

ON *LITTLE N*, \checkmark , AND TYPES OF NOUNS¹

Jean Lowenstamm, Université Denis Diderot, Paris, France

O. INTRODUCTION.

This paper is an attempt at gaining insight into the organization of the lower functional structure of nouns. An especially fruitful hypothesis, rooted in Henk van Riemsdijk's seminal work (van Riemsdijk 1990), has been that N° s result from the merger of a root (henceforth \checkmark) and a functional head n encapsulating the essence of nominality. Upon merger with its complement (\checkmark), n imparts the constituent thus formed (nP) with the features which will allow it to function as a noun. With respect to the architecture of nouns, there has been some debate around the question whether Gender heads its own projection (Alexiadou 2005, Bernstein 1993, Haegeman 2000, 2001, Picallo 1991, 2005, 2006, Ritter 1993), an issue sometimes discussed in conjunction with another question, viz. are gender markers really that, or are they word class markers (Harris 1991) ? This paper is an attempt at isolating some of the properties of n . In its roughest form, the thesis I will articulate is that n IS Gender.

Most of the evidence for n comes from its interaction with grammatical objects located outside nP. However, looking inward, that is inside nP may be a valuable source of information, too. Suppose nP, n and \checkmark are indeed arranged as per the hypothesis just mentioned ($[_{nP} n \checkmark]$). Then, in principle, the properties of each one can be deduced from the properties of the other two. Think of the properties of \checkmark . Some could be detected directly; others by deduction from properties of n or nP. Conversely, if the identification of \checkmark proves problematic, the nature of the problem is likely to shed light on properties of its constituent-

¹ I am grateful to audiences at the Tilburg Sounds of Silence Conference, at Université Paris 7, and at the Institut für Sprachwissenschaft of the University of Vienna. The material and the analyses presented here are elaborated in considerably more detailed fashion in Lowenstamm (2006b). Thanks go to Hans den Besten, Patricia Cabredo Hofherr, Franca Ferrari, Martin Haiden, Brenda Laca and Meyer Wolf for comments. While specific credit is not given systematically, the influence of the inspiring work of Haegeman (2000, 2001), Kihm (2005), Lecarme (2002), Marantz (2001), and Picallo (1991, 2005, 2006) will be felt throughout this paper. Of course, all errors remain mine. Just as I was about to turn in this paper, I received Franca Ferrari's dissertation (Ferrari 2005) kindly sent to me by the author at my request. While I have only been able to read the introduction, it is clear that many of the issues dealt with here are also addressed in Ferrari's work.

mate, *n*. In section 1, I describe a class of nouns (*balle/ballon*) in a two-gender system, French, which pose just this problem: their roots cannot be isolated on account of an intervening layer which resists peeling off, Gender. In section 2, I turn to the general issue of Gender exponence in the language, with specific attention to its expression in two types of French determiners, definite articles and possessives. After a critical discussion of previous accounts, I conclude that the location of Gender has been misconstrued. In section 3, an alternative is offered: I argue that Gender is generated very close to $\sqrt{\quad}$, indeed expresses *n*. The proposal is tested against the class of French nouns described in section 1. In the course of prying open their recalcitrant Gender-Root complex, I introduce the notion of ‘Null Gender’, or ‘null *n*’. The rest of the paper is devoted to the role of ‘null *n*’s’ in noun-formation in a three-gender system, Yiddish. The test problem, - the apparently paradoxical linear ordering of plural (inflectional) morphemes “inside” diminutive (derivational) morphemes - is described in section 4, along with a critical discussion of David Perlmutter’s influential account (Perlmutter 1988). As well, a proposal is put forth regarding the architecture of gender systems. It derives a specific feature of three-gender systems, namely the presence of two sources for plural nouns. Section 5 is an implementation of the proposal, including a resolution of the Yiddish ordering paradox. Section 6 is a review of language-internal independent evidence. An unexpected by-product of the analysis, in a paper which is not primarily about morphophonology, is a novel proposal about the instability of *Umlaut*, viewed here as a mere consequence of the special merging privileges of *Umlaut*-inducing heads. Concluding remarks are developed in Section 7.

1. A CLASS OF FRENCH NOUNS AND THE IDENTIFICATION OF THEIR ROOTS.

Two observations form the basis of the forthcoming discussion:

Observation 1: certain vowels, [ɔ̃], [ɛ], [o], [ê], seem to occur with striking frequency in noun-final position.

Examples of such nouns are given in (1).

(1)

a.	b.	c.	d.
1. mouton [mutɔ̃] <i>sheep</i>	2. taquet [takɛ] <i>wedge</i>	3. rateau [rato] <i>rake</i>	4. rotin [rotê] <i>rattan</i>
5. flocon [flokɔ̃] <i>flake</i>	6. béret [berɛ] <i>beret</i>	7. ciseau [sizo] <i>chisel</i>	8. rabbin [rabê] <i>rabbi</i>
9. perron [perɔ̃] <i>steps</i>	10. godet [godɛ] <i>tumbler</i>	11. sarrau [saro] <i>smock</i>	12. copain [kopê] <i>pal</i>
13. nylon [nilɔ̃] <i>nylon</i>	14. baquet [bakɛ] <i>tub</i>	15. zéro [zero] <i>zero</i>	16. lapin [lapê] <i>rabbit</i>

The popularity of [ɔ̃], [ɛ], [o], and [ê] at the end of nouns is surely intriguing: why those vowels? why in noun-final position? Now, consider Observation 2.

Observation 2: speakers presented with *non-existing* words displaying similar characteristics, e.g. *roudon* [rudõ],² *lorquet* [lorkɛ], *mateau*, *matot* or *mato* [mato], *cottin* [kotɛ̃] will consistently identify them as nouns; when asked to declare the gender of those nouns, **masculine** is the exceptionless answer.

Both observations would readily find an explanation under the assumption that [õ], [ɛ], [o], and [ɛ̃] are affixes capable of assigning categorial and gender features to the constituent they head. Yet, traditional morphologists have been extremely reluctant to contemplate this possibility for at least two reasons: a) the intractable semantic contribution of those putative heads; b) the fact, that their complements often do not occur independently.

Of course, from our perspective, the fact that the sequence <mut> in *mouton* (first example in (1)), is not attested independently as a morpheme, or noun, is consistent with the conjecture that it is indeed the complement root of a head +õ_[+N, -Fem.]. After all, it is typical of roots that they do not occur alone.

However, such a conclusion would be too hasty, as shown by the following data. In (2), (3), (4) and (5) below, I have adduced sets of masculine nouns, noted [X]_M, of the same type as in (1). They appear on the left-hand side, and their final vowel has been underscored in the phonetic transcription, for easier identification. Across to the right of each such noun, appears a phonetic transcription identical in every respect, *except for the absence of the vowel-ending under discussion*. With this set, it becomes apparent that any attempt to “remove” the underscored ending from the masculine nouns fails to produce a candidate to root status. Rather, a far more complex object systematically emerges : all the forms on the right are full-fledged nouns; moreover, they are all feminine (noted [X]_F).

(2)

- | | | |
|------------|--|---|
| a. plumeau | [plüm <u>o</u>] _M <i>duster</i> | b. [plüm] _F <i>plume feather</i> |
| c. terreau | [tɛr <u>o</u>] _M <i>soil</i> | d. [tɛr] _F <i>terre dirt</i> |
| e. cordeau | [kord <u>o</u>] _M <i>string</i> | f. [kord] _F <i>corde rope</i> |
| g. billot | [biy <u>o</u>] _M <i>wooden block</i> | h. [biy] _F <i>bille log</i> |

(3)

- | | | |
|-----------|---|---|
| a. salon | [sal <u>õ</u>] _M <i>living room</i> | b. [sal] _F <i>salle hall</i> |
| c. ballon | [bal <u>õ</u>] _M <i>ball</i> | d. [bal] _F <i>balle ball</i> |
| e. jupon | [žüp <u>õ</u>] _M <i>petticoat</i> | f. [žüp] _F <i>jupe skirt</i> |
| g. glaçon | [glas <u>õ</u>] _M <i>icicle</i> | h. [glas] _F <i>glace ice</i> |

(4)

- | | | |
|-------------|--|---|
| a. cervelet | [sɛrvə <u>ɛ</u>] _M <i>cerebellum</i> | b. [sɛrvɛ] _F <i>cervelle brain</i> |
| c. mulet | [mül <u>ɛ</u>] _M <i>male mule</i> | d. [mül] _F <i>mule female mule</i> |
| e. boulet | [bul <u>ɛ</u>] _M <i>cannonball</i> | f. [bul] _F <i>boule ball</i> |
| g. piquet | [pik <u>ɛ</u>] _M <i>stake</i> | h. [pik] _F <i>pique pike</i> |

² The [õ] pattern of masculine nouns must be sharply distinguished from the [zõ] pattern. The latter is a feminine pattern: *maison* ‘house’, *raison* ‘reason’, *trahison* ‘treason’, *cargaison* ‘cargo’, etc.

(5)

- | | |
|--|---|
| a. biffin [bifɛ̃] _M <i>foot soldier</i> | b. [bif] _F <i>biffe infantry</i> |
| c. frusquin [fruskɛ̃] _M <i>junk</i> | d. [frusk] _F <i>frusque gear</i> |
| e. colombin [kolɔ̃bɛ̃] _M <i>male pigeon</i> | f. [kolɔ̃b] _F <i>colombe dove</i> |
| g. crottin [krotɛ̃] _M <i>manure</i> | h. [krot] _F <i>crotte dropping</i> |

At this point, things stand as follows: we have tried to tease out the roots of the class of masculine nouns under discussion, by peeling off what appeared to be likely masculine nominal heads, [o], [ɔ̃], [ɛ̃], and [ɛ̃]. The evidence in (2) through (5) shows that we stumble instead against a robust obstacle: we are still separated from the root by one functional layer, the nominal layer; possibly two, in case Gender is a *bona fide* projection (cf. Picallo 1991, 2005). Clearly, isolating roots will require a closer look at the morphosyntax and morphophonemics of Gender in relation to noun formation. Before we embark on such a discussion, it should be noted that the challenge of understanding the data in (2)-(5) includes accounting for two of its salient properties:

A. Atypical Gender marking. French Feminine morphology classically amounts to increasing the size of a masculine base, as seen with nouns: *boulangier* [bulãže] *baker* vs. *boulangère* [[bulãžeɛ̃] *female baker*; adjectives: *gros* [gro] *big (ms.)* vs. *grosse* [groɔ̃] *big (fem.)*; past participles: *inclus* [ɛ̃klü] *included (with ms. agreement)* vs. *incluse* [ɛ̃klüz] *included (with feminine agreement)*; or determiners: *ce* [sə] *this (masculine)* vs. *cette* [sɛt] *this (feminine)*. In contradistinction with the augmentative pattern just described, the feminines of (2)-(5) are regularly shorter than their related masculines.

Moreover, while the feminines in A. above correspond in one-to-one fashion to their matching masculines, the masculine and feminine nouns of (2)-(5) stand in a quite different relationship: the masculines can in no way be viewed as ‘the masculines of’ their related feminines. Indeed, to one short feminine of the type discussed here, can correspond more than one masculine, as illustrated in (6).

(6)

Root	Feminine	Masculine	
√BUL	boule _F [bul] ‘ball’	boulet _M [boule] ‘cannonball’	boulon _M [bulɔ̃] ‘bolt’
√BAL	balle _F [bal] ‘ball’	ballon _M [balɔ̃] ‘ball’	ballot _M [balɔ] ‘bundle’

B. Loose semantic connectedness. The masculine and feminine nouns in the pairs of (2) through (5) are clearly related in meaning, yet, the connection is loose. Thus, both *salle* [sal] ‘hall’ and *salon* [salɔ̃] ‘living room’ are types of rooms; similarly, both *balle* [bal] ‘ball’ and *ballon* [balɔ̃] ‘ball’ are round bouncing objects used in sports. But the short, feminine *salle* denotes a larger room than does *salon*; while the short and feminine *balle* denotes a smaller object than *ballon*.

This loose connectedness between members of such pairs can be contrasted against the stability of interpretation of structures embedding them. Consider two more such nouns: *carte* [kart] ‘card’ and *carton* [kartõ] ‘cardboard box’, and the related denominal verbs in (7). Both verbs involve prefix *en+* which imparts specific thematic properties (THEME) to the verb’s internal argument.

