Syntactic Parallels between Verbal and Nominal ϕ-Morphology in (Classical) Arabic

Three parallels in the expression of person/definiteness-, gender- and plural-morphology ('ϕ-morphology') between the nominal and verbal domains in Classical and Modern Standard Arabic are presented: (i) The same morphs express ϕ-morphology in the verbal and nominal system. (ii) The morphs appear in the same order in both systems. (iii) There is a second position effect in the placement of ϕ-morphology in definite common nouns and imperfective verbs, but not in pronouns and perfective verbs. These parallels are explained by syntactic structure and movement. The proposal offers a new line of evidence for parallelism between the clausal and the nominal domain and for morphological structure being built syntactically.

	Masc		Fem	
	SG:	PL:	SG:	PL:
Nom:	*l-...-u*	*l-...-u:(-na)*	*l-...-at-u*	*l-...-a:t-u*
Gen:	*l-...-i*	*l-...-i:(-na)*	*l-...-at-i*	*l-...-a:t-i*
Acc:	*l-...-a*		*l-...-at-a*	

TABLE 1. Definite Sound Common Noun [4].

Gender Morphs. Feminine gender is marked by /t/ on common nouns, Tab. 1, and 3SG.F-forms of the verb, Tab. 2, suffixed in the perfective and prefixed in the imperfective. A second feminine morph, /i/, appears in 2 and 3 SG pronouns, as well as in the 2SG forms of perfective and imperfective verbs. A third morph, /na/, appears in all feminine plural contexts. Masculine is marked by /m/ on 2/3 plural pronouns as well as second person perfective verb. Masculine /m/'s distribution in both pronouns and verbs can be characterized in terms of locality: /m/ appears when the gender morph is local to a person morph. This is the case in pronouns and 2 in perfective verbs, Tab. 2, where a person morph (/t/=2, /h/=3) appears in the sequence of ϕ-morphs, but not in the imperfective, where the person morph precedes the verb, or 3PL perfective, where there is no person morph in third person. All gender morphs appear both in the nominal and in the verbal domain, and in the case of masculine /m/ show the same locality condition for insertion.

		Pronouns		Perfective V		Imperfective V	
		SG:	PL:	SG:	PL:	SG:	PL:
1		*ʔan-a*	*naħnu*	*...-t-u*	*...-na:*	*ʔ-...*	*n-...*
2	M:	*ʔan-t-a*	*ʔan-t-u-m*	*...-t-a*	*...-t-u-m*	*t-...*	*t-...-u:*
	F:	*ʔan-t-i*	*ʔan-t-u-n:a*	*...-t-i*	*...-t-u-n:a*	*t-...-i:*	*t-...-na*
3	M:	*h-u-wa*	*h-u-m*	*...-a*	*...-u:*	*j-...*	*j-...-u:*
	F:	*h-i-ja*	*h-u-n:a*	*...-a-t*	*...-na*	*t-...*	*j-...-na*

TABLE 2. ϕ-Morphology on Pronouns and Verbs [4].

Number Morphs. Common nouns always have lengthening of a segment in the sound plural, Tab. 1 (broken plural is not discussed here). Lengthening also appears in plural masculine verbal agreement (3PL, 2PL imperfective), the 1PL perfective and 2/3F.PL (pronoun and perfective verb). The absence of lengthening in 3PL.M forms in ending in *-m* is explained by phonotactic restrictions. Lengthening of the vowel (e.g. **hu:m*) would create an illicit superheavy syllable and lengthening of the consonant (e.g. **hum:*) would create an illicit coda geminate. Thus the underlying plural morph /:/ never surfaces in these forms. Likewise, the short *-na* in 3PL.F of the perfective and 2/3PL.F imperfective follows from phonotactics. The underlying PL-F /:-n-a/ would create a geminate onset when combined with a consonant-final root, which is banned generally. When combined with a vowel final root, the resulting sequence would be V:C:V, which is highly restricted in Classical Arabic [4]. Questions remain about the absence of lengthening in the 1PL prefixal *na-*, but otherwise a lexical insertion rule like [PL] $\leftrightarrow$ /:/ covers both the nominal and the verbal domain. Across verbs and nouns, the plural morph precedes the gender morph: PL(URAL)-GEN(DER). In sound feminine plural *-a:t*, the plural morph /:/ precedes the gender morph /t/, as the reverse would lead to phonologically possible but unattested **-at:(-u/-i)*. Likewise, in the feminine forms in *-n:a*, the lengthening of the plural appears on the gender morph /n/, rather than the vowel that follows it.

