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Dutch female personal nouns the (non-)existence of derivational paradigms⁶⁶

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Abstract

In the literature (Van Marle 1985, 1986) it has been argued that the formation of female personal nouns can only be properly understood if we assume that word-formation (just like inflection) is organized paradigmatically. In this paper I argue that an alternative analysis of these forms is possible which does not make use of paradigmaticity. Specifically, Van Marle observes a 'paradigmatic' condition on the existence of female nouns in -ster: such nouns are only possible if there is an existing neutral personal noun in -er. However, there is no visible derivational relation between the two. Van Marle concludes from this that the grammar uses information about forms 'in absentia' when building nouns in -ster. However, I will show that such paradigmatic means are superfluous once we acknowledge the possibility of morphological haplology. We propose that the female personal nouns are derived from the forms ending in -er and that a haplology-rule deletes -er immediately before -ster. Since haplology is independently motivated (see e.g. Yip 1998, Nevins 2012), we submit that the present contribution provides an argument against paradigmatic means for word-formation.

Keywords: *word formation, paradigm, female personal nouns, morphological haplology.*

⁶⁶ I would like to thank the Grammar & Cognition group of the Amsterdam Center for Language and Communication for valuable comments and suggestions, in particular Caitlin Meyer and Fred Weerman for discussion and comments on an earlier version of this paper.

1 Introduction

There is an on-going debate in the morphological literature about the question whether or not so-called ‘paradigmatic’ forces play a role in morphological processes. For example, Carstairs-McCarthy (1994) argues for a No Blur constraint that limits the possible form an inflectional paradigm may have. Benua (1995, 1997) argues for so-called Output-Output-constraints that compare a particular output candidate to other forms within the same paradigm and discards this output if it differs too much (in some specified sense) from the other forms in the paradigm. Construction Morphology (Booij 2010, 2014; Audring & Jackendoff 2014) argues that there are derivational processes that can only be understood ‘paradigmatically’.

Distributed Morphology (hereafter DM, Halle & Marantz 1993, Halle 1997, Harley and Noyer 1999) however, denies the possibility of paradigmatic influence. Proponents of DM have argued that paradigmatic means are superfluous. For example, Halle & Marantz (2008) explicitly argue against the No Blur constraint, and Bobaljik (2008) offers some serious objections to ‘optimal paradigms’. The recurring point in these contributions is that the morphological patterns can also be explained without recourse to a notion of ‘paradigm’. If true, then the notion of ‘paradigm’ becomes superfluous and hence should be left out of the theory altogether.

So far the attention in this discussion has mainly focussed on inflectional patterns and claims about the role of paradigms for this type of morphology. In this paper, I address claims that have been made, especially on the basis of data from Dutch (see e.g. Van Marle 1985, Booij 1997a, b, 2010, 2014) that word-formation (derivation) is also organized ‘paradigmatically’. My aim is to show that, as in the cases of inflection, the derivational patterns can be explained without recourse to the notion ‘paradigm’ and fall out from well-established mechanisms of word-formation that we encounter in many languages.

Various phenomena are discussed under the notion ‘paradigmatic morphology’ in the context of word-formation. We discern at least three different cases. The first type that comes to mind are so-called ‘*parasitic*’ forms (see also Aronoff 1994). For

example, it has been argued by Booij (1997a, 2010) that in Dutch the form of the female demonym is derived from the toponymic adjective:

(1)	toponym		adjective	female demonym
	<i>brazilië</i>	‘brazil’	<i>brazili-aans</i>	<i>braziliaans-e</i>
	<i>peru</i>	‘peru’	<i>peru-viaans</i>	<i>peruviaans-e</i>
	<i>guatamala</i>	‘guatamala’	<i>guatamal-teeks</i>	<i>guatalmateeks-e</i>

Whatever ‘exotic’ allomorphy the adjective takes, it is ‘copied’ in the form of the female demonym. Booij characterizes this process as ‘paradigmatic’ since in his analysis the form of the female demonym is based on the adjectival stem. The meaning of this adjective is not part of the meaning of the resulting form; the female demonym semantically relates directly to the toponym and not to the adjective.