(7)

- a. *encarter* “control someone’s movements by making it mandatory
en+cart+er for him/her to carry specific identification documents”
- b. *encartonner*“ control the inherent looseness of a substance or a group
en+carton+er of objects by enclosing it in a cardboard box”

In an obvious sense, the meanings of both verbs are compositional with respect to *carte* ‘card’ and *carton* ‘cardboard’, respectively. By contrast, there is nothing necessary in the relation between what *carte* and *carton* denote. This loose connection between the respective denotations of the nouns (in spite of their common root), as opposed to the rigid interpretation of superordinate structures, is discussed very efficiently in Arad (2004) on the basis of Modern Hebrew data. I return to this question at the end of section 3.

In the next section, I turn to a discussion of Gender.

2. GENDER IN FRENCH.

Due to the advanced state of phonetic erosion of the language, many French nouns and adjectives exhibit very little gender morphology. One of the few places where gender marking has survived in regularly overt fashion is the determiner system of the language. Two kinds of determiners will be discussed in this section: singular definite articles first, then singular possessives.³

Singular definite articles are viewed as reflecting the gender of their associated noun: *le* [lə] if the noun is masculine, *la* [la] if the noun is feminine. Thus, *le_M bateau_M* [lə bato] ‘the ship’, but *la_F table_F* [la tabl] ‘the table’. However, the distinction is neutralized when the following noun is vowel-initial, for both the masculine and the feminine articles lose their vowel in that case, a phenomenon known as *élision* and documented in (8).⁴

³ Plural definite articles and possessives are marked for number, but not gender. Accordingly, they are left out of the discussion.

⁴ The examples in (8a’,b’) are meant to show that the ability of nouns to trigger overt gender agreement on adjectives is in no way affected by definite article vowel *élision*.

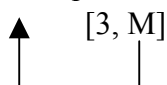
feminine (*la*, and *ma*, *ta*, *sa*). Accordingly, it is only natural to expect the allomorphy of the latter to be regulated by hiatus avoidance, too.

Now, consider what happens when the possessee noun is vowel-initial. Nothing remarkable can be observed if the possessee noun is masculine: gender agreement operates as expected, (11a). On the other hand, the outcome of agreement is entirely unexpected when the vowel-initial possessee is feminine (11b): the masculine form of the possessive, *son*, surfaces !

(11)

a.

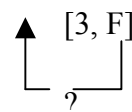
La femme m'a montré s-on aquarium



The woman showed me her aquarium

b.

La femme m'a montré s-on adresse



The woman showed me her address

This violation of the pattern of agreement is entirely outlandish, and will be addressed in its own right in the next section. For the time being, I wish to point out the impact of this data on the hiatus-breaking construal of *élision*: it literally blows it out of the water. Indeed, under the hiatus breaking view, two outcomes only are conceivable with respect to possessives:

Hiatus-breaking overrides every other consideration, and the feminine possessive should relinquish its vowel: *sa adresse* → *s'adresse*, much as the definite article does: *la adresse* → *l'adresse*; or

if the person features of possessives cannot be licensed by phonologically null material (**s'*), then the vowel should remain (*sa*), perhaps triggering an other hiatus breaking device, such as glottal stop insertion: *sa adresse* → *saʔadresse*.

Yet, neither of these options is retained. Gender exponent change, the seemingly favored strategy, does not fall in any intelligible way within the range of options opened for hiatus-breaking enforcement.⁵ I conclude to the failure of the hiatus-breaking account. As we see, current views on the morphophonemics of determiners are inadequate. They are unlikely to shed any light on the intricate relationship between Root and Gender. In the next section, I address the latter issue in such way as to propose a solution to the analytical problems just reviewed, as well.

⁵ While the possessive appears to have become masculine, the ability of the noun to trigger feminine agreement on an adjective, remains intact:

La femme m'a montré son adresse précise [presiz]/*précis [presi]
the woman me has shown her address precise
The woman showed me her precise address

3. ROOT AND GENDER.

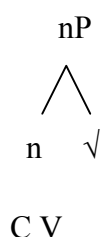
I make the following three assumptions, (12):

(12)

- a. N° 's result from the merger of a root and functional category n (cf. Marantz, 2001)
- b. Functional categories have phonetic content, viz. the minimal template CV.⁶
- c. n spells out as Gender.

The assumptions in (12) determine the object in (13).

(13)



French has two genders, Feminine and Masculine. According to Hypothesis 12c, n will thus come in two versions. Call n_I the feminine version, and n_{II} the masculine version. n_I spells out as [a], while n_{II} spells out as [∅].⁷

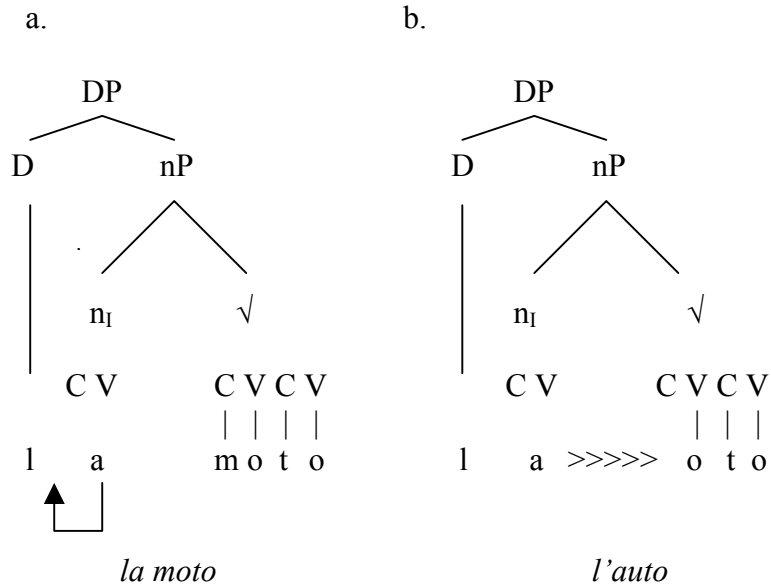
In (14a), I show how root \sqrt{MOTO} has merged with n_I to form the feminine noun *moto* 'motorbike'. The spellout of n_I , a floating [a], eventually raises to D, and joins up to the exponent of definiteness, *l*. By contrast, in (14b), vowel-initial root \sqrt{OTO} has merged with n_{II} to form the noun *auto* 'car'. This time the presence of a 'floaters' such as [a] is not tolerated in the vicinity of an adjacent vowel, the root-initial vowel. The relationship leading to the deletion of [a] is noted by the herringbones in (14b). I interpret deletion as an effect of the Obligatory Contour Principle, a phonological principle which prohibits the adjacency of identical or similar phonological objects.⁸

⁶ Specific argumentation for (12b) cannot be offered in the context of this paper. Readers uncomfortable with a version as strong as (12b) can adapt its scope to the only two functional categories discussed in this paper: n and *Num*.

⁷ 'Null spellout' of n_{II} presupposes a specific phonological thesis regarding the makeup of masculine definite article *le*, sometimes pronounced [lə], sometimes [l]: (i) *le* is underlyingly vowelless, viz. /l∅/; (ii) the schwa of its vowelised allomorph results from epenthesis.

⁸ A rich literature is available on the OCP (Leben 1980, Goldsmith 1976, McCarthy 1979, Kenstowicz 1982, Schein 1981, Lowenstamm & Prunet 1986). Its parametric operation in determining the spellout of Romance determiners can be illustrated by means of a comparison between French and Spanish. While any vowel-initial French noun will trigger *élision* of a preceding definite article vowel, in Spanish only nouns with initial stressed *a* will have a similar effect: [Dl][_na] águila_F → (e)l águila 'the eagle', but [Dl][_na] abuéla_F 'the grandmother' with non-initial stress, remains unaffected.

(14)



If spelling mirrored my proposal, the French word for *motorbike* would read: *l'amoto*, not *la moto*. I now turn to possessives.

I make the standard assumption that possessive constructions involve a functional projection FP located between the noun and the determiner, cf. Zribi-Hertz (2003) and references therein. Moreover, I make the non standard assumption that the possessive (noted as 3 in (15)) originates as the subject of nP and moves up to the Spec position of DP. In (15a) Root $\sqrt{\text{MOTO}}$ merges with n_I and [a] unremarkably moves up to the head of D, yielding *sa moto* 'his/her motorbike'.⁹ In (15b), vowel-initial root $\sqrt{\text{OTO}}$ merges with n_I , and [a] falls prey to the Obligatory Contour Principle, as in (14b). This time, however, the person features of the possessive in Spec D cannot be licensed by an empty head. Accordingly, **s'auto* is out of the question, and default [δ] is inserted, as shown by the arrow in (15b).

⁹ The question, of course, arises of the possible presence of intervening material, for instance a pronominal adjective, between *n* and *D*, as in: *la superbe moto* 'the superb motorbike'. In cases such as these, I *do not* suppose that *a* originates in [_n] and then, skips over the adjective as represented in i., where *t* would identify the starting point of *a*.

i. [_{DP} [_D l-a_i] [_{Adj} superbe] [_{nP} [_n t_i] [_√ moto]]]

Rather, I assume that the structure of *Adj*^o parallels that of *N*^o, viz.

[_{adjP} *adj* $\sqrt{\text{]}$. Under concord, the spellout of *adj* (bold italics in i.) will reproduce that of *n* (plain italics), while the floating *a* of [_n] merely deletes (strikethrough in ii).

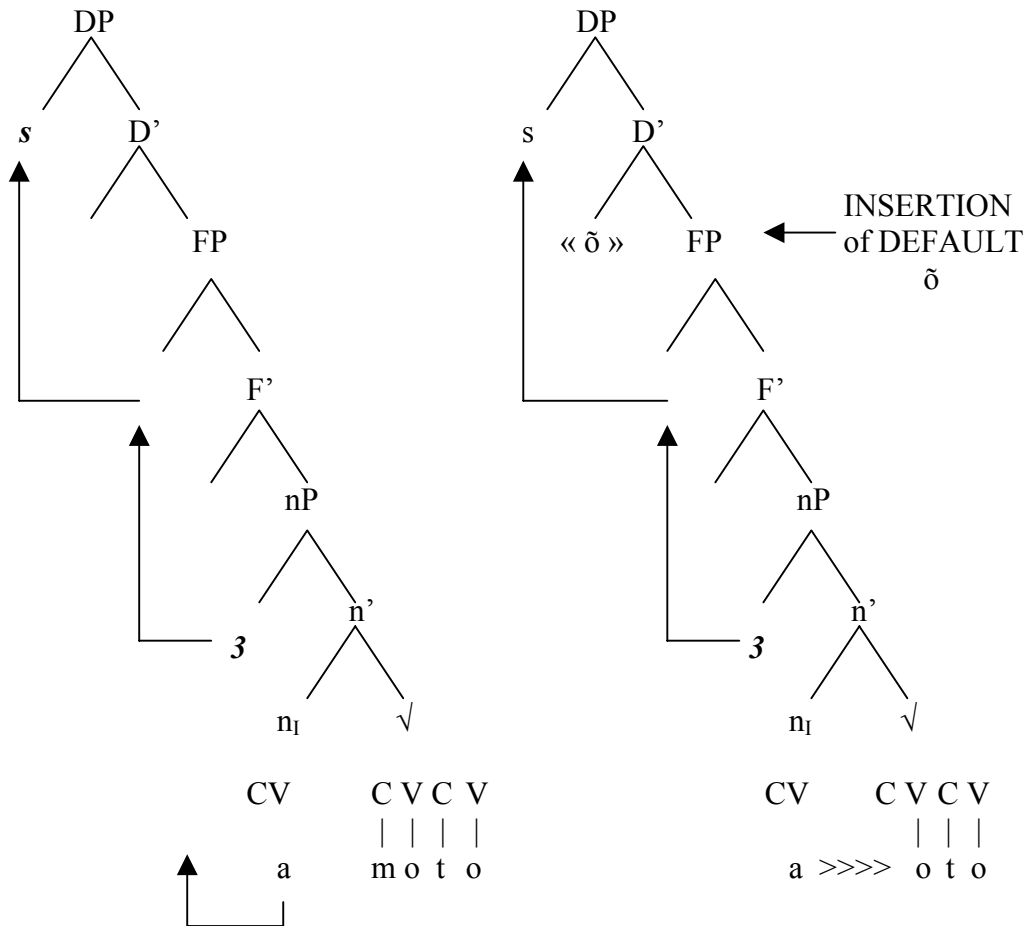
ii. [_{DP} [_D l]... [_{adjP} [_{adj} **a**] $\sqrt{\text{]}$... [_{nP} [_n ~~a~~] $\sqrt{\text{]}$]

Thus, the relevant properties (consonant or vowel-initial) of the highest lexical *X*^o *only*, will determine the shape of the definite article, as shown in iii. and iv:

iii. l'auto vs. la belle auto 'the beautiful car'

iv. la moto vs. l'attriante moto 'the attractive motorbike'.

