On the notion ‘Minor Category’

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Abstract

This paper presents an HPSG based treatment of minor signs, i.e. words which cannot head a phrasal projection. In contrast to what is commonly assumed in PSG, I will argue that the minor signs do not belong to separate speech parts, but that all speech parts have both major and minor members. This claim is substantiated with evidence from the Dutch personal pronouns and the English determiners. The consequences for the HPSG sort hierarchy are spelled out and a number of criteria are presented for identifying minor signs.

Introduction

Many syntactic frameworks make a distinction between major and minor categories. The definitions of the distinction do not always excel in clarity, but an account which is both clear and reasonably close to a theory-neutral understanding of the terms is the one of Generalized Phrase Structure Grammar. In Gazdar, Klein, Pullum, and Sag (1985) the distinguishing characteristic is that the members of major categories have a phrasal projection, whereas the members of minor categories do not. The former include the verbs, nouns, adjectives and prepositions, and these are the heads of resp. VPs, NPs, APs and PPs. The minor categories, on the other hand, include the complementizers, the coordinating conjunctions, the determiners and a number of degree words.[1]

MINOR	examples	
Complementizer	*that, for, if, whether*	p. 113
Conjunction	*and, or, nor, both, either, neither, but*	p. 171
Determiner	*the, a, this, that, which*	p. 126
Degree	*how, so, as, too, more, less*	p. 122

These categories do not have a phrasal projection, such as CompP or DetP; this reflects the fact that their members cannot take any syntactic dependents.

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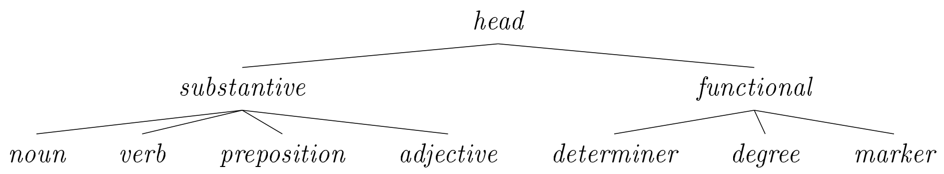
[1] The page numbers in the last column refer to Gazdar, Klein, Pullum, and Sag (1985). The degree words *more* and *less* should be distinguished from the homonymous adjectives, cf. *more/less expensive* vs. *more/less wine*.

The GPSG treatment of minor categories has been criticised in Head-driven Phrase Structure Grammar. The main point of criticism concerns the status of the determiners and the degree words. In the analysis of Pollard and Sag (1994, 363-371) the determiner *more* in a phrase like *much more wine* is specified by *much*, which implies that determiners can take dependents and hence that they cannot be minor.[2] The same reasoning is applied to the degree word *as*, which is argued to be specified by *twice* in a phrase like *twice as productive.*

In order to accommodate these observations, HPSG makes a double distinction. On the one hand, it replaces the *major/minor* dichotomy with a distinction between substantive and functional speech parts, identifying the substantive ones with GPSG's major categories and the functional ones with GPSG's minor categories. On the other hand, it makes a further distinction within the functional speech parts between the elements with a phrasal projection (Det and Deg) and the ones without (Comp and Conj). As a generic name for the latter Pollard and Sag (1994) employs the term *marker.* The resulting speech part hierarchy looks as follows:



In spite of the differences in substance, the GPSG and HPSG treatments share the practice of making the distinction between major and minor categories in terms of speech parts. The main claim of this article now is that the distinction had better be treated as cross-categorial. The evidence for this claim will be based on an analysis of the Dutch personal pronouns and the English determiners.

1 Minor pronouns

The English personal pronouns do not take any complements, but this does not mean that they cannot have a phrasal projection, for most of them can take other kinds of dependents, such as adjectival modifiers, relative clauses or appositions:

(1) a. Poor me!
    b. Let he who is without sin throw the first stone.
    c. I, Benito Mussolino, challenge you.

