

THE PERSONAL PRONOUN SYSTEM IN MODERN STANDARD ARABIC
- a morphophonological analysis -

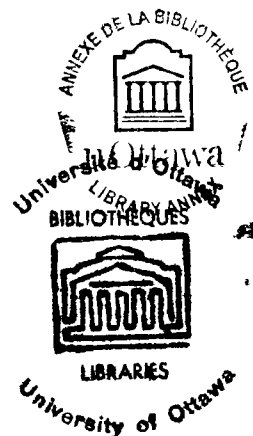
by

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A thesis presented to the School of Graduate Studies
as partial fulfillment for the degree of
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CANADA, 1974

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Ottawa, 1974

Sylvia Pavel

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List of Abbreviations

acc.	accusative	pl.plur.	plural
adj.	adjective	pref.	prefixed
asp.	aspect	pron.	pronoun
def.	definite	R.A.	readjustment rules
dem.	demonstrative	sing.	singular
dial.	dialectal	subj.	subjunctive
Egypt.	Egyptian	suf.	suffixed
energ.	energetic	Syr.	Syrian
ex.	example	T	transformational
e.g.	example given		
fem.	feminine		
gen.	genitive		
i.e.	that is		
imper.	imperative		
indef.	indefinite		
masc.	masculine		
M.S.A,	Modern Standard Arabic		
nom.	nominative		
juss.	jussive		
Leb.	Lebanese		
obl.	oblique		
P-rules	phonological rules		
pers.	person		

INTRODUCTION

Aim and scope of the study

The present study is an attempt to develop a fragment of grammar that adequately accounts for the phonetic shape of the personal pronouns in Modern Standard Arabic, by means of derivations from surface syntactic structure representations via readjustment and phonological rules.

The language

Modern Standard Arabic (MSA) represents that form of Arabic which is found to-day in formal speaking, radio broadcasting, newspapers, books and scientific publications of Arab countries.

Notwithstanding the differences between the written and spoken manifestations of MSA with respect to the amounts and types of information they convey about language (Cowan 1968:29-34), the grammatical structure of MSA can be described so as to reflect the competence of an ideal speaker. It should however be kept in mind that such a speaker does not really exist, and that this competence constitutes the sum of real speakers' linguistic knowledge.

The examples given here tentatively illustrate the normative pronunciation of MSA.

Theoretical framework

The personal pronouns are analyzed within the grammatical model of Chomsky and Halle 1968 in which transformational rules map deep structure representations of sentences onto their surface structure correlates, and a lexicon provides the semantic, syntactic, morphological and phonological information of its entries in terms of binary features. Lexical insertion rules place the lexical items in the appropriate positions in the basic patterns of the sentences. The syntactic surface structures thus obtained are the direct output of the transformational component, and are modified by readjustment rules so as to constitute the input to the phonological component of the grammar.

Readjustment rules reanalyse sentences as sequences of phonological phrases, modify the syntactic segmentation and categorization of the syntactic surface structure representations and spell out abstract grammatical formatives such as the inflectional affixes of number, gender and case.

Phonological rules formalize the alternations taking place in sequences of segments at the stem, at the word and at the phonological phrase level and assign to each sentence its phonetic shape.

Sources and plan of the study

To my knowledge, very few attempts have been made so far using a transformational approach for MSA morphology and phonology,

and none of them deals with its pronominal system.¹⁾

The phonological preliminaries of this study (ch.I) contain some of the principal rules of the Arabic phonology, on the basis of which a synchronic relation will later be shown to exist between the pronominal and the root-system derivations.

The general survey of MSA morphology (ch.II), although non-formalized, is intended to facilitate the further understanding of the structural similarities and differences displayed by nouns and pronouns with regard to the categories of number, gender and case.

The person category is dealt with separately (ch.III) as an introduction to the personal pronouns proper. The personal markers are shown to be selected among meaningful demonstrative roots semantically reinterpreted so as to distinguish the participants in the speech act i.e. the first and the second persons, from the non-participants i.e. the third person. It appears that case distinctions are expressed within the pronominal system of MSA by alternating different sets of personal markers.

The morphophonological derivations of the MSA personal pronouns (ch.IV) follow, by and large, the proposals for pronominal analysis put forward in Bierwisch 1967. According to him readjustment rules rewrite person, number, gender and case features as strings of phonemic segments and phonological rules delete or insert phonemic segments in certain syntactically and phonologically conditioned environments.

Purely syntactic information has been kept to a minimum and mostly referred to in notes.

CHAPTER I

PHONOLOGICAL PRELIMINARIES

Phonological segments

The vocalic system of MSA presents the basic three-vowel pattern: it consists of the short vowels /i/, /a/, /u/ and of their lengthened counterparts /ī/, /ā/, /ū/. It is assumed on historic and structural grounds (Cantineau 1960:93-102) that the long vowels result either from underlying diphthongs or from identical VV sequences. Long vowels are about twice as long as short vowels.

The twenty eight consonants of MSA also have lengthened or geminated counterparts. Reduplicated [+continuant] segments present a longer period of frication whereas [-continuant] consonants present a longer period of closure than single fricatives and stops.

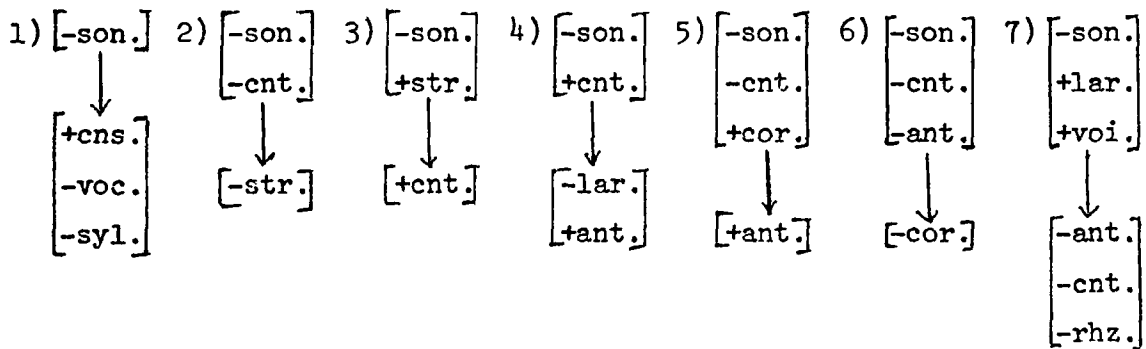
The glides /w/, /j/, the glottal stop /ʔ/, and to a much lesser extent /h/, play a central role in MSA phonology as a result of their inherent weakness. They are deleted in intervocalic position and easily assimilated to one another or to neighbouring vowels.

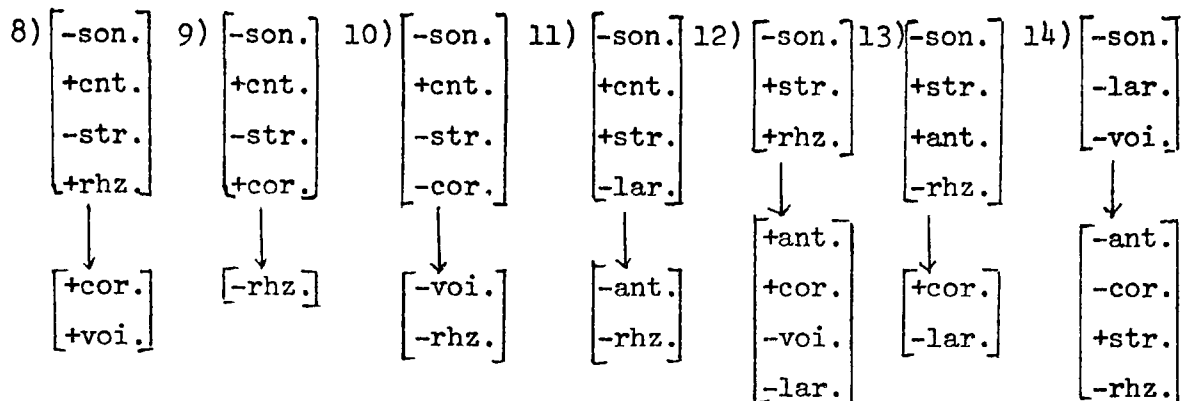
Using the I.P.A. notation system, Arabic sounds will be described below by means of binary distinctive features, in two phonological matrices where the columns stand for segments and the rows for distinctive features. According to Brame 1970, the "emphatic" consonants will be marked [+rhyzo-lingual] i.e. produced with a supplementary contraction of the root of the tongue, as opposed to [+laryngeals].

The segment redundancy rules are formally stated and the redundant features i.e. those which can be predicted from the presence or absence of the other features in the same column, are circled.

Obstruents	t	ṭ	k	q	b	d	ḍ	f	θ	ð	ð̣	s	ṣ	z	ʃ	x	ɣ	h	ʕ
sonorants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
consonantal	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
vocalic	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖
syllabic	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖
continuant	-	-	-	-	-	-	-	+	+	+	+	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
anterior	⊕	⊕	-	-	+	⊕	⊕	⊕	⊕	⊕	⊕	+	⊕	+	⊖	-	-	-	-
coronal	+	+	⊖	⊖	-	+	+	-	+	+	⊕	⊕	⊕	⊕	+	+	-	-	⊖
voiced	-	-	-	-	⊕	+	+	⊖	-	+	⊕	⊖	⊖	+	-	+	-	+	-
strident	⊖	⊖	⊖	⊖	⊖	⊖	⊖	-	-	-	-	+	+	+	+	+	+	+	⊖
rhizo-ling.	-	+	-	+	⊖	-	+	⊖	⊖	⊖	+	-	+	-	⊖	⊖	⊖	⊖	⊖
laryngeal	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	-	-	-	-	+	+

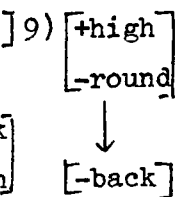
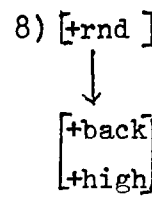
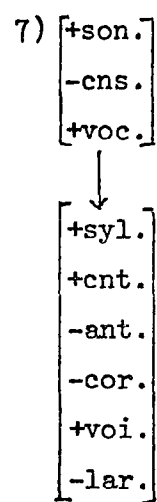
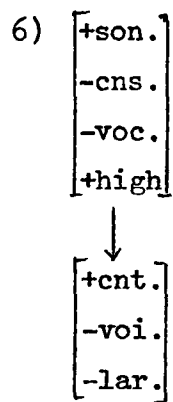
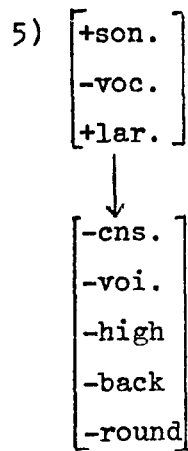
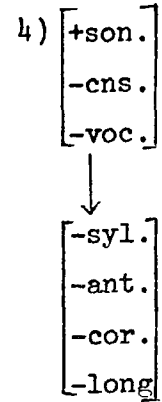
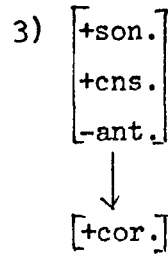
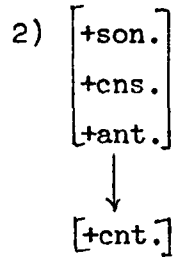
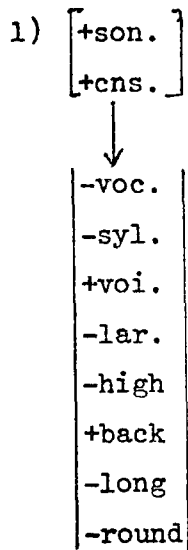
Segment redundancy rules for obstruents:





Sonorants	m	n	l	r	w	j	h	ʔ	i	ɾ	u	ū	a	ā
sonorant	+	+	+	+	+	+	+	+	+	+	+	+	+	+
consonantal	+	+	+	+	-	-	-	-	⊖	⊖	⊖	⊖	⊖	⊖
vocalic	⊖	⊖	⊖	⊖	-	-	-	-	+	+	+	+	+	+
syllabic	-	-	-	-	-	-	-	-	+	+	+	+	+	+
continuant	+	+	+	-	⊕	⊕	+	-	⊕	⊕	⊕	⊕	⊕	⊕
anterior	+	+	-	-	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖
coronal	-	+	+	+	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖
voiced	⊕	⊕	⊕	⊕	⊕	⊕	⊖	⊖	⊕	⊕	⊕	⊕	⊕	⊕
laryngeal	⊖	⊖	⊖	⊖	⊖	⊖	+	+	⊖	⊖	⊖	⊖	⊖	⊖
high	⊖	⊖	⊖	⊖	+	+	⊖	⊖	+	+	⊕	⊕	⊖	⊖
back	⊖	⊖	⊖	⊖	⊕	⊖	⊖	⊖	⊖	⊖	⊕	⊕	⊖	⊖
long	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	-	+	-	+	-	+
rounded	⊖	⊖	⊖	⊖	+	-	⊖	⊖	-	-	+	+	⊖	⊖

Segment redundancy rules for sonorants:



Morpheme structure conditions and permissible syllable patterns

Arabic morphemes are non-sequential: consonantal roots - mostly triconsonantal - are associated with basic meanings and constitute a fundamental category of lexical morphemes, whereas vocalic patterns express mainly grammatical distinctions.

The vocalized roots represent the basic stems to which derivational and inflectional affixes are attached.

A distinction is made between internal (roots and vocalic patterns) and external (affixation) morpheme combinations. Nouns, verbs, adjectives and a great many adverbs are formed by both means. Pronouns, demonstratives, prepositions, particles and certain adverbs are conglomerates of mono-consonantal roots of an affective origin (interjections, word-gestures) and are thus placed outside the "root-system". One might even want to consider them combinations of sequential morphemes.

The root-morphemes : $C_1 - C_2 - C_3 \dots$

The patterning of root-morphemes presents restrictions different from those applying to the affixes.

As Greenberg 1950:162-161 pointed out, both identical and homorganic consonants are excluded in the first two positions of the triconsonantal root-morphemes; identical consonants are allowed in the final two positions ($C_2 - C_3$), but homorganic non-identical consonants are excluded. As for the first and third positions ($C_1 - C_3$),

the mutual exclusion of homorganic (including identical) consonants is much less rigorous.²⁾

Greenberg divides the consonantal segments into four classes from which /w/ and /j/ are excluded : [+front] , [+ liquid] , [+ back] and [+ labial] , and gives the following rules for the structure of the triconsonantal root-morphemes:

- a) segments of each class occur freely with those of others
- b) different segments of the same class tend not to appear within the same root-morpheme.