(15)



Note that the choice of [ø] is probably not arbitrary: [ø] is the least marked pronominal form in the language, and its insertion can regularly be observed as the surface subject of impersonal constructions such as *on a soutenu que...* ‘one has claimed that...’.

In the preceding section, I raised the question of the puzzling behavior of definite articles and possessives. The question can be summed up as in (17).

(17)

Definite articles and possessives have much in common: they are light CV objects and they share a common feminine exponent; why do they react so differently in the presence of *the same phonological factor*, a vowel-initial host noun ?

The answer can be summed up as in (18).

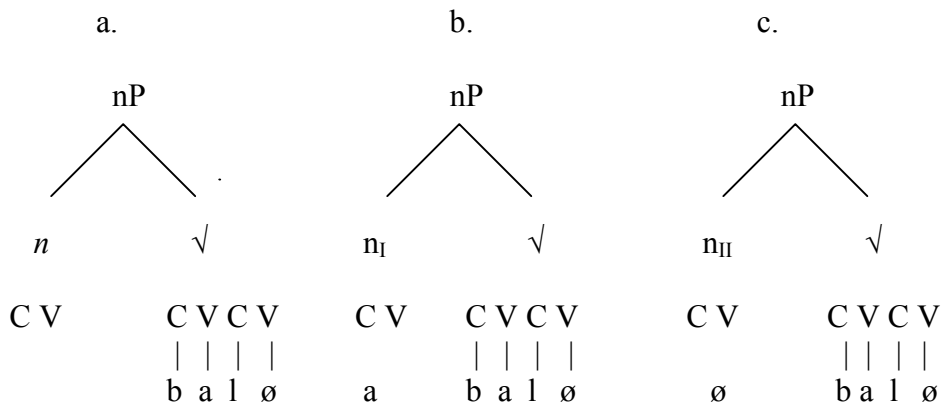
(18)

French has one unique Gender exponent, [a].
 [a] is generated within nP, the domain inside which its fate is decided: either it is ‘absorbed’, or not.
 If it is not absorbed, it is realized in D.

If it is absorbed, the ultimate phonetic shape of the determiners – definite articles or possessives - is dealt with locally, i.e. within D, based on the specifics of their respective characteristic configurations (14b vs. 15b).

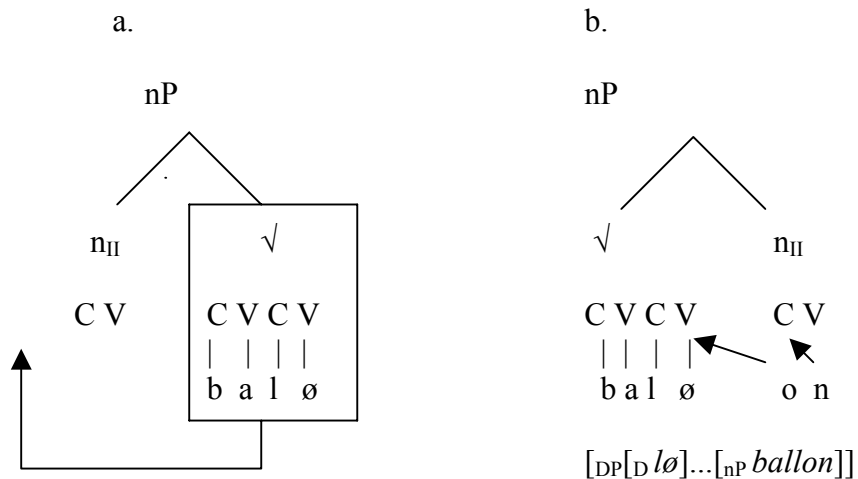
I next turn to the class of nouns discussed at the outset of this paper, viz. *balle/ballon*. Its outstanding features is now clearer: $\sqrt{\quad}$ merges not with one version of *n* (n_I or n_{II}), but with both, n_I and n_{II} . The general schema is represented in (19a), and its two specific versions in (19b,c).

(19)



When *n* is realized as n_I , it spells out as [a] (19b). The derivation of *nP* is finished. [a] will eventually attach to *l*- in the case of a definite article, or *m*-, *t*-, *s*- in the case of a possessive. On the other hand, when *n* is realized as n_{II} and accordingly spells out null, $\sqrt{\quad}$ left-adjoints to *n*, as shown in (20).

(20)



Upon left-adjunction, *n* spells out as a suffix, the segments of which linearize as indicated in (20b) and are eventually pronounced [ø] according to the phonology of the language.

I close the discussion of French nouns with an intermediate summary and a cautionary note. In these first two sections, I have tried to provide an account of two characteristic properties of a specific class of nouns, which I listed at the end of Section 1.

A. Atypical Gender marking. It follows from my proposal that masculine nouns – the “null” class – are uniquely targeted by the process of augmentation described. The scenario I proposed accounts for the fact that, atypically, masculines of this particular class are longer than matching feminines.

B. Loose semantic connectedness. The account I have provided rests on the idea of direct merger of $\sqrt{\quad}$ with *n*, a configuration typically giving rise to such loose semantic connectedness effects.

The cautionary note concerns the scope of the account offered. I want to emphasize that I have been dealing with only one of several patterns of noun formation in French. Clearly, I do not expect every masculine noun to sport a suffix, anymore than I expect every feminine noun never to do so.

The scenario I developed to account for A and B above rests on the connection between null Gender exponence, left-adjunction of $\sqrt{\quad}$, and suffixal spellout. In the next section, I turn to the role of the ‘null class’ in a three-gender language.

4. YIDDISH NOUNS¹⁰

4.1. The Reyzen-Bochner-Perlmutter paradox.

Consider the data in (21a-d). In (21a), a masculine noun appears in its simple form, *der demb* ‘the oak’. Its diminutive, *dos dembl*, is formed by suffixation of *-l*, (21b);¹¹ The plural of this noun is formed by suffixation of *-n*, (21c). (21d), the diminutive plural, exhibits the special plural of diminutive affix *-l*, viz. *-əx*. Evidently, the diminutive plural is the plural of the diminutive. This represents the general Yiddish pattern of combination of Diminutive and Number.

(21)

a. <i>der demb</i>	‘the oak’	e. <i>der xazər</i>	‘the pig’
b. <i>dos dembl</i>	‘the little oak’	f. <i>dos xazərł</i>	‘the little pig’
c. <i>di dembn</i>	‘the oaks’	g. <i>di xazeyrəm</i>	‘the pigs’
d. <i>di dembləx</i>	‘the little oaks’	h. <i>di xazéyrəmləx</i>	‘the little pigs’

¹⁰ Unless otherwise indicated, stress on Yiddish forms is penultimate.

¹¹ All diminutives are neuter, regardless of the gender of the corresponding non-diminutive: *der bob* ‘bean’/*dos bebl* ‘small bean’; *di ban* ‘train’/*dos bandl* ‘little train’, *dos katovəs* ‘joke’/*dos katóvəsl* ‘bon mot’.

Now, consider the data in (21e-h). A masculine noun *der xazər* ‘the pig’ appears in (21e). Its plural (21g) involves the suffixation of plural affix *-əm*, another of the plural markers of the language.¹² Its diminutive singular is, again, formed by suffixation of *-l*, (21f). But the diminutive plural, while it faithfully displays both *-l* and its plural *-əx*, has been formed – unlike that of *demb* – on the plural of the noun, *xazeyrəmləx* !

Bochner (1984) and Perlmutter (1988), and earlier Reyzen (1926), noted the phenomenon, and pointed out that the second pattern violates a well-established generalization regarding the respective order of derivational and inflectional morphemes. This comes out conspicuously from a comparison of the analyses of *xazeyrəmləx* and *dembləx* in (22a,b), respectively.

(22)

a.	b.
$xazeyr[PL \textit{əm}][DIM \textit{l}][PL \textit{əx}]$	$demb[DIM \textit{l}][PL \textit{əx}]$

In (22a), an inflectional affix, $[PL \textit{əm}]$, appears ‘inside’ (or to the left of), a derivational affix, $[DIM \textit{l}]$. By contrast, the general pattern (22b) exhibits the canonical ordering: first derivational, *then* inflectional affixes. Perlmutter’s solution to the paradox of (22a) is to view *xazər* and *xazeyrəm* as standing in a relationship of full suppletion. That is, *xazeyrəm* is the plural of *xazər* not because it involves plural morphology, but because it is lexically specified as such. Under this view, the ordering paradox noted in (22a) no longer obtains: as shown in (23), the canonical ordering of derivational and inflectional affixes now appears to be enforced in both cases, i.e. diminutive first, then plural.

(23)

a.	b.
$[N, +PL \textit{xazeyrəm}][DIM \textit{l}][PL \textit{əx}]$	$[N \textit{demb}][DIM \textit{l}][PL \textit{əx}]$

I have argued elsewhere against the suppletion analysis (Lowenstamm 2006b). Here, I will develop in two-step fashion one single argument concluding to its rejection. Perlmutter notes that a number of singulars and plurals cannot be related by regular, identifiable phonological processes. This fact, he correctly concludes, militates in favor of the suppletion analysis. Several of his examples appear in (24).

¹² Plural marker *-əm* is usually noted *-im* in the linguistic literature. Following Jacobs (2005), I depart from this practice which closely reflects orthography, but not at all the fact that the vowel is totally reduced. *-əm* occurs primarily (but see last section) with nouns belonging to the Hebrew-Aramaic stock of the language. I assume without further discussion, as Perlmutter does tacitly, that information of that nature is not synchronically available, and plays no role in the operation of grammatical devices.

(24)

a. nes	nisəm	miracle	g. xeylək	xalokəm	piece
b. mes	meysəm	dead	h. xoydəš	xadošəm	month
c. xet	xatoəm	sin	i. seydər	sdorəm	Seder
d. rov	rabonəm	rabbi	j. šeygəc	škocəm	punk
e. nar	naronəm	fool	k. meyləx	mloxəm	king
f. tñay	tñoəm	condition	l. amorəc	ameracəm	ignoramus

Some, though not all, of the pairs in (24) support Perlmutter's contention. Of course, the question is whether they are representative. I maintain they are not. Rather, the general pattern is one of classical penultimate stress and post-accentual nuclear reduction, such as illustrated in (25) with singulars, plurals, and the underlying phonological representations (UPR) of singulars.

(25)

Singular	Plural	UPR	
a. bətlən	batlónəm	/batlon/	idle, impractical individual
b. gəzlən	gəzlónəm	/gazlon/	violent person
c. xavər	xaveyrəm	/xaveyr/	friend
d. mamzər	mamzeyrəm	/mamzeyr/	bastard
e. maskl	maskiləm	/maskil/	Maskil
f. maxmər	maxmirəm	/maxmir/	rigorous person
g. gibər	giboyrəm	/giboyr/	hero
h. xamər	xamoyrəm	/xamoyr/	stupid person
i. galəx	galoxəm	/galox/	priest
j. savlən	savlonəm	/savlon/	tolerant person

The massive character of this regularity was confirmed by a search of Niborski & Vaisbrot's dictionary (Niborski & Vaisbrot 2002) which returned no less than 83 such regular pairs, *for m-initial nouns only*.

Now, having established that the general pattern is as in (25), consider a plural such as *batlónəm* (25a). According to Perlmutter, as we saw, such a form is not to be analyzed into a stem followed by a plural affix (batlon+əm). For Perlmutter's contention to hold, two of its consequences have to remain true: a) +əm is not a plural marker, the point under discussion; but also b) /batlon/ is not a stem, or morpheme. If it can be shown that /batlon/ indeed combines independently with a *bona fide* head, Perlmutter's thesis would be disproved. As it turns out, such is precisely the case. In (26), I show how /batlon/, and the rest of the stems of the plurals in (25), are selected by adjectival head +iš. Now, if /batlon/ IS a stem AND the +əm forms in (25) are consistently the plurals of the corresponding +əm-less forms, that last correlation would be entirely accidental... until one recognizes that +əm marks plural.

(26)

Singular	Plural	Adjective	
a. batlən	<u>batlonəm</u>	<u>batloniř</u>	idle
b. gazlən	gazlonəm	gazloniř	violent
c. mamzər	mamzeyrəm	mamzeyriř	bastard-like
d. xavər	xaveyrəm	xaveyriř	friendly
e. maskl	maskiləm	maskiliř	Maskilic
f. maxmər	maxmirəm	maxmiriř	rigorous
g. gibər	giboyrəm	giboyriř	heroic
h. xamər	xamoyrəm	xamoyriř	asinine
i. galəx	galoxəm	galoxiř	priestly
j. savlən	savlonəm	savloniř	tolerant

Based on the argument developed, I conclude to the rejection of the suppletive view of the singular/plural pairs under discussion. If +əm is indeed a plural marker, an alternative analysis of its non-canonical ordering with respect to the diminutive marker +l in the context of constructions such as *xazéyrəmləx* (repeated in (27)), has to be offered.