Second, ‘blocking’ in its classical form is also seen as invoking ‘paradigmatic’ means. Consider the famous case of the non-existence of *#gloriosity* in English. Aronoff (1976) argues that this form, although grammatical (in the sense that the grammar can generate this form), is nevertheless non-existent because it is blocked by another form (*glory*) in the lexicon with the same meaning. In order for this analysis to hold water, it is required that forms are listed (they need to be checked by the word-formation component). Such listing is denied explicitly in DM, and therefore, another analysis is called for.

Third, consider so-called affix substitution. Van Marle (1985) (and more recently Booij 2010) argues for ‘affix substitution’ in the case of Dutch female personal nouns in *-ster*. In this view, these are derived from bases in *-er* by replacing the *-er* affix with *-ster* (e.g. *vrijwillig-er/-ster* ‘volunteer/-FEM’; *reizig-er/-ster* ‘traveller/-FEM’). Van Marle calls this a ‘paradigmatic’ operation, since the existence of the unmarked or male personal nouns in *-er* such as *reiziger* and *vrijwilliger* potentiates the existence of *reizigster*, *vrijwilligster* in his analysis. One of the arguments for this replacement analysis is that there is only one adjective, i.e. *vrijwillig* ‘voluntary’, that allows for

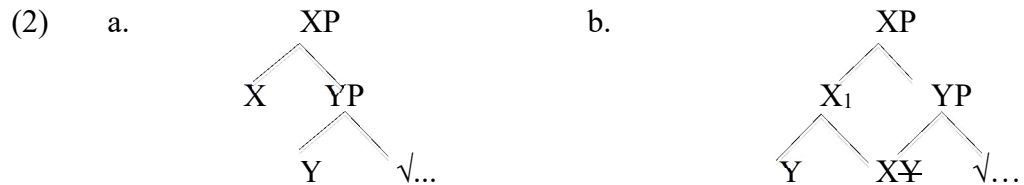
affixation with *-er*. Precisely this form also allows for affixation with *-ster*. More generally, the empirical generalization seems to be that female personal nouns in *-ster* exist if and only if there is a corresponding masculine or gender-neutral personal name in *-er*.

Don & Lin (2014) give an account of ‘parasitic morphology’ using a non-paradigmatic theory of morphology, i.e. DM. The case of blocking follows from competition of VI’s during spell-out (see below, and Embick and Marantz 2008 in particular). The goal of this paper is to give an account of the third type of ‘paradigmatic’ morphology, i.e. the case of apparent affix replacement in terms of DM without such special ‘paradigmatic’ means.

In order to achieve this goal, I first give a sketch of the theory of Distributed Morphology (section 1) while briefly addressing the blocking case. We then illustrate the relevant data and show what motivated earlier accounts; at the same time developing an alternative (section 2) We then show how the alternative can deal with a number of a priori problematic cases (section 3) and draw some conclusions (section 4)

2 Distributed morphology

It would extend the limits of this paper to give a full-fledged introduction to the theory of DM. Therefore, I will limit myself to some of the ingredients that are necessary for a proper understanding of our analysis to be developed in section 2. DM does not allow for ‘paradigmatic means’. It essentially assumes that word-formation takes place ‘in syntax’ and radically dismisses any form of ‘lexicalism’: there is no special place where word-formation takes place, rather it is part and parcel of syntax. End nodes in the syntactic representation that consist of feature bundles (such as X, Y in the structure below) form the input to ‘Vocabulary Insertion’. These end nodes may undergo head movement (as in (2b)), where the head Y has moved to X:



If a node undergoes head movement, the resulting structure is ‘one word’ (X_1 in (2b)). If not, the resulting heads each form a word (or a clitic) (X and Y in (2a)). These end nodes carry particular morpho-syntactic features (e.g. [plur], [past], [fem], [def], etc.) that form the context for the Vocabulary Insertion rules.