The vocalic patterns : - V₁ - V₂

The vocalic patterns inserted between the consonants of the root-morphemes must contain at least one short vowel and no more than two long vowels:

a) a short vowel- $C_1 \begin{Bmatrix} a \\ i \\ u \end{Bmatrix} C_2 C_3$

b) two short vowels- $C_1 \begin{Bmatrix} a \\ i \\ u \end{Bmatrix} C_2 a C_3$, $C_1 \begin{Bmatrix} a \\ i \end{Bmatrix} C_2 i C_3$, $C_1 \begin{Bmatrix} a \\ u \end{Bmatrix} C_2 u C_3$

c) a long vowel and a short one, or a diphthong and a short vowel-

$C_1 \begin{Bmatrix} aw \\ aj \end{Bmatrix} C_2 a C_3$, $C_1 \bar{a} C_2 a_i C_3$

d) a short vowel and a long one - $C_1 \begin{Bmatrix} a \\ i \\ u \end{Bmatrix} C_2 \bar{a} C_3$, $C_1 a C_2 \begin{Bmatrix} \bar{i} \\ \bar{u} \end{Bmatrix} C_3$

e) two long vowels - $C_1 \bar{a} C_2 \bar{u} C_3$

The vowels /a/ and /ā/ are felt as the strongest vowels, and /i/, /ī/ as stronger than /u/, /ū/ . The strength is demonstrated not only by the

frequency of /a/ in the vocalic patterns above, but also by its assimilatory character (see P-rules 12 and 13).

The affixes

The affixes are of the form : V , \bar{V} , C , $\left\{ \begin{matrix} aj \\ aw \end{matrix} \right\}$, CV and VC

- a) an affixal consonant is always [-rhz]
- b) no more than two derivational affixes and a single inflectional affix are allowed in prefixed position.

The syllable patterns

A root-morpheme is vocalized on the underlying level according to the following permissible syllabic patterns:

$$\$ \left\{ \begin{matrix} \bar{V} \\ V \end{matrix} \right\} (C) \$ \quad \text{where } \$ \text{ is the syllable boundary.}$$

The pattern $\$CVCC\$$ is only admitted before pauses.

No syllable can begin with $\$V-$ or $\$CC-$:

- a) affixes beginning with a vowel are attached to the preceding consonant in a single syllable

$$CVC\$ + VC \longrightarrow CV\$CVC$$

$$\begin{array}{l} \text{darab}_\$ + \text{at} \longrightarrow \text{dara}_\$ \text{bat} \quad \text{' she hit '} \\ \text{hit} \quad \left[\begin{array}{l} +3d \text{ pers.} \\ +fem. \\ +sing. \end{array} \right] \end{array}$$

- b) CC clusters are assigned to different syllables

$$CV + CCVX \longrightarrow CVC\$CVX$$

$$\begin{array}{l} \text{ja} + \text{ktubu} \longrightarrow \text{jak}_\$ \text{tubu} \quad \text{' he writes '} \\ \left[\begin{array}{l} +3d \text{ per} \\ +masc. \\ +sing. \end{array} \right] \text{ write} \end{array}$$

The preferred syllable patterns are $\$CV\$, \$C\bar{V}\$$ and $\$CVC\$,$

c) On the surface, the length of the vowel is neutralized in closed syllable $\$C\bar{V}C\$,$ and in word final open syllable $\$C\bar{V}\$,$ provided that the length is not distinctive. When the length is distinctive, it is preserved in both $\$C\bar{V}C\,$ and $\$C\bar{V}\, \neq$ (\neq is the word boundary).

$?a_n\bar{a} \neq \rightarrow ?a_n a \neq$ 'I'

	kātibū \neq rrisāla	'the writer of the letter'
	writer the letter	
[+masc.	
	+nom.	
]	+sing.]	
	kātibū rrisāla	
[+masc.	
	+nom.	
]	+plur.]	'the writers of the letter'

d) $C_i C_i$ clusters ($i = i$) are reduced to C_i in word final position, especially following a long syllable (which have the form $C\bar{V}\$, CVC\$, C\bar{V}C\$$).

Various phonological rules (P-rules) apply after roots have been vocalized and affixes have been spelled out according to the syllable structure conditions.

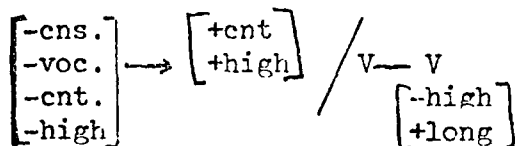
Phonological rules

Stem P-rules

Under this heading are placed rules operating on vocalized roots (basic stems) and on stems (vocalized roots plus all the affixed derivational material). Brackets [] mark the stem boundaries.

1. Glottal stop dissimilation

A stem /ʔ/ becomes either /w/ or /j/ in intervocalic position before /ā/. The quality of the glide is predictable if the preceding vowel is [+high]. After /a/ however, the choice must be lexically marked.

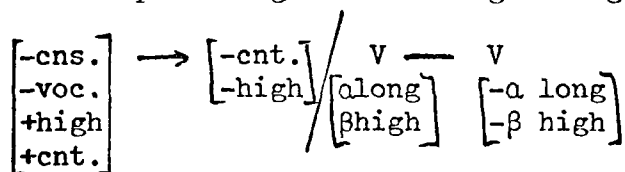


roots:

rʔj	*riʔāj	→ *rijāj	'eyeservice' (* marks an abstract form)
ʔsj	*muʔāsāt	→ muwāsāt	'consolation'
ʔtj	*muʔātij	→ muwātij	'favorable'
ʔʃr	*maʔāʃr	→ mawāʃr	'saws'
ʔzb	*maʔāzib	→ majāzib	'drains'

2. High glide dissimilation

A stem /w/ or /j/ becomes /ʔ/ in intervocalic position either preceding or following a long vowel.

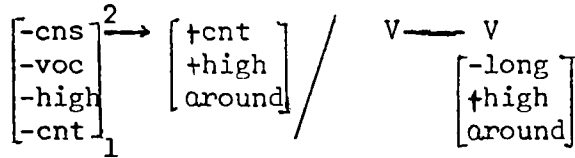


roots:

qwl	*qāwll	→ qāʔll	'speaker'
bjʃ	*bājiʃ	→ bāʔiʃ	'salesman'
nwm	*nawūm	→ naʔūm	'sleepy'
wrj	*warājiij	→ warāʔij	'directed backward'
rʔj	*rijāj]un	→ rijāʔun	'an eyeservice' (+nom.) -def.

3. Glottal stop assimilation

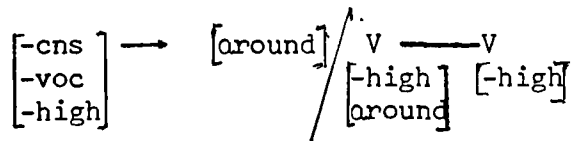
A single or geminate /ʔ/ assimilates to a following short high vowel when in intervocalic position



root: sʔl *tasaʔʔul → tasawwul 'beggary'

4. High glide assimilation

A stem /w/ or /j/ followed by /a/ assimilates to a preceding high vowel



roots: rɔw *raɔiwa → raɔija 'he was satisfied'
zwr *ziwārat → zijārat 'visit'

5. Glide syncope

Stem glides except /h/ disappear before stem consonants under the following conditions:

a) ʔ → ∅ / ~~ʔ~~ — C

roots: ʔkl *ʔkul → kul 'eat! '
*ʔxuð → xuð 'take! '

b) $\begin{Bmatrix} \text{w} \\ \text{j} \end{Bmatrix} \rightarrow \emptyset / \neq \text{CV} [-\text{C}]$ where CV is a grammatical affix.

roots:

wʕl *ja[wʕilu → jaʕilu 'he arrives'(+indic.)
jqð *ju[jqiðu → juqiðu 'he wakes someone'(+indic.)

This rule does not affect glides which belong to the grammatical affix and not to the stem:

*walad[aj ~~ʔ~~ ni → waladajni 'two boys' (-nominative)
 [+dual] [-def.]
 [-nom.]

6. Vowel syncope I

A short vowel belonging to a vocalized root is dropped following prefixed grammatical material:

V → ∅ / CV — CV
[- long]

roots: nzi *ta[nazilu → tanzilu 'she descends'(+indic.)
 ʔki *ʔa[ʔakulu → *ʔaʔkulu ' I eat'(+indic.)

7. Glottal stop deletion

A stem /ʔ/ is deleted before or after a consonant and the nearest short vowel is lengthened:

ʔ → ∅ / V { \overline{C} } V
 { C $\overline{\quad}$ }

This formalization does not show the lengthening. The rule is impossible to state with the formalism we have, since the formalism has no adequate way of expressing the notion "nearest" independent of preceding or following position.

roots: C₁ = ʔ

ʔzb *mʔzāb → mTzāb 'drain'
ʔrx *taʔrTx → tārTx 'history'

?ðn	*?i?ðān	→ ?Tðān	'proclamation'
?θr	*?i?θār	→ ?Tθār	'predilection'
?ʒr	*?i?ʒār	→ ?Tʒār	'rent'
?mn	*?i?mān	→ ?Tmān	'faith'
?θr	*?a?θār	→ ?āθār	'vestiges'
?kl	*?a?kul	→ ?ākul	' I eat'
?rb	*?a?rāb	→ ?ārāb	' wishes'
roots: C ₂ = ?			
b?r	*?a?bār	→ ?ābār	'fountains'
θ?r	*?aθ?ār	→ ?āθār	'revenges'
r?j	*?a?rā?	→ ?ārā?	'opinions'
pronoun:	*?an ?a	→ ?anā	' I '

These examples indicate that the internal plural ?aC₁C₂ā C₃ and the personal markers ?an?ā behave like derived stems of the form ?VC₁ C₂VC₃ .

Word P-rules

These rules affect grammatical material attached to basic and derived stems.

8. ?V epenthesis

At the beginning of an utterance or in isolation, word initial CC clusters receive an epenthetic vowel preceded by a glottal stop :

∅ → ?V / // — CC where // is pause boundary.

- a) the vowel is /a/ in the definite article /ʔa/ and in the relative pronouns /ʔallaðī /, /ʔallatī / in their masculine and feminine forms.
- b) The vowel is /i/ or /u/ in the imperative of the base-form of the verb, depending on stem vowel quality :

$$\emptyset \longrightarrow V \quad / \quad // \text{---} \text{CCV} \quad / [+imperative]$$

$$\left[\begin{array}{l} \alpha \text{ back} \\ \beta \text{ round} \end{array} \right] \quad \left[\begin{array}{l} \alpha \text{ back} \\ \beta \text{ round} \end{array} \right]$$

ex. ʔuktub 'write! '

 ʔiðhab 'go! '

- c) The vowel is /i/ in the perfect aspect, in the imperative and in the verbal noun of the VII, VIII, IX and X derived forms of the verb, and in seven other words :

roots:

ṭlq	VII form	ʔinṭalaqa	'he went off' (perfect)
		ʔinṭaliq	'go off ! ' (imperative)
frd	VIII form	ʔiftarada	'he isolated himself'(perfect)
fhm	X form	ʔistafhama	'he inquired'(perfect)
		ʔistifhām	'inquiry' (verbal noun)

The seven words:

ʔism-	'name'
ʔibn-	'son'
ʔibnat-	'daughter'
ʔimru?-	'man'
ʔimraʔat-	'woman'
ʔiθnāni	'two'(masc.)
ʔiθnatāni	'two'(fem.)

The P-rule 8 is blocked when the words containing initial CC clusters do not begin an utterance. If the preceding word ends in a vowel, the first C of the CC cluster is attached to it in a single readjusted syllable:

$$\begin{array}{l} \$CV \$ \neq CCV \longrightarrow \$CV\neq C \$CV \\ ra?aj \$tu \$ \neq lqamar \longrightarrow ra?aj \$tu \neq l \$qamar \quad \text{'I saw the moon'} \\ `qā \$la. \$ \neq \ddot{o}hab \longrightarrow qā \$la \neq \ddot{o} \$hab \quad \text{'he told : go!'} \end{array}$$

When the preceding word ends in a consonant, a vowel is inserted by the following rule of V anaptyxis to break the CCC cluster.

9. V anaptyxis $\emptyset \longrightarrow V / C - \neq CC$

This vowel is in most cases /i/ .

* qad \neq nṭalaqa \longrightarrow qadi \neq nṭalaqa 'he did go off'

a) The preposition / min/ 'from' takes /a/ not /i/ before the definite article /-l/ and becomes / mina/. The choice is justified for dissimilatory purposes in repetitive sequences (see also P-rule 19).

b) The personal pronouns and the pronominal suffixes in the verbal conjugation ending in /- um/ receive /u/ not /i/ before the definite article. The true nature of this so-called anaptyctic vowel will be analyzed in chapter IV.

*?antum \neq lkutābu \longrightarrow ?antumu \neq lkutābu ' you are the writers'

9'. V-anaptyxis II

This is another morphologically conditioned rule.

It vocalizes word final consonants which are grammatically distinctive, so as to prevent them from segment coalescence processes and from elision before pauses.

The vowel is in most cases /a/, but /u/ and /i/ may also occur especially after or before syllables containing another /a/ (see also rule 16).

- | | | | | | | | | |
|---------------|---------------------------|---|--------------------------|---------------|-------------|----------|----------|--------|
| a) | $\emptyset \rightarrow a$ | <table style="border-collapse: collapse;"> <tr><td style="padding: 0 5px;">Verb</td></tr> <tr><td style="padding: 0 5px;">[+suf. asp.]</td></tr> <tr><td style="padding: 0 5px;">[+3d pers.]</td></tr> <tr><td style="padding: 0 5px;">[+masc.]</td></tr> <tr><td style="padding: 0 5px;">[+sing.]</td></tr> </table> | Verb | [+suf. asp.] | [+3d pers.] | [+masc.] | [+sing.] | C] — ≠ |
| Verb | | | | | | | | |
| [+suf. asp.] | | | | | | | | |
| [+3d pers.] | | | | | | | | |
| [+masc.] | | | | | | | | |
| [+sing.] | | | | | | | | |
| b) | | <table style="border-collapse: collapse;"> <tr><td style="padding: 0 5px;">\$C]</td></tr> <tr><td style="padding: 0 5px;">{\bar{V}}</td></tr> <tr><td style="padding: 0 5px;">[a.j]</td></tr> </table> | \$C] | { \bar{V} } | [a.j] | + n — ≠ | | |
| \$C] | | | | | | | | |
| { \bar{V} } | | | | | | | | |
| [a.j] | | | | | | | | |
| c) | | C _d — | (d ≠ demonstrative root) | | | | | |

In a) this rule prevents the deletion of root final consonants before pauses. In b) it prevents the shortening of morphologically distinctive long vowels in word final \$CVC\$ syllables and divides a non-permissible \$CVCC\$ in two readjusted syllables. In c) it vocalizes monoconsonantal demonstrative roots preventing their complete assimilation in monoconsonantal conglomerates.

- | | | | | |
|-----|-----------------|---------------|---|----------------------------------|
| ex. | a) ḍahab] | → ḍahaba | ≠ | 'he went' |
| | b) mudarrisūn | → mudarrisūna | ≠ | 'teachers' (nom.masc.pl.indef.) |
| | c) *ḥa+ja+θa+ u | → ḥajθu | | 'wherever' |

All this morphological information makes P-rule 8 and 9 look more like "spelling out" rules than phonological ones, more especially as /ʔV/ affixes can be found in /ʔinna/ 'indeed', /ʔan/ and /ʔanna/ 'that' etc. The difference between a readjustment /ʔV/ insertion rule and P-rule 8 consists in the fact that the former is never blocked i.e. it applies even if the preceding word ends in a consonant, and it is never followed by V anaptyxis.

ex. qāla lahum ʔannahu marīd^s 'he told them that he was sick'

Another possibility would be to postulate the existence of underlying forms beginning with a vowel for all the examples given in P-rule 8, and then to apply a /ʔ/ insertion rule before word initial ≠VCC underlying sequences.