(27)

$xazeyr_{[PL \ \partial m]}[_{DIM} \ l]_{[PL \ \partial x]}$

The alternative analysis must preserve Perlmutter's basic insight regarding the outstanding nature of the class of nouns under discussion. I want to argue – and this is the topic of the next sections – that Perlmutter's basic idea is correct and that an analysis such as he proposed (repeated in (28)) must indeed eventually be arrived at.

(28)

$[_{N, +PL} \ xazeyrəm]_{[_{DIM} \ l]}_{[PL \ \partial x]}$

However, I part ways with Perlmutter on the question of what the correct path to such a result is. Plurals of pairs such as *xazər/xazeyrəm* are not related to their singulars by suppletion, as are English *mouse/mice*, or *foot/feet*. Rather, I want to show that it is a deep property of three-gender systems that they necessarily produce singular/plural pairs exhibiting outstanding behavior. I propose to address the issue by first examining the exponents of Gender and Number in the language.

4.2. Gender, Number; the evidence.

Yiddish overtly displays three genders, masculine, feminine, neuter.¹³ This three-way distinction is reflected in the form of the singular definite articles, *der*, *di*, *dos* respectively, as illustrated in (29) with nominative definite articles.

¹³ But see Uriel Weinreich's extraordinarily important and intriguing paper (Weinreich 1961).

(29)

Masculine	Feminine	Neuter
a. der moyəx ‘brain’	b. di lebər ‘liver’	c. dos oyg ‘eye’
d. der step ‘steppe’	e. di bar ‘pear’	f. dos hemd ‘shirt’

Plurals are marked by one of five suffixes as shown in the table in (30): +əm, +ər AND UMLAUT, +ø AND UMLAUT, +s, +(ə)n. The reader will notice that the assignment of a noun to any of the plural suffix classes depends in no way on the gender of that noun in the singular. Moreover, the three-way gender distinction encoded in the form of the singular definite articles, is neutralized into a unique plural form: *di*.

(30)

SINGULAR	PLURAL				
	a. -əm	b. -ər + uml.	c. -ø + uml.	d. -s	e. -(ə)n
MASCULINE der xazer ‘pig’ der strož ‘janitor’ der band ‘volume’ der moyəx ‘brain’ der demb ‘oak’	di xazeyrəm	di strežər	di bend	di moyxəs	di dembn
FEMININE di broyz ‘brewery’ di naxt ‘night’ di kiškə ‘intestine’ di gas ‘street’		di Brayzər	di next	di kiškəs	di gasn
NEUTER dos hemd ‘shirt’ dos rext ‘due’ dos gelegər ‘bunk’ dos bekias ‘erudition’		di hemdər	di rext	di gelegərs	di bekiasn

The full paradigm of definite articles appears in (31), with the form taken by the article for each of the three cases.

(31)

	MASC.	NEUT.	FEM.	PL.
NOM.	der	dos	di	di
ACC.	dem	dos	di	di
DAT.	dem	dem	der	di

However, the table in (31) does not reflect much more than the spelling conventions of the language. In reality, the forms of (31) serve a dual purpose, as shown in (32). In (32a,b), full forms of the determiners are realized with heavy stress and high pitch. They obviously serve as demonstratives. On the other hand, true definite articles are realized without stress and in reduced form (underscored in 32c,d). Possible and impossible contrasts with deictic pronouns have been indicated for control.

(32)

- a. mir óbm gekóyft **dí** óytos, (...ništ **yéne**); **dós** ferd, (...ništ **yénts**)
‘we bought **THESE CARS** (not **THOSE**); **THIS** horse, (not **THAT one**)’
- b. **dér** bóxer špilt zix (...ništ **yéner**)
‘**THIS** boy is playing *himself*’ (not **THAT one**)
- c. mir óbm gikóyft d^(ə) óytos, *(ništ **yéne**); s’ferd, *(ništ **yénts**)
we bought these cars, *(not **THOSE**); the horse, *(not **THAT one**)’
- d. dɹ bóxer špilt zix *(ništ **yéner**)
‘the boy is playing’ *(not **THAT one**)

In (33), I give a table of the strong (demonstratives) and weak (definite articles) versions of the determiners under discussion.¹⁴

¹⁴ Providing an accurate phonetic description of the definite articles is a delicate matter. It is also beyond the point of the argument made here. The representations in Table (33) are only meant to convey that reduction involves squeezing the segmental material of strong forms into a CV format. The fate of [d], the exponent of definiteness, depends on the nature of the other ingredients. It survives in the context of *dér* on account of the possible vocalization of [ɹ] into a low vowel, noted here [ɹ̩]; it survives less well in the context of *dos*, hence the parenthesized raised notation in (33).

(33)

	MASC.	NEUT.	FEM.	PL.
NOM.	dér/dя	dós/ ^(d) s	dí/d ^(a)	dí/d ^(a)
ACC.	dém/d ^m	dós/ ^(d) s	dí/d ^(a)	dí/d ^(a)
DAT.	dém/d ^m	dém/d ^m	dér/dя	dí/d ^(a)

If *d* is the exponent of definiteness, then the exponents of gender (and case) are as in (34).

(34)

	a.		b.
	Nom	Acc	Dat
Singular	-я,	-m	-m
Feminine	-∅	-∅	-я
Neuter	-s	-s	-m
Plural	-∅	-∅	-∅

If we focus our attention on representatives of structural case (34a), it is clear that Feminine and Plural have null exponents.¹⁵ I will propose below that they be viewed as occupying the same place in the system as French Masculine: they are the “null members” of the Yiddish gender system.

4.3. Gender, Number; a perspective.

Up to this point, two languages have been discussed and documented, a two- and a three-gender language, French and Yiddish, respectively. Let us bring into the picture a one-gender language, say Turkish; and let us call n^T , n^F , and n^Y the number of overt gender categories in Turkish, French and Yiddish respectively. The difference between n^F and n^T (2-1) is the same as that between n^Y and n^F (3-2). Yet, the consequences are massively different: Turkish, is incapable of dividing the set of its nouns in the manner discussed and documented for French and Yiddish. In fact, Turkish is described as a genderless language. I would like to argue that the difference between two- and three-gender systems entails effects of similar magnitude. I submit that three-gender systems are a hybrid type having much in common with a system of noun classes such as is found in the Bantu languages. Indeed, with respect to Gender, Yiddish nouns display the kind of fluidity which is typical of class systems, but not of true gender systems, (cf. Greenberg 1978). Two examples only will be given.

¹⁵ Cf. Brugger & Prinzhorn (1996) for discussion of comparable data.

Accordingly, (37a) is the representation of a system such as that of Turkish. If Gender is an active category, (37a) stands for the positive value of [Gender]. As such, it is part of a larger tree in which it is opposed to the representative of the necessarily corresponding negative value for [Gender]. (37b) is such a tree. I submit it is the representation of a system such as Spanish, which indeed enforces robust manifestations of Gender in the form of Concord. Note that tree (37b) has, of necessity, three terminal nodes, the rightmost of which has been labeled ‘Neuter’. The claim is that Spanish has three genders (though one gender exponent only, [a]). This is hardly a new idea, and indeed ‘Neuter’ effects in the grammar of Spanish are exactly what one would expect under (37b) (cf. Real Academia Española, 1983; and more recently, Picallo, 2005). Tree (37b) has been labelled Class. No consequences follow for Spanish, as ‘Class’ is not active in that language. In Yiddish, by contrast, ‘Class’ can be viewed as active on account of the sort of fluidity described above whereby nouns change their class allegiance, for instance in the course of forming plurals or diminutives. In a system where ‘Class’ is active, tree (37b) represents the positive value of a feature, say [\pm Class]; it is necessarily integrated into a larger tree, such as (37c) where [+ Class] is pitted against its corresponding negative value, [- Class]. Singular, a property of each of the subconstituents of (37b) is taken to be a property of the constituent itself, [+ Class]. As a consequence, [- Class], the negative sister node to tree (37b) is redundantly labelled [+PL].

The trees in (37) are strictly binary branching. Only positively valued nodes branch (alternatively: negatively valued nodes directly dominate terminal nodes). Four types of nouns are defined for a language like Yiddish. They have been dubbed n_I , n_{II} , n_{III} , and n_{IV} . For the time being, n_{IV} , the fourth category, has been dubbed ‘Other’. Its identity will be discussed in the next section.

One aspect of the proposal deserves being emphasized. I assume that the functional category Number is universally available. In many languages, presumably Spanish and most other Romance languages, merger with Number will be the unique source of plural nouns. In such languages, singular nouns need not bear any intrinsic Number specifications, and PLURAL can thus be viewed as functioning in privative fashion, i.e. solely assigned as the result of merger with the Number projection, otherwise absent

([_N casa]/[_{Num}[_N casa]s]). If something like the picture in (37c) is correct, the state of affairs with PLURAL in a language like Yiddish is quite different: the claim in (37) is that PLURAL functions as an equipollent feature, with nouns being intrinsically –PLURAL or +PLURAL. Specifically, merger of a root with n_I , n_{II} , or n_{III} entails that the resulting noun will be *intrinsically* singular; whereas merger of $\sqrt{\quad}$ with n_{IV} will produce an *intrinsically* plural noun. The two consequences in (37) follow:

A. Whereas there will be a unique source for plural nouns in Spanish, there will be two sources for plural nouns in Yiddish: a) merger of an nP with the Number projection; but also b) merger of a root with n_{IV} . The consequences of this state of affairs will be explored in the following section.

B. The fact that Yiddish nouns renege “gender” class membership upon merger with the Number projection follows from (37). Indeed, no noun will be able to remain Masculine, Feminine or Neuter in the Plural, because Masculine, Feminine and Neuter also mean nonplural.

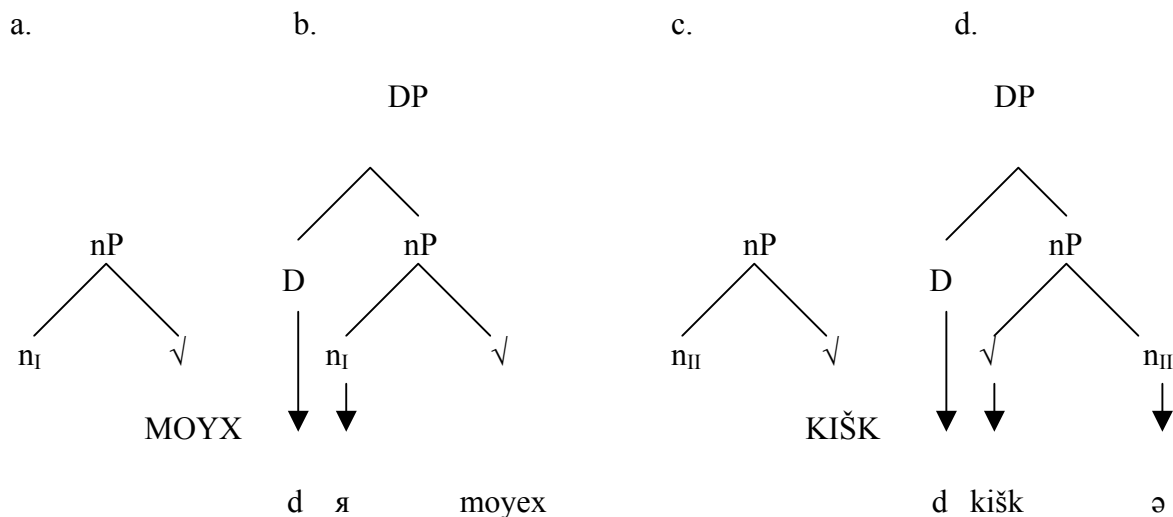
In the next section, I demonstrate how plain nouns, diminutives and plurals are derived.

5. DERIVATIONS.

5.1. Straightforward cases.

For the time being, we focus on the derivation of plain nouns. In (38a), I have indicated how $\sqrt{\text{MOYX}}$ merges with n_I . The derivation is unremarkable. No further step is necessary, and the masculine noun *der moyex* ‘brain’ emerges. We can turn to the derivation of a feminine noun, *di kiške* ‘the intestine’. In (38c), $\sqrt{\text{KIŠK}}$ merges with n_{II} . n_{II} being null, $\sqrt{\text{KIŠK}}$ left-adjoins to n , as shown in (38d). n , now in suffixal position spells out as an unstressed short vowel. This derivation is the analogue of that of null-gender nouns in French such as *ballon* [balō] ‘ball’.