So-called root nodes (indicated by $\sqrt{\quad}$ in (2a)) are devoid of any grammatical information. These root nodes are spelled out by a particular set of Vocabulary Items (VIs), so-called roots, such as e.g. $\sqrt{\text{WALK}}$, $\sqrt{\text{KISS}}$, $\sqrt{\text{BIKE}}$, $\sqrt{\text{GRAMMAR}}$, $\sqrt{\text{BEER}}$, etc. VIs that ‘spell out’ the morpho-syntactic features are in competition with each other for insertion. The competition is decided on the basis of the subset principle (Halle 1997), to which we will turn in more detail in section 2. Informally, it ensures that a VI is inserted if all of its features match the features of the relevant syntactic head; in case this is true of more than one VI, the VI with the most matching features wins the competition.

A simple example may illustrate the general idea. First, there may be reasons in the syntax to have separate nodes for agreement and tense. By way of head movement, the verb moves to the Tense node (Tns) and this complex in turn moves to the Agreement node (Agr). These nodes each have their own spell-out rules. Dutch verbal inflection has four relevant VIs: three for Agr and one for Tns:

- (3) Tns:
 -*d/te* ↔ [past]
 Agr:
 -*en* ↔ [plur]
 ∅ ↔ [speaker]
 -*t* ↔ []

Since by assumption *-t* has no features, it is the potential spell-out of any featural make-up of the Agr node. However, since the other two VI's in the same set match more features in case of either a plural, or a first person, *-t* only shows up (as a 'default') in singular 2nd and 3rd person contexts.

Let us now briefly see how this competition may account for blocking. Dutch hosts a number of irregular verbs that do not regularly undergo the VI-rules in (3). The question is how to prevent the non-existing 'regular' past tense **loopte* 'walked' from occurring as the past tense of *loop*, rather than the correct irregular form *liep* 'walked'. The general strategy is to assume that in the case of irregular forms, there is a special rule that has priority over the more general rule (due to the familiar Elsewhere principle (Kiparsky 1973)). The special rule in the case of these irregular verbs is a rule that adds a zero affix in the past tense to a number of roots that are listed as such (4a). The more general rule (i.e. (3a) = (4b)) applies after this more special rule has failed to apply (e.g. because the Tense-node did not contain the feature [+past], or because the neighbouring root was not mentioned in the list).

- (4) a. [+past] ↔ ∅ / __ {√DRINK, √KOOP, √LOOP, √RIJD, √VAL, ...}
- b. [+past] ↔ -d/te

The structure [[√LOOP] [+past]] will trigger the realization rule (4a), resulting in a zero affix as the realization of the [+past]-morpheme. In addition, there is a 'readjustment rule' that changes the stem-vowel from [o] to [i]:

- c. [+back] → [+high] / _____ [+past]
 {√LOOP, √VAL, ...}

This latter rule will change the stem vowel [o] of *loop* to [i]. So, crucially, there is no way in which the form *liep* blocks the form *loopte*. Instead, there is a rule (4a) that

blocks the application of a less specific rule (4b). Let us now turn to the empirical heart of this paper: the formation of Dutch female personal nouns.

3 Female personal nouns ending in *-ster*, *-es* and *-in*

There are quite a number of different ways in which female personal nouns in Dutch can be formed. The examples in (5) cover all possibilities:

- (5)
- | | | |
|----|-----------------------------|--|
| a. | wandelaarster, rekenaarster | (‘ <i>-ster</i> after <i>-aar</i> ’) |
| b. | loopster, verkoopster | (‘ <i>-ster</i> after verbal stem’) |
| c. | minnares, dienares | (‘ <i>-es</i> after <i>-aar</i> ’) |
| d. | zangeres, dichteres | (‘ <i>-es</i> after <i>-er</i> ’) |
| e. | boerin, prinses | (‘ <i>-es/-in</i> after noun’) |
| f. | studente, agente | (‘ <i>-e</i> after noun’) |
| g. | conductrice, ambassadrice | (‘ <i>-ice</i> ’ after root’) |
| h. | Amerikaanse, Zweedse | (‘ <i>-e</i> after toponymic adjective’) |

