THE PERSONAL PRONOUN SYSTEM IN MODERN STANDARD ARABIC

- a morphophonological analysis -

by

Sylvia Pavel

A thesis presented to the School of Graduate Studies
as partial fulfillment for the degree of
Master of Arts in Applied Linguistics.

UNIVERSITY OF OTTAWA
CANADA, 1974

© Sylvia Pavel, Ottawa, 1974.
INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.
ACKNOWLEDGEMENTS

I am deeply grateful to my thesis directors, Professor W. Cowan whose illuminating advice in the field of Arabic linguistics made this study possible, and Professor Douglas Walker who guided me patiently through the intricacies of transformational phonology and helped me generously in shaping this thesis.

I am especially indebted to my teachers in phonetics, phonology and morphology, Professors D. McClure, J. Brunet and M. L. Rivero for their contribution to my understanding of linguistics.

I have greatly benefited from the discussions on the pronominal system of Arabic in Professors' E. McCarus and G. Schramm seminars in Arabic dialectology and Semitic linguistics during the 1973 Linguistic Institute at the University of Michigan, Ann Arbor.

I wish to thank my colleague Raymond St. Laurent, who kindly reviewed the English text.

Ottawa, 1974

Sylvia Pavel
TABLE OF CONTENTS

Acknowledgements ........................................ I
Table of contents ....................................... II
List of abbreviations ................................. IV
Introduction ............................................ 1
   Aim and scope of the study ....................... 1
   The language ....................................... 1
   Theoretical framework ............................. 2
   Sources and plan of the study .................. 2 - 3
Chapter I : Phonological preliminaries .......... 4 - 27
   Phonological segments ............................. 4 - 7
   Morpheme structure conditions .................. 8 - 10
   The syllable pattern ............................... 10-11
   Phonological rules ................................. 11-27
Chapter II : Outline of the morphology ........ 28-34
   The verbs .......................................... 28-29
   The substantives ................................... 29-33
Chapter III : The person category .............. 34-38
Chapter IV : The personal pronouns ............ 38-75
III

The subject pronouns ......................... 43-65
The third person ......................... 43-53
The second person ....................... 54-58
The first person ......................... 59-62
The conjunct pronouns .................. 66-72
The conjunct pronouns and the verbs with two
direct objects ......................... 72-74
Conclusions ..................................... 76-77
Notes ............................................. 78-83
Bibliography ..................................... 84-88
### List of Abbreviations

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

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 /\textbar i/, /\textbar a/, /\textbar u/. 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 /\textbar u/, /\textbar j/, the glottal stop /?/, 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

sonorants

consonantal

vocalic

syllabic

continuant

anterior

coronal

voiced

strident

rhyzo-ling.

laryngeal

Segment redundancy rules for obstruents:

1) [-son.] 2) [-son.] 3) [-son.] 4) [-son.] 5) [-son.] 6) [-son.] 7) [-son.]


[-voc.] [-syl.] [+cnt.] [+lar.] [+ant.] [+ant.] [-cor.] [-ant.]

[-rhz.]

[-cnt.]

[-ant.]
<table>
<thead>
<tr>
<th></th>
<th>8)</th>
<th>9)</th>
<th>10)</th>
<th>11)</th>
<th>12)</th>
<th>13)</th>
<th>14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-lær.</td>
<td>+cor.</td>
<td>-cor.</td>
<td>-cor.</td>
<td>+voi.</td>
<td>+voi.</td>
<td>+voi.</td>
<td>+voi.</td>
</tr>
</tbody>
</table>

**Sonorants**

<table>
<thead>
<tr>
<th></th>
<th>m</th>
<th>n</th>
<th>l</th>
<th>r</th>
<th>w</th>
<th>j</th>
<th>h</th>
<th>?</th>
<th>i</th>
<th>T</th>
<th>u</th>
<th>ū</th>
<th>a</th>
<th>ā</th>
</tr>
</thead>
<tbody>
<tr>
<td>sonorant</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

**Consonantal**

<table>
<thead>
<tr>
<th></th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
</table>

**Vocalic**

<table>
<thead>
<tr>
<th></th>
<th>+</th>
<th>+</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
</tr>
</thead>
</table>

**Syllabic**

<table>
<thead>
<tr>
<th></th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
</tr>
</thead>
</table>

**Continuant**

<table>
<thead>
<tr>
<th></th>
<th>+</th>
<th>+</th>
<th>-</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>-</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
</tr>
</thead>
</table>

**Anterior**

<table>
<thead>
<tr>
<th></th>
<th>+</th>
<th>+</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
</tr>
</thead>
</table>