(38)



It has been noted that Yiddish nouns ending in an unstressed vowel, the *schwa* of the system, are overwhelmingly feminine. In the framework of the analysis I am advocating, it is the other way around: the noun ends in an unstressed vowel BECAUSE it is feminine.¹⁶

¹⁶ This raises, of course, the question why do all feminine nouns not end in a *schwa*. Indeed, many do not, e.g. *di gas* ‘street’, *di moyz* ‘mouse’, etc. The answer can only be the one I

At this point, I want to emphasize that there is nothing necessary in the merger of $\sqrt{\text{MOYX}}$ with n_I (rather than n_{II} or n_{III}), or the merger of $\sqrt{\text{KIŠK}}$ with n_{II} (rather than n_I or n_{III}). Indeed, there is no way in which n_I can be said to ‘select’ $\sqrt{\text{MOYX}}$, or n_{II} $\sqrt{\text{KIŠK}}$. The fact that the nouns for *brain* and *intestine* end up being respectively masculine and feminine is a convention enforced by society. As such, it pertains to sociolinguistics, not to grammar. This can be illustrated with the set of forms in (39), taken from Niborski & Vaisbrot (2002). The synonymous nouns in (39) are obviously derived from the same root, though with a measure of *non-synchronic* uncertainty as to whether they merge with n_I or n_{II} .¹⁷ The careful reader will note that merger with n_{II} regularly entails the spellout of *n* as *schwa* (underscored). A search of Niborski & Vaisbrot (2002) returns 22 such pairs for *k-initial entries only*.

(39)

- | | |
|---|---|
| a. der alkóv/di alkov <u>e</u> ,alcove’ | e. der bayc/di bayc <u>e</u> ,testicle’ |
| b. der vorón/di voron <u>e</u> ,kind of crow’ | f. der banán/di banan <u>e</u> ,banana’ |
| c. der kni/di kni <u>e</u> ,knee’ | g. der vist/di vist <u>e</u> ,desert’ |
| d. der kóželik/di kóžel <u>e</u> ,cabriole’ | h. der metód/di metod <u>e</u> ,method’ |

The non-synchronic data (in the sense of fn. 20) must be sharply distinguished from the data in (40), where merger with n_I or n_{II} , yields nouns with related but distinct denotations, much as was the case with French *la balle* and *le ballon*.

(40)

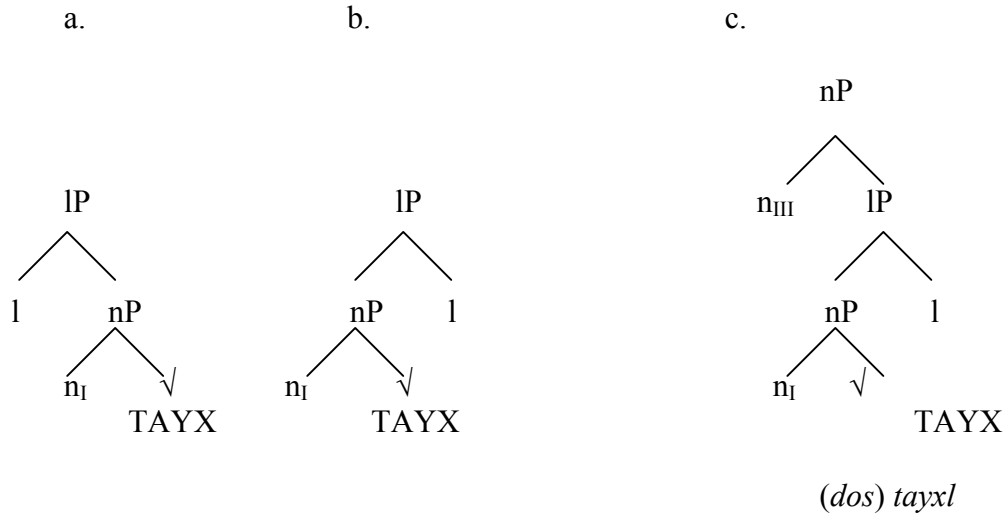
- | |
|--|
| a. der túrem ,tower’/di turme ,dungeon, prison’ |
| b. der kval ,spring’/di kvele ,source (of an information)’ |

We can now turn to the derivation of diminutives. In (41a), I show how an nP resulting from the merger of root $\sqrt{\text{TAYX}}$ with n_I , has been selected by diminutive head *l*. In (41b), nP left adjoins to the diminutive head. *lP* in turn merges with n_{III} , and eventually spells out (*dos*) *tayxl* ‘the small river’.

provided at the end of section 3: the scenario documented in (38c,d) corresponds to only one of several patterns of noun formation.

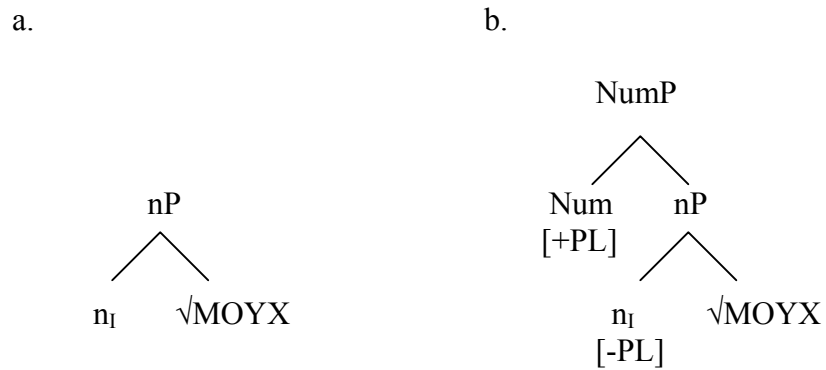
¹⁷ It is important that the nature of the data in (39) be clearly understood. Niborski & Vaisbrot’s dictionary is not a prescriptive dictionary. Rather, it is meant as an aid to the 21st century Yiddish reader. As a consequence, it is a compilation of forms attested in various mediums (literature, the press, etc.) over a period of approximately 150 years, irrespective of regional variants or social registers. Thus, it is not the case that every individual speaker can, or could at any given time, use the nouns in (39) indifferently in the masculine or the feminine. Indeed, most would reject the variant they do not use themselves. Accordingly, the sample documented in (39) must be viewed as shedding light on the range of options out of which particular dialects select a stable variant. Note the conspicuous absence of the Neuter, a fact on which I cannot elaborate in the context of this paper, but see (37) where Neuter Gender is assigned a special place.

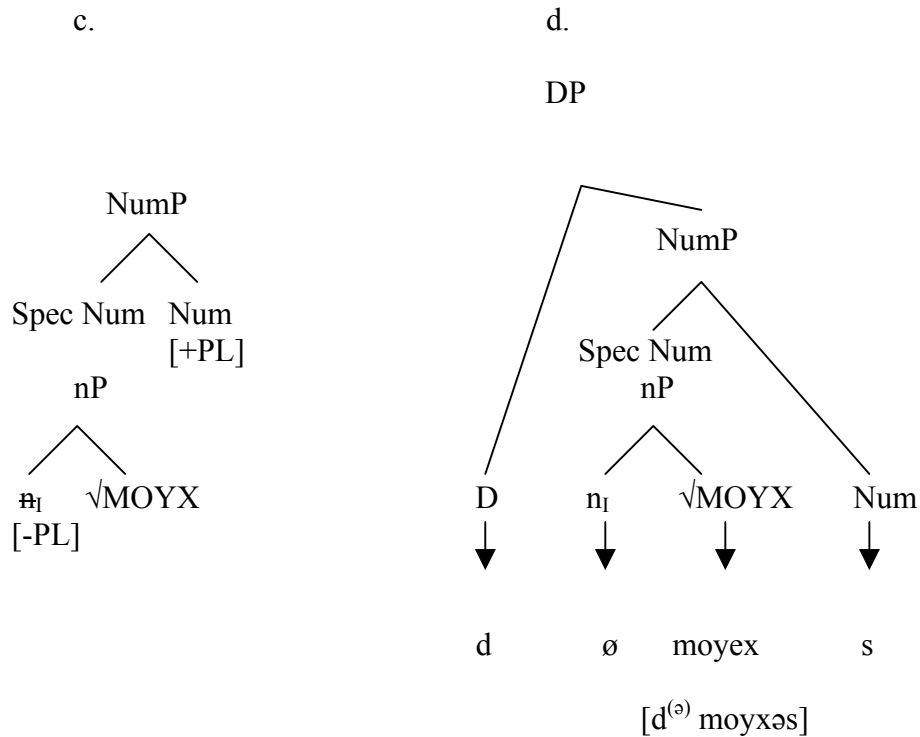
(41)



Earlier, I assumed that merger of a noun with the Number projection was a universally available option. In (42a), a noun has been formed by combining $\sqrt{\text{MOYX}}$ with n_I , *der moyax* ‘the brain’. Upon merger of that noun with Num (42b), nP moves up to Spec Num. Remember that n_I carries a [-PL] specification (42c), a specification which conflicts with that of the Num head. As a result, spellout of n_I is inhibited (strikethrough in (42c)), and D is realized $d\emptyset$. Num has spelled out [s], and the entire DP surfaces as indicated below in (42d): $d^{(\emptyset)}$ moyxəs.

(42)



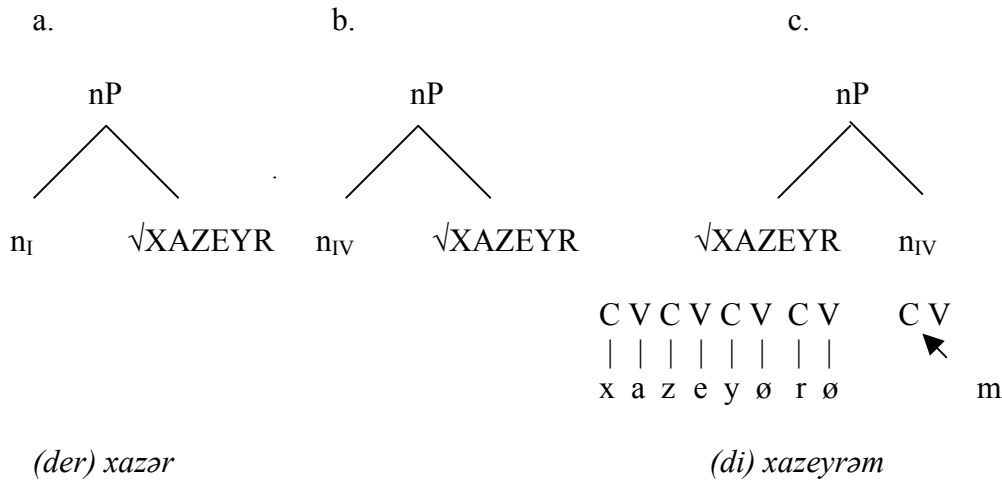


5.2. Another source for plurals.

The reader will recall that at the outset of this section (37), I derived the existence of a fourth category of intrinsically plural nouns, dubbed ‘Other’, and allegedly resulting from merger of a root with n_{IV} . In (43), I show how root \sqrt{XAZEYR} merges with n_I (43a) and n_{IV} (43b). The derivation of masculine nouns has been discussed. It requires no further comment, and we can turn to merger with n_{IV} (43b). The absence of a specific, non-null exponent for n_{IV} causes $\sqrt{\quad}$ to left-adjoin to n (43c), much as was the case with French masculines or Yiddish feminines. This time, again, as was the case with French masculines and Yiddish feminines, n spells out in suffixal fashion: [m], in this case.¹⁸ In (43c), the full templatic structure of spellout has been mentioned for clarity.