This paper focusses on the forms a - e.⁶⁷

We will start our discussion with the forms in (5a), here repeated in (6) with some additional examples to illustrate the empirical problem:

- (6)
- | | | | |
|----|--------------------------------|------------------|---------------------|
| a. | wandel-aar] _N -ster | walk-er-FEM | 'female that walks' |
| | koppel-aar] _N -ster | couple-er-FEM | 'female matchmaker' |
| | reken-aar] _N -ster | calculate-er-FEM | 'female calculator' |
| | weiger-aar] _N -ster | refuse-er-FEM | 'female refuser' |

⁶⁷ We refer the interested reader to the forms in h. to Don & Lin (2014). Space limits force us to leave out discussion of the types f. and g.

b.	loop]v-ster	walk-FEM	'female that walks'
	serveer]v-ster	serve-FEM	'female that serves'
	doorzet]v-ster	persist-FEM	'female that persists'
	werk]v-ster	work-FEM	'female that works'

As can be seen, it seems to be the case that *-ster* is denominal in (6a), whereas it is deverbal in (6b). Van Santen & De Vries (1981) also observe this odd behaviour of *-ster* and propose that there is a deverbal suffix *-aarster* in (6a) that has a 'short' form in (6b). That is, they propose that there is a suffix *-(aar)ster* of which the part *-aar* is only realized under specific phonological circumstances (i.e. if the stem-final syllable contains a schwa followed by a coronal sonorant).

This analysis suffers from two major shortcomings: first, as is well-known, Dutch *-er* has an allomorph *-aar* that surfaces under the same phonological conditions as the long form *-aarster* in (6a). That is, *-aar* surfaces after stems ending in schwa followed by a coronal sonorant. Under this analysis it is purely coincidental that both *-aar* and *-ster* are separate affixes elsewhere in the system, and second, it fails to explain why the surfacing of the part *-aar* exactly mirrors the conditions (after schwa followed by a coronal sonorant) under which this allomorph of *-er* occurs.

Van Marle (1985) proposes a different analysis, that is more or less copied by Booij (2010). Van Marle proposes that the suffix *-ster* replaces the affix *-er*. As evidence for this replacement analysis he shows that precisely in those cases where we find forms in *-er*, we also find a form in *-ster*. Even in those cases in which a form in *-er* is unexpected (because it does not follow the regular rules for the attachment of *-er*) we also find cases in *-ster*. For example, *-er* is de-adjectival by exception in *vrijwillig-er* 'voluntary-ER', and *-er* attaches to a non-existing stem *reizig* in *reiziger* 'traveller'. Nevertheless, we also find *reizigster* and *vrijwilligster*.⁶⁸

However, there are several objections against the introduction of 'replacement rules'. First of all, they would enrich the power of the grammatical rules quite dramatically. For that reason alone, this step should be avoided as long as possible. Furthermore, there is an immediate and urgent empirical question that needs to be

⁶⁸ See Booij (1998) for a different solution in terms of Optimality Theory.

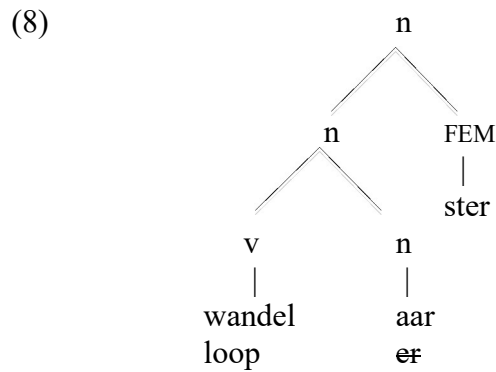
answered: Why is ‘replacement’ so limited? To the best of my knowledge, rules of replacement have not been proposed to cover similar phenomena in other languages. Before we accept replacement rules in a theory of morphology, we would need to have much more evidence than just a single rule in a single language.