As a consequence, these pronouns are major and have phrasal projections, just like the common nouns. In Dutch, however, we find a different situation, for in contrast to English, Dutch has two paradigms of personal pronouns: next to the one of the

[2]This criticism is not entirely justified, since Gazdar, Klein, Pullum, and Sag (1985, 126) treats words like *many*, *few* and their comparative and superlative counterparts as adjectives, rather than as determiners. It is true, though, that the degree word *more* can also be specified by *much*, as in *much more expensive*, and this is a word which GPSG does treat as minor.

full pronouns, there is the paradigm of their reduced counterparts. The following survey is a summary of the data in Geerts, Haeseryn, de Rooij, and van den Toorn (1984, 163-167)[3]

person	number	gender	full-nom	full-acc	red-nom	red-acc
1st	sing	m/f	ik	mij	'k	me
	plur	m/f	wij	ons	we	
2nd	sing	m/f	jij	jou	je	je
	sg/pl	m/f	gij	u	ge	
3rd	sing	neut			het, 't	het, 't
	sing	masc	hij	hem	ie	'm
	sg/pl	fem	zij	haar	ze	ze, 'r, d'r
	plur	m/f/n	zij	hen, hun	ze	ze

Besides the fact that they cannot be stressed the reduced pronouns show a significant syntactic difference with the full pronouns: while the latter can be combined with a relative clause or an apposition, just like their English counterparts, the reduced pronouns cannot.

(2) Zij/*Ze die gaan sterven groeten u.
They who go die greet you.
'Those who are about to die greet you'

(3) Wij/*We, Albert, Koning der Belgen, ...
We, Albert, King of-the Belgians, ...
'We, Albert, King of the Belgians ...'

A related contrast is the one in *jij/*je daar* (= you there). As observed in Coppen (1991, 109), this use of the adverb *daar*, which intensifies the deictic meaning of the preceding nominal, is compatible with the full pronouns but not with the reduced ones.

Yet another relevant contrast is the one in

(4) Wij/*We mannen drinken graag bier.
We men drink willingly beer.
'we men like drinking beer'

In this case it is less obvious whether the head of the NP is the noun or the pronoun. Following the analysis which is proposed for *we sailors* in Postal (1969), it could be argued that the head of *wij mannen* is the noun and that the pronoun is its determiner, see also Jackendoff (1977, 106). However, what speaks against this analysis, is the fact that the person value of the subject is determined by the pronoun and not by the noun. In the case of a reflexive verb, like *zich vergissen*, for instance, the reflexive pronoun has to be of the first person, and not of the third, as would be normal for nonpronominal NPs, and as is in fact obligatory when the noun is combined with a possessive determiner:

[3]The table only mentions the nominative and accusative pronouns with reduced counterparts; this explains the absence of the second person plural *jullie* and the politeness form *u*, which have only got full forms. Notice the absence of full forms for the singular neuter *het*.

(5) Wij mannen vergissen ons/*zich zelden.
We men err ourselves/*themselves seldom.
'we men seldom err'

(6) Onze mannen vergissen zich/*ons zelden.
Our men err themselves/*ourselves seldom.
'our men seldom err'

This shows that the head of the NP had better be identified with the personal pronoun, and given the fact that the reduced pronouns cannot take any dependents, this is sufficient to account for the ungrammaticality of **we mannen.*

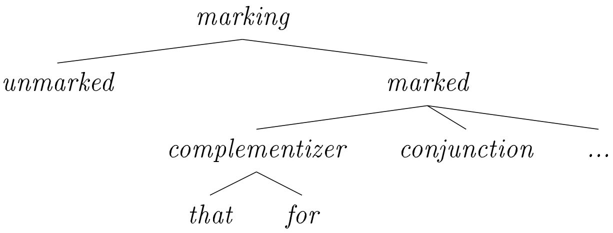
What these data suggest is that the full pronouns can take dependents and have phrasal projections, whereas their reduced counterparts cannot. Other differences between both types of pronouns will be discussed below, but first I will spell out the consequences of the distinction for the HPSG sort hierarchy.

2 *Major/Minor* as a cross-categorial distinction

In Pollard and Sag (1994) all signs have the same kind of CATEGORY value

$$_{category}\begin{bmatrix} \text{HEAD} & \text{head} \\ \text{SUBJ} & \text{list}\left(\text{synsem}\right) \\ \text{COMPS} & \text{list}\left(\text{synsem}\right) \\ \text{MARKING} & \text{marking} \end{bmatrix}$$

The HEAD value specifies the part of speech, together with some speech part specific information, such as case for nouns and verb form for verbs.[4] SUBJ and COMPS are valence features; they specify how many and what kind of subjects and/or complements a sign requires to be saturated. The MARKING feature is added for the elements which do not head a phrasal projection, i.e. the markers. Its possible values are



The markers get one of the subsorts of *marked* as their MARKING value; all other words receive the value *unmarked*.