**Coronal**

<table>
<thead>
<tr>
<th></th>
<th>-</th>
<th>+</th>
<th>+</th>
<th>-</th>
<th>+</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
</table>

**Voiced**

<table>
<thead>
<tr>
<th></th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
</tr>
</thead>
</table>

**Laryngeal**

<table>
<thead>
<tr>
<th></th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>+</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
</table>

**High**

<table>
<thead>
<tr>
<th></th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
</tr>
</thead>
</table>

**Back**

<table>
<thead>
<tr>
<th></th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
</tr>
</thead>
</table>

**Long**

<table>
<thead>
<tr>
<th></th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
</tr>
</thead>
</table>

**Rounded**

<table>
<thead>
<tr>
<th></th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>+</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>+</th>
<th>+</th>
<th>+</th>
</tr>
</thead>
</table>
Segment redundancy rules for sonorants:

1) \(+\text{son.}\)
   \(+\text{cns.}\)
   -\text{voc.}
   -\text{syl.}
   +\text{voi.}
   -\text{lar.}
   -\text{high}
   +\text{back}
   -\text{long}
   -\text{round}

2) \(+\text{son.}\)
   \(+\text{cns.}\)
   +\text{ant.}
   \[+\text{cnt.}\]

3) \(+\text{son.}\)
   \(+\text{cns.}\)
   -\text{ant.}
   \[-\text{voc.}\]
   -\text{syl.}
   -\text{ant.}
   -\text{cor.}
   -\text{long}

4) \(+\text{son.}\)
   -\text{cns.}
   -\text{voc.}
   -\text{syl.}
   -\text{cnt.}

5) \(+\text{son.}\)
   -\text{voc.}
   +\text{lar.}
   -\text{cns.}
   -\text{voi.}
   -\text{high}
   -\text{back}
   -\text{round}

6) \(+\text{son.}\)
   -\text{cns.}
   -\text{voc.}
   +\text{high}
   \[+\text{cnt.}\]

7) \(+\text{son.}\)
   -\text{cns.}
   +\text{voc.}
   +\text{back}
   \[+\text{high}\]
   -\text{round}

8) \(+\text{son.}\)
   -\text{cns.}
   +\text{voc.}
   +\text{high}
   \[+\text{back}\]
   \[+\text{high}\]
   -\text{back}

9) \(+\text{son.}\)
   +\text{high}
   -\text{round}
   -\text{lar.}
   -\text{lar.}
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: $C_1 - C_2 - C_3 \ldots$

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—  

b) two short vowels—  

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

d) a short vowel and a long one—  

e) two long vowels—  

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, V, C,\{a\}, 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:

\[
\begin{align*}
C \{V\} \{V\} & (C) \\
\$ & \{V\} & \$ \\
\end{align*}
\]

where $ 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

\[
\begin{align*}
CVC & + VC \rightarrow CV \_CVC \\
\end{align*}
\]

$\text{darab} + \text{at} \rightarrow \text{dara\_bat} \quad \text{'she hit'}

hit \quad \{+3d \text{ pers.}\}
\quad \{+\text{fem.}\}
\quad \{+\text{sing.}\}

b) CC clusters are assigned to different syllables

\[
\begin{align*}
CV + CCVX & \rightarrow CV \_CVC \\
\end{align*}
\]

$\text{ja} + \text{ktubu} \rightarrow \text{jak\_tubu} \quad \text{'he writes'}

\quad \{+3d \text{ pers.}\}
\quad \{+\text{masc.}\}
\quad \{+\text{sing.}\}
The preferred syllable patterns are \( CV_s \), \( CV_{\bar{u}} \) and \( CVC_{\bar{u}} \).

c) On the surface, the length of the vowel is neutralized in closed syllable \( CV_{\bar{u}} \) and in word final open syllable \( CV_s \), provided that the length is not distinctive. When the length is distinctive, it is preserved in both \( CVC_{\bar{u}} \) and \( CV_{\bar{u}} \) (\( \# \) is the word boundary).

\[ \text{?a\$n\$} \neq \text{?a\$na \#} \quad \text{'I'} \]

\[ \begin{array}{ll}
\text{k\'at\'ibu} & \text{rris\'ala} \\
\text{writer} & \text{the letter} \\
\end{array} \]

\[ \begin{array}{ll}
\text{[+masc.]}
\text{[+nom.]} \\
\text{[+sing.]} \\
\text{k\'at\'ibu} & \text{rris\'ala} \\
\text{[+masc.]} \\
\text{[+nom.]} \\
\text{[plur.]} \\
\end{array} \quad \text{'the writers of the letter'} \]

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 \( CV_{\bar{u}} \), \( CVC_{\bar{u}} \), \( C\bar{V}C_{\bar{u}} \)).