In the absence of any good potential answers to these questions, we will try an analysis along more familiar lines. We would like to argue for an analysis in which *-aar* and *-ster* are two separate affixes (contra De Vries & Van Santen 1981), and in which there is no affix replacement (contra Van Marle 1985 and Booij 2010). This analysis should answer two questions: (i) why the formation of female personal nouns is denominal in (6a) and why it is deverbal in (6b), and (ii) why there are only forms in *-ster*, if there is a parallel form in *-er*.

The proposed solution comes down to the following: female personal nouns are always derived from their neutral or masculine counterparts, and are therefore always denominal. These unmarked or male personal names are regularly formed by the affix *-er*, or its allomorph *-aar*, which predictably shows up after schwa followed by a coronal sonorant. However, the sequence *-er-ster* is ill-formed and a rule of haplology applies that deletes the left affix (*-er*) in the context of the following *-ster*. So, the data in (6) can be represented as follows:

- (7) a. wandel-aar-ster walk-er-FEM b. loop-~~er~~-ster walk-er-FEM

This means that the structure in DM for female personal nouns (after head-movement) in Dutch is as in (8):



Some independent evidence for a haplology rule rather than an affix replacement rule may come from the following. The phonological string /əɾ/ is also the target of a haplology rule in other contexts in Dutch (see for different possible treatments of haplology: Neeleman & Van de Koot 2005, Yip 1988, Nevins 2012). Consider the following data:

- (9)
- a. Ik zie op die telefoondraad drie buizerds.
I see on that telephone wire three buzzards
'I see three buzzards on that telephone wire.'
 - b. Ik zie erop drie buizerds.
I see ER-on three buzzards.
'I see three buzzards on it.'
 - c. Ik zie er drie op die telefoondraad.
I see ER three on that telephone wire.
'I see three (of those) on that telephone wire.'
 - d. (...)dat ik er (*er) drie op zie.
(...)that I ER (*ER) three on see
'(...) that I see three (of those) on it.'

These examples show that the Dutch DPs in (9a) can be replaced by *er* /əɾ/. In (9b) *er* replaces *die telefoondraad* and shows up in front of *op*. In (9c) we see that a similar replacement is possible with the object DP *drie buizerds* ‘three buzzards’. We can also replace both DP’s with *er*, as in (9d), but now only one instance of this *er* adverb surfaces. For that reason, several researchers (e.g. Bennis 1980, Odijk 1993) have proposed a haplology rule, which deletes *er* in the context of *er*. It seems a small step to assume that something similar happens in (7b): the syllable *er* is deleted in front of *-(st)er*:

(10) /əɾ/ → ∅ / _____ / (st)əɾ/

There are two other situations in which a syllable *-er* can precede or follow an identical one. First, one could expect this to happen in underived words. As far as I am aware, such cases do not exist, though it is difficult to draw any conclusions from this fact since this may easily be an accidental gap. Second, since *-er* also coincides with the comparative form of the adjective (11a), we might expect haplology in adjectives in which the stem ends in the syllable *-er*, by way of rule (10). But this is not what we find:

(11) a. groen ‘green’ groen-er ‘greener’ b. helder ‘clear’ helder-der ‘clearer’
 breed ‘broad’ bred-er ‘broader’

The comparative of *helder* ‘clear’ in (11b) is not *helder* with haplology of *-er*, but *helderder* (with a predictable insertion of [d], see Smith 1976). Therefore, we may conclude that haplology only occurs when the targeted syllable is not part of another vocabulary item, but rather a vocabulary item itself.