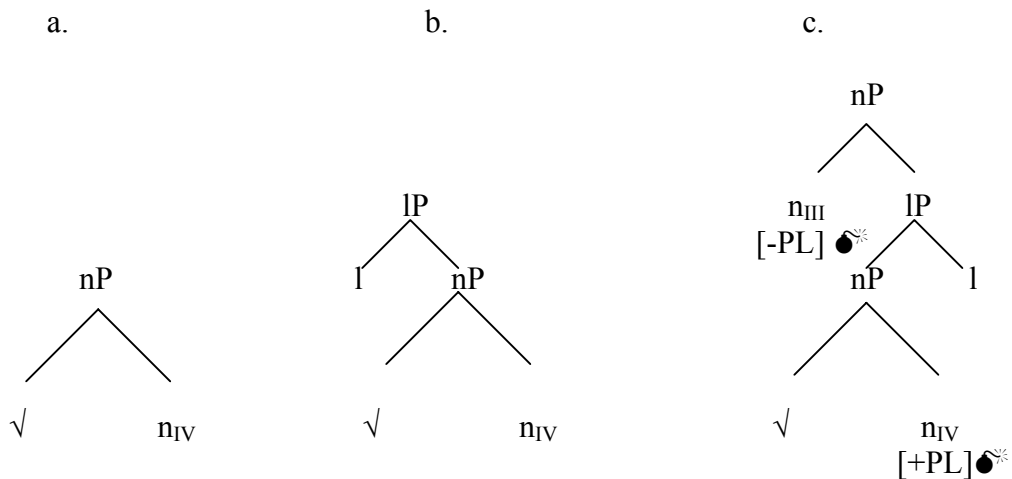
¹⁸ In traditional terms, n_{IV} plurals could be called ‘derivational’ plurals, as opposed to ‘inflectional’ plurals built by merger of nP’s with the Number projection.

(43)



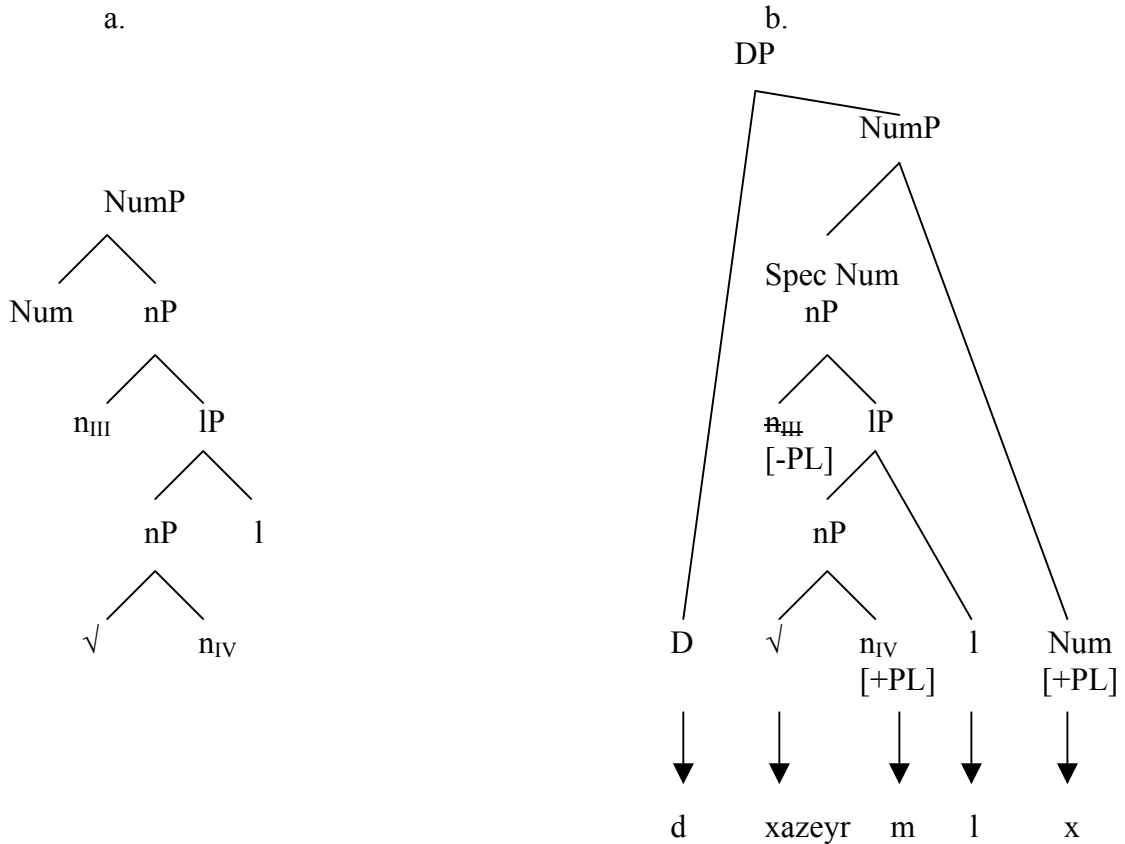
Now, if n_{IV} plurals are *bona fide* nP's, a consequence follows: they can be targeted, just as any other kind of nP, as complements of the diminutive head, *l*. This is shown in (44a,b). (44b) is perfectly well-formed. If the derivation stopped at this point, it would spell [xazeyrəm]. Of course, (44b) cannot be integrated into syntactic structure, for \sqrt{l} – as every root serving as a nominal head – requires further merger with *n*. Any attempt at merging IP with its designated *n*, viz. n_{III} , fails on account the ensuing clash of number specification represented in (44c).

(44)



The only way to rescue (44c) is to merge it with the Number projection, as shown in (45a). Upon movement into Spec Num (45b), the Num head will inhibit n_{III} , as indicated by means of strikethrough in (45b). The entire structure, with *D*, is realized: d-xazeyr-m-l-x. Phonology will insert schwas where required.

(45)



5.3. More ‘derivational’ plurals.

In the preceding section, I demonstrated that plural nouns of type *xazeyrəm* ‘little pigs’ are derived without the intervention of a Num head; rather by means of direct merger of their root with an intrinsically plural noun class, n_{IV} . As such, they are plain nP’s. Their selection by diminutive head l° is therefore unproblematic, and does not require an additional (and untenable) suppletion analysis of pairs such as *xazər/xazeyrəm*.

However, the success itself of this analysis raises an uncomfortable question: in a sense, the fit is now too tight between the initial set of data – the ‘Hebrew’ plurals – and the account of their formation just put forth. That is, the proposal successfully separates ‘Hebrew’ plurals from the others and assigns them a special structural position which accounts for their outstanding behavior with respect to diminutive formation.

Now, pause for a minute and think of a distinct problem, viz. how does one guarantee that the right stems will be rigged with the right plural markers, e.g. *xazer* with $+əm$, and not $-n$, or $-s$? The suppletion view is one possibility. Another would be to suppose that ‘Hebrew’ stems bear a feature [+Hebrew] and that $+əm$ is appended to them in plural contexts. I will have nothing more to say about such an *ad hoc* account, *except* that, up to this point, it seems my proposal deals with the exact same subset of Yiddish plurals. But this can’t possibly be the case: my analysis relies on a very general device, viz. free merger of *any* root with n_{IV} .

Therefore, its empirical scope must necessarily be distinct from, indeed much broader than, that of the [+Hebrew] feature account just sketched out. *Rather, it must range over the entire set of roots of the language.*

As it turns out, a tool is available for the identification of roots having undergone merger with n_{IV} : their selection by l° must bring about the same, apparently paradoxical, ordering properties as were observed with Hebrew nouns.

To this end, consider two more of the devices available to the language for purposes of plural noun formation: The first one, + ∂r PLUS UMLAUT, is documented in (46),¹⁹ while the second one, + θ PLUS UMLAUT (alternatively *Umlaut* only), is documented in (47).²⁰ In each case, I have indicated the corresponding diminutive plural.

(46)

Singular	Plural	Dim. Pl.
a. bux ‘book’	bixær	bixærlæx
b. drong ‘stick’	drengær	drengærlæx
c. boym ‘tree’	beymær	beymærlæx
d. dax ‘roof’	dexær	dexærlæx
e. kind ‘child’	kindær	kindærlæx
f. hemd ‘shirt’	hemdær	hemdærlæx
g. bayn ‘bone’	beynær	beynærlæx

(47)

Singular	Plural	Dim. Pl.
a. šux ‘shoe’	šix	šixlæx
b. krom ‘(small) business’	krem	kremlæx
c. hoyf ‘courtyard’	heyf	heyflæx
d. barg ‘mountain’	berg	berglæx
e. <i>briv</i> ‘letter’	<i>briv</i>	<i>brivlæx</i>
f. <i>hext</i> ‘pike’	<i>hext</i>	<i>hextlæx</i>

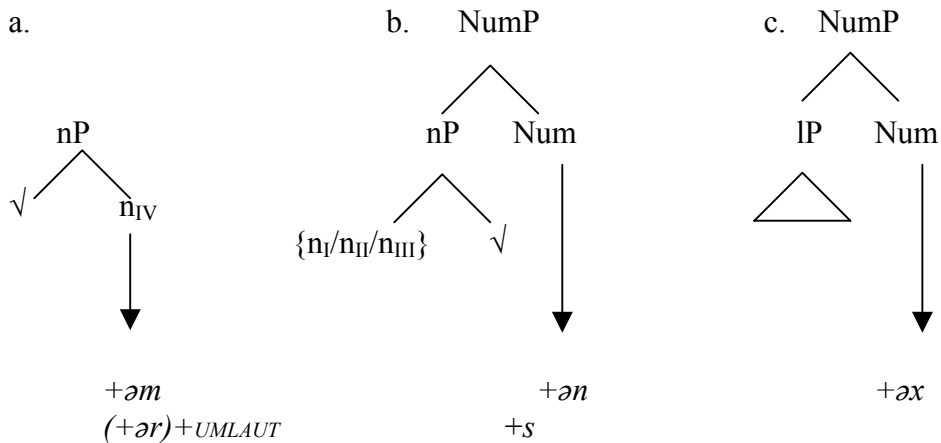
Evidently, the diminutive plurals of the nouns in (46) and (47) are formed on the plural, not the singular, of those nouns. On account of the successful selection of such plurals by l° , I conclude that they are nP’s, moreover nP’s of the n_{IV} variety. As we see, merger with n_{IV} is an option opened to the entire set of roots of the language, Semitic and otherwise.

¹⁹ Umlaut cannot be detected in the plurals of (46e,f,g), the stems not being *umlautfähig*. Yet, the suffix *-ær* makes it clear that the diminutive plural is formed on the plural of the non-diminutive noun.

²⁰ The forms in (47e,f) have been mentioned for the sake of completeness. This time, the fact that the stems are not *umlautfähig* combined with the absence of a suffix, makes it impossible to know whether *brivlæx* and *hextlæx* were formed on the basis of the non-diminutive singular or the plural. Nevertheless, (47a, b, c, d) are unambiguous on this point.

In (48), I have arranged the various types of plural markers discussed here according to the structural configuration which they spell out: “Class” plurals, or n_{IV} plurals in (48a); NumP plurals in (48b); and for the sake of completeness, the diminutive plural in (48c).

(48)



I already mentioned that I have nothing to say about why any particular root should merge with n_I , n_{II} , n_{III} , n_{IV} , any number, or all four of them. My position, as I indicated earlier, is that decisions of that nature are largely arbitrary from the point of view of diachronic grammar. Note, as well, that more than one spelling option corresponds to the configurations in (48a,b). There too, arbitrariness prevails, I believe. To be sure, no individual dialect will freely avail itself of the full range of options regarding merger with n ; nor will any noun indifferently form its plural by means of merger with n_{IV} and under NumP, as well; similarly, spellout options for plurals will tend to be restricted and stable within each dialect. Yet, it is revealing that several nouns pan-dialectally admit of more than one strategy for plural formation. Consider the table in (49).

(49)

	a. Singular	b. n _{IV} plural +am or +(ər)-umlaut	c. Num plural +(ə)n or +s	
A1	gvir yam guf toəs	gvirəm yaməm gufəm teusəm	gvirn yamən gufn tóəsn	rich person sea body mistake
A2	toxəs ponəm	téxəsər pénəmər	tóxəsn	bottom, behind face
B	nar poyər tayvl doktor faktər kozər bišəf šustər karb gildn adrés milyón paršóyn šnaydər	naronəm póyərəm tayvoləm/tayvlonəm doktóyrəm faktóyrəm kozéyrəm bišóyfəm šústerəm/šustéyrəm karbóynəm gildóynəm adréysəm milyónəm paršóynəm šnaydurəm/šnaydər	narn póyərən tayvlən doktórn fáktərn/faktorn kózərs bíšəfn šústərs karbn gildns adrésn milyónən paršóynən šnaydərs	fool peasant devil medical doctor broker trump card bishop cobble money, ('dough') guilder address million person tailor

Part A1 of the table in (49) displays ‘Hebrew’ nouns with their ‘historical’ n_{IV} spellout, viz. +am (49b), and a ‘Germanic’ +(ə)n Num plural (49c). Part A2 shows ‘Hebrew’ nouns with a Germanic n_{IV} spellout, +ər and umlaut. Part B of the table shows ‘Germanic’ nouns with ‘Hebrew’ n_{IV} spellout +am, and their expected Germanic Num plurals, +(ə)n or +s.²¹

6. INDEPENDENT EVIDENCE.

6.1. Denominal adjectives.

In this subsection, I review a process of word formation which affords important confirmation that the grammar of Yiddish discriminates precisely along the lines I have indicated.