In terms of this sort hierarchy, it is not clear how the reduced pronouns should be analyzed. The most obvious choice would be to treat them as NOMINAL, but in that

[4]For a survey of the speech part values, see the sort hierarchy in the introduction.

case it is difficult to see how they can be distinguished from the full pronouns, for they will both be nominal and specified for case, they will both have empty lists for SUBJ and COMPS, and their MARKING values will systematically be *unmarked*. Furthermore, since PSG assumes that nouns are heads of nominal projections, it fails to capture the distinguishing characteristic of the reduced pronouns.

A second possibility would be to treat them as MARKERS, for that is the speech part to which the elements without phrasal projection belong. However, this implies that they cannot be nominal, and in that case it is not clear why they should show variation with respect to case. Moreover, since Pollard and Sag (1994) requires the complement daughters to be *phrasal*, it would follow that the reduced pronouns cannot be used as complements, and this is hard to square with the fact that their syntactic function is the same as that of the full pronouns.

A third possibility would be to claim that the reduced pronouns do not belong to any specific speech part, but that they are AFFIXES instead. This is not in conformity with their usual analysis in Dutch grammar, but it would be in line with the way in which Phrase Structure Grammar treats the clitic pronouns of the Romance languages, cf. Miller (1992) for French and Monachesi (1995) for Italian. In order to check whether the affix treatment would make sense for Dutch, let us briefly compare the Dutch reduced pronouns with the French clitics[5]

person	number	gender	full	cl-nom	cl-acc
1st	sing	m/f	moi	je, j'	me, m'
2nd	sing	m/f	toi	tu	te, t'
3rd	sing	masc	lui	il	le, l'
	sing	fem	elle		la, l'
	plur	masc	eux	ils	les
	plur	fem	elles		les

Like the Dutch reduced pronouns, the French clitics cannot take any syntactic dependents: in combination with an adjective or a relative clause, one has to use the full forms[6]

(7) Moi/*Je seule connais mon appétit.
I alone know my appetite.

(8) Lui/*Il qui était perdu est retrouvé.
He who was lost is found back.

Given this similarity it could be argued that the Dutch reduced pronouns had better be treated as affixes as well. Looking closer, though, it turns out that there are also some important differences. For a start, while the French clitics can only be complements of verbs, the Dutch reduced pronouns can also be complements of predicative adjectives and prepositions[7]

[5]The table does not mention the pronouns which lack a separate clitic form, such as the first and second person plural and the 'dative' pronouns *lui* and *leur*. Notice that the case distinction is only relevant for the clitic pronouns.

[6]A counterexample is the formulaic *Je soussigné, Pierre Lefèvre, déclare que* .... In Grevisse and Goosse (1989, 201) it is characterized as "un reste d'un ancien usage".

[7]The only minor pronoun which cannot be used as the complement of a preposition is *het*; in its place Dutch employs the –equally minor– *er*. This pronoun has to precede the preposition.

(9) Hij is de situatie/hen/het beu.
He is the situation/them/it fed up.

'He is fed up with the situation/them/it'

(10) Ik heb vannacht van jou/je gedroomd.
I have tonight of you dreamt.

'I've dreamt of you tonight'

In French, on the other hand, none of the clitic pronouns can be used as the complement of an adjective or a preposition, cf. *avec moi/*me* (= with me).

Another difference concerns the position of the pronouns. Whereas the French clitics must occur in the immediate vicinity of their head, the Dutch reduced pronouns can be separated from their heads by one or more constituents:

(11) ... dat ze me/je morgen eindelijk betalen.
... that they me/you tomorrow finally pay.

'... that they will finally pay me/you tomorrow'

(12) We zijn het/ze eigenlijk al jaren beu.
We are it/them actually already for years fed up.

'Actually, we have been fed up with it/them for years now'

(13) Hij droomt er nu al jaren van.
He dreams it now already for years of.

'He has been dreaming of it for years now'

In each of these sentences there are two adjuncts in between the pronoun and its head, and more could be added. In sum, it appears that the Dutch reduced pronouns can be followed or preceded by virtually any kind of speech part, and this makes an affix based treatment highly implausible.