- P-rule 8' : $\emptyset \rightarrow \text{ʔ} / \text{VC} \neq \text{C}$
- a) * al → // ʔal 'the'
 - b) * uktub → // ʔuktub 'write!'
 - c) * ism → // ʔism 'name' etc.

The new rule would not apply when the preceding word ends in a consonant and could be followed by a truncation rule (P-rule 11a) when the preceding word ends in a vowel.

Underlying: *raʔajtum^ʔ alqamar 'you(masc.pl.)saw the moon'
Phonetic : *raʔajtum^ʔ alqamar (the wrong phonetic form)

Underlying: * raʔajtu^ʔ alqamar 'I saw the moon'
Truncation: * raʔajt ≠ alqamar V --- ∅ / C--VCC
Phonetic : * raʔajt ≠ alqamar (the wrong phonetic form)

The alternative derivations above end up with the wrong phonetic forms. As exemplified in P-rule 8 and 9, the correct forms are :

raʔajtumu ≠ lqamar 'you(masc.pl.) saw the moon'
raʔajtu ≠ lqamar ' I saw the moon'

10. High glide deletion

Intervocalic high glides /w/ and /j/ are deleted under an if-then condition: if the left most vowel is[+ high], then the rightmost one must be also[+ high] for the glide to be deleted.

$$\begin{bmatrix} -\text{voc.} \\ -\text{cns.} \\ +\text{high} \end{bmatrix} \rightarrow \emptyset / V_i - V_j \quad \text{If } i=[+\text{high}] \text{ then } j=[+\text{high}]$$

roots:

xwf *xawif + tu 'I was afraid'

P-rule 10: *xaif + tu

Since WVCC sequences are not permitted by the syllable structure conditions the following rule of truncation applies:

11. Truncation

a) Short vowels are dropped in WVCC sequences:

$$V \rightarrow \emptyset / C - VCC$$

*xaif + tu → xiftu ' I was afraid'

b) Monoconsonantal demonstrative roots lose their vowel before additional vocalic material:

$$V \rightarrow \emptyset / _ + V \begin{matrix} \neq \\ C \end{matrix}$$

[+rule 9'c]

This is a very powerful rule, but not specifying the derivational history of the vowel, would lead to aberrant derivations in the examples below as result of the application of P-rules 12, 13 and 14.

*haj+θa + u → hajθu 'wherever'

*θa + umma → θumma 'then'

The contexts specified in P-rule 11 a) and b) are the only ones in which short vowels are dropped before other short vowels. In all the other contexts the following rule of vocalic assimilation applies.

12. Vocalic assimilation

a) $\left\{ \begin{matrix} u \\ i \end{matrix} \right\} \rightarrow a / a \text{ —}$

b) $u \rightarrow i / \left\{ \begin{matrix} i \text{ —} \\ \text{—} \left\{ \begin{matrix} i \\ j \end{matrix} \right\} \end{matrix} \right\}$

The resulting $V_i V_i$ sequences are lengthened by P-rule 14.

root: xwf * xawifa ' he was afraid '

P-rule 10: * xaifa

P-rule 12: * xaafa

root: qhw * maqhaw+u+ n 'cafeteria' (nom .indef.)

P-rule 10: * maqhaun

P-rule 12: * maqhaan

root: rmj * ?armij+ u ' I throw' (indicative)

P-rule 10: * ?armiu

P-rule 12: * ?armii

root qwl * quwila ' it was told'

P-rule 10: * quila

P-rule 12: * qilla

Another rule which creates $V_i V_i$ sequences is the rule of syllabicity assimilation.

13. Syllabicity assimilation

High glides in the final syllable assimilate to neighbouring vowels.

$$\text{a) } \left[\begin{array}{l} -\text{voc.} \\ -\text{cns.} \\ + \text{high} \end{array} \right] \rightarrow \left[\begin{array}{l} \text{a high} \\ \beta \text{ round} \end{array} \right] / \left[\begin{array}{l} \text{a high} \\ \beta \text{ round} \end{array} \right] \text{ --- } \neq$$

* ?irmij → * ?irmii 'throw!'

* ?ilaj → * ?ilaa 'toward'

$$\text{b) } \left[\begin{array}{l} -\text{voc.} \\ -\text{cns.} \\ + \text{high} \end{array} \right] \rightarrow \left[\begin{array}{l} \text{a high} \\ \beta \text{ round} \end{array} \right] / \text{C --- } \left[\begin{array}{l} \text{a high} \\ \beta \text{ round} \end{array} \right] \text{ V}$$

* manwam → * manaam 'sleep'

* jakwunu → * jakuunu 'he is'

The $V_i V_i$ sequences resulting from the application of P-rules 12 and 13 are converted into a single long vowel by P-rule 14.

14. $V_i V_i$ coalescence

$$V_i V_i \rightarrow \bar{V} / \text{--- } \text{CV} \neq$$

* xaafa → xāfa 'he was afraid'

* maqhaan → maqhān 'cafeteria'

* ?armii → ?armī 'I throw'

* ?ilaa → ?ilā 'toward'

* jakuunu → jakūnu 'he is'

* manaam → manām 'sleep'

* qilla → qīla 'it was told'

When not morphologically distinctive, the length is neutralized by the following rule of V shortening.

15. V shortening

$$\bar{V} \rightarrow v / C \left\{ \begin{array}{l} C \\ \neq \end{array} \right.$$

*maqhān → maqhan 'cafeteria'

*?ilā → ?ila 'toward'

16. Vowel dissimilation

a) The anaptyctic vowel /a/ inserted by P-rule 9'b.

dissimilates in /i/ when the preceding vowel is /ā/.

*bāb + ā + na → bābani 'two doors'

door
[+ dual]
[- def.]

$$b) \begin{array}{l} V \rightarrow v \\ \left[\begin{array}{l} +high \\ +long \\ -round \end{array} \right] \left[\begin{array}{l} -high \\ -long \end{array} \right] / \begin{array}{l} \text{---} C \text{---} V \\ \left[\begin{array}{l} +high \\ -round \end{array} \right] \end{array} \\ \left[\begin{array}{l} +high \\ -round \end{array} \right] \end{array}$$

ex. * madīnī → madanī 'urban'

* hijī → hijā 'she'

17. Short vowel deletion

Short vowels are dropped before long vowels.

$$v \rightarrow \emptyset / \text{---} \bar{V}$$

* kitāb + u + ī → kitābī 'my book'
book +nom. me

18. Long vowel diphthongization

A suffixed /ɾ/ becomes /ja/ when preceded by another long vowel or by a diphthong.

$\bar{T} \longrightarrow a / \bar{V} \longrightarrow \neq$

*walad + ā + \bar{T} \longrightarrow waladāja 'my two boys'
boy $\left[\begin{array}{l} +\text{dual} \\ +\text{nom.} \end{array} \right]$ me

*walad +aj + \bar{T} \longrightarrow waladajja
 $\left[\begin{array}{l} +\text{dual} \\ +\text{gen.} \end{array} \right]$

19. Haplology

Two syllabic sequences beginning with identical consonants are either reduced to a single syllable, or lose a V_j .

a) $C_i V_j C_i V_j \longrightarrow C_i C_i V_j$

*madada \longrightarrow madda 'he stretched'

b) $C_i V + C_i V \longrightarrow C_i V$

*a + taqadamūna \longrightarrow taqadamūna 'you(masc.pl.) advance'

*?inna + n \bar{T} \longrightarrow ?inn \bar{T} 'indeed, I'

c) ?al + ?VC \longrightarrow ?al + C

* ?al + ?allah \longrightarrow ?allah 'God'

the god

* ?al + ?unās \longrightarrow ?a nās 'the people'

20. Vowel syncope II

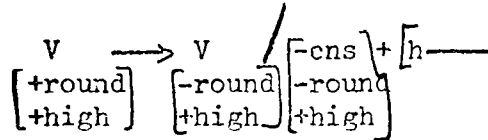
It is an optional rule that deletes a short vowel in a repetitive CVCVCV sequence transforming it into a CVCCVC one.

$V \longrightarrow \emptyset / X \text{ CVC} - \text{CVCY}$

fa + li + janḏur \longrightarrow fa|janḏur 'then let him look'

21. Vocalic harmony

This rule applies only to third person pronouns containing the demonstrative element /hu/ .



*kitāb + i + hu \longrightarrow kitābihi ' of his book'
 book [+gen] him

*ʔalaj + hum \longrightarrow ʔalajhim ' on them(masc.pl.)'
 on them

22. Stress assignment

Every word has a primary stress on the first long syllable from the end except $\text{CV}\bar{V}_{\S} \neq$ and $\text{CVC}_{\S} \neq$; if there is no long syllable, the third short syllable from the end is stressed. According to Brame 1971, the stress assignment rule can be formally expressed as follows:

$V \longleftarrow [\text{stress}]/ \text{--- } C_{\circ} ((VC)VC_{\circ}^{\dagger}) \neq$

There are a few cases in which word final long vowels are stressed. This category includes the dual forms in the verb conjugation and the apocopated dual and plural forms in the genitive construct i.e. /-ā/, /-aj/, /-ū/, /-ī/.

dual forms.: humā^ˈ katabā^ˈ 'they ywo have wrote'

ʔantumā^ˈ ' you two'

genitive construct: waladā^ˈ ʔṣadīqī^ˈ ' my friend's two boys'(nom.)

maʔa waladaj^ˈ ʔṣadīqī^ˈ 'with my friend's boys'(gen.)

Brame's rule correctly predicts these special cases provided that the \bar{V} be considered equivalent to VV sequences or to diphthongs at the point in phonological derivations at which stress is assigned.

$$\begin{array}{l} V \longrightarrow [+ \text{ stress}] / \longrightarrow C_0 ((V C) V C_0^1) \neq \\ \longrightarrow \emptyset \quad \emptyset \quad V \emptyset \quad \neq \text{ (for long vowels)} \\ \longrightarrow \begin{matrix} w \\ j \end{matrix} \quad \emptyset \quad \emptyset \emptyset \quad \neq \text{ (for diphthongs)} \end{array}$$

This implies that P-rule 22 is linearly ordered with respect to the others in phonological derivations. At the same time it enters the "cyclical phonology" proposed in Chomsky and Halle (1968:59) : "the syntactic component generates a string with a surface structure that is represented by labeled bracketing. The sequence of phonological rules is first applied to all innermost constituents of this string. Innermost brackets are then deleted and the sequence applies to the new innermost constituents. This cyclical application is repeated until the maximal domain of phonological processes is reached.... Certain rules apply only at the word level and constitute the 'non-cyclical phonology'."

The cyclical character of this rule becomes evident when it applies to subject and object pronominal affixes and personal pronouns. The subject affixes with the exception of the dual forms are included in the same cycle with the aspect stem of the verb:

- a) [katab + tu] \longrightarrow katábtu ' I wrote'
- b) [katab + tunna] \longrightarrow katabtúnna ' you(fem.pl.) wrote'
- c) [katab + ū] \longrightarrow kátabū ' they(masc.pl.) wrote'

In a) and b) the first long syllable from the end is stressed; in c) the third short syllable from the end is stressed (when non distinctive, the length is neutralized in $\text{CV}\bar{\text{V}}_{\text{S}}\neq$ syllables).

The object affixes and the dual forms of the subject affixes constitute a new cycle:

- d) [[kátab] +ā] → kàtabā ' they two(masc.wrote'
 e) [[kátab+ū]+hu] → kàtabūhu ' they(masc.) wrote him'

The dual and the object pronominal affixes determine the shift of the primary stress and the appearance of a secondary stress.

Elision rules in connection with the pause

The last syllable before any pause or break in the utterance must always be long i.e. $\text{\$CV}\bar{\text{V}}\text{\$}$, $\text{\$CVC}\text{\$}$, $\text{\$CVCC}\text{\$}$. A long syllable is obtained by applying the following rules:

23. Short vowel elision

$\text{V} \rightarrow \emptyset / \text{C} - \text{//}$

$\text{\?alkitāb} + \left. \begin{matrix} \text{u} \\ \text{a} \\ \text{i} \end{matrix} \right\} \rightarrow \text{\?alkitāb}\text{//}$ ' the book'
 the book [+case]

$\text{\?araba} \rightarrow \text{\?arab} \text{//}$ ' he hit'

24. Tanwin elision

The /-un/, /-in/ endings of the indefinite declension (called 'tanwin' in Arabic and 'nunation' in English) are deleted at pause, and the accusative ending /-an/ becomes /-ā/.

a) $\text{V+n} \rightarrow \emptyset / - \text{//} / \left[\begin{matrix} \text{N} \\ \text{[-def.]} \end{matrix} \right]$
 [+high]

$\text{kitābun} \rightarrow \text{kitāb} \text{//}$ ' book' (nom.indef.)

b) $\text{V+n} \rightarrow \bar{\text{a}} / - \text{//} / \left[\begin{matrix} \text{N} \\ \text{[-def.]} \end{matrix} \right]$
 [-high]

$\text{kitāban} \rightarrow \text{kitābā} \text{//}$ ' book' (accus.indef.)

25. /-at/ elision

Following the elision of final short vowels (rule 23) and tanwin elision (rule 24), the feminin singular affix /-at/ is realised as either /-ah/

Or /-a/ : at → a(h) / — //

root:kbr * ?al-kabTr- at - u // ' the big'
 *the big $\begin{bmatrix} +fem \\ +sing \end{bmatrix} \begin{bmatrix} +nom \end{bmatrix}$

P-rule 23 * ?al-kabTr-at //

P-rule 25 ?al-kabTra(h) //

root:zwr * ziwār - at - un // ' a visit'
 visit $\begin{bmatrix} +fem \\ +sing \end{bmatrix} \begin{bmatrix} +nom \\ -def \end{bmatrix}$

P-rule 4 * zijār- at -un //

P-rule 24 * zijārat //

P-rule 25 zijāra(h) //

Summary of P-rules :

Stem rules

/ʔ/	dissimilation	P-rule 1	Vowel assimilation	P-rule 12
/w~j/	dissimilation	P-rule 2	Syllabicity assim.	P-rule 13
/ʔ/	assimilation	P-rule 3	$\begin{smallmatrix} V \\ \downarrow \\ V \end{smallmatrix}$ coalescence	P-rule 14
/w~j/	assimilation	P-rule 4	\bar{V} shortening	P-rule 15
/w~j/	syncope	P-rule 5	Vowel dissimilation	P-rule 16
Vowel syncope I		P-rule 6	Vowel deletion	P-rule 17
/ʔ/	deletion	P-rule 7	\bar{V} diphthongization	P-rule 18
			Haplogy	P-rule 19

Word rules

/V/	epenthesis	P-rule 8	Vocalic harmony	P-rule 21
Vowel anaptyxis I		P-rule 9	Stress assignment	P-rule 22
Vowel anaptyxis II		P-rule 9'	V elision	P-rule 23
/w~j/	deletion	P-rule 10	Tanwin elision	P-rule 24
Vowel truncation		P-rule 11	/-at/ elision	P-rule 25

CHAPTER II

OUTLINE OF MSA MORPHOLOGY

Arab grammarians traditionally distinguish three major inflected categories:

- verbs

-substantives(nouns, pronouns, adjectives and numerals)

-particles (adverbs, prepositions, conjunctions, interjections and the definite article)

The verbs

The verbs are classified by "forms" (the 15 forms of the Classical Arabic are reduced to ten in MSA). The base-form $C_1V_1C_2V_2C_3V_3$ represents the starting point for further derivations expressing variations in the quantity, quality or direction of an action or in the characteristics of a state. The second form is derived by geminating the C_2 of the base-form and produces estimative verbs. The third form whose V_1 is lengthened produces the denominative verbs, the fourth form $^u/a C_1C_2C_3a/$ provides the pattern for the causatives, the fifth for reflexives, and so on.

root: <u>ʕlm</u>	I. ʕallma	' he knew'
	II. ʕallama	' he taught'
	IV. ʔaʕlama	' he advised'

v. taʕallama	' he studied '
x. ?istaʕlama	' he inquired'

The action of the verb is viewed under two aspects : completed (perfect) and incompleted (imperfect); the former is the unmarked term from which the latter is derived by reducing its vocalic pattern. Number, gender, person and mood markers are affixed to the aspect stem of the verb.³⁾ As a result of the fact that the person markers are prefixed in the imperfect and suffixed in the perfect, the two aspects are frequently called ' prefixed' and 'suffixed' respectively. Only the prefixed aspect selects mood endings. The moods are: indicative, subjunctive, energetic, jussive, imperative.