4 *-es* after *-aar*

In this section we will discuss some cases that seem initially problematic for the proposal above. We will show that their problematic nature easily disappears once we

realize the exact nature of the Vocabulary Insertion rules. Let us have a look at the data in (12) (cf. (5c) and (5d) above):

- | | | | | | | |
|------|----|------------|----------------|----|-----------------|--------------------|
| (12) | a. | minn-ar-es | ‘love-er-FEM’ | b. | zang-er-es | ‘sing-er-FEM’ |
| | | winn-ar-es | ‘win-er-FEM’ | | dicht-er-es | ‘poemwrite-er-FEM’ |
| | | | | | | |
| | | zond-ar-es | ‘sinn-er-FEM’ | | onderwijz-er-es | ‘teach-er-FEM’ |
| | | dien-ar-es | ‘serve-er-FEM’ | | | |

The first question is why we find *-es* rather than *-ster* in these cases. Apparently, *-es* is, just like *-ster*, a VI that potentially realizes FEM. The VI’s *-es* and *-ster*, both realizing FEM, should then be in complementary distribution. This is the case with (13). There are no stems that take both *-es* and *-ster*.⁶⁹

- | | | | | | | |
|------|----|---------------|-------------------|----|-----------------|---------------|
| (13) | a. | minn-ar-es | *minn-aar-ster | b. | wandel-aar-ster | *wandel-ar-es |
| | | winn-ar-es | *winn-aar-ster | | loop-ster | *lop-er-es |
| | | schilder-es | *schilder-ster | | verkoop-ster | *verkop-er-es |
| | | kunsten-ar-es | *kunst-enaar-ster | | bemin-ster | *beminn-ar-es |

Now we may ask why we find *-es* particularly in these cases, rather than anywhere else. The correct empirical generalization seems to be the following:

- (14) *-ster* does not attach to *-aar* precisely in those cases in which *-aar* idiosyncratically replaces *-er*.

However, such a generalization is in fact impossible, given the well-motivated Adjacency Condition (Siegel 1978) (or a variant such as the Atom Condition (Williams

⁶⁹ However, there seems to be some variability among native speakers regarding forms such as *molenaars* and *molenaarster* (both: ‘mill-er-fem’) and *bedelaars* next to *bedelaarster* (both: ‘beg-er-fem’). Since these cases do not fall under the generalization in (14), we have no explanation for the potential occurrence of *-es* in these cases.

1981)), which essentially forbids a suffix C to look into information present on A in order to attach to a structure [[A] B]. Information that might be gathered by inspecting B is available to such a word formation process, but information deeper in the structure is structurally ‘too far away’. Nevertheless, the generalization in (14) requires certain information to be available in order to attach *-ster*, namely that *-aar* is not a regular allomorph, but is present by exception. That can only be decided if information about the nature of A is also present. Such is clearly forbidden by the Atom Condition.

For that reason we need to find an analysis that explains the generalization in (14) from a more local solution. Let us start by considering the distribution of the allomorphs *-er* and *-aar* and see how we account for that distribution in DM. As indicated above, both affixes spell out the same abstract morpheme, which we will quite straightforwardly call ER. This morpheme productively derives unmarked or male human personal names (often with an agentive interpretation) from verbal bases. We propose the following VI-rules for the insertion of the allomorphs:

(15) VI-rules for ER:

- a. ER ↔ **-ar** / {√ZONDE, √WIN, √DIEN, √MIN,...} ____
- b. ER ↔ **-ar** / ə,[+cons,+son,+cor] ____
- c. ER ↔ **-ər**

There are two conditions in which *-aar* [ar] is inserted rather than *-er* [ər] (which we consider the ‘default’ realization of this morpheme; compare the *-t* in (3)): first, *-aar* occurs more or less idiosyncratically after several monosyllabic stems ending in a coronal nasal (examples in (12a)). There is probably a historical explanation for the occurrence of *-aar* in these cases, but for the synchronic grammar the fact that *-aar* occurs after these stems rather than *-er* simply needs to be listed, as done in (15a). Predictably, however, *-aar* occurs after final schwa followed by a coronal sonorant, (15b). In all other cases ER is realized as /ər/.

Now observe that *-ster* attaches to *-aar* in (13a) and that the prosody is as in (16a) below. When the prosody is as in (16b) on the other hand, *-es* is attached (round brackets indicate foot structure, asterisks mark stressed syllables).