So far, we have considered three different ways of integrating the Dutch reduced pronouns in the standard HPSG sort hierarchy (noun, marker or affix), and none of them turns out to be satisfactory. Weighing their pros and cons, the least implausible is the first one, but it is also the one which fails to make the very distinction which we want to express. What is needed, apparently, is the possibility to treat the reduced pronouns as minor members of a 'major' speech part. In other words, we should foresee that the class of nouns does not only have major members, but also minor ones.

In order to enable this I will remove the distinction between elements with and without phrasal projection from the speech part hierarchy. In practice, this amounts to the cancellation of *marker* as a separate speech part[8]

head

noun *verb* *adjective* *preposition* *adverb* *conjunction*

[8]Anticipating the result of the discussion on minor determiners, I have also removed the value 'determiner' from the speech part hierarchy, so that the distinction between functional and substantive speech parts loses its relevance as well.

At the same time, I will apply the *major/minor* distinction to the objects of type *category*:

$$\begin{array}{c}\textit{category}\\ \diagup \quad \diagdown\\ \textit{major} \qquad \textit{minor}\end{array}$$

One consequence of this reshuffling is that the two classifications are mutually independent, and hence that every speech part may contain both major and minor members. Another consequence is that the feature declarations of major and minor signs can be differentiated. Exploiting this possibility, I will assume that all objects of type *category* have HEAD and MARKING features, but that only the ones of type *major* have got valence features.[9]

$${}_{\textit{category}}\!\left[\begin{array}{ll}\text{HEAD} & \text{head}\\ \text{MARKING} & \text{marking}\end{array}\right] \qquad {}_{\textit{major}}\!\left[\begin{array}{ll}\text{SUBJ} & \text{list}\left(\text{synsem}\right)\\ \text{COMPS} & \text{list}\left(\text{synsem}\right)\end{array}\right]$$

Making use of this modified hierarchy, the distinction between the major and the minor personal pronouns can be made explicit as follows:

$${}_{\textit{major}}\!\left[\begin{array}{ll}\text{HEAD} & {}_{\textit{noun}}\!\left[\text{CASE case}\right]\\ \text{SUBJ} & \langle\ \rangle\\ \text{COMPS} & \langle\ \rangle\\ \text{MARKING} & \text{unmarked}\end{array}\right] \qquad {}_{\textit{minor}}\!\left[\begin{array}{ll}\text{HEAD} & {}_{\textit{noun}}\!\left[\text{CASE case}\right]\\ \text{MARKING} & \text{unmarked}\end{array}\right]$$

Both types of pronouns are nominal and specified for case; the differences concern the presence of the valence features and the type of the CATEGORY value.

Besides the modifications to the speech part hierarchy we also need a relaxation of the constraints on nonhead daughters in phrasal signs. In Pollard and Sag (1994) the only nonhead daughters which are allowed to be words are the conjunction daughters and the marker daughters.[10] All other nonhead daughters are required to be phrasal. From what has been said so far, though, it is clear that this constraint is too strict, for the minor pronouns are nonphrasal but can be used as complement daughters nonetheless. For this reason I will relax the constraint that complement

[9] As an alternative, one could also claim that the minor elements have a COMPS list which is invariably empty. A possible advantage of this alternative is that it would simplify the definition of the notion 'nonhead daughter', for if minor elements do not have a COMPS list, the nonhead daughters have to be defined disjunctively, as either major signs with an empty COMPS list or minor signs, whereas if they have a COMPS list, the notion can be defined more succinctly as a sign with an empty COMPS list.

[10] The notion 'marker daughter' should be distinguished from the notion 'marker'. While the latter is the name of a speech part and hence contrasts with notions like 'noun' and 'verb', the former is the name of a syntactic function and contrasts with notions like 'head daughter' and 'complement daughter'. The difference between both notions is especially clear in the case of the coordinating conjunctions, for these are markers, but not marker daughters.

daughters have to be phrases and replace it with the more general requirement that they be signs[11]

$$\textit{headed-phrase} \quad \Rightarrow \quad [\text{COMP-DTRS} \quad \text{list (sign)}\,]$$

Interestingly, this relaxation is not just needed for the treatment of minor pronouns, it also facilitates the elimination of vacuous projection from the grammar. For, if complements have to be phrasal, then one needs special measures to allow for one-word complements, as in *find John/him/gold/coins*, whereas in a treatment which allows complements to be single words, there is no need for any special measures.[12]

3 On the syntax of minor signs

So far, the minor signs have been characterized as elements which cannot take any syntactic dependents. At this point, with the new sort hierarchy in place, this property can be spelled out in formal detail, and related to a number of further distinctions between major and minor signs. For a start, since minor signs cannot take any syntactic dependents, they do not have a phrasal projection, and this implies that all phrasal signs are major:

$$\textit{phrase} \quad \Rightarrow \quad [\text{SYNSEM}|\text{LOC}|\text{CAT} \quad \textit{major}\,]$$

As HPSG foresees only two types of signs, i.e. words and phrases, this amounts to the claim that minor signs must be of type *word*.