Person Morphs. Person shows more limited parallelism in forms. Second person is consistently marked with /t/

on free pronouns and verbs. Likewise, 1PL-forms consistently contain /n/. For third person and 1SG, however, pronouns, perfective and imperfective verbs all use different morphs. The facts for morpheme-order on the other hand are clear: Where person markers can be confidently identified (3: *h*, 2: *t-*/*k-*, 1PL: *n-*), they precede all other ϕ-morphs, showing an order PER(SON)-PL-GEN. The same is visible in definite nouns: The definite marker *l-* precedes both gender and number morphs. Since person and definiteness originate in the same syntactic projection [3], definite nouns show the same order of morphemes as verbs and pronouns. **Parallel organization of ϕ-morphs.** The constant linear order of the morphs (PER-PL-GEN) was discussed above. In addition, definite NPs and imperfective verbs show a second position effect: The verb or noun is obligatorily preceded by a morph from the ϕ-system. In definite nouns, this is the definite marker /l/ originating in D, like person [3]. In imperfective verbs, the leftmost ϕ-morph out of PER-PL-GEN precedes the verb. In 1PL and 2, a person morph appears to the left of the root (/n/ and /t/ respectively) and only gender and plural morphs appear to the right of the verb. Third person presents a mixed picture: In 3SG.F the gender morph /t/ appears to the left of the root, elsewhere /j/ appears. A comparison with the perfective explains why: Across 3 perfective, there is nothing that could be identified consistently as a third person morph. Thus no person morph can appear before the root in imperfective, and a feminine morph appears instead. In the plural, the leftmost morph is the plural /ː/. I assume that the suprasegmental status of /ː/ makes it ineligible for providing segmental content that precedes the verb root. Glide epenthesis for morpho-phonological reasons being attested elsewhere in the language, I propose that /j/ in third person imperfective is a last resort strategy for fulfilling the second position requirement of the verb root, rather than a person morph. This explains why it is absent, when there is a gender morph that can satisfy the second position requirement of the verb root. The 1SG /ʔ/, finally, is can be analyzed as either a person morph unique to that environment or the use of the an epenthetic segment ([ʔ] epenthesis is widely attested). In perfective verbs on the other hand, all ϕ-morphology follows the verb. Likewise, in some of the free pronouns all ϕ-morphs follow the non-ϕ-morph *ʔan-*. Thus nominal and verbal categories are split into ones that show a second position effect (definite nouns, imperfective), and ones that do not (perfective, pronouns). **Syntax explains parallel organization of ϕ-Morphs.** The order PER/DEF-PL-GEN in nouns and pronouns follows from the hierarchical relations of the syntactic heads that introduce them [3]: [PER [NUM [GEND. . . The parallel ordering in the verbal domain follows if agreement heads for person, number and gender along the clausal spine follow the same hierarchical arrangement (similar to [3] i.a.). The similarity between pronouns/perfective and nouns/imperfective with respect to the second position effect can be understood in syntactic terms. Whereas pronouns always have material in D, common nouns do not [2]. Thus, pronouns obligatorily fill a higher projection than common nouns. [1] argues that perfective verbs in Arabic move to a higher projection in the clause than imperfective ones. The absence of a second position effect with pronouns and perfective verbs is explained by the highest available position for verbs and pronouns being filled by the element hosting the ϕ-morphology. Common nouns and imperfective verbs on the other hand remain lower in the structure, so that the higher position needs to be filled by some other means. This gives rise to the second position effect.

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