an individual noun, denoting a particular entity, into a mass noun, denoting a group of such entities.

(234) a. berg ‘mountain’
   b. boef ‘villain’
   c. been ‘bone’
   d. steen ‘stone’
   e. vogel ‘bird’

1.3.4. Other cases

This section briefly mentions two other types of derived noun, formed by nonproductive suffixation processes. As shown by example (235), some prepositions can be turned into nouns by adding the diminutive ending –je (or one of its allomorphs). All the resulting nouns are fully lexicalized.

(235) a. om ‘around’
   b. uit ‘out (of)’
   c. toe ‘after’
   d. tussendoor ‘in between’
   e. vooraf ‘beforehand’

Fairly frequent is the use of a numeral as the basis of noun formation. In most cases a suffix is used, as in (236a), though bare numerals may also have a nominal use, as shown in (236b).

(236) a. tweeling ‘twin’, tiental ‘ten/dozen’, tientje ‘tenner’
   b. een zes(je) ‘a (meager) six’, een twee ‘a two’, etc.

1.4. Compounding

New nouns can also be formed by compounding, that is, on the basis of an existing noun that combines with another free morpheme. The rightmost element of a compound determines the syntactic category of the whole, a generalization known as the °right-hand head rule. This means that in nominal compounds the second element is always a noun. The first element, on the other hand, may be a noun, a
Characterization and classification 111

verb, an adjective, a preposition or a numeral. Examples are given in (237). Note that in the examples in (237c′), the first element is an adverbially used adjective. Thus a zwartwerker ‘moonlighter’ is not a worker who is black, but who works in a particular way.

(237)  a.  N + N: schoenmaker ‘shoemaker’, kabeltelevisie ‘cable TV’
    b.  V + N: ophaalbrug ‘drawbridge’, drinkwater ‘drinking-water’
    c.  A + N: sneltram ‘express tram’, grootvader ‘grandfather’
    c′.  A(dv) + N: zwartwerker ‘moonlighter’, buitenspeler ‘outside player’
    d.  P + N: achtertuin ‘back garden’, aandeel ‘share’
    e.  Num + N: driewieler ‘tricycle’, tweemaster ‘two-master’

There are three types of nominal compounds. By far the majority of compound nouns is endocentric, that is, with the second element functioning as the semantic head. In this type of compounding, the compound denotes a subset of the set denoted by the second noun (AB ⊂ B): huisdeur ‘front door’, for example, denotes a (particular type of) door. Only a few compound nouns are exocentric. In such cases, the compound does not denote a subset of the denotation of the second noun, and the compound cannot be paraphrased as a particular type of the entity denoted by the second (or first) element. The compound wijsneus, for instance, does not denote a particular kind of nose, but a particular kind of person (know-it-all). Another small subset of is that of the copulative compounds, in which both members are nominal. The denotation of compounds belonging to this category is determined by the denotation of both members (AB = A ∩ B): a kind-ster ‘child-star’ is both a child and a star.

(238)  • Types of compounds
    a.  Endocentric: denotation is a subset of the denotation of the second member
    b.  Exocentric: denotation is not determined by the other members
       (AB ≠ B or A): wijsneus smart ass’; spleetog ‘slant-eye’, halfbloed ‘half-blood’, draaikont ‘restless person’.
    c.  Copulative: denotation is determined by the denotation of both members

In some cases there may be doubt as to whether we are dealing with an endocentric or an exocentric compound. Cases at hand may be formations like neppistool ‘fake gun’ or speelgoedpistool ‘toy gun’. It is clear that in these cases we are not dealing with entities that are prototypical members of the set denoted by the noun pistool, but on the other hand it is not evident that these entities do not belong to this set, given that examples like Dit pistool is niet echt ‘This gun is not real/a fake’ (Friesch Dagblad, December 18. 2005) sound perfectly acceptable. Apparently the writer of this sentence does consider fake guns as a subset of the set denoted by pistool ‘gun’. From this we conclude that language users simply treat the formations under discussion as endocentric compounds.
Although there may be certain tendencies, the semantic (syntactic) relation between the two elements of an endocentric compound noun is largely unpredictable. This unpredictability is illustrated nicely by the pair beendermeel ‘bone-meal’, kindermeel ‘children’s meal’; the first denotes meal made of bones, whereas the second normally denotes flour used to make porridge for children. As can be seen from the list below, virtually any imaginable semantic relation can be found in Dutch compounds.