Second, in order to express the defining property of the minor signs that they cannot head a phrasal projection, it is sufficient to require that in a headed phrase the *head daughter* have a CATEGORY value of type *major*:

$$\textit{headed-phrase} \quad \Rightarrow \quad [\text{HEAD-DTR}|\text{SYNSEM}|\text{LOC}|\text{CAT} \quad \textit{major}\,]$$

Third, in nonheaded phrases there are some further constraints. In coordinate phrases, for instance, the *conjunct daughters* have to be major:

(14) Ik twijfel nog tussen Mark en jou/*je.
I hesitate still between Mark and you.

'I'm still hesitating between Mark and you'

(15) Ik weiger te onderhandelen met hen/*ze en hun aanhangers.
I refuse to negotiate with them and their allies.

'I refuse to negotiate with them and their allies'

Interestingly, this constraint does not have to be stipulated, since it follows from the COORDINATION PRINCIPLE, Pollard and Sag (1994, 203).

[11] Here and throughout the paper I follow the practice of Sag (to appear) to apply the distinction between constituent structure types to the objects of type *phrase*. As a consequence, instead of saying that some phrase has a DAUGHTERS value of type *headed-structure*, as in Pollard and Sag (1994), I simply say that the phrase itself is of type *headed-phrase*. As in the case of words, the more specific types inherit the feature declarations and constraints of their supertypes.

[12] The same remark applies to the subject, adjunct and specifier daughters. They all may consist of a single word, and will therefore be required to be signs, rather than phrases.

In a coordinate structure, the CATEGORY and NONLOCAL value of each conjunct daughter is subsumed by (is an extension of) that of the mother.

Since coordinate structures are by definition phrasal, they have CATEGORY values of type *major*, and given the principle this implies that the conjunct daughters cannot be minor. As applied to the English personal pronouns, this predicts that they can all be used as conjuncts, and this is indeed the case, even for the singular neuter *it*:

(16) Recently speculation has been growing that it and the Roman Catholic Church will reunite. (TIME, May 5th, 1997, p. 47)

(17) Seen 800 years later, it and the other works in this superb exhibition still amaze and inspire. (TIME, May 5th, 1997, p. 54)

This possibility does not exist for its Dutch equivalent *het*.

A corollary of the above constraints is that a phrase has to contain at least one major daughter, i.e. the head daughter in headed phrases or the conjunct daughters in coordinate phrases. Put in other words, this amounts to the claim that a minor sign must have at least one major sister. Further evidence for this general requirement is provided by the fact that the minor pronouns cannot be the sole constituents of elliptical clauses. In reduced answers, for instance, one has to use the major pronouns:

(18) Wie heeft het gedaan ? Zij/*Ze.
Who has it done ? She.
'Who did it ? She did'

(19) Wie hebben ze gekozen ? Jou/*Je.
Whom have they chosen ? You.
'Whom did they choose ? You'

If we make the reasonable assumption that elliptical clauses are phrasal, then the exclusion of the minor pronouns in this position follows from the fact that a phrase has to contain at least one major daughter. This also makes the right predictions in the case of elliptical comparative clauses:

(20) Hij heeft meer gereisd dan zij/*ze.
He has more traveled than she.
'He has traveled more than she has'

(21) Het zal langer duren dan zij/ze denkt.
It will longer take than she thinks.
'It'll take longer than she thinks'

In the first sentence the minor pronoun cannot be used since there are no other constituents in the comparative clause, but in the second sentence the use of minor *ze* is allowed, since there is another constituent which qualifies as major, i.e. the verb *denkt*.

In sum, phrases are major and must have at least one major daughter, or –put differently– minor signs are words and must have at least one major sister.