[+ indic.]	→ $\begin{cases} u / C- \\ na / V- \end{cases}$:ja +ktub + u	' he writes'
[+ subj.]	→ $\begin{cases} a / C- \\ \emptyset / V- \end{cases}$:Ja +ktub + a	'(that) he write'
[+ energ.]	→ an (na)	:ja +ktub +anna	' he writes heartily'
[+ juss.]	→ \emptyset	:ja +ktub	'let him write'
[+ imper.]	→ \emptyset	:?u +ktub	'write! (masc.sing.)'

The Arabic form commonly translated as the infinitive is the third person singular of the base-form in the suffixed aspect.

The substantives

There is no formal distinction between nouns and adjectives outside the context itself. Both categories are inflected for number gender and case.

ex. madīn +at + un ≠ kabīr + at+ un ' a big city'

 city^[+fem.]_[+sing.]^[+nom.]_[-def.] big^[+fem.]_[+sing.]^[+nom.]_[-def.]

The article /ʔal-/ prefixed to substantives indicates the definiteness in either of two directions: generalization or specification. The consonant /l/ is assimilated to initial coronal consonants (/θ/, /ð/, /t/, /d/, /s/, /ʃ/, /z/, /ʒ/, /d/, /ð/, /ʃ/, /ʒ/, /n/, /r/) of the following word with subsequent reduplication :

ex. *ʔal# nās# → ʔannās ' the people'

 *ʔal# ʃams# → ʔaʃʃams ' the sun '

Gender, number and case

The number category has three terms: singular, dual and plural. The gender category has two terms : masculine and feminine. The singular and the masculine represent the unmarked terms of their categories. Nominal and adjectival stems represent at the same time the masc.sing. forms. Their feminine, dual and plural forms are derived either by suffixation or by various internal alternations in the vocalic patterns, formalized within the readjustment component of the grammar.

ex. root: ktb → kātib 'writer' (masc.sing.)

 kātib +at → kātibat ' female writer'

The feature [+ fem.] has no overt realisation when the noun

denominates:

- certain female persons and animals

?umm 'mother'

faras 'mare'

-certain countries and towns

?alhind 'India'

dimaʃq 'Damascus'

All the nouns ending in / -at/, /-ā? / and /-ā / are feminine unless they designate males:

ex. muslimat- ' a female muslim'

but riḏālat- ' men'

The case endings([+nom.]→u ,[+gen.]→i ,[+ acc.]→ a) mark the syntactic functions of the nouns, the adjectives and the numerals in the sentence. These case markers are added to regular nouns in the singular, when the noun is defined by an article, or by an annexed noun in the genitive (genitive construct), or by a personal suffixed pronoun. In the absence of these defining elements, the case markers receive a final /-n/. (/tanwīn/- 'nunation') in the singular, which is vocalized by P-rule 9' in the plural.

ex. qaṣr + uʃ mālik+ i + n ' the palace of . a king'
 palace[+nom.] king[gen][-def.]
 +sing.[+def.] +sing.
 +masc. +masc.

?ilā #dār+i + hi ' to his house'
 to house his
 + gen
 +sing.
 +masc.
 +def.

The dual marker for definite nouns is /- ā/ in the nominative and /- aj/ otherwise.

ex. walad + ā ≠ zār + ̄ ' the two boys of my neighbour'
 boy +dual neigh- my
 +nom. bour
 +def.

f̄ ̄ ≠ madrasat + aj ≠ | ≠madīnati 'in the city's two schools'
in school +dual the city
 -nom. +gen.
 +def.

When not followed by a defining element, dual case markers take on the vocalized tanwin of the plural form (P-rule 9') whose vowel dissimilates into /-i/ by P-rule 19.

ex. *walad+ ā +na → waladāni 'two (nom.) boys'

Dual and plural forms lose their nunation only in the apocopated forms of the genitive construct.

ex. walad + ā ≠ ṣadīqī ' my friend'two boys'
but ?al ≠ walad+ ā +ni ' the two boys'

The case markers /u/, /a/, /i/ are added to "broken" plural forms i.e. realized by internal vocalic changes.

ex. ?al ≠ ?awlād + u ' the boys '
 ≠ ?awlād+ u + n ' boys '

External or regular plural forms i.e. realized by suffixation are inflected for [+nom.] → ū , and [-nom.] → ̄ in the masculine and the regular three cases in the feminine; feminine nouns ending in /āt/ do not take nunation when preceded by the definite article, whereas regular plural masculine nouns do.

- ex. ʔal ʔ mudarris+ū +na 'the teachers'(masc.pl.nom.)
 ʔal ʔ mudarrisāt+u 'the teachers'(fem.pl.nom.)

The regular plural is realized by lengthening the first vowel external to the stem i.e. the case marker in the masculine nouns and the gender marker in the feminine nouns.

According to Brame 1970 in this case the plural affix is a "phantom glide" present at the systematic phonemic level and forming an underlying diphthong with the first vowel external to the stem.

There is a class of nouns which do not take nunation in the singular and are only inflected for [+nom] → u and [-nom.] → a. These nouns are called "diptotes" as opposed to those fully declinable or "triptotes". In this class are included:

- proper names of foreign origin:

ʃahrazād- 'Sheherazade

- feminine names ending in /-at /

fāṭimat- 'Fatima'

-nouns ending in /-ān/ , or of the pattern $C_1uC_2aC_3$, or verb-like names:

ʔumar 'Omar'

jazīd 'Yazid'

-nouns ending in /-āʔ/

ṣaxrāʔ- 'desert'

-adjectives of the pattern $ʔaC_1C_2C_3$ /

ʔaxmar 'red'

CHAPTER III

THE PERSON CATEGORY

The concept of person in Arabic does not differ from that of languages such as English and French. The first person, /ʔaʔ mutakallim/ 'the one who speaks' indicates the person speaking, or the person speaking and someone else (some others), including or excluding the addressee. The second person, /ʔaʔ muxāṭab/, 'the one who is addressed' indicates the person(s) spoken to, except the speaker. The third person, /ʔaʔ yāʔib/ 'the one who is absent' refers to any person, thing or fact except the speakers and the addressee; in impersonal verbs it refers to nothing at all.⁴⁾ The third person is a lexicon inherent category (or feature) of nouns and other nominal terms when they are not used vocatively.⁵⁾

The connexions made by Jespersen 1965:212-15 between the concept of person and various local adverbs (I-here, You-there, He-yonder)⁶⁾ hold for Arabic also. Like all Semitic pronominal paradigms, Arabic personal pronouns are placed outside the Semitic root-system and originate from the merging of certain mono-consonantal demonstrative roots also found in interjections and adverbs.

According to Fleisch 1968:154, in the case of the personal pronouns these roots have undergone a process of semantic reinterpretation as personal markers. The similarities displayed by the independent forms of Arabic personal pronouns and a broad range of adverbs and

interjections make it a likely hypothesis.

The third person is expressed by two roots : h(u) and j(a)

*hu - ja → huwa 'he' (P-rule 4)

Both occur as interjections lil tanbTh 'to attract attention':

hajja 'make haste!'

hā 'see! there!'

hā hijje 'here she is' (syrian dialect)

?aja /jā 'o!'

?ij 'certainly, yes!'

hu occurs in adverbs of place:

hunā 'here'

hunāka 'there'

j occurs as the explicative particle

?aj 'namely, that is, this means'

used in commentaries to explain terms:

hāōā řaszadun ?aj ōahabun 'this is gold, that is, gold'

j is also found in the relative pronoun:

?ajjun 'who, which' (masc.)

?ajjatun 'who, which' (fem.)

The second person markers are (?a)n and t(a) :

*?an - ta → ?anta 'you' (masc.sing.)

t(a) appears in adverbs:

řatā 'until'

* fa +ja + ta + u → fajθu 'where, when'

* θa +u+mna → θumma 'after that'

In these cases t(a) indicates a certain point at a certain distance in time or space; it is followed by /u/ , the vestige of an adverbial case marker. The /t-θ-ǒ-k/ alternance appears in many pronouns and adverbs related to the idea of distance :

hunā 'here' / hunāka 'there'

hāōā 'this'(masc.) / ōāka 'that'(masc.)

hāōihi 'this'(fem.) / tilka 'that'(fem.)

The /t-k/ alternance also marks the nominative second person pronouns from the[-nom.] ones.

ta-ktubu 'you(masc.sing.)wrote'

ḡarabaka 'he has beaten you'

Combined with the vocative particle jā 'O!' the root t(a) locates the person invoked at a certain distance :

* jā ≠ ?umm + a +ta + T → jā ≠ ?ummatT 'O, my mother!'
O mother[+acc.] me

ja ≠ ?abb + a +ta + T → jā ≠ ?abbatT 'O, my father!'
O father[+acc.] me

In these examples t(a) loses its vowel before any supplementary suffixed material (P-rules 11,17 and 20).

As second person marker, the demonstrative root t(a) indicates no longer a place at a certain distance from the speaker but the person located at a certain distance from the speaker and participating in the speech situation.

By the same token, the semantic reinterpretation of hu and ja may consist of the fact that they no longer indicate the speaker's request for attention and the direction in which the attention has to be oriented, but the person, the thing, the fact or the situation upon which the speaker attracts the addressee's attention in the act of speech.

The pronominal base (?a)n marks the second and the first persons (/ʔanā/'I' , /naḥnu/'we') as [+participant] in the speech act, in opposition to the third person where its absence marks it as [- participant] .

The demonstrative root appears in a great many adverbs and particles:

- 1) hu + na 'here'
- 2)ʔaj + na 'where'
- 3) ?in 'if, whether'
- 4) ?inna 'indeed'(emphasises declarative sentences)
- 5) ?an/ ?anna 'that' (complementizers which select the subjunctive mood endings for verbs and the accusative endings for nominals)
- 6)-(an)n(a) (marks the energetic mood which vigorously expresses an intense feeling of the speaker: the deep conviction in affirmations and negations, the impatience in interrogations, the intensity in acts of the will).
- 7) ?an ?almufassira (the explicative/ʔan/which means 'that is'

serves to introduce what someone has actually said⁶⁾ or communicated by gesture, in direct speech and quotations⁷⁾):

e.g. ?afāratʔilajjaʔanʔxuðha 'she made me a sign :(that) Take her! '

Both the explicative /ʔan/ and the personal base /ʔan-/ allow the subject of the following clause to remain in the nominative. Moreover in both cases the subject must have the feature [-3d pers]. Such syntactic behaviour could suggest that there is a synchronic relation between them.⁸⁾

Another demonstrative root /ʔa/ distinguishes the first person from the second:

* ?an + ?a → ?anā ' I '
?a + ktub ' I write '

It occurs as a vocative particle before nouns in nominative and accusative and also as a questioning particle:

?aʔðāʔlāðṭ ' Is this he who... ? '

In the plural, the first person /naḥnu/ presents in addition the demonstrative root ḥ. It is found in adverbs and interjections combined with /ta/ /ja/ etc. and locating things in time or space :

ḥatā 'until'
ḥajθu 'when'
ḥajja 'come now! '

The presence of identical demonstrative roots in the nominative of the [-3d pers.] pronouns and in complementizers enlightens a fundamental characteristic of the first and second persons as opposed to the third. The former are immediately related to the utterance or to the present instance of discourse whereas the latter is related to objective positions and situations in time or space.

CHAPTER IV

THE PERSONAL PRONOUNS IN M.S.A.

Along with concepts of person and definiteness, the personal pronouns embody concepts of number and gender whose phonemic realizations are only partially similar to those of the nouns. Thus, the number category includes, as for nouns, singularity, duality and plurality, but there is no dual form for the first person. The dual of the personal pronouns is a restricted plural i.e. the dual marker is suffixed to plural forms:

hum 'they' (masc.pl.)
humā 'they two' (dual)

whereas for nouns and the verb conjugation, the dual is an extended singular (with the exception of the second person in the suffixed aspect only) :

walad(un) '(a) boy'
waladā(ni) '(two) boys'
ʔawlād(un) 'boys' (internal plural)
and katabat 'she wrote'
katabatā 'they two wrote' (fem.)
katabna 'they wrote' (fem.pl.)
but katabta 'you wrote' (masc.sing.)
katabtum 'you wrote' (masc.pl.)
katabtumā 'you two wrote' (masc. and fem.dual)

Some of the gender markers (fem.sing. /T/ and fem.pl. /na/) are not to be found in nouns nor adjectives while some others (masc.sing./∅/ and fem.sing./at/ or /ā/) are common to nouns and pronouns.

There is no gender distinction in the first person singular and plural, nor in the second and third persons dual.

The syntactic function of the personal pronouns is not marked by case endings ([+nom.] → u, [+gen.] → i, [+acc.] → a) but by selecting different sets of demonstrative roots (?a=ji ; ta=ka, etc.), or by other means. For example, the personal pronouns are free forms in the nominative and bound to the verb or to complementizers in the accusative , and to nouns and prepositions, in the genitive.

The disjunctive or independent pronouns express the subject of a nominal sentence: ?ana/ʔʔabTbu ' I (am) the doctor'
or stress the person indicated by a non-independent pronoun :

lā/ʔaḏhab/ʔanta 'don't you go!' (masc.sing.)
juqaddirunī/ʔanā 'they appreciate me '

The conjunct pronouns express the direct object when bound to the verb, the possessive when bound to a noun, the reflexive when bound to the noun /nafs/ 'self' and the indirect object when bound to prepositions.

kitābī ' my book'
nafsī 'myself'
laka 'to you' (masc.sing.)'

Person, number and gender markers are copied to the aspect stem of the verbs by agreement rules.