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 /?/ 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.

\[
\begin{bmatrix}
-\text{cns.} \\
-\text{voc.}
\end{bmatrix} \rightarrow \begin{bmatrix}
+\text{cnt.} \\
+\text{high}
\end{bmatrix} \quad \begin{bmatrix}
\text{V} \\
-\text{high}
\end{bmatrix}
\]

roots:

\[
\begin{align*}
\text{r?j} & \quad *\text{riʔāj} \rightarrow *\text{rijāj} & \quad '\text{eyeservice}' \quad (\ast \text{ marks an abstract form}) \\
\text{?sj} & \quad *\text{muʔāsāt} \rightarrow \text{muwāsāt} & \quad '\text{consolation}' \\
\text{?tj} & \quad *\text{muʔātij} \rightarrow \text{muwātij} & \quad '\text{favorable}' \\
\text{?fr} & \quad *\text{maʔājTr} \rightarrow \text{mawājTr} & \quad '\text{saws}' \\
\text{?zb} & \quad *\text{maʔāzib} \rightarrow \text{majāzib} & \quad '\text{drains}'
\end{align*}
\]

2. High glide dissimilation

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

\[
\begin{bmatrix}
-\text{cns.} \\
-\text{voc.}
\end{bmatrix} \rightarrow \begin{bmatrix}
-\text{cnt.} \\
+\text{high}
\end{bmatrix} \quad \begin{bmatrix}
\text{V} \\
-\text{high}
\end{bmatrix} \quad \begin{bmatrix}
\text{V} \\
+\text{long}
\end{bmatrix}
\]

roots:

\[
\begin{align*}
\text{qwl} & \quad *\text{qāwll} \rightarrow \text{qāʔll} & \quad '\text{speaker}' \\
\text{bj} & \quad *\text{bājiʃ} \rightarrow \text{bāʔʃ} & \quad '\text{salesman}' \\
\text{nwm} & \quad *\text{naʔūm} \rightarrow \text{naʔūm} & \quad '\text{sleepy}' \\
\text{wrj} & \quad *\text{warājij} \rightarrow \text{warāʔij} & \quad '\text{directed backward}' \\
\text{r?j} & \quad *\text{rijāj}un \rightarrow \text{rijāʔun} & \quad '\text{an eyeservice}' \quad (+\text{nom.}) \\
& & \quad -\text{def.}
\end{align*}
\]
3. **Glottal stop assimilation**

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

```
[ -cns 2 ]   [+cnt ]   \ V  --  V
[ -voc ]   [+high ]   [ -long ]
[ -high ]   [around ]   [ +high ]
[ -cnt 1 ]
```

**Root:** s?l  *tasa??ul* → *tasawwul*  'beggary'

4. **High glide assimilation**

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

```
[ -cns ]   [around ]   \ V  --  V
[ -voc ]   [ -high ]   [ -high ]
[ -high ]   [around ]
```

**Roots:**
- rdw  *rađiwa* → *rađija*  'he was satisfied'
- zwr  *ziwārat* → *zljārat*  'visit'

5. **Glide syncope**

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

a) ? → Ø / f → C

**Roots:**
- ?kl  *?kul* → *kul*  'eat!'
- *?xuš* → *xuš*  'take!'

b) \{w\} → Ø / ≠ CV [ → C

**Roots:**
- wšl  *ja[wšilu* → *jašilu*  'he arrives'(±indic.)
- jqq  *ju[jqišu* → *juqišu*  'he wakes someone'(±indic.)
This rule does not affect glides which belong to the grammatical affix and not to the stem:

\[ \text{*walad[aj} \not{ni} \rightarrow \text{waladajni} \quad \text{'two boys' (-nominative)} \]

6. **Vowel syncope I**

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

\[ V \rightarrow \emptyset / CV \rightarrow CV \]

roots:

\[ \text{nazil} \quad \text{ta[nazilu} \rightarrow \text{tanzi\l u} \quad \text{'she descends'(+indic.)} \]

\[ \text{?akulu} \quad \text{ta[?akulu} \rightarrow \text{?a?kulu} \quad \text{'I eat'(+indic.)} \]

7. **Glottal stop deletion**

A stem \(/?/\) is deleted before or after a consonant and the nearest short vowel is lengthened:

\[ ? \rightarrow \emptyset / V \rightarrow C V \]

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: \(C_1 = ?\)

\[ \text{zab} \quad \text{ml?zab} \rightarrow \text{m\$zab} \quad \text{'drain'} \]

\[ \text{rx} \quad \text{ta?rTx} \rightarrow \text{t\$rTx} \quad \text{'history'} \]
These examples indicate that the internal plural $\text{?aC}_1\text{C}_2\overline{\text{a}}\text{C}_3$ and the personal markers $\text{?an}\overline{\text{a}}$ behave like derived stems of the form $\text{?VC}_1\text{C}_2\overline{\text{VC}}_3$.