4 Minor determiners

In order to demonstrate that the criteria for identifying minor signs are sufficiently general to be applicable to other languages and to other speech parts, I will now discuss the English NP specifiers. As a starting point I will use the following survey:

Articles	*the, a(n).*
Demonstratives	*this, that, these, those.*
Possessives	*my, our; your; his, her, its, their.*
Wh-determiners	*which(ever), what(ever), whose(ver).*
Logical determiners	*every, some, any, no.*
Numerals	*one, two, three, ...*

This list includes most of the words which are usually treated as NP specifiers in English grammar.[13] Semantically, they can be divided in two classes: the quantifying ones, which include the numerals and the logical determiners, and the deictic or anaphoric ones, which include the possessives, the demonstratives and the *wh*-determiners. This semantic distinction corresponds to a syntactic one: if an NP contains a determiner of either kind, the deictic/anaphoric one invariably has to precede the quantifying one.[14]

D/A-Determiner	Q-Determiner	Nominal
that/my	one	green bottle
your/whose	two	sisters
these/which	five	tables
his	every	word

Not all combinations of determiners are allowed (cf. *his every word* vs. **his no word*), but if the combination is allowed, then the quantifying determiner has to follow the deictic/anaphoric one. What will be argued now is that both classes of determiners contain some minor members.

4.1 The quantifying determiners

Starting with the numerals, it is clear that they are major, for they can be specified by adverbs which express how the quantity of the nominal's denotation compares to the quantity which is denoted by the numeral, as in *almost fifty*, *exactly one*, *nearly twelve* and *at least five.* This major status is confirmed by the fact that they can be conjoined, as in *six or seven tables.* As for their speech part, many authors introduce a separate category, such as Numeral or Cardinal; this practice is also

[13] Not included are the ordinals and the gradable determiners *much, many, little* and *few* with their comparative and superlative counterparts. They are all major and hence irrelevant for the identification of minor signs.

[14] The D/A-determiners may be preceded by a so-called predeterminer, such as *all* or *both*, a fraction like *half* or a multiplier like *twice*, as in *all/both their children* and *half/twice that size*, see Quirk, Greenbaum, Leech, and Svartvik (1985, 257-261). These elements share the quantifying nature of the Q-determiners, but syntactically they behave rather differently. Notice, for instance, that they do not only combine with nominal projections, but also with verbal or adverbial ones, as in *they will all/both go to Rome* and *twice as long.*

followed in Pollard and Sag (1994, 366), which employs the term *Scalar*, albeit only “for expository convenience”. Other sources argue that the numerals can be grouped with other independently needed speech parts. Jackendoff (1977), for instance, claims that the numerals are either Nouns or Quantifiers, depending on their position in the noun phrase. The proposal which is most commonly adopted in the current literature, though, is to treat the (adnominal) numerals as adjectives, see a.o. McCawley (1981, 430), Hoeksema (1983), Link (1987) and Allegranza (to appear). The evidence for the adjectival treatment which these authors present is mainly of a semantic nature, but also from a strictly syntactic point of view this proposal makes good sense, first because the specifiers which the numerals can take are the same as the ones which can be used with such nongradable adjectives as *impossible*, *dead* and *indistinguishable*, and second because the numerals may be preceded by other adjectives, as in *the last/next three days*, *the same five cars* and *the only/other two objections I can think of now.*

What is interesting now is that the numerals can be shown to have a minor member, i.e. the indefinite article *a(n)*. Both in form and in meaning, it clearly resembles the singular numeral *one*,[15] but while the latter can be specified, conjoined and stranded in elliptical comparative clauses, the former cannot:

(22) a. There is exactly one/*a car in the street.

b. Do you want one/*an or two cards ?

c. Two horses can carry more than one/*a.

This suggests that the indefinite article is the minor counterpart of the numeral, and since there is no reason to assume that minor signs belong to another speech part than their major counterparts, it follows that the indefinite article is a minor adjective. Some further evidence for this adjectival status is provided by the fact that it can be preceded by other adjectives or APs, as in *many a friend*, *such a man* and *too tall a building.*

Integrating this analysis in the HPSG sort hierarchy, I will assume that the MOD(IFIED) value of the numerals specifies the kind of nominal with which (the phrasal projection of) the numeral combines. In the case of *one*, for instance, this is a singular count nominal:

$$
{}_{major}\left[\begin{array}{ll}
\text{HEAD} & {}_{adjective}\left[\text{MOD} \quad \text{N'}\left[\text{sing, count}\right]\right] \\
\text{SUBJ} & \langle\ \rangle \\
\text{COMPS} & \langle\ \rangle \\
\text{MARKING} & \text{unmarked}
\end{array}\right]
$$