- (16) a. *-ster* after *-aar* if: b. *-es* after *-aar* if:
- | | | | | | |
|-----|----|-----|--|-----|-----|
| (*) | .) | (*) | | (*) | .) |
| σ | σ | aar | | σ | aar |

The FEM morpheme is realized as *-es* if the *-aar*-suffix is the weak syllable in a bisyllabic trochee (16b). There is an evident prosodic rationale behind this distribution: the suffix *-ster* has as its only vowel a schwa that is inherently not stress-bearing. Adding it to the prosodic structure in (16b) would lead to an ill-formed structure with two unstressed syllables in a row. In addition, the situation cannot be remedied by stress-shift, since *-aar* is a non-cyclic affix (cf. Halle & Vergnaud 1987). The choice between *-ster* and *-es* then seems to be a clear case of phonologically-conditioned allomorphy in the sense of Nevins (2011). We can now formulate the VI-rules for the FEM morpheme:

- (17) Proposed VI-rules for FEM (first version):

FEM	→	ster	/ (*)	_____
FEM	→	es		

The order of the rules in (17) falls out of the Elsewhere Condition (Kiparsky 1973): the more specific rule goes before the more general rule. The generalization in (14) now follows from a purely local explanation. The regular cases in *-aar* (rule 15b) occur when the base ends in a syllable that contains a schwa and is therefore necessarily stressless. This gives us the prosodic structure of (16a), predicting *-ster*. However, when *-aar* attaches to a stressed syllable (as *zond(e)*, *win*, *dien*, etc.) by exception following rule (15a), we now have the prosodic structure of (16b), which predicts *-es*. Hence, regular

cases in *-aar* lead to regular realization of FEM as *-ster*, while the exception *-es* appears in cases where *-aar* also appears as an exception.

Apart from *-ster* and *-es*, there is at least a third affix that spells out FEM. Consider the following examples:

- | | | | | |
|------|-----------|----------------|-----------|---------------|
| (18) | baz-in | 'boss-FEM' | keizer-in | 'emperor-FEM' |
| | boer-in | 'farmer-FEM' | neger-in | 'negro-FEM' |
| | herder-in | 'shepherd-FEM' | slav-in | 'slave-FEM' |
| | hertog-in | 'duke-FEM' | vriend-in | 'friend-FEM' |

This affix only attaches to non-derived nouns; the same affix *-in* also spells out FEM after names for animals, as in: *ap-in* 'ape-FEM', *ezel-in* 'donkey-FEM', *leeuw-in* 'lioness', etc. (see De Haas en Trommelen (1993: 14)). Assuming FEM attaches only to animate nouns, we may adapt (17) as follows:

- (19) Proposed VI-rules for FEM: (second version)

FEM	→	in	/ X ____ , X ∈ {√BAAS, √BOER, √HERDER, √HERTOG, √VRIEND, ...}
			Y ____, Y = [-human]
FEM	→	ster	/ (*) ____
FEM	→	es	