(239) a. agent/subject (N + N): kleuterpraat ‘child’s talk’, waterval ‘waterfall’
    b. agent/subject (V + N): vergrootglas ‘magnifying glass’, afvoerpijp ‘drainpipe’
    c. theme/object (N + N): schoenmaker ‘shoemaker’, bankoverval ‘bank robbery’
    d. theme/object (V + N): drinkyoghurt ‘yogurt drink’, ophaalbrug ‘drawbridge’
    e. predicative (A + N): sneltram ‘express tram’, frisdrank ‘soft drink’
    f. goal/purpose: bloembak ‘flower box’, zoeklicht ‘searchlight’
    g. cause: gasontploffing ‘gas explosion’, speelschuld ‘gambling debt’
    h. location: tuinfeest ‘garden party’, havenarbeider ‘dock worker’
    i. time: ochtendkrant ‘morning paper’, jaaromzet ‘annual turnover’
    j. instrument: bijlslag ‘blow with an axe’, treinvervoer ‘rail transport’
    k. comparison: poedersneeuw ‘powder snow’, torenflat ‘skyscraper’
    l. whole-part: boomtak ‘(tree) branch’, bezemsteel ‘broomstick’
    m. part-whole: appelboom ‘apple tree’, kwarktaart ‘cheesecake’
    n. manner: sneltekenaar ‘fast drawer ≈ cartoonist’, zwartwerker ‘black worker ≈ moonlighter’
    o. result: drooglegging ‘dry laying ≈ reclamation’, openbaarmaking ‘public making ≈ publication’
    p. metaphorical: lammetjespap ‘porridge (mainly used for infants and toddlers)’

Many compounds are lexicalized in the sense that the meaning of the compound cannot be fully inferred from the meaning of its composite parts. Not only exocentric compounds, for which this is to be expected, but also endocentric and copulative compounds may be lexicalized. Examples are given in (240).

    c. Lexicalized copulative nominal compounds: sergeant-majoor ‘first sergeant’

Many but not all N + N compounds involve a linking element in between the two members. In many cases, the form of the linking element depends on the first member of the compound and closely resembles the plural ending of this member: -e(n)-, -s- or -er-. Some examples of compound nouns with such a linking element are given in (241). Note that the presence of linking element does not imply some notion of plurality: cf. hondenkop ‘head of a dog’. The choice between the linking
elements -en- and -e- is subjected to complicated, recently revised and hotly debated orthographic rules (See *Woordenlijst der Nederlandse Taal*, edition 1995, §5.1.1/2). Since the pronunciation of the two linking elements is identical, these rules are a political rather than a linguistic issue, and will therefore not be discussed here; see Booij (1996) for useful discussion and historical background.

(241) a. boek-en-kast ‘bookcase’, erwt-en-soep ‘pea soup’
    b. zonn-e-stelsel ‘solar system’, Koninginn-e-dag ‘Queen’s birthday’
    c. varken-s-hok ‘pigsty’, leven-s-werk ‘life work’
    d. kind-er-boek ‘children’s book’; ei-er-schaal ‘egg shell’

De Haas & Trommelen (1993) claim that next to the linking element -er-, there is a linking element -eren-. Some examples that can be found in the Van Dale dictionary are given in (242). It is not entirely clear whether we can conclude on the basis of these examples whether there is indeed a linking element -eren-. First, the first member goederen in compounds like (242a) can be seen as a plurale tantum (the singular form goed only occurs in a set of fixed expressions), so there is no reason to assume that there we are dealing with a linking element. The examples in (242b) potentially involve a linking element -eren-, but these formations seem to alternate with the compound volkenmoord and Volkenbond that contain the linking element -en-. Furthermore, Given that the formations in (242b) do not belong to the colloquial register, it seems doubtful that we may conclude from these examples that there is indeed a linking element -eren-.

(242) a. goederentrein ‘goods train’; goederenvervoer ‘goods transport’, etc.
    b. volkerenmoord ‘genocide’; Volkerenbond ‘League of Nations’