Having empty lists for SUBJ and COMPS, the numeral cannot take any complements or subjects, but being major, it can take specifiers, as in *at least one*, and it can be conjoined as in *one or two questions*; its phrasal projection is an adnominal adjunct, as in *at least one bike.* The indefinite article, on the other hand, has

[15]There are languages in which the indefinite article is even homonymous to the numeral, cf. the the German *ein*, the French *un* and the Italian *uno*.

the same HEAD and MARKING values, but lacks the valence features and has another type of CATEGORY value. This is sufficient to make explicit that it cannot be used in any other way than as the specifier of a singular count noun. Still, there is one further difference: whereas the numerals can be preceded by another determiner, as in *that/the one bottle he threw away*, the indefinite article cannot: **that/the a bottle*. In order to capture this difference I will assume that the numeral combines with a nominal object and yields another nominal object, whereas the indefinite article combines with a nominal object and yields a quantifier.[16] This, together with the assumption that the D/A-determiners combine with a nominal object and yield a quantifier, is sufficient to make the required differentiation. In sum, the AVM of the indefinite article can be specified as follows:

$$\left[\begin{array}{ll} \text{CAT} & {}_{minor}\left[\begin{array}{ll}\text{HEAD} & {}_{adjective}\left[\text{MOD} \quad \text{N'}\left[\text{sing, count}\right]: \boxed{1}\right] \\ \text{MARKING} & \text{unmarked}\end{array}\right] \\ \text{CONTENT} & {}_{quantifier}\left[\begin{array}{ll}\text{DET} & \text{exists}\\ \text{RESTIND} & \boxed{1}\ \text{nominal-object}\end{array}\right]\end{array}\right]$$

In this way all significant differences with the numeral *one* are captured without having to assume that the indefinite article belongs to another speech part.

Turning to the logical determiners, it is easy to find evidence for major status, for they can take roughly the same kinds of specifiers as the numerals (*almost every*, *at least some*, *virtually any* and *practically no*), and they can be used as conjuncts:

(23) a. Some but not all flowers are yellow.
b. There is little or no money left.
c. She was looking under each and every stone.

Just like the numerals, though, the logical determiners can be argued to contain a minor member as well, i.e. the unstressed *some*.[17]

(24) a. At least some/*sm problems have been solved.
b. Some/*Sm but not all pupils will be there.

With the exception of *every*, none of the logical determiners can be preceded by a D/A-determiner; this implies that they are of the same semantic type as the indefinite article, i.e. they combine with a nominal object and yield a quantifier. As for the speech part of the logical determiners, one finds various proposals, ranging from Quantifier over Determiner to Article. Within the present context, though, the most natural option is to assign them the same speech part as the numerals, first because they take the same kind of specifiers, and second because their minor

[16] The HPSG distinction between nominal object and quantifier is comparable to the distinction between a set and a set of sets in Generalized Quantifier Theory.

[17] In order to differentiate the stressed determiner from its minor counterpart, I will use *some* for the former and *sm* for the latter. From a cross-linguistic perspective, *sm* corresponds to the partitive articles of the Romance languages.

members are in complementary distribution: the unstressed *sm* is typically used in those combinations in which the indefinite article cannot be used, i.e. with mass nouns and plural count nouns:

(25) a. Would you like sm/*a water ?

b. I'm going to buy sm/*a potatoes.

It can be concluded then that *sm* is a minor adjective as well.

4.2 The deictic and anaphoric determiners

As for the deictic or anaphoric determiners, the possessives are clearly major, for they can be conjoined and specified by the adverb *own*:

(26) a. Shall we take my or your car ?

b. Every country gives priority to its own interests.

For the demonstratives it is less clear what kind of specifiers they can take, but their major status is clear from the fact that they can be conjoined and stranded in an elliptical comparative clause:

(27) a. Shall we take this or that carpet ?

b. I like these apples better than those.

Besides these major members, the demonstratives can be argued to have a minor one as well, i.e. the definite article *the*. Both in form and meaning it resembles the demonstrative *that*,[18] but in contrast to the latter it cannot be conjoined nor stranded:

(28) a. * Shall we buy the or this carpet ?

b. * I like these apples better than the.