The personal pronouns (a systematic phonetic representation)

Personal pronouns	Disjunctive	Copied to the aspect stem		Conjunct
		Suffixed	Prefixed	
<u>Singular</u>				
3d masc.	huwa	-∅	ja-	-hu
3d fem.	hi ja	-at	ta-	h hā
2d masc.	?anta	-ta	ta-	-ka
2d fem.	?anti	-ti	ta...T	-ki
1st	?anā	-tu	?a-	-nT, -T ~ja
<u>Plural</u>				
3d masc.	hum	-ū	ja...ū	-hum
3d fem.	hunna	-na	ja...na	-hunna
2d masc.	?antum	-tum	ta...ū	-kum
2d fem.	?antunna	-tunna	ta...na	-kunna
1st	naḥnu	-nā	na-	-nā
<u>Dual</u>				
3d masc.	humā	-ā	ja...ā	-humā
3d fem.		-atā	ta...ā	
2d masc	?antumā	-tumā	ta...ā	-kumā
2d fem.				

Table 2

As the output of the syntactic component, the personal pronouns are represented by complex symbols :

$$(*) \quad N \quad \left[\begin{array}{l} +\text{Pronoun} \\ +\text{Person} \\ +\text{Number} \\ +\text{Gender} \\ +\text{Case} \\ \vdots \end{array} \right]$$

where

$$\begin{array}{l} [+1\text{st pers.}] \longrightarrow \left[\begin{array}{l} -2\text{d pers.} \\ -3\text{d pers.} \end{array} \right] \\ [+2\text{d pers.}] \longrightarrow \left[\begin{array}{l} -1\text{st pers.} \\ -3\text{d pers.} \end{array} \right] \\ [+3\text{d pers.}] \longrightarrow \left[\begin{array}{l} -1\text{st pers.} \\ -2\text{d pers.} \end{array} \right] \\ [+sing.] \longrightarrow \left[\begin{array}{l} -\text{plur.} \\ -\text{dual} \end{array} \right] \\ [+plur.] \longrightarrow \left[\begin{array}{l} -\text{sing.} \\ -\text{dual} \end{array} \right] \\ [+masc.] \longrightarrow [-fem.] \\ [+nom.] \longrightarrow \left[\begin{array}{l} -\text{accus} \\ -\text{gen.} \end{array} \right] \\ [+acc.] \longrightarrow \left[\begin{array}{l} -\text{nom.} \\ -\text{gen.} \end{array} \right] \\ [+gen.] \longrightarrow \left[\begin{array}{l} -\text{nom.} \\ -\text{acc.} \end{array} \right] \end{array}$$

Readjustment rules (R.A.-rules) convert complex symbols such as (*) into appropriate systematic phonemic representations, for phonological rules to apply.

The third person pronouns

1.1. Derivation of the independent forms

Given the phonetic realizations of the third person disjunctive pronouns (Table 2) a tentative derivation would run as follows:

R.A.1	[+fem.]	→ji	/	{+Pron}
				{-1st pers}
				{+sing}
R.A.2	[+fem.]	→na	/	{+Pron}
				{-1st pers}
				{+plur}
R.A.3	[+masc]	→wu	/	{+Pron}
				{-1st pers}
				{+plur}
R.A.4	{+plur}	→um	/	{+Pron}
				{-1st pers}
R.A.5.	{+dual}	→ā	/	{-1st pers}
				{+plur}
R.A.6	{+3d pers}	→hu-ja	/	{+Pron}

1.1.a. /huwa/ 'he'

Underlying : 3d pers. - sing. - masc.

Derivation : 3d pers. - ∅ - ∅

R.A.6 : hu-ja

P-rules

j assimil. : hu-wa

P-rule 4

Phonetic : huwa

P-rule 4 is a stem rule. The two personal markers /hu/ and /ja/ have the phonological status of a derived stem. The 1st person pronoun /ʔanā/ is the domain of another stem rule (see P-rule 7, p.15).

1.1.b. /hija / ' she'

Underlying : 3d pers. - sing. - fem.

Derivation : 3d pers. - \emptyset -fem.

R.A.1 : 3d pers. -ji

R.A.6 : hu-ja -ji

P-rules

Haplology : hu-j-ji

u assimil. : hi-j-ji

Sylab.assim: hi-j-ii

VV coalesc.: hi-j-T

V dissimil.: hi-j-a

Phonetic : hija

P-rule 12 : u \rightarrow i / $\left[\begin{array}{l} -cns^* \\ -round \end{array} \right]$

P-rule 13b: j \rightarrow i / [-voc.] \rightarrow i

P-rule 14 : ii \rightarrow T-

P-rule 17 : T \rightarrow a / ij \rightarrow

1:1:c. /hum / ' they'(masc.pl.)

Underlying : 3d pers. - plur. - masc.

R.A.3 : 3d pers. - plur. - wu

R.A.4 : 3d pers. - um - wu

R.A.6 : hu-ja -um -wu

P-rules

Truncation : hu-j -um-wu

j delet. : hu - um -wu

Truncat. b: h - um -wu

Syl.assim. : h -um -uu

VV coalesc.: h -um -ū

V short. : h -um -u

Phonetic : humu

P-rule 11a: V \rightarrow \emptyset / \rightarrow VCC

P-rule 10 : j \rightarrow \emptyset / u \rightarrow u

P-rule 11b: u \rightarrow \emptyset / \rightarrow V

P-rule 13b: w \rightarrow u / C \rightarrow u

P-rule 14 : uu \rightarrow ū

P-rule 15 : ū \rightarrow u / \rightarrow f

The form /humu/ is found only before word initial CC clusters where /u/ is wrongly considered an anaptyctic vowel. (see p.17)

The derivation in 1.1.c. correctly accounts for the existence of the final /u/ in such contexts as: humu~~ʃ~~ kutābu 'they are the writers'

The shortened form /hum/ results from the application of P-rule 23 in word final position :

V elision :	hum	P-rule 23
	hum ʃ ʔaʔdāʔ	'they are enemies '

1.1.d /hunna/ 'they' (fem.pl.)

Underlying : 3d pers. - plur. - fem.

R.A.2 : 3d pers. - plur. -na

R.A.4 : 3d pers. - um - na

R.A.6 : hu-ja -um -na

P-rules

Derivation : hum - na P-rules 10,11b(as in 1.1.c.)

m assimil. : hun-na

Phonetic : hunna

The P-rule of /m/ assimilation may be formalized as follows:

$$\left[\begin{array}{c} +\text{cns.} \\ -\text{acor.} \end{array} \right] \rightarrow [\text{acor.}] / \text{---} \left[\begin{array}{c} +\text{cns.} \\ \text{acor.} \end{array} \right]$$

Its application in the pronominal derivation above is analyzed in Denz 1962 and Trager & Rice 1954.

1.1.e. /humā/ 'they two' (masc.&fem.)

Underlying : 3d pers. - plur. - dual

Derivation : hu - ja - um - dual (as in 1.1.c.)

R.A.5 : hu - ja - um - ā

P-rules

Derivation : hum - ā (P-rules as in 1.1.c.)

Phonetic : humā

Brame 1970 assumes that the dual marker /ā/ may be represented at the R.A. level as an abstract diphthong /[◌]a/. The /[◌]/ is a "phantom glide" whose phonetic realizations /w/, /j/, /ʔ/ are conditioned by its environment. The "phantom glide" /[◌]/ assimilates to the following vowel by P-rule 13b(syllabicity assimilation). The same rule applies to the abstract diphthongs /ji/ and /wu/ introduced by R.A.1 and R.A.4 respectively.

The personal marker /ja/

Divergent opinions have been expressed with regard to the identity of the second personal element in the third person.

Brockelmann 1908:303 and Fleisch 1968:71-75 assume that this element is /ʔa/ by analogy with the first person. On the other hand Fleisch 1968a:148 considers the prefix /ja-/ in the imperfective aspect as another third person marker unrelated to /ʔa/. If accepted, the existence of two unrelated 3d person markers would contradict the analogy principle, since the first and second personal markers are identical in the independent forms and in the imperfective aspect(see Table 2).

The /ʔa/ alternative could only add another exception to the pronominal system already known as a nest of exceptions and difficulties.

In Trager & Rice 1956:224-9 the third person presents " an abstract weak consonant /ʔ/ ", the same as Brame's "phantom glide". The arguments in favor of an underlying /ʔ/ in the general phonology of Arabic are very strong and will not be repeated here. It seems to me, however, that in this particular case, there is no need for /ʔ/.

Indeed, were j(a) by no means the only demonstrative root of Arabic related to the idea of invocation , and were the choice of /w/; /j/ or /ʔ/ equally possible and semantically unjustified, it would be demonstrable, at the level of explanatory adequacy that this underlying glide can only be /j/. For,

- an underlying /ʔ/ remains /ʔ/ when moved in initial position :

ex. root: ʔss → ʔasās 'base, foundation'

- an underlying /w/ either remains /w/ or becomes /ʔ/ in initial position:

ex. root: wfd → $\left\{ \begin{array}{l} wifāda \\ ʔifāda \end{array} \right\}$ ' arrival'

- an underlying /j/ never becomes /ʔ/ in initial position:

ex. root: jqǝ → jaqāǝa 'vigilance'

but it does change to /w/ by P-rule 4 as in /huwa/ 'he'

ex. root: jqn → *mujqin → muwqin 'expert'

Since only /j/ is realized as /j/ in initial position, the abstract /ʔ/ of the pronominal derivation in Trager & Rice 1954 can only be /j/.

The plural /-um/

Historically, the pronominal plural /-um/ is a relic of the Semitic nominative ending -um (accus.-am, gen.-im) which in Classical Arabic became the tanwin /-un/ (Brockelmann 1908:136, Cantineau 1960:29).

The MSA preserved the /-um/ in the personal pronouns before the true nominal masc.plur. /ū/ which shortened and eventually disappeared in final position (*humū → humu → -hum), and before the dual /ā/ (humā) but not before the fem.plur. /-na/ where /m/ is assimilated to the /n/ . Cantineau 1960 gives frequent examples of such assimilation before other [+cor.] segments :

ʔumʔuqlja → ʔunʔuqlja ' he turned pale '
minʔār → minʔār 'raincoat'

Synchronically /-um/ has no [+nom.] function whatsoever, it appears in conjunct pronouns as well. Its presence in the disjunctive and conjunct pronouns with the exception of the first person pronouns marks the plural forms as opposed to the singular ones.

The third person pronominal affixes in the suffixed aspect

- 1.2.a. katab - a 'he wrote'
- 1.2.b. katab - at 'she wrote'
- 1.2.c. katab - ū 'they wrote' (masc.)
- 1.2.d. katab - na 'they wrote' (fem.)
- 1.2.e. katab - ā 'they two wrote' (masc.)
- 1.2.f. katab - at -ā 'they two wrote' (fem.)

The number and gender markers in 1.2. are those of nouns:

- [+sing.] → ∅
- [+masc.] → ∅/ [+sing.]
- [+fem.] → at/ [+sing.]
- [+masc.] → ū/ +nom.
+plur.
- [+dual] → ā/ [+nom.]

The derivation contains two new R.A.rules:

- R.A.4' : [+plur.] → ∅/ +suf.asp.
-2d pers.
- R.A.6' : [+3d pers.] → ∅/ [+suf.asp.]

. . .

1.2.a.	Underlying	: katab	- 3d pers.	- sing.	- masc.
	Derivation	: katab	- 3d pers.	- ∅	- ∅
	R.A.6'	: katab	∅	- ∅	- ∅

However the phonetic realisation is not /katab/ but /kataba / .

An anaptyctic /a / bearing no grammatical information is needed here to preserve the final consonant of the root. It also preserves the demonstrative roots from segment coalescence processes and from elision rules operating before pauses.

This empty morph replaces a sequence of three morphemes, each of which is realized as ∅ ([+masc.] → ∅, [+sing.] → ∅ and [+3d pers.] → ∅) and is introduced by P-rule 9'a.

P-rules

a anaptyxis	: katab	- a	P-rule 9'a.
Phonetic	: kataba		'he wrote'

The final /a/ is deleted before pause by P-rule 23a. In all modern Arabic dialects it has completely disappeared.

A similar interpretation of /a/ in 1.2.a. is that of Blachère 1970:33-9 who relates it to the final vowel of the independent pronoun /huwa/ 'he' where, in his opinion, it functions as "un renforcement final".

The presence of three unmarked terms in the third person masc.sing. of the suffixed aspect explains why it is considered the unmarked element of the Arabic verbal morphology and why it is usually rendered into other languages by the infinitive.

1.2.b. Underlying: katab - 3d pers. - sing. -fem.

Derivation: katab - 3d pers. - \emptyset - at

R.A.6' : katab - \emptyset - \emptyset - at

Phonetic : katabat 'she wrote'

1.2.c. Underlying: katab -3d pers. - plur. -masc.

R.A.4' . katab -3d pers. - \emptyset - \bar{u}

R.A.6' : katab - \emptyset - \emptyset - \bar{u}

Phonetic : katab \bar{u} 'they wrote' (masc.pl.)

1.2.d. Underlying: katab -3d pers. - plur. -fem.

R.A.2 : katab -3d pers. - plur. - \bar{na}

R.A.4' : katab -3d pers. - \emptyset -na

R.A.6' : katab - \emptyset -na

Phonetic : katabna 'they wrote' (fem.pl.)

1.2.e. Underlying: katab -3d pers. -masc. -dual

R.A.5 : katab -3d pers. - \emptyset - \bar{a}

R.A.6' : katab - \emptyset - \bar{a}

Phonetic : katab \bar{a} 'they two wrote' (masc.)

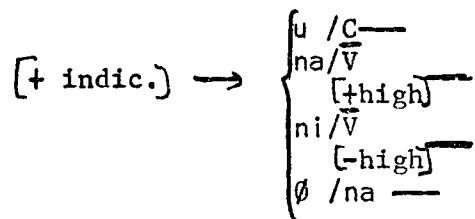
The dual form has the singular forms 1.2.a and 1.2.b. as starting points and is constructed as an extended singular :

1.2.f.	Underlying	:	katab	-3d pers. - fem - dual
	R.A.5	:	katab	-3d pers. - at - ā
	R.A.6'	:	katab	- ∅ - at - ā
	Phonetic	:	katabatā	'they two wrote'(fem.)

The number and gender marker of 1.2. also appear with the prefixed aspect of the verb.

The third person pronominal affixes in the prefixed aspect

Derivation sample for the indicative conjugation:



- 1.3.a. ja-ktub-u 'he writes'
- 1.3.b. ta-ktub-u 'she writes'
- 1.3.c. ja-ktub-ū-na 'they write'(masc.)
- 1.3.d. ja-ktub-na 'they write'(fem.)
- 1.3.e. ja-ktub-ā-ni 'they two write'(masc.)
- 1.3.f. ta-ktub-ā-ni 'they two write'(fem.)

With this aspect only /ja/ is selected as 3d person marker, and even /ja/ is dropped before the feminine affix /-at/ which is prefixed to the aspect stem with subsequent vowel replacement:

R.A.6'' : [+3d pers.] → ja / [+ pref.asp.]

R.A.7 : at → ta / [+pref.asp.]
 [+fem.] [+3d pers.]
 [-pl.]

R.A.7' : ja → ∅ / [+pref.asp.]
 [+fem.]
 [-plur.]