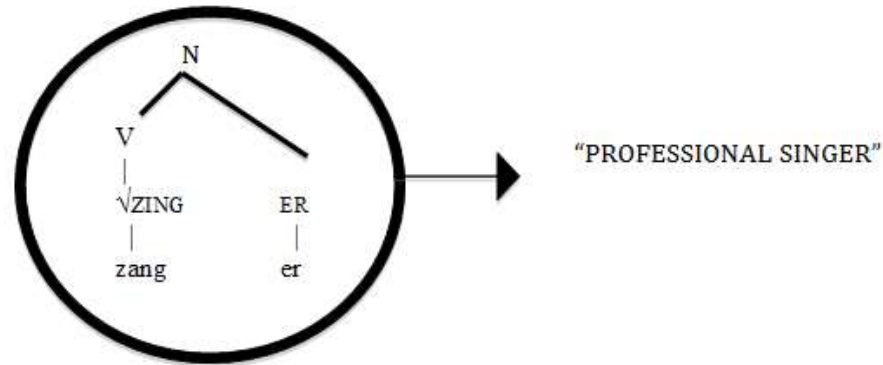
5 Haplogy and special meanings

Let us now turn to the second problem of the analysis proposed above, as presented by the data in (12b). It is unclear why these cases are not realized with haplogy of the *-er* affix before *-ster*: forms such as **zang-ster* 'singer-FEM', **dicht-ster* 'poet-FEM' and *onderwijs-ster* 'teacher-FEM' are all ill-formed. The crucial observation with respect to these data that set them apart from the other cases that do take *-ster* (with haplogy of *-er*) is that the forms in (12b) all have a demotivated meaning. Not every singing girl is a *zangeres*. One may only refer with *zangeres* to a female *professional* singer. The same holds *mutatis mutandis* for *dichteres* 'poet-FEM', which can be further corroborated by the oddness of (20a). Also note that the verb *onderwijs* 'to teach' has a far wider meaning than the nominal derivation in *-er*. Teaching at some institution (such as e.g. a university) can be expressed by using (20b). However, the derived noun *onderwijzer* cannot be used to refer to just anybody who teaches; it can only refer to teachers at primary school.

- (20) a. ?? Mijn zusje bleek de dichteres van het Sinterklaasversje.
 My sister appeared (to be) the poet-FEM of the Santa Claus Rhyme
- b. Pavol onderwijst op de universiteit \neq Pavol is een onderwijzer.
 Pavol teaches at the university

In DM such special meanings need to be stored in the Encyclopedia. Once the structure is formed, this meaning is retrieved from the Encyclopedia. The figure in (21) illustrates how we think these special meanings are retrieved from the Encyclopedia:

(21) Encyclopedia:



The whole morphological structure and its realization trigger the special meaning "professional singer". I claim that this structure is no longer accessible if the haplology-rule would have deleted *-er*. Under those circumstances the Encyclopedic entry encircled in (21) no longer matches the structure of *zang-ster*, since this form does not contain the form *zanger*. This predicts that the special meaning would be lost. Therefore, if the special meaning needs to be preserved (as is the case in *zangeres*), *-ster* cannot attach (that would necessarily lead to deletion of *-er*), and the next VI able to spell-out FEM, takes its place.

If this view is correct, that would also predicts that *zangster* has a regular meaning 'any female person that sings'. At least it was a commonly used word until late in the 19th century (WNT).

6 Conclusion

In this paper I have argued that the derivation of female personal nouns in Dutch by suffixation does not provide evidence for a paradigmatic organisation of word-formation (contra Van Marle 1985). The presented analysis makes no use of 'paradigmatic' means while it can still explain the observed patterns; moreover, it does an even better job in explaining the distribution of *-ster* with respect to the other affixes.

To this end we need to assume that there is haplology of affixes. However, such an assumption is independently needed for a whole range of similar phenomena in natural languages. Therefore, it seems warranted to make use of such a mechanism in the present case as well.

I have claimed that in the formation of female personal nouns, a morpheme FEM attaches to a morpheme ER (that derives neutral or male personal names) and that the realization of both FEM (as either *-es* or *-ster*) and ER (as either *-aar* or *-er*) depends on prosodic factors. As a result, the form of FEM may seem to depend on the form of the stem to which ER attaches, but we have shown that there is no need for such direct access to this stem. There is a local solution using haplology and prosodically conditioned spell-out.

Vocabulary items are in competition for the realization of abstract morphemes (like FEM in our case study). As far as I can judge, this is one of the insights behind Van Marle's (1985) notion of 'paradigmatic word formation'. However, we do not need paradigms to solve the problem. I adopt the same means as employed by DM to account for the 'blocking' of regular rules by special rules ('elsewhere'-ordering of VI rules).

As a final conclusion, I claim that haplology destroys the accessibility of special meanings that include the deleted affix. Special meanings can only be preserved by leaving the phonological form of the base (that is the locus for the special meaning) untouched. Therefore, if *zanger* 'singer' has a special meaning, the female form with that special meaning is *zangeres* 'singer-FEM', rather than *zangster*. This analysis predicts more generally that haplology bleeds special meanings that pertain to the non-haplologized forms.

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