Another example provided by De Haas & Trommelen is kinderengejoel ‘jeering of children’, which seems to be a new coinage (no examples can be found on the internet). It seems likely, however, that it is the form kindergejoel that would normally be the one used in spontaneous speech. This is especially the case when we want to express that the jeering comes from a single child; in that case (243a) would be outright unacceptable and we have to use kindergejoel. This observation is perhaps also relevant for the assessment of the examples in (243b-d), which can be found on the internet, and in which the first member is also necessarily construed as referring to a non-singleton set of entities: -eren- can never be used when the first member is construed as singular; -er-, on the other hand, is common when the first member is construed as plural, as in hoenderhok ‘shed for chickens’. Furthermore, a Google search on the internet revealed that all forms in (243b-d) alternate with the expected form with the linking element -er-. We found about 10 instances of both beenderenkuil and beenderkuil, which seems to be part of the archeological jargon, and again about 10 instances of eierenaanvoer and eieraanvoer. Finally, we found that kalverenmarkt occurs relatively frequent but is still much rarer than kalvermarkt; we found about 80 instances of the former and 20,000 instances of the latter. For this reason, we think it is better to leave it open for the moment whether -eren- should be considered a linking element of the relevant kind.
(243) a. *kinderengejoel* ‘jeering of children’
b. *beenderenkuil* ‘collective grave/pit that contains bones’
c. *eierenaanvoer* ‘supply of eggs’
d. *kalverenmarkt* ‘market where clubs are traded’

The examples in (244) unambiguously show that the linking element -s need not be related to the plural suffix –s: the primed examples show that the first members of these compounds do not take the suffix –s in the plural.

(244) a. *dorpsplein* ‘village square’       a’. *dorpen* ‘villages’
b. *kalfsvlees* ‘veal’                b’. *kalveren* ‘clubs’
c. *schaapskooi* ‘sheepfold’         c’. *schapen* ‘sheep’

The examples in (245), adapted from De Haas & Trommelen (1993), suggest that it is entirely unpredictable whether or not a linking element appears, and if it does what form it will take: we can appeal neither to the first member of the compound in order to tell whether a linking element will appear (examples a-c), nor to the second member of the compound. Nevertheless, there seem to be certain tendencies, but we refer the reader to De Haas & Trommelen (1993: §2.9.1) for a discussion of these.

(245) • Variation in the use of linking elements
   a. *broekriet* ‘belt’; *broekenwinkel* ‘shop selling trousers’; *broekspijp* ‘trouser leg’
   b. *schaapsherder* ‘shepherd’; *schapenvees* ‘mutton’; *schaapskooi* ‘sheepfold’
   c. *zonwering* ‘awning’; *zonnescherm* ‘marquee’; *zonsveldwering* ‘solar eclipse’
   d. *rundvlees* ‘beef’; *kattenvlees* ‘meat of/for cats’; *kalfsvlees* ‘veal’
   e. -vorming: *beeldvorming* ‘image’; *gedachtevorming* ‘creation of ideas’;
      *groepsvorming* ‘creation of a group’

Finally it can be noted that in some cases the linking element –s is optional and subject to individual variation: for example *objectpositie* ‘object position’ seems to freely alternate with *objectpositie*.

### 1.5. Bibliographical notes

The division of the noun phrase into a lexical domain (NP) and a functional domain (DP) with intermediate functional projections was first introduced in Abney (1987) and has since become widely accepted within generative grammar; see Alexiadou et al. (2007: Part II) for the historical background of the proposal and an overview of the empirical evidence that has been put forward in favor of this claim. Alexiadou et al. also contains an extensive discussion on nominal features.


Exhaustive overviews of noun formation can be found in De Haas & Trommelen (1993), Haeseryn et al. (1997), and Booij (2002). A detailed and

A more extensive discussion of the inheritance of arguments can be found in Chapter 2. Publications on this subject include Hoekstra (1984a, 1986), Dik (1985a, 1985b), Mackenzie (1985a, 1986), Booij (1986a, 1988, 1992b, 2002), and Booij & Van Haaften (1987). We have treated deverbal nouns and their complements in terms of inheritance, since this seems fairly generally accepted in various linguistic frameworks, but we must note that the inheritance approach is not uncontroversial. Van der Putten (1997: 159-160), for example, has pointed out that the process of ER-nominalization is not fully productive: not every verb can be input to the process and the denotation of the resulting noun is not entirely predictable. For this reason he argues in favor of a lexical approach, describing deverbal nouns like ER-nouns in terms of prototypes and marginal members on the basis of such lexical/semantic features as animacy of the entity denoted and its original thematic role. In generative grammar various other competitive proposals have been advocated. The best-known example is the debate between the lexicalist and the transformational approaches (Chomsky 1970), which focuses on the question of whether all nominalizations involve derivation (and, if not, which types do involve derivation and which types are simply included in the lexicon as alternative realizations of an abstract lexical item). Another example is the distinction between the categorial and the thematic view (Hoekstra 1986), which focuses on the question of exactly which material is inherited in the case of nominalization. For a more detailed discussion, the reader is referred to the review in Alexiadou et al. (2007: Part IV), which also treats a number of more recent contributions to the discussion.