Structurally significant complex vowels: evidence from Italian and Hebrew nouns

Recent morphological theories (Marantz 1993, Borer 2005) treat the inner structure of lexical items from a syntactic perspective. Most of these studies consider phonological signs as insignificant, and the produced accounts completely divorce form and meaning. Following Lowenstamm 2006, we suggest that closer scrutiny of phonological signs and their relation to an item's syntactic structure enables the linguist to explain many regularities which have hitherto been considered lexical/arbitrary.

We deal with the structure of simple (=non-derived) nouns in two unrelated languages, Italian and Hebrew. Both languages have the familiar 5-vowel distinction [i,e,a,o,u]. In the framework of the theory of elements (Kaye, Lowenstamm & Vergnaud 1985), such systems have three simple vowels [I,A,U] and two complex ones [o,e], which result from A+U and A+I respectively. Most importantly, the element A carries a [-HIGH] feature.

In Italian, the vast majority of singular nouns must end with either a complex vowel or [a]; overtly feminine nouns end with [a], but so do some masculine nouns (1). The gender of [e]-final nouns is unpredictable. No singular noun ends with [i] or [u]. Plural nouns all end with simplex [i], except for the plurals of [a]-final feminines, who have a complex [e] (= A+I).

In Hebrew, masculine singular nouns are of three forms (where V represents any vowel): CCVC, $CV_{[-HIGH]}CC$, or CaCVC. Such nouns have a masculine plural suffix –im, crucially with a simplex vowel. Feminine nouns have a suffix –a, which stands in complementary distribution with the [a]/[-HIGH] feature on their masculine counterparts, and they thus have the forms CCVCa or $CV_{[+HIGH]}CCa$, but never *CaCVCa. Feminine singulars take a plural suffix –ot, crucially with a complex suffix vowel ([u]=A+U). These facts are shown in (2).

The two languages lend themselves to similar analyses for three reasons:

1. Both have [singular] phonological marking present on all singular nouns: all singular suffixes in Italian are [-HIGH]; all singular forms in Hebrew have a [-HIGH] vowel as the first or last vowel (with the exception of CCVC nouns, where we claim there is no position for this feature).

2. Both languages do not have this restriction in the masculine plural (Italian *naso - nasi* 'noses', Hebrew *pakid - pkid-im* 'clerks').

3. Both languages have a cumulative effect (=a complex vowel) on the plural suffix of overtly feminine nouns (Italian ros*a* - ros*e* 'rose', Hebrew kvuc*a* – kvuc*ot* 'group').

The differences between the two languages stem from their typology: most Hebrew roots are non-pronounceable and exclusively consonantal, unlike most Italian roots.

We continue to present a unified syntactic structure for both languages and motivate the similarities above. We claim that an element A marks all the singular forms of both languages (that this element is the same in both languages is a mere coincidence). This is so because the Feminine [a] suffix in both languages results from a suffixal *position* which attracts the spell-out of the singular morpheme, i.e. the element A (3a,b). Divorcing the vowel the phonological realization of *singular* [a] from the *positional* feminine morpheme allows us to explain why Italian nouns like *poeta* 'poet' are not feminine (4a) and why certain Hebrew nouns, of the form $C_{[-HIGH]}CC$, may not have concatenative plurals.

Furthermore, we add phonological evidence (=the simplex vowel) to the claim in Borer (2005) that plurals are generally not derived from entire singular structures. Masculine Plurals in both languages are built on the stem rather than on the singular structure ((4b) for Italian). Feminine plural suffixes, in turn, have a different surface form (It. [e], *[i]; Heb. [ot], *[im]) because of the existence of a filled final feminine position (no examples for lack of space). Time permitting, we discuss the parametric fact that Hebrew has an entirely different feminine suffix –ot while Italian uses the same element I for all plurals.

1. Italian nouns types

	masculine				*feminine*		
	Singular	*plural*	*gloss*		*Singular*	*plural*	*gloss*
a.	nas-o	nas-i	'nose'	d.	ros-a	ros-e	'rose'
b.	can-e	can-i	'dog'	e.	nav-e	nav-i	'ship'
c.	poet-a	poet-i	'poet'				

2. Hebrew (non-derived) noun types

gen/num \ prosody	masculine			feminine		
	sg.	*pl.*	*gloss*	*sg.*	*pl.*	*gloss*
C$_{[-HIGH]}$CC - C$_{[+HIGH]}$CCa	pérec	pracim	'outburst'	pirca	pircot	'loophole'
CCVC - CCVCa	zvuv	zvuv-im	'fly'	zvuv-a	zvuv-ot	'female fly'
CaCVC - CCVCa	pakid	pkid-im	'clerk'	pkid-a	pkid-ot	'female clerk'

3. Unified syntactic structure

Hebrew   *Italian*

a. singular masculine

$[_{[sg]}\ [_{LexV}[\sqrt{pkd}]]_{TemP}]_{nP}$ $[_{[sg]}\ [_{LexV}[\sqrt{nas}]]_{TemP}]_{nP}$

$[A]_{V1}\ [i]_{V2}$ = > pakid   A   U   = > naso

b. singular feminine

$[_{[+gn]}\ [\ _{[sg]}\ [_{LexV}[\sqrt{pkd}]]_{TemP}]_{nP}]_{GenP}$ $[_{[+gn]}\ [\ _{[sg]}\ [_{LexV}[\sqrt{ros}]]_{TemP}]_{nP}]_{GenP}$

V-CV $[A]_{V1}$ V2   = > pkida   -CV   A   ø = > rosa

4. a. Italian *poeta 'poet (ms.)'*   b. Italian *poeti 'poets (ms.)'*

$[_{[sg]}\ [_{LexV}[\sqrt{poet}]]_{TemP}]_{nP}$ $[_{[pl]}\ [_{LexV}[\sqrt{poet}]]_{TemP}]_{nP}$

A   ø = > poeta   I   ø   = > poeti

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