²¹ Several, though not all, of the Germanic nouns equipped with a Hebrew plural have a sarcastic connotation, a fact on which I will not further comment.

Adjectives are productively formed by suffixation of +ik or +dik.²² The range of complement types selected by +(d)ik includes nP. Several examples of such denominal adjectives are given in the table in (50). Both the singular and the plural of source nouns are given, with ‘inflectional’ plurals +s and +(ə)n in blocks A and B respectively; and ‘derivational’ or n_{IV} plurals +əm and +ər in blocks C and D, respectively. It can clearly be seen that plurals formed inside NumP are not suitable complements for adjectival head +(d)ik. Rather, the adjectives of blocks A and B are formed from the singular of the noun. By contrast, in blocks C and D, the adjectival head freely selects plurals (and also singulars). I take this to be an additional argument for viewing the latter as nPs.

(50)

Singular	Plural	Plural Type		Adjective
		Num	n _{IV}	
▼				▼
A. a. xmarə ‘omin. cloud’ b. xvalyə ‘wave’ c. volkn ‘cloud’ d. drigə ‚jerk’ e. gorn ‘floor’	xmarəs xvalyəs volkns drigəs gorns	X X X X X		xmar(əd)ik xvalyədik volkndik drigədik gorndik
▼				▼
B. f. vinkl ‘corner’ g. veytik ‘pain’ h. vund ‘wound’ i. vorcl ‘root’ j. bleyz ‘blank’	vinklən veytikn vundn vorclən bleyzn	X X X X X		vinkldik ‘angular’ veytikdik ‘painful’ vundik ‘covered with wounds’ vorcldik ‘rooted, authentic’ bleyzik ‘containing gaps’
▼				▼
C. k. ‘aromates’ l. xšad ‘suspicion’ m. xesəd ‘favor’ n. xidəš ‘surprise’ o. revəx ‘profit’	psoməm ²³ xšodəm xesodəm xidušəm revoxəm		X X X X X	psoməmdik ‘aromatic’ xšodəmdik ‘suspicious’ xesodəmdik ‘gracious’ xidəšdik/xidušimdik ‘amazing’ revəxdik/revoxəmdək ‘profitable’
▼				▼
D. p. dorn ‘thorn’ q. lox ‘hole’ r. vort ‚word’ s. blat ‘leaf’ t. beyn ‚bone’	dernər lexər vertər blətər beynər		X X X X X	dérnərdik thorny léxərdik ‘full of holes’ vértərdik ‘wordy’ blétərdik ‘leafy’ beynərdik ‘bony’

I now turn to robust corroborating phonetic evidence, viz. the *Umlaut* riddle.²⁴

²² I assume that +ik and +dik are allomorphs of each other, but see Jacobs (2005) for a different view. +dik occurs following an unstressed syllable (Lowenstamm 2006a). On occasions, +dik is phonologically licensed by an augment +əv: from √ŠPIR ‘feel’ and privative um+, two adjectives can be formed, úmšpirik and úmšpirəvdik ‘insensitive’.

²³ psoməm is a *plurale tantum*.

6.2. Umlaut.

Yiddish *Umlaut* is as intriguing as Standard German *Umlaut*.²⁵ Suffixes fall into one of the three categories in (51).

(51)

- i. suffixes which never induce *Umlaut*, e.g. -(ə)n and -s plurals
- ii. suffixes which consistently induce *Umlaut*, e.g. -ər plurals
- iii. suffixes which induce *Umlaut*, though not consistently (see below)

As we see, *Umlaut* is doubly irregular. On the one hand, there is the intrinsic irregularity of the ‘inconsistent’ class (51iii); on the other hand, inconsistency can not even be viewed as the norm, on account of the simultaneous presence in the system of a ‘fully consistent’ class (51ii). This is an especially vexing state of affairs, for a solution to the behavior of (51ii) will be challenged by (51iii), and *vice versa*.

Inconsistent behavior is documented in (52). Nouns or adjectives appear in the lefthand side column of Table (52), under Base. The next column mentions a series of affixes, and the two rightmost columns show how each such affix sometimes induces, sometimes does not induce *Umlaut*.

²⁴ Over the years, the study of *Umlaut* in standard German has been a rich source of frustration for those who tried to account for it synchronically, and of *Schadenfreude* for those who maintained that there was nothing left to understand, indeed that allomorphy had to be memorized item-by-item. For those who looked on from a distance, the subculture of the debate was puzzling. It was as if the thesis of the diachronic non-status of *Umlaut* enjoyed the position of the null hypothesis, with the burden of proving otherwise squarely resting with the opposition. But, this was far from self-evident. Presumably, the item-by-item memorization account is compatible with ‘unpredictable *Umlaut*’, e.g. *Jude/jüdisch* vs. *Russe/russisch*. But consider the +ər plurals which, in Standard German too, exceptionlessly trigger *Umlaut*: *Loch/Löcher* ‘hole’, *Wald/Wälder* ‘forest’, *Buch/Bücher* ‘book’, etc. How can the item-by-item account be compatible with the absence of irregularity? Cf. Janda (1988) and Wiese (1996) for valuable discussion, and references therein.

²⁵ Yiddish and German *Umlaut* are very similar but not identical, cf. Lowenstamm (2006c). For instance, Yiddish comparative adjectives do not systematically undergo *Umlaut*, e.g. *švax* ‘weak’/ *švaxər* ‘weaker’ vs. Standard German *schwach/schwächer*. Be that as it may, the Yiddish data discussed in the next section is very similar to Standard German. Accordingly, the results discussed therein are meant as a contribution to the understanding of Standard German *Umlaut*, as well.

(52)

Base	Head	Umlaut	
		with	without
a. [N strom] ,flow' b. [N stral] 'ray'	<i>+ung</i> [N]	stremung ,tendency'	stralung 'radiation'
c. [Adj zanft] ,sweet' d. [Adj rund] ,round'	<i>+(d)ik</i> [Adj]	zenftik 'serene'	rundik 'roundish'
e. [Adj cart] 'tender' f. [Adj krum] 'bent'	<i>+læx</i> [Adj]	certlæx 'tender'	krumlæx 'sinuous'
g. [N cop] 'braid' h. [N ban] 'train'	<i>+l</i> [Dim]	cepl 'little braid'	bandl 'little train'

The data in the lefthand side column of (52) is very specific. In traditional terms, it only includes underived nouns and adjectives. But merger with a basic, or 'underived' adjective or noun hardly exhausts the selecting capabilities of the suffixal heads in (52).

We now turn to such morphologically more complex complements. The data in (53) has been limited to adjectives headed by *+(d)ik*.²⁶ The potential targets of Umlaut in (53) have been underscored in column A. While *+(d)ik* is capable of triggering *Umlaut* as we saw in (52), *no Umlaut* can be observed in (53B). Yet, and quite strikingly, every potential target (underscored in 53B, too) can be shown to have undergone *Umlaut* in another context. This is shown in (53C), where the identity of the affix responsible for Umlaut has been indicated on the right. For instance, example (53b) shows that *+(d)ik* can umlaut *mos* in *mesik*, but not in the context of *ibermosik*.

²⁶ Cf. Zaretski (1926), Mark (1978) and Jacobs (2005) for discussion.

(53)

A. Ingredients	B. Adjective No umlaut	C. Same morpheme in umlauted version	Context
P+N			
a. untər <u>hoyt</u> under skin	úntər <u>hoyt</u> ik hypodermic	<u>hey</u> tl membrane	+l _{Dim}]
b. ibər+ <u>mos</u> over measure	íbər <u>mos</u> ik excessive	<u>mes</u> ik moderate	+(d)ik _{Adj}]
c. untər+ <u>grunt</u> under ground	úntər <u>grunt</u> ik underground	<u>grint</u> læx fundamental	+læx _{Adj}]
d. cvišn <u>falb</u> between fold	cvíšn <u>falb</u> ik of medial fold	<u>fel</u> bl small fold	+l _{Dim}]
e. on <u>drot</u> without wire	ón <u>drot</u> ik wireless	<u>dret</u> l staple	+l _{Dim}]
f. ba+ <u>naxt</u> at night	ban <u>axt</u> ik nightly	<u>next</u> nights	+ø _{N PL}]
Degree+N			
g. etlæx <u>dax</u> several roof	étlæx <u>dax</u> ik multiple roofed	<u>dex</u> ər roofs	+ər _{N PL}]
h. dray <u>horn</u> three horn	dráy <u>horn</u> ik three-horned	<u>hern</u> ər horns	+ər _{N PL}]
i. ganc <u>tog</u> whole day	gán <u>ctog</u> ik of a full day	<u>teg</u> days	+ø _{N PL}]
PP			
j. af an <u>ort</u> on a spot	afan <u>ort</u> ik immediate	<u>ert</u> ər spots	+ər _{N PL}]
k. cu dǝ <u>hant</u> at the hand	cudǝ <u>hant</u> ik readily available	<u>hent</u> hands	+ø _{N PL}]

Loosely speaking, Irregular Umlaut targets an object located ‘around’ the X^o level, a formulation to be made more precise momentarily. Indeed, the evidence in (53) shows that a potential X^o target becomes inaccessible to Umlaut when it is dominated by superordinate structure. Under the assumption that the operation of Umlaut is structurally conditioned, it has to be the case that when unpredictable Umlaut actually results in Umlaut (e.g. German *jüdisch* as opposed to *russisch*), the relevant environment is the same as that of obligatory Umlaut. In other words, the environment of Obligatory Umlaut is a proper subset of the environment of

Irregular Umlaut. Now, we already have a handle on the structural conditioning of Obligatory Umlaut: based on our earlier discussion of n_{IV} plurals, $-ər$ and $-\emptyset$, we established that Umlaut takes place inside the first projection of n containing \checkmark (alternatively: when n and \checkmark c-command each other). This result can be generalized as in (54).
(54) Umlaut

Umlaut takes place when the Umlaut-inducing head and its \checkmark complement c-command each other

Now, to Irregular Umlaut. Consider again a pair documenting irregular Umlaut, say (52e,f) repeated as (55).

(55)

Noun	-ik adjective WITHOUT Umlaut	-ik adjective WITH Umlaut
a. <i>kant</i> ‘angle’	b. <i>kantik</i> ‘angular’	
c. <i>kalb</i> ‘calf’		d. <i>kelbik</i> ‘pregnant cow’

Why are *kantik* and *kelbik* said to exemplify irregular Umlaut in the first place? Presumably because, according to popular belief, they form a minimal pair, both being denominal adjectives, similarly headed, and (mysteriously) differing only in regard of Umlaut. However, this construal is incompatible with the proposal put forth in (54). Indeed, according to (54), *kelbik* is not denominal, rather it must be *deradical* in view of its umlauted vowel. Evidently, the selection of complements by a , n , or v is parametrized as proposed in (56).

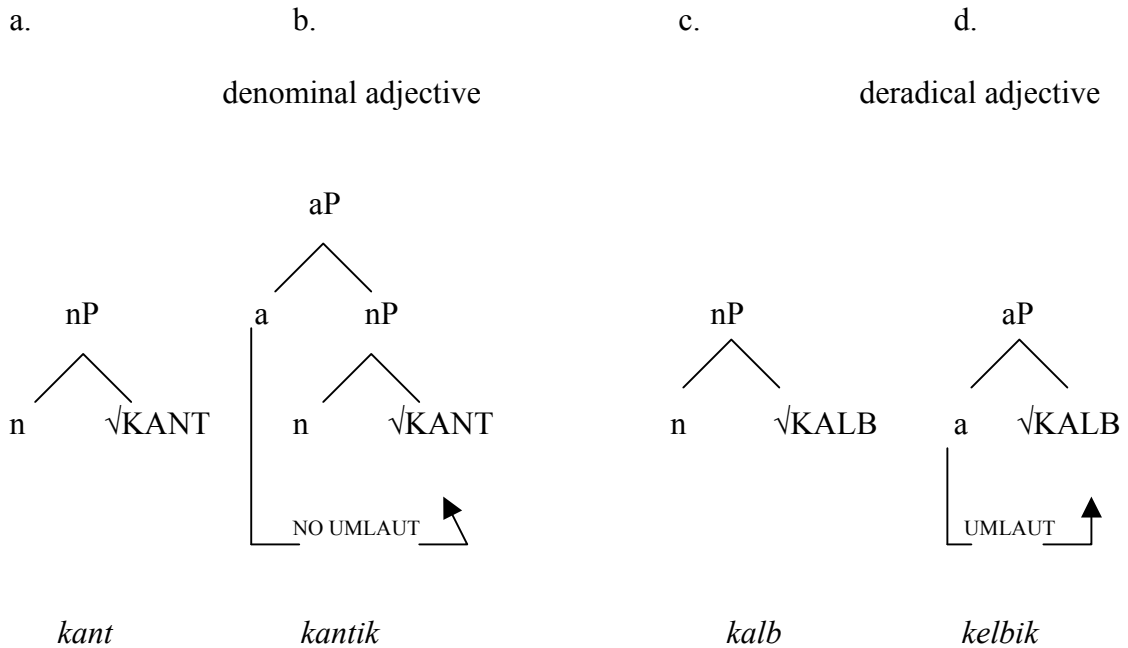
(56)

a , n , and v select aP nP or vP ; as well, they can select \checkmark , directly.²⁷

The relevant representations appear in (57).