As for the speech part of the demonstratives, many authors postulate an *ad-hoc* category, such as Demonstrative or Article. Within the logic of the present treatment, though, it is more appropriate to put them in the same class as the quantifying determiners. Notice, for instance, that they share the property of the quantifying determiners to impose constraints on the number value of the head noun: *this* and *that* require the singular, just like *one* and *every*, whereas *these* and *those* require the plural, just like *two* and *three*. As a consequence, since the quantifying determiners have been argued to be adjectives, it follows that the demonstratives can best be treated as adjectival as well. Further evidence for this status is provided by the fact that the singular demonstratives share the property of a number of adjectives to have an adverbial homonym: adjectives like *pretty*, *wide* and *real*, for instance, have degree denoting homonyms, as in *a pretty difficult task*, *be wide awake* and *a real nice girl*. Such homonyms also exist for *this* and *that*, as in *this long* and *that short*; as a matter of fact, the definite article has

[18]In some languages, they are even homonymous. In German, for instance, the definite article has exactly the same paradigm of forms as the demonstrative *der/die/das*.

a similar adverbial use in correlative constructions like *the sooner, the better.* In sum, it does not seem too far-fetched to assume that the English demonstratives are adjectives, and to treat the definite article as a minor adjective:

$$\left[\begin{array}{ll} \text{CAT} & {}_{minor}\left[\begin{array}{ll}\text{HEAD} & {}_{adjective}\left[\text{MOD} \quad \text{N'} : \boxed{1}\right] \\ \text{MARKING} & \text{unmarked}\end{array}\right] \\ \text{CONTENT} & {}_{quantifier}\left[\begin{array}{ll}\text{DET} & \text{the}\\ \text{RESTIND} & \boxed{1}\ \text{nominal-object}\end{array}\right]\end{array}\right]$$

Because of the constraint on the CONTENT value of the head, the definite article cannot be combined with another D/A-determiner, nor with a Q-determiner which yields an object with CONTENT value of type *quantifier*, such as the indefinite article or the logical determiners.

Interestingly, these conclusions have some consequences for the much debated issue of whether the head of a noun phrase is the noun or the determiner (cf. NP vs. DP), see a.o. Abney (1986), Hudson (1990), Van Langendonck (1994) and –within HPSG– Pollard and Sag (1994, 363-371), Netter (1994, 301-305) and Allegranza (to appear). In this section the issue has not been addressed directly, but the fact that the determiners have been argued to be adjectives provides indirect evidence for the NP analysis, since it is commonly accepted that the head of an [Adj+Noun] combination is the noun rather than the adjective. Furthermore, since the articles and unstressed *sm* are minor, they cannot be head daughters, so that in combinations like *a dog*, *sm sugar* and *the cat* the head daughter must be the noun. In sum, while the main aim of this section was to provide evidence for the existence of minor determiners, we have also provided some indirect evidence for the assumption that [Det+Noun] combinations are headed by the noun.

5 Summing up

The main claim of this paper is that the distinction between major and minor signs should be treated as cross-categorial. The evidence for this claim is based on an analysis of the Dutch personal pronouns and the English determiners. Employing the criterion that the minor signs are words which cannot take any syntactic dependents I have shown that both of these classes contain some minor members[19]

	major	minor
noun	Dutch full pronouns	Dutch reduced pronouns
adjective	English numerals	indefinite article *a(n)*
	English logical determiners	unstressed *some*
	English demonstratives	definite article *the*

[19]This covers only two of the traditional parts of speech, but in other work I have shown that the distinction also applies to prepositions and to Dutch and German verbs, cf. Van Eynde (1994, 53-60;179-192).

As part of the argumentation, I have identified a number of further characteristics of the minor signs, i.e. the impossibility to be conjoined and to be stranded under ellipsis. Taken together, these constraints amount to the claim that a phrase must contain at least one major daughter, or –in other words– that a minor sign must have at least one major sister.

While this criterion is sufficiently general to be applicable to all languages and to all speech parts, it may be worth stressing that the result of its application is language specific. For example, when the criterion is applied to the personal pronouns, it turns out that the English ones are all major, whereas the Dutch ones can be divided in major and minor ones. Similarly, when applied to the NP specifiers, it turns out that English has both major and minor determiners, whereas languages without articles, such as Latin and Russian, have probably only got major determiners.

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