Rules similar to R.A.7' operate in the derivation of other pronouns where the demonstrative roots /ð-k / are dropped before the feminine markers /tT / :

ex: ðālika → tilka 'that'
 [+masc.] [+fem.]
 ʔulāʔika → ʔallawātT 'those'

A further justification for R.A.7, consists in the fact that only a single grammatical affix is allowed in prefixed position.

1.3.a. Underlying: 3d pers. - ktub -masc.sing. - indic.

Derivation: 3d pers. - ktub - ∅ - u

R.A.6'' : ja - ktub -u

Phonetic : jaktubu ' he writes'

1.3.b. Underlying: 3d pers. - ktub -fem.sing. - indic.

Derivation: 3d pers. - ktub - at - u

R.A.6'' : ja - ktub -at -u

R.A.7 : ja -ta - ktub-u

R.A.7' : ta- ktub -u

Phonetic : taktubu ' she writes'

1.3.c. Underlying: 3d pers. - ktub -masc.pl. - indic.

Derivation: 3d pers. - ktub - ū - na

R.A.6'' : ja - ktub - ū -na

Phonetic : jaktubūna 'they write' (masc.)

1.3.d. Underlying: 3d pers. - ktub -fem.plur. - indic.

Derivation: 3d pers. - ktub - na - ∅

R.A.6'' : ja - ktub - na

Phonetic : jaktubna 'they write' (fem.)

1.3.e. Underlying: 3d pers. - ktub -masc.dual - indic.

Derivation: 3d pers. - ktub - ā - ni

R.A.6'' : ja - ktub - ā - ni

Phonetic : jaktubāni 'they two write' (masc.)

1.3.f. Underlying: 3d pers. - ktub -fem.dual -indic.

Derivation: 3d pers. - ktub -at - ā - ni

R.A.6'' : ja - ktub -at -ā - ni

R.A.7 : ja -ta - ktub - -ā -ni

R.A.7' : ta- ktub -ā -ni

Phonetic : taktubāni 'they two write' (fem.)

The lack of overt realization for the feature [+3rd pers.] in both nouns and suffixed aspect, together with the presence of identical number and gender affixes in the nominal and verbal paradigms for the third person, seem to be in agreement with the hypothesis advanced in Lyons 1968:217 - "person (like number) is only secondarily, and derivatively, a category of the verb; and that only in certain languages".

In his opinion, person is a specific category of nouns, present in the deep structure of sentences as an abstract element semantically interpretable in relation to the typical situation of utterance, and determining the rules by which the verb is phonemically realized in surface structures.

The second person pronouns

2.1. Derivation of the independent forms

- 2.1.a. ?anta 'you' (masc.sing.)
- 2.1.b. ?anti 'you' (fem.sing.)
- 2.1.c. ?antum 'you' (masc.pl.)
- 2.1.d. ?antunna 'you' (fem.pl.)
- 2.1.e. ?antumā 'you: two (both genders)

Number and gender markers in 2.1. are introduced by the same

R.A.-rules(1-5) as in 1.1. The second person markers are /?an-ta/ :

R.A.8 : [+2d pers.] → ?an-ta / [+Pron.]
[+nom.]

2.1.a. Underlying : 2d pers. - sing. -masc.

Derivation : 2d pers. - ∅ - ∅

R.A.8 : ?an-ta

Phonetic : ?anta 'you' (masc.sing.)

2.1.b. Underlying : 2d pers. - sing. -fem.

Derivation : 2d pers. - ∅ -fem.

R.A.1 : 2d pers. - ∅ - T

R.A.8 : ?an-ta -T

P-rules

Truncation : ?an-t -T P-rule 11b.

Shorten. : ?an - t -i P-rule 15

Phonetic : ?anti 'you' (fem.sing.)

The fact that / ta/ loses its vowel before the feminine marker /T/ equivalent to the /ji/in 1.1. suggests that the abstract homorganic diphthongs phonetically realized as $V_i V_i$ by the P-rule of syllabicity assimilation are of the form /^{*}V/ after a consonant but of the form /V^{*}/ after a vowel, i.e. that they share the feature [$\frac{+}{-}$ voc] with the preceding segment.

2.1.c. Underlying : 2d pers. - plur. - masc.

R.A.3 : 2d pers. - plur. - wu

R.A.4 : 2d pers. - um - wu

R.A.8 : ?an-ta -um -wu

P-rules

Truncation : ?an-t -um -wu P-rule 11b

Syl.assim. : ?an-t -um -uu P-rule 13

$V_i V_i$ coalesc. : ?an-t-um-ū P-rule 14

V short. : ?antum P-rule 15

Phonetic : ?antum(u)

This phonetic form is found before word initial CC clusters. The final /u/ is dropped in other contexts:

V elision : ?antum P-rule 23

2.1.d. Underlying : 2d pers. - plur. - fem.

R.A.2 : 2d pers. - plur. - na

R.A.4 : 2d pers. - um -na

R.A.8 : ?an-ta -um -na

P-rules

Truncation : ?an-t -um -na P-rule 11b

m assimil : ?antun-na

Phonetic : ?antunna 'you' (fem.pl.)

2.1.e.	Underlying	:	2d pers. - plur. -dual	
	R.A.2	:	2d pers. - um -dual	
	R.A.5	:	2d pers. -um - ā	
	R.A.8	:	?an-ta -um -ā	
	Truncation	:	?an-t -um -ā	P-rule 11b
	Phonetic	:	?antumā	'you two' (masc.&fem.)

2.2. The second person pronominal affixes in the suffixed aspect

Unlike the number and gender affixes in 1.2., the number and gender affixes in 2.2. are copied entirely from the second person disjunctive pronouns and not from nouns. The second person marker is/ta/:

R.A.9 [†2d pers.] → ta / †suf. asp.

2.2.a. Underlying: katab - 2d pers. -sing. -masc.

Derivation: katab- 2d pers. -∅ -∅

R.A.9 : katab- ta

Phonetic : katabta 'you wrote' (masc.sing.)

2.2.b. Underlying: katab- 2d pers. - sing.-fem.

Derivation: katab 2d pers. - (as in 2.1.b.)

R.A.9 : katab-ta -T - " "

Phonetic : katabti 'you wrote' (fem.sing.)

2.2.c. Underlying: katab- 2d pers. - plur. -masc.

Derivation: katab- 2d pers. - (as in 2.1.c.)

R.A.9. : katab - ta - um -ū " "

Phonetic : katabtum 'you wrote' (masc.pl.)

The remaining forms are :

- 2.2.d. katabtunna 'you wrote' (fem.pl.)
2.2.e. katabtumā 'you wrote' (dual)

2.3. The second person pronominal affixes in the prefixed aspect

The indicative conjugation:

- 2.3.a. ta-ktub-u 'you write' (masc.sing.)
2.3.b. ta-ktub-Ṭ-na 'you write' (fem.sing.)
2.3.c. ta-ktub-ū-na 'you write' (masc.pl.)
2.3.d. ta-ktub-na 'you write' (fem.plur.)
2.3.e. ta-ktub-ā-ni 'you two write'

The second person marker being identical to that of 2.2, R.A.9 may be rewritten as R.A.9'

R.A.9' : [+ 2d pers.] → ta / [+ aspect]

The absence of the pronominal plural /-um/ introduced by R.A.4 in the preceding derivation indicates that the 2d person pronominal affixes in the prefixed aspect, are copied from the 3d person of the same aspect and not from their disjunctive correlates. The only exception is the fem. sing. Ṭ/ .

- 2.3.a. Underlying : 2d pers. - ktub -masc.sing.-indic.
Derivation : 2d pers. - ktub ∅ - u
R.A.9' : ta - ktub - u
Phonetic : taktubu 'you write' (masc.sing.)
- 2.3.b. Underlying : 2d pers. - ktub -fem.sing. -indic.
R.A.1. : 2d pers. - ktub - Ṭ - na
R.A.9' : ta-ktub-Ṭ-na
Phonetic : taktubṬna 'you write' (fem.sing.)

- 2.3.c. Underlying : 2d pers. - ktub -masc.plur. -indic.
 Derivation : 2d pers. - ktub - ū -na
 R.A.9' : ta - ktub -ū -na
 Phonetic : taktubūna ' you write' (masc.pl.)
- 2.3.d. Underlying : 2d pers. - ktub -fem.pl. -indic.
 R.A.2 : 2d pers. - ktub - na - ∅
 R.A.9' : ta -ktub na
 Phonetic : taktubna 'you write' (fem.pl.)
- 2.3.e. Underlying : 2d pers. - ktub -dual -indic.
 R.A.5 : 2d pers. - ktub - ā - ni
 R.A.9' : ta -ktub -ā -ni
 Phonetic : taktubāni 'you two write'

The most convincing evidence which favors the interpretation of the final /u/ after the plural endings /-um/ as a[+masc] affix and not as an anaptyctic vowel, is furnished by the second person pronominal affixes in the suffixed aspect when they are followed by a conjunct pronoun. In these cases, not only is /u/ not deleted, but it is preserved as /ū/ within word boundaries, and receives primary stress.

- ex. /ḡarabtumū + hu / ' you(masc.pl.) hit him'
 /ḡarabtumū + nī / ' you(masc.pl.) hit me'

Besides, as Brame 1971 pointed out, an anaptyctic vowel is never stressed.

Another gender marker which remains long before the conjunct pronouns is the fem. sing. /ī/ :

- /ḡarabtī -nī / 'you(fem.sing.) hit me'
 /ḡarabtī -hā / 'you(fem.sing.) hit her'

The plural form /naḥnu/ is common for both genders . There is no dual form in the first person pronouns. Instead of the pronominal plural / -um/ a new plural affix is introduced by R.A.4¹:

R.A.4¹ : [+plur.] → ū / +Pron.
+1st pers.

The 1st person markers / n-ā / are reduplicated and a new demonstrative root /ḥ/ is inserted between the reduplicated forms.

R.A.11 : [+1st pers.] → ?anā-ḥ-nā / +Pron.
+plur.
+nom.

The /ḥ/ insertion creates a long, closed syllable \$nāḥ\$ before which the initial /?a/ is dropped, and whose vowel is shortened :

R.A.12 : ?a → ∅ / — \$nāḥ\$

3.1.b. Underlying : 1st pers. - plural

R.A.4¹ : 1st pers. - ū

R.A.11 : ?anā-ḥ-nā - ū

R.A.12 : nā-ḥ-nā - ū

P-rules

Truncation : nā-ḥ-n - ū P-rule 11b

ū shorten. : nāḥnu P-rule 15

ā shorten. : naḥnu P-rule 15

Phonetic : naḥnu

A morphological characteristic of /naḥnu/ is that it is triply marked for plural by means of:

- reduplication (of the personal elements)
- insertion of a new demonstrative root / ḥ/
- suffixation of a plural affix / ū /

3.2. First person pronominal affixes in the suffixed aspect

3.2.a. katab-tu 'I wrote'

3.2.b. katab-nā 'we wrote'

In this aspect /ʔana / has the suppletive form /tu/ whose consonantal element /t/ (identical with that of the second person) stands for the feature[- 3d pers.], and whose vocalic element /u/ distinguishes the first person singular from the second person(masc.→/ta/ and fem.→/ti/).

R.A.13 [+1st pers.] → tu/ +suf.asp.
+sing.

3.2.a.Underlying : katab - 1st pers. - sing.

Derivation : katab -1st pers. - ∅

R.A.13 : katab-tu

Phonetic : katabtu 'I wrote'

The first person plural is. introduced by R.A.14:

R.A.14 [+1st pers.] → nā / +aspect
+plur.

3.2.b. Underlying :katab -1st pers. - plur.

R.A.4' :katab -1st pers. - ∅

R.A.14 :katab -nā

Phonetic :katabnā 'we wrote'

P-rule 15 does not apply because of a derivational constraint:

the length of /nā/ distinguishes the first person of this aspect from the third person fem.plur./na/.(We cannot explore the implications of this unresolved theoretical question here).

3.3. The first person pronominal affixes in the prefixed aspect

3.3.a. ?a-ktub-u ' I write'

3.3.b. na-ktub-u 'we write'

The 1st person marker is /?a/ in the singular :

R.A.15 : [+1st pers.] → ?a/ [+pref.asp.]
 [+sing.]

3.3.a. Underlying : 1st pers. - ktub -sing. - indic.

Derivation : 1st pers. -ktub - ∅ - u

R.A.15 : ?a-ktub-u

Phonetic : ?aktubu ' I write'

3.3.b. Underlying : 1st pers.- ktub -plur. -indic.

R.A.14 : nā -ktub -u

P-rules

\bar{V} shorten. : naktubu P-rule 15

Phonetic naktubu 'we write'

The readjustment rules proposed so far are of two kinds :

-R.A.rules that spell out affixes

-R.A. rules that specify the morphophonological exceptions
of certain grammatical formatives after the affixes have been
spelled out.

The R.A.rules of the first category might be collapsed as
follows :

R.A.a [+ 3d pers.]	→	$\left. \begin{array}{l} \text{hu-ja} \quad / [+ \text{Pron.}] \\ \emptyset \quad / [+ \text{sur. asp}] \\ \text{ja} \quad / [+ \text{pref. asp}] \end{array} \right\}$	$\left. \begin{array}{l} \\ / [+ \text{nom.}] \\ \end{array} \right\}$	<p>R.A.6</p> <p>R.A.6'</p> <p>R.A.6''</p>
R.A.b [+ 2d pers.]	→	$\left. \begin{array}{l} \text{ʔan-ta} \quad / [+ \text{Pron}] \\ \text{ta} \quad / [+ \text{aspect}] \end{array} \right\}$	$\left. \begin{array}{l} \\ / [+ \text{nom.}] \\ \end{array} \right\}$	<p>R.A.8</p> <p>R.A.9</p> <p>R.A.9'</p>
R.A.c [+ 1st pers.]	→	$\left. \begin{array}{l} \text{ʔan-ʔa} \quad / [+ \text{Pron}] \\ \text{tu} \quad / [+ \text{suf. asp}] \\ \text{ʔa} \quad / [+ \text{pref. asp}] \\ \text{ʔanā-h-nā} / [+ \text{Pron.}] \\ \text{nā} \quad / [+ \text{aspect}] \end{array} \right\}$	$\left. \begin{array}{l} \\ / [+ \text{sing.}] \\ \\ \\ / [+ \text{plur.}] \\ \end{array} \right\}$	<p>R.A.10</p> <p>R.A.13</p> <p>R.A.15</p> <p>R.A.11</p> <p>R.A.14</p>
R.A.d [+ masc.]	→	$\left. \begin{array}{l} \emptyset \quad / [+ \text{sing.}] \\ \bar{u} \quad / [- \text{1st pers.}] \\ \quad \quad \quad [+ \text{plur.}] \end{array} \right\}$	$\left. \begin{array}{l} \\ / [+ \text{nom}] \\ \end{array} \right\}$	<p>R.A.3</p>
R.A.e [+ fem.]	→	$\left. \begin{array}{l} \bar{t} \quad \left\{ \begin{array}{l} / [+ \text{Pron.}] \\ [- \text{1st pers.}] \end{array} \right\} \\ \text{at} \quad \left\{ \begin{array}{l} / [+ \text{aspect}] \\ [+ \text{2d pers.}] \end{array} \right\} \\ \text{na} \quad \left\{ \begin{array}{l} / [+ \text{plur.}] \\ [+ \text{Pron.}] \end{array} \right\} \end{array} \right\}$	$\left. \begin{array}{l} \\ / [+ \text{sing.}] \\ \\ / [- \text{plur.}] \\ \end{array} \right\}$	<p>R.A.1</p> <p>R.A.2</p>
R.A.f [+ sing.]	→	\emptyset		
R.A.g [+ dual]	→	$\bar{a} \quad \left\{ \begin{array}{l} / [+ \text{Pron.}] \\ [- \text{1st pers.}] \\ / [+ \text{aspect}] \\ [- \text{1st pers.}] \end{array} \right\}$	$\left. \begin{array}{l} / [+ \text{plur.}] \\ / [- \text{sing.}] \end{array} \right\}$	<p>R.A.5</p>

		um	{ / + Pron. - 1st pers. / + suf. asp. + 2d pers. / + aspect	{ /[-sing.] /[- dual]		R.A.4
R.A.h [+ plur.] →	}	∅	{ / + 1st pers. / + suf. asp. + 3d pers. / + pref. asp.	{ / [+ 'gender] /[- gender]	/[+ nom]	R.A.4'
			ū	{ - 1st pers. / + Pron. + 1st pers.		