²⁷ That a , n , and v merge with aP nP or vP ‘or lower’, appears to be a descriptively correct generalization. Of course, it begs a pressing question: how is this possible?

(57)



Adjectives *kelbik* and *kantik* are clearly related to *kalb* ‘calf’ and *kant* ‘angle’, respectively. But, under the analysis I have argued for, *kantik* only is truly denominal, for the absence of *Umlaut* indicates that merger of *+(d)ik* has taken place at the nP level. On the other hand, *kelbik* must be ‘deradical’ rather than denominal. Indeed, *Umlaut* indicates that *+(d)ik* has merged with root √KALB directly. Several consequences fall out, two of which only will be mentioned here.

A. One is the relationship between the meaning of those adjectives and the meaning of their related nouns. *kantik* ‘angular’ denotes the set of objects endowed with the property denoted by noun *kant* ‘angle’. In other words, *kantik* is transparently compositional. Such is not the case with *kelbik*. *kelbik* does not denote a property typical of calves. Rather, it describes the condition of a pregnant cow. Once more, the non-compositionality of the denotation of *kelbik* with respect to the meaning of *kalb* is typical of root-derived objects (cf. Arad 2004). Obviously, the robustness of such a correlation will have to be tested against a large body of data.

B. The other is a typology of affixes in regard of the question why some trigger umlaut while others do not. If Umlaut takes place under the condition proposed in (54), it follows that no Umlaut will be emanating for instance from ‘higher’ plurals such as are associated with NumP for they have no direct access to √.²⁸

²⁸ Cf. Lowenstamm (forthcoming) for the view that Umlaut is not at all a lexical property of affixes, rather exclusively expresses the low functional architecture of nouns, verbs and adjectives.

7. Concluding remarks

Multiple exponence is sometimes dealt with in terms of competition for insertion (Embick and Noyer, to appear). This is probably the correct approach in cases of true suppletion, and perhaps the various plural markers of English are a case in point. But aside from clear cases of suppletion, the assumption that different exponents express different terminals might be viewed as the null hypothesis. This is just the path I followed in this paper: I have argued that not all Yiddish plurals are located in the same place, some being associated with the Num projection whereas others, closer to $\sqrt{\quad}$, are associated with the n projection and generated in the same paradigm as Gender.²⁹ This has clear implications for the makeup of nouns. I have also discussed corroborative phonetic evidence, Umlaut. This has clear implications for the architecture of a model of the syntax-morphology-phonology interface.

References

- Alexiadou, A. (2005) Inflection Class, Gender and DP Internal Structure *Exploration in Nominal Inflection*, G. Müller et al. (eds.) pp. 21-50, Mouton de Gruyter.
- Arad, M. (2004) Why Syntax Matters, *Recherches Linguistiques de Vincennes No 32* 'Gabarits et grammaire', pp. 83-108
- Bachrach, A. (2005) Diminutives in Brazilian Portuguese, ms. MIT
- Bernstein, J. (1993) Topics in the Syntax of Nominal Structure across Romance, Doctoral Dissertation CUNY
- Bobaljik, J. (2004) Itelmen Plural Diminutives: A Belated Reply to Perlmutter 1988, *Yearbook of Morphology*
- Bochner, H. (1984) Inflection within derivation, *The Linguistic Review* 3: 411-42
- Brugger, G. & M. Prinzhorn (1996) Some Properties of German Determiners, ms. Institut für Sprachwissenschaft, University of Vienna
- Corbett, G. (1991) *Gender*, Cambridge University Press, Cambridge
- Embick, D. & R. Noyer (à paraître) Distributed Morphology and the Syntax/Morphology Interface, *The Oxford Handbook of Linguistic Interfaces*, G. Ramchand & C. Reiss (eds.), Oxford University Press
- Encrevé, P. (1988) *La liaison avec et sans enchaînement*, Le Seuil, Paris
- Ferrari, F. (2005) *A Syntactic Analysis of the Nominal Systems of Italian and Luganda: How Nouns Can Be Formed in the Syntax*, Doctoral Dissertation, New York University
- Goldsmith, J. (1976) An Overview of Autosegmental Phonology, *Linguistic Analysis* 2.1, pp. 23-68

²⁹ The connection established between Gender and Number is partially reminiscent of Ritter (1993).

- Greenberg, J. (1978) "How Does a Language Acquire Gender Markers?" *Universals of Human Language, Vol. 3: Word Structure* J. Greenberg, C.A. Ferguson, & E. A. Moravcsik (eds.) pp.47-82. Stanford University Press
- Haegeman, L. (2000) Gender and Word markers in West Flemish, ms. Université de Lille
- Haegeman, L. (2001) Word Classes in Germanic: the Case of West Flemish *Sprachkontakt, Sprachvergleich, Sprachvariation, Festschrift for Professor Gottfried Kolde* K. Adamzik, H. Christen, (eds.) pp. 201-225, Max Niemeyer Verlag, Tübingen
- Halle, M. & A. Marantz (1996) Distributed Morphology and the Pieces of Inflection, *The View from Building 20*, K. Hale & S.J. Kayser, (eds.) pp. 111-176, MIT Press, Cambridge, Mass.
- Harris, J.W. (1991) The Exponence of Gender in Spanish, *Linguistic Inquiry* pp. 22:27-62
- Jacobs, N. (2005) *Yiddish, A Linguistic Introduction*, Cambridge University Press
- Janda, R. (1998) German Umlaut: Morpholexical All the Way Down from OHG to NHG (Two Stützpunkte for Romance Metaphony, *Rivista di Linguistica* 10.1: pp. 165-234
- Kayne, R. (2006) On parameters and on Principles of Pronunciation *Organizing Grammar. Linguistic Studies in Honor of Henk van Riemsdijk*, H. Broekhuis, N. Corver, R. Huybregts, U. Kleinhenz and J. Koster (eds.) pp. 289-299 Mouton de Gruyter, Berlin
- Kenstowicz, M. (1982) Gemination and Spirantization in Tigrinya, *Studies in the Linguistic Sciences*, 12.1, pp. 103-122
- Kihm, A. (2005) Noun classes, Gender and the Lexicon-Syntax-Morphology Interfaces, *Handbook of Comparative Syntax* G. Cinque & R. Kayne (eds.) pp. 459-512 Oxford University Press, Oxford
- Krupin, N. (1957) *Hantbukh fun hebreizmen in der yidisher shprakh*, Farlag Ikuf, Buenos Aires
- Leben, W. (1980) A Metrical Analysis of Length, *Linguistic Inquiry* 11, pp. 497-509
- Lecarme, J. (2002) Gender Polarity : Theoretical Aspects of Somali Nominal Morphology *Many Morphologies*, P. Boucher (ed.), Cascadilla Press, pp. 109-141
- Lowenstamm, J. (2006a) Remarques sur le Dictionnaire yiddish-français de Yitskhok Niborski et Bernard Vaisbrot (avec le concours de Simon Neuberg), review article to appear in *Bulletin de la Société Linguistique de Paris*
- Lowenstamm, J. (2006b) The Loud Sound of *n*, ms. Université Paris 7
- Lowenstamm, J. (2006c) ahin tsi aher ? ms. Université Paris 7
- Lowenstamm, J. (forthcoming) The Non-lexical Nature of Germanic Umlaut
- Lowenstamm, J. & J.F. Prunet (1986) Le tigrinya et le principe du contour obligatoire, *Revue Québécoise de Linguistique*, Vol. 16, No 1, pp. 181-207
- Marantz, A. (1997) No Escape from Syntax: Don't try Morphological Analysis in the Privacy of Your Own Lexicon, *University of Pennsylvania Working Papers in Linguistics* 4.2: pp. 201-225
- Marantz, A. (2001) Words, ms. MIT, Cambridge, Mass.
- Mark, Y. (1978) *Gramatik fun der yidisher klal-shprakh*, AlveltleKher yidisher kongres, New York
- McCarthy, J. (1979) *Formal Problems in Semitic Phonology and Morphology*, Doctoral

- Dissertation, MIT
- Niborski, Y. (1999) *Verterbukh fun loshnkoydeshshtamike verter in yidish*, Bibliothèque Medem, Paris
- Niborski, Y. & B. Vaisbrot (2002) *Yidish-frantsoyzish verterbukh*, Bibliothèque Medem, Paris
- Noyer, R. (1992) *Features, Positions, and Affixes in Autonomous Morphological Structure*, Doctoral Dissertation, MIT
- Perlmutter, D. (1988) The Split Morphology Hypothesis : Evidence from Yiddish, *Theoretical Morphology*, M. Hammond and M. Noonan (eds.), 79-99
- Picallo, C. (1991) Nominals and Nominalizations in Catalan, *Probus* 3.3: pp. 279-316
- Picallo, C. (2005) Some Notes on Grammatical Gender and *l*-Pronouns, *Proceedings of the Workshop "Specificity and the Evolution/Emergence of Nominal Determination Systems in Romance"*, K. von Heusinger, G. Kaiser & E. Stark (eds.), Fachbereich Sprachwissenschaft der Universität Konstanz Arbeitspapier Nr. 119, pp. 107-121
- Picallo, C. (2006) On Gender and Number, ms. Universitat Autònoma de Barcelona
- Real Academia Española (1983) *Esbozo de una nueva gramática de la lengua española*, Espasa-Calpe, Madrid
- Reyzen, Z. (1926) Di deklinatsye funem shem-etsem in yidish *Filologishe shriftn* 1, pp. 387-412, Farlag fun B. Kleckin, Vilna.
- Reyzen, Z. (1928) A bisl materyal tsu der vortbildung in yidish *Filologishe shriftn* 2, pp. 453-466, Farlag fun B. Kleckin, Vilna.
- Ritter, E. (1991) Two Functional Categories in Noun Phrases: Evidence from Modern Hebrew *Syntax and Semantics* Vol. 25, S. Rothstein (ed.), Academic Press
- Ritter, E. (1993) Where's Gender ? *Linguistic Inquiry* 24, pp. 795-803
- van Riemsdijk, H.C. (1990) Functional Prepositions *Unity and Diversity: Papers Presented to Simon C. Dik on his 50th Birthday*, H. Pinkster & I. Genée (eds.), pp. 229-241, Foris, Dordrecht.
- Schein, B. (1981) Spirantization in Tigrinya, *MIT Working Papers in Linguistics*, Vol. 3, pp. 32-42
- Spivak, Kh. & S. Bloomgarden (1911) *Idish verterbukh*, Farlag Yehoyosh, New York City
- Stutchkoff, N. *Der oytser fun der yidisher shprakh*, YIVO Institute, New York City
- Sztajnberg, Y. (1948) *Hebreizmen in der yidisher shprakh*, Farlag Niderszlezje, Wrocław
- Weinreich, U. (1961) The Seven Genders of Yiddish, ms. Columbia University
- Wiese, R. (1996) Phonological vs. Morphological Rules: On German Umlaut and Ablaut, *Journal of Linguistics* 32: 113-135
- Wolf, M. (1977) Fonologishe protsesn bay mertsol-formatsye, *Sefer Dov Sadan: Kovets mekharim mugashim bemilat lo shiv'im vekhamesh shana*, Sh. Verses, N. Rotenshtaykh, Kh. Shmeruk (eds.), pp. 129-137, Ha-kibuts ha-me'ukhad, Tel Aviv
- Zaretski, A. (1929) Yidishe gramatik, Farlag fun B. Kleckin, Vilna.
- Zribi-Hertz, A. (2003) On the Asymmetrical but Regular Properties of French Possessive DPs, *From NP to DP, Volume 2: The expression of Possession in Noun Phrases*, M. Coene & Y. d'Hulst (eds.), John Benjamins Publishing, Amsterdam