A comparison with the corresponding affixes in nouns will reveal relatively few similarities:

- at the suffixed aspect the third person marker is ∅ as in nouns
- the singular and the masculine (i.e. the unmarked terms of their categories) have identical realisations in nouns and in personal pronouns that is ∅. The fem.sing. is /-at/ only in the 3d pers.
- the dual marker is identical in the nominative forms of nouns and pronouns.

However, at the readjustment level at least, nouns and personal pronouns differ in many respects:

- the singular form of the personal pronouns have no /u/ ending in the nominative
- the plural forms of the personal pronouns have no /*/ added to the first vowel after the stem as in nouns, but /-um/, ∅ or /u/ without reference to gender markers.
- the feminine has completely different affixes in the [- 3d pers.] pronouns, from those of nouns
- the dual marker is added to the aspect stem only at the third person singular. In all other contexts it follows the plural forms not the singular ones.

There are only three E(xception) R.A.-ules in the readjustment component for the pronominal paradigm of MSA :

E.R.A.a	at → ta	/[+ pref. asp.] / [+ nom.]	R.A.7
		[+ 3d pers.]	
		[- plur.]	
E.R.A.b	ja → ∅	/[+ pref. asp.] / [+ nom.]	R.A.7'
		[+ fem.]	
		[- plur.]	
E.R.A.c	ʔa → ∅	/ — _{\$} n ā h _{\$}	
		[- aspect] / [+ plur.]	R.A.12
		[+ 1st pers] / [+ nom.]	

The P-rules mentioned in the preceding pronominal derivations also apply in the derivations of the root-system categories. As exemplified in the phonological preliminaries (P-rules 4 and 7), the phonological alternations within the personal markers /hu-wa/ and /ʔan-ʔa/ are similar to those taking place in the basic and derived stems of the root system.

It is not necessary, in other words to establish a totally different phonological system for the pronominal morphemes. They may be accounted for using rules needed in other parts of the phonology of MSA.

4. The conjunct personal pronouns

Greenberg 1967:38 formulates the universal structure of case systems in terms of " a possessive or genitive case, a case of the subject and one of the object", the latter being divided into a direct case and an oblique one. As mentioned in ch.II, this is the structure of the Arabic case system. In the personal pronouns, the subject pronouns are in the nominative when they are not introduced by /ʔanna/ or /ʔinna /¹⁰⁾; the accusative is the direct case and the genitive is the possessive one. But phonemically, the affixes of the accusative and the genitive cases are identical with the exception of the first person singular.

Conjunct personal pronouns are attached to the verb in the accusative and to anything else i.e. nouns, prepositions, adverbs, in the genitive.¹¹⁾

These suffixes (Table 2) behave as an integral part of the word, determining the shift of its accent :

ex. ḡáraba + hu → ḡarábahu ' he hit him '
 ḡáraba + hunna → ḡarabahúnna ' he hit them' (fem.plur.)

When added to a noun as in

kitāb+un +ka → kitāb+u+ka ' your book' (masc.sing.)
 [+nom.indef]

the noun loses its nunation and cannot take the definite article.

When followed by the first person singular pronoun, the noun also loses its case marker:

kitāb+ un + T → kitābT 'my book' (P-rule 17)

In the conjunct pronouns, the dual and the plural masculine forms no longer have the endings /-na/ or /-ni/ marking the independent nominal forms:

mudarrisūna 'teachers' / mudarrisū-kum 'your(masc.pl.)teachers'.
mudarrisāni 'two teachers' / mudarrisā-kum 'your two teachers'

Suffixed to certain prepositions, the conjunct pronouns express an approximate equivalent of the verbs 'to have' or 'to possess':

ex. /li/ (which changes to /la/ before [+1st pers.] conjunct pronouns):
[- sing.]

la-ka ≠ kitāb to you a book	' you(masc.sing.) have a book'
ʕinda-hu ≠ walad with him a boy	' he has a boy'
maʕa-hā ≠ qalam with her a pencil	' she has a pencil'
ladaj-kumā ≠ bint to you a girl	' you two have a girl'

The prepositions ending in /aj/ which becomes a long vowel /ā/ by the application of P-rules 13 and 14 (syllabicity assimilation and VV lengthening) preserve their abstract diphthong / aj/ before the conjunct pronouns :

ʕalaj+kum 'on you'	/	ʕalā 'on'
ladaj+ki 'to you'(fem)/		ladā 'to'
ʕilaj+hā 'to her'	/	ʕilā 'to'

4.1. The third person conjunct pronouns

The personal markers in the conjunct pronouns are expressed by means of a single demonstrative root.

- 4.1.a. - hu 'him, his'
- 4.1.b. - hā 'her'
- 4.1.c. - hum 'them, their' (masc. plur.)
- 4.1.d. - hunna 'them, their' (fem. plur.)
- 4.1.e. - humā 'them, their' (dual, both genders)

Only /hu/ is selected as third person marker in the conjunct pronouns:

R.A.a' : [+ 3d pers.] → hu / [+ Pron.]
[-nom.]

and the feminine sing. is introduced by R.A.e':

R.A.e' : [+ fem.] → ā / [+ Pron.]
[+ sing.]
[- nom.]

The derivations of the plural forms in 4.1. are identical to those in 1.1. where /ja/ was deleted by P-rules 10 and 11 (j-deletion and Truncation).

4.1.a. Underlying : 3d pers. - sing. - masc.

R.A.d : 3d pers. - sing. - ∅

R.A.f. : 3d pers. - ∅ - ∅

R.A.a' : hu

Phonetic :-hu 'him, his'

4.1.b. Underlying : 3d pers. - sing. - fem.

R.A.f. : 3d pers. - ∅ - fem.

R.A.e' : hu - ∅ - ā

P-

P-rules

V deletion : h - ā P-rule 17

Phonetic :-hā 'her'

The derivation of the other forms in 4.1. need not be repeated.

A characteristic of all third person conjunct pronouns is that their personal element /hu/ becomes /hi/ when immediately preceded by /T/, /i/ or /j/ (P-rule 21 - vocalic harmony) :

- fT +[hum → fThim ' in him '
- ?ilaj +[hum → ?ilajhim ' to them'(masc.pl.)
- bi +[hunna → bihinna ' at them'(fempl.)
- fT dāri+{humā → fT dārihimā 'in their(dual) house'

The stem boundary in P-rule 21 prevents it from applying within root-morphemes (to which the suffix /hu/ is added):

ex. root :ʃbh → ju-ʃbih-u does not become * juʃbihi 'he resembles'

P-rule 21 applies twice on /humu/: taʔtT +humuʃikitāb → taʔtThimiʃikitāb 'give him the book!' 12)

4.2: The second person conjunct pronouns

- 4.2.a. - ka 'you, yours'(masc.sing.)
- 4.2.b. - ki 'you, yours'(fem.sing.)
- 4.2.c. - kum 'you, yours'(masc.plur.)
- 4.2.d. - kunna 'you, yours'(fem.plur.)
- 4.2.e. - kumā 'you, yours'(dual)

The absence of */ʔantumaj/and */humaj / as dual forms in the[- nom.] indicates that partially different sets of readjustment rules replace the case feature in nouns and in the personal pronouns.

The second person marker in the [+ nom.] pronominal forms is /ka/.
 The t-k alternation related to the idea of distance in adverbs and
 in other pronouns, distinguishes the [+ nom.] from the [- nom.] in the
 second person pronouns.

R.A.b' [+ 2d pers.] → ka / [+ Pron.]
 [- nom.]

Number and gender affixes being the same as in 2.1., the
 derivation will not be repeated here.

4.3. The first person conjunct pronouns

The personal marker is introduced by R.A.c' :

R.A.c' : [+ 1st pers.] → ṭ / [+ Pron.]
 [+ sing.]
 [- nom.]

In the accusative it is additionally marked as /nṭ/ where /n/ ¹³⁾
 (called /nūniḥ wiqāja/ ' the protective /n/ prevents the deletion of
 the preceding vowels, usually mood and person markers, in the verb.

E.R.A.d : ∅ → n / [+ aspect] — ṭ
 [+Pron.]
 [+ 1st pers.]
 [+ sing.]
 [- nom.]

The plural form is identical with the pronominal affix /nā/ in
 the aspect stem of the verb:

R.A.c'' [+ 1st pers.] → nā / [+ Pron.]
 [+ plur.]
 [- nom.]

The long vowel /T/ in R.A.c, R.A.c' and R.A.c'' may also be re-presented as a homorganic diphthong /ji/ or /ij/ according to the[-voc] feature of the preceding segment. /T/ dissimilates in /ja/ after long vowels or diphthongs (P-rule 18).The case markers /u,a,i / of nouns in singular are deleted before /T/ by P-rule 17. The case distinction is also neutralized when /T/ is suffixed to nouns constructed with the external plural as result of the application of P-rule 12(vocalic assimilation).

ex. P-rule 12 :
$$\begin{array}{l} [+voc.] \\ [+round] \\ [\alpha long] \end{array} \longrightarrow [-round] / \begin{array}{l} [+voc.] \\ [-round] \\ [\alpha long] \end{array}$$

* mudarris - ū - T → mudarris - T - T
 teacher [-plur.] me 'my teachers'
 [-nom.]

P-rule 18 : T → ja / $\left. \begin{array}{l} \bar{v} \\ v \end{array} \right\}$ →

* mudarris - T - T → mudarris- T - ja
 ?ilaj - T → ?ilaj-ja
 řařaw - T → řařaw -ja ---řařawj-ja
 xařā - T → xařā -ja

The first person conjunct pronouns in the accusative /nī/ and / nā/ are shortened in pre-junctural position by P-rule 15 (V shortening), and the indicative markers /na/ , /ni/ are deleted before them by P-rule 19(haplology) :

ex. P-rule 15 :
$$\begin{array}{l} [- voc.] \\ [\alpha long] \end{array} \longrightarrow [- \alpha long] / \begin{array}{l} \} \\ \# \end{array}$$

?uktub+nīř risāla→?uktubnīřrisāla ' write me a letter! ' (masc.sing.)

?uktub+nā řrisāla→?uktubnařrisāla ' write us a letter'

P-rule 19	:	jaʒidūna + nī	→	jaʒidūnī	' they(masc.pl.) find me'
		juḥibbāni+ nā	→	juḥibbānā	' they both like us '
		taʔmurīna+ nī	→	taʔmurīnī	' you (femsing.) order me'

5. The conjunct pronouns and the verbs with two direct objects

After verbs meaning 'to give', 'to bring', 'to communicate', 'to appoint' etc, the first direct object usually indicates a person to, or for whom an act is performed, while the second direct object represents the thing (or person) used in this act or resulting from it.

ex. ʔaʔtā/ʔadTqahu/kitāban 'he gave his friend a book
 he gave friend his a book

The first object may be pronominalized and the second may not:

ʔaʔtāhu/risalatan ' he gave him a letter'

In order to pronominalize the second object alone, the first one must be introduced by a preposition and be moved to second position.

ʔaʔtā/ʔadTqahu/risalatan → ʔaʔtā+ hā/li+ ʔadTqihi
he gave friend his a letter he gave it to friend his

Another possibility is to pronominalize both objects at the same time. In this case the priority ordering of the conjunct pronouns might be established by a "surface structure" constraint also applicable to the subject pronouns when in enumeration : 1st pers. - 2d pers. - 3d pers.

ʔanaʔwa/ḥuwa/ʔabTbāni ' I and he are doctor'
ʔalabakahā ' he brought you her'

When this order is respected, the second pronoun may also appear in a so-called independent form, in which conjunct pronouns are suffixed to the pronominal particle /ʔijā-/ bearing no definite meaning and behaving like a leading term in an identificatory construct.

ex. R.A.16 : [+Pron.] → ʔijā [+Pron.] ʔ / [+Pron.] —
 [+ accus.] [+gen.] [+ accus.]

ʔaʔtākafʔijāhu 'he gave you it'

This rule becomes obligatory under two conditions:

a) If the priority ordering is reversed :

ʔaʔtāhuʔijāka ' he gave it to you '

b) If both pronouns have the same person feature :

ʔimtanaʔaʔixwatuḥāʔ minʔtazwīzihiʔijāḥā
 abstained brothers her from marrying him to her

'her brother abstained from marrying her to him'

The complete pronominal paradigm with / ʔijā/ is :

5.1.	ʔijāja	'me'	5.7.	ʔijākumā	'you' (dual)
5.2.	ʔijānā	'us'	5.8.	ʔijāhu	'him'
5.3.	ʔijāka	'you' (masc.sing.)	5.9.	ʔijāḥā	'her'
5.4.	ʔijāki	" (fem.sing.)	5.10.	ʔijāhum	'them' (masc.)
5.5.	ʔijākum	" (masc.plur.)	5.11.	ʔijāhunna	" (fem.)
5.6.	ʔijākunna	" (fem.plur.)	5.12.	ʔijāhumā	" (dual)

The R.A. rules proposed in the pronominal derivation 1-5 can be collapsed as follows :

R.A.a. [+ 3d pers.] →	$\left\{ \begin{array}{l} \text{hu+ja} \text{ } /[\text{+ Pron.}] \\ \emptyset \text{ } /[\text{+ suf. asp.}] \\ \text{ja} \text{ } /[\text{+ pref. asp.}] \\ \text{hu} \text{ } /[\text{+ Pron.}] \end{array} \right\} \begin{array}{l} /[\text{+ nom.}] \\ \\ \\ /[-\text{nom.}] \end{array}$	R.A.a'
R.A.b. [+ 2d pers.] →	$\left\{ \begin{array}{l} \text{?an+ta} \text{ } /[\text{+ Pron.}] \\ \text{ta} \text{ } /[\text{+ aspect}] \\ \text{ka} \text{ } /[\text{+ Pron.}] \end{array} \right\} \begin{array}{l} /[\text{+ nom.}] \\ \\ /[-\text{nom.}] \end{array}$	R.A.b'
R.A.c. [+ 1st pers.] →	$\left\{ \begin{array}{l} \text{?an+?a} \text{ } /[\text{+ Pron.}] \\ \text{tu} \text{ } /[\text{+ suf. asp.}] \\ \text{?a} \text{ } /[\text{+ pref. asp.}] \\ \text{T} \text{ } /[\text{+ Pron.}] \end{array} \right\} \begin{array}{l} /[\text{+ nom.}] \\ \\ \\ /[-\text{nom.}] \end{array} \left. \vphantom{\left\{ \begin{array}{l} \text{?an+?a} \\ \text{tu} \\ \text{?a} \\ \text{T} \end{array} \right\}} \right\} \begin{array}{l} /[\text{+ sing.}] \\ \\ \\ \end{array}$	R.A.c'
	$\left\{ \begin{array}{l} \text{?anā+h+nā} /[\text{+ Pron.}] \\ \text{nā} /[\text{+ aspect}] \\ \text{nā} /[\text{+ Pron.}] \end{array} \right\} \begin{array}{l} /[\text{+ nom.}] \\ \\ /[-\text{nom.}] \end{array} \left. \vphantom{\left\{ \begin{array}{l} \text{?anā+h+nā} \\ \text{nā} \\ \text{nā} \end{array} \right\}} \right\} \begin{array}{l} /[\text{+ plur.}] \\ \\ \end{array}$	R.A.c''
R.A.d [+ masc.] →	$\left\{ \begin{array}{l} \emptyset /[\text{+ sing.}] \\ \bar{u} /[\text{- 1st pers.}] \\ \quad \quad \quad /[\text{+ plur.}] \end{array} \right.$	
R.A.e [+ fem.] →	$\left\{ \begin{array}{l} \bar{a} /[\text{+ Pron.}] \\ \quad \quad \quad /[\text{+ 3d pers.}] \\ \text{T} /[\text{+ Pron.}] \\ \quad \quad \quad /[\text{+ 2d pers.}] \\ \text{T} /[\text{+ Pron.}] \\ \quad \quad \quad /[\text{- 1st pers.}] \\ \text{T} /[\text{+ aspect}] \\ \quad \quad \quad /[\text{+ 2d pers.}] \\ \text{at} /[\text{+ aspect}] \\ \quad \quad \quad /[\text{+ 3d pers.}] \\ \text{na} /[\text{- 1st pers.}] \end{array} \right\} \begin{array}{l} /[-\text{nom.}] \\ \\ \\ \\ \\ \\ \\ /[\text{+ nom.}] /[-\text{plur.}] \\ /[\text{+ plur.}] \end{array} \left. \vphantom{\left\{ \begin{array}{l} \bar{a} \\ \text{T} \\ \text{T} \\ \text{T} \\ \text{at} \\ \text{na} \end{array} \right\}} \right\} \begin{array}{l} /[\text{- nom.}] \\ \\ \\ /[\text{+ sing.}] \\ /[\text{+ nom.}] \\ \\ \end{array}$	R.A.e'

R.A.f [+ sing.]	→	∅	
R.A.g [+ dual]	→	$\left\{ \begin{array}{l} \bar{a} \text{ / [+ Pron.] } \\ \quad \text{[- 1st pers.] } \\ \bar{a} \text{ / [+ suf.asp.] } \\ \quad \text{[+ 2d pers.] } \\ \bar{a} \text{ / [+ aspect] } \\ \quad \text{[- 1st pers.] } \end{array} \right\}$	/[- sing.] /[- plur.]
R.A.h [+ plur.]	→	$\left\{ \begin{array}{l} \text{um / [+ Pron.] } \\ \quad \text{[- 1st pers.] } \\ \text{um / [+ suf. asp] } \\ \quad \text{[+ 2d pers.] } \\ \bar{u} \text{ / [+ Pron.] } \\ \quad \text{[+ 1st pers.] } \\ \bar{u} \text{ / [+ pref.asp.] } \\ \quad \text{[- 1st pers.] } \\ \bar{u} \text{ / [+ suf.asp.] } \\ \quad \text{[+ 3d pers.] } \\ \emptyset \text{ / [+ aspect] } \\ \quad \text{[+ 3d pers.] } \\ \emptyset \text{ / [+ aspect] } \\ \quad \text{[+ 1st pers.] } \\ \emptyset \text{ / [+ Pron.] } \\ \quad \text{[+ 1st pers.] } \end{array} \right\}$	/[- sing.] /[+ nom.] /[+ masc.] /[+ fem.] /[- nom.]
R.A.i [+ Pron.] [+ accus.]	→	$\begin{array}{l} \text{?} \bar{j} \bar{a} \text{ [+ Pron.] } \text{?} / \text{ [+ Pron.] } \\ \text{[+ accus.] } \quad \text{[- nom.] } \quad \text{[+ accus.] } \\ \quad \quad \quad \text{[- accus.] } \end{array}$	

A single E.R.A.rule has to be added to those on page 65 :

E.R.A.d	∅	→	$n / \text{---} \text{T}$
			$\left\{ \begin{array}{l} \text{[+ Pron.] } \\ \text{[+ 1st pers.] } \\ \text{[+ sing.] } \\ \text{[+ accus.] } \end{array} \right\}$

Table 3

CONCLUSIONS

On the basis of the preceding analysis, we may draw the following conclusions concerning the MSA pronominal system :

1. Unlike nouns, verbs and adjectives, Arabic personal pronouns are lexically placed outside the root system.
2. The personal elements originate from the merging of certain mono-consonantal demonstrative roots of affective character, semantically reinterpreted as person-markers.
3. The presence of identical demonstrative roots in the [-third person] pronouns and in complementizers indicates a synchronic relation semantically and syntactically justified with respect to the deictic coordinates of the speech act.
4. Once "vocalized," the demonstrative roots behave morphologically like sequential morphemes, i.e. the resulting sequence becomes indestructible within the R.A. component of the grammar, and a domain for phonological rules only. Unlike them, the root-system morphemes are subject to various rules inserting and deleting vocalic patterns at the R.A. level.
5. This difference could explain the existence of partially different sets of R.A. rules spelling out the inflectional affixes of number, gender and case for nouns and personal pronouns.
6. The case distinction is realised by affixation in nouns and by selecting different sets of personal markers in pronouns. In addition, nouns and subject pronouns are independent forms whereas the conjunct pronouns are always bound. With the exception of the first person

singular, the genitive and the accusative forms of the personal pronouns are identical.

7. The unmarked terms of the number and gender categories, i.e. the masculine and the singular are identical in nouns and pronouns.

The dual and plural affixes \bar{a}/\bar{u} of nouns in the nominative preserve their nominative forms in the conjunct pronouns. The plural and the feminine have different affixes in nouns and pronouns.

8. In the third person, number, gender and person affixes attached to the aspect stem of the verb are identical to the nominal affixes. In the non-third persons they are copied to the aspect stem from the disjunctive pronouns.

9. The P-rules proposed in the phonological preliminaries of this study are not restricted to the root-system entries of MSA. The P-rules taking place within basic and derived stems of the root-system also apply on the personal elements of the personal pronouns. Their phonological status with respect to the remaining affixes is that of a derived stem.

10. There is a single P-rule restricted to the conjunct pronouns: vocalic harmony. (P-rule 21).

11. The fact that the so-called anaptyctic /u/ (added to the masc. plural pronominal elements ending in /-um/ before word initial CC clusters) may receive a primary stress represents a convincing evidence in favor of its interpretation as a masculine plural affix.

12. The P-rules applying on the abstract homorganic diphthongs from which the long vowels \bar{a}/\bar{i} and \bar{u} are derived, indicate that the placement of their underlying glide / $\bar{\cdot}$ / depends on the [\pm vocalic] feature of the preceding segment.

NOTES

1) Brame's Ph.D. thesis (MIT, 1970) represents one of the first generative analyses of Arabic phonology, with special reference to nouns, verbs, and adjectives derived from tri-consonantal root-morphemes. Another generative work is Daud Abdo 1969 reviewed in Brame 1971 and Anshen 1971.

2) Yushmanov 1961 notes that different bi-consonantal roots containing identical or homorganic consonants present semantic affinities:

ʒd - ʒð - ʒz - qʂ - hʂ 'to cut'

wrx- rxx- rjx- rxw 'to be soft, weak'

and that tri-consonantal roots beginning with the same C_1C_2 are akin in sense:

ʒmm- ʒmw- ʒml- ʒmhr- ʒmʕ 'to collect'

3) Arabic is a language of aspects and not of tenses. The use made by the Arabian grammarians of terms equivalent to 'present', 'past' or 'future' is criticised in Wright 1967, I:51: "The temporal forms of the Arabic verb are but two in number, the one expressing a finished act, one that is done and completed in relation to other acts (the Perfect); the other, an unfinished act, one that is just commencing or in progress (the Imperfect)... The names Preterite and Future... do not accurately correspond to the ideas inherent in them. A Semitic Perfect or Imperfect has, in or of itself, no reference to the temporal relations of the speaker (thinker or writer) and of other actions which are brought into

juxtaposition with it. It is precisely these relations which determine in what sphere of time (past, present or future) a Semitic perfect or Imperfect lies, and by which of our tenses it is to be expressed - whether by our Past, Perfect, Plu-Perfect or Future-Perfect; by our Present, Imperfect or Future -. The Arabian grammarians themselves have not, however, succeeded in keeping this important point distinctly in view, but have given an undue importance to the idea of time, by their division of it into 'the past' /ʔal-māḡī /, 'the present'- /ʔal -ḥālu / and 'the future' - /ʔal -mustaqbalu /; the first of which they assign to the Perfect and the other two to the Imperfect."

4) The third person (the 'absent') is the unmarked member of the person category. As Benveniste 1971 pointed out: "... it is not a truism to affirm that the non-person is the only mode of utterance possible for the instances not meant to refer to themselves but to predicate the process of someone or something outside the instance itself..."(221)... "but this someone or something is not related to a specific person."(197)

5) It is an inherent lexicon feature because it is introduced into a Phrase-Marker only by lexical insertion while the 'verbal person' is a feature transformationally copied to the verb by agreement rules. The same idea appears in Bierwisch 1967, Lyons 1970 and Kiefer 1970.

6) Jespersen 1967 mentions, as an interesting view, W.Bang's pamphlet Les Langues Ouralo-Altaiques ,Bruxelles 1893 " who thinks it incontestable that the human mind, before having the conception of 'I' and 'thou' had that of 'here' and 'there'. He therefore sets up two classes of pronoun-

minal elements, one for ' here, I, now', elements begining with /m-/, /n-/, and another for 'not-I, there', elements begining with /t-/, /d-/, /s-/, /n-/.; this again falls into two sub-classes: ' a) la personne la plus rapprochée, là, toi, naguère, tout à l'heure b) la personne la plus éloignée, là-bas, lui, autre fois, plus tard ' ."(214)

7) In Arabic grammars the difference between the two explicative particles /ʔaj/ (same root as the third person) and /ʔan/ (same root as the first and second persons) is stated as follows: /ʔaj/ explicates terms while /ʔan/ explicates sentences and is introduced by a sentence meaning " to tell without uttering" (/ʔan taqaʔu bajna zumlatajni fil-ʔūlā minhumā maʔnā lqawli dūna lafʔihi /) -(Rashid Sharṭuni 1957:377).

8) In a morphophonological analysis it is not important to find out whether the nature of the complementizer is determined by the performative character of a deleted sentence ' I tell you this' (as in Ross's 1968 performative analysis of /ʔanna/and its sisters), or on the contrary, whether it is the complementizer generated in the deep structure that, in some way, controls the nature of the following clause (according to Bresnan's 1970 proposals).

9) The Arabic word for 'Personal Pronoun' is /ʔaḍḍamīru bihi/ " that by which something is kept in, and so conceived of by, the mind"(Wright 1967:105). Even here the 3d person pronoun /hi/ does not refer to a specific person at all.

10) The subject of a clause is in the accusative after /ʔanna/ 'that' , /ʔinna / 'indeed', /kaʔanna / 'as if' , /lakinna / or/lākin/ ' however' :

ex. ʔiftakartu ʔannakaʔtabṭbu 'I thought that you were the doctor'
kaʔannahuʔrraʔṭsuʔnafsuḥu 'As if he were the president himself'
sallamtuʔʔalajhiʔlakinnahuʔlamʔjazibʔʔalajjāI greeted him but he didn't answer'

The pronominalized subject of a sentence may be in the genitive after the pronominal element /ʔijā- / :

ʔijākaʔanʔtabkṭ ' You take care not to cry! '

ʔijājaʔminiʔikaḍbi 'I am careful not to lie ! '

A strong affective connotation is expressed by the extraposition of the pronominal object suffixed to / ʔijā-/ :

ʔijākaʔnaʔbudu 'It is you that we adore'

instead of : naʔbuduka ' We adore you'

11) The leading term of a genitive construct may be qualified by the following one(s) in two ways: a) by identification (identificatory construct): the second term answers the question 'which ?' applied to the leading term and may be pronominalized;

ex. waladuʔzārṭ ' my neighbour's boy'

b) by classification (classificatory construct) : the second term answers the question ' what kind of ? ' applied to the leading term, and cannot be pronominalized. ex. qalamuʔxibrin ' fountain-pen'

The personal pronouns are never leading terms in genitive constructs and must be the last term in an identificatory construct (Cowell 1964 :458).

ex. ʔinnaʔuxṭṭ ʔṣṣayṭraʔʔismuhāʔfāṭima ' My little sister, her name
indeed sister-me little name-her Fatima is Fatima '

kullu+hum	' all of them'
yajru+hu	' other than him'
baʕdu+kum	' some of you' (masc.plur.)

12) After P-rule 21 has applied on the personal marker /hu/ in /humu / it also applies on the masculine plural affix /u/ :

taʔt̄+himiʔaxbār	' The news will come to
comes-him the news	

13) Fleisch 1968c:67 notes that /n̄/ " est répandu dans tout le Sémitique ancien comme pronom affixe de première personne pour le verbe" and agrees with Denz 1962:77 who explains the /n/ insertion before /t̄/, by analogy with the first person plural /nā/ following the endings of the energetic mood:

-anna+n̄ / -anna + nā

The n-insertion rule applies in other Hamito-Semitic languages: in Chadic it is inserted before the second term of the genitive construct :

$$N_1 + N_2 \xrightarrow{[+gen.]} N_1 + n + N_2 \quad \text{and} \quad N + \text{Pron.} \xrightarrow{[+gen.]} N + n + \text{Pron.}$$

In Berber the /n/ is inserted in the genitive construct after a leading term in the masculine. Another rule of /t-d/ insertion applies if the leading term is feminine. An example from Abdel Masīh 1973 in the following :

Berber:	taddart ʔ n ʔ urgaz	' the man's house'
	house of the man	
	tamddutt ʔ d ʔ urgaz	' the man's woman'
	woman of the man	

14) Similar suppressions of grammatical suffixes occur in the formation of Arabic nouns and adjectives, where number and gender markers are deleted before the /nisba / 'relation' suffixes /-ij/, /- ija/ or /- ānij/, /- ānija / :

ex. at → ∅ :	madīnat	' the city of Medina'
	madaniḡ	' a man from Medina'
	madaniḡa	' civilisation'
root: snw	sanat	' a year'
	sanawij	' annual'
a → ∅ :	huwa	'he'
	huwiḡa	'identity, nature'
ā → ∅ :	?anā	'I'
	?an-ānij	' egoistic'
	?an-āniḡa	' egoism'

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