\textbf{Word P-rules}

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

\textbf{8. $\text{?V}$ epenthesis}

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

$\emptyset \rightarrow ?V / / / \rightarrow \text{CC}$ where $/ /$ is pause boundary.
a) the vowel is /a/ in the definite article /ʔal/ and in the relative pronouns /ʔallaʔT/ , /ʔallatʕ/ 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:

\[
\text{∅} \quad \text{V} \quad / / \quad \text{CCV} \quad /i/+\text{imperative}
\]

\[
\begin{array}{c}
\text{[a back]} \\
\text{[β round]}
\end{array}
\begin{array}{c}
\text{[a back]} \\
\text{[β round]}
\end{array}
\]

ex. ?uktub 'write!

?iūhab '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:

\(
\begin{array}{c}
\text{ʔlq} \\
\text{frd} \\
\text{fhm}
\end{array}
\)

\[
\begin{array}{c}
\text{VII form} \\
\text{VIII form} \\
\text{X form}
\end{array}
\]

\[
\begin{array}{c}
\text{ʔinṭalaqa} \\
\text{ʔiftarada} \\
\text{ʔistafhama}
\end{array}
\]

ex. 'he went off' (perfect)

'he isolated himself' (perfect)

'he inquired' (perfect)

'eight inquiry' (verbal noun)

The seven words:

\[
\begin{array}{c}
\text{ʔism-} \\
\text{ʔibn-} \\
\text{ʔibnat-} \\
\text{ʔimruʔ-} \\
\text{ʔimraʔat-} \\
\text{ʔiʔnānī} \\
\text{ʔiʔnātānī}
\end{array}
\]

'name'

'son'

'daughter'

'man'

'woman'

'two' (masc.)

'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:

\[
CV C \not= CCV \rightarrow CVC_{\#}CV
\]

ra\,aj\,tu \not= \|qamar \rightarrow ra\,aj\,tu \not= \|qamar \quad 'I saw the moon'

q\,la \not= \delta hab \rightarrow q\,la \not= \delta hab \quad 'he told : go! '

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**  \(\emptyset \rightarrow V / C \not= CC\)

This vowel is in most cases /i/ .

* qad \# n\,tal\,a\,qa \rightarrow qadi \# n\,tal\,a\,qa \quad '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 anaptictic vowel will be analyzed in chapter IV.

* ?antum \# l\,kut\,a\,bu \rightarrow ?antumu\# l\,kut\,a\,bu \quad '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).

\[
\begin{align*}
a) & \quad \text{Verb} \quad +\text{suf. asp.} \quad +\text{3d pers.} \quad +\text{masc.} \quad +\text{sing.} \\
& \quad \emptyset \rightarrow a \\
& \quad \text{C]----} \\

b) & \quad \$C]\{\mathbf{[v]}\} + n \rightarrow \#

\end{align*}
\]

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.

\[
\begin{align*}
a) & \quad \ddash\text{hab]} \quad \rightarrow \ddash\text{habas} \quad \# \quad 'he went' \\
b) & \quad \text{mudarris\=un} \quad \rightarrow \text{mudarris\=una}\# \quad 'teachers' (nom.masc.pl.indef.) \\
c) & \quad \#a+ja+\ddash\text{a+ u} \quad \rightarrow \ddash\text{a}u \quad 'wherever'
\end{align*}
\]
All this morphological information makes P-rule 8 and 9 look more like "spelling out" rules than phonological ones, more especially as /?V/ affixes can be found in /?inna/ 'indeed', /?an/ 'and' /?anna/ 'that' etc. The difference between a readjustment /?V/ 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 ?annahu marTd '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 /?V/ insertion rule before word initial #VCC underlying sequences.

P-rule 8': $\emptyset \rightarrow /V/ VC \not\in C$

a) * a1 $\rightarrow /?a1$ 'the'

b) * uktub $\rightarrow /?uktub$ 'write!'

c) * ism $\rightarrow /?ism$ '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: *ra?ajtu? alqamar 'you(masc.pl.) saw the moon'

Phonetic: *ra?ajtu? alqamar (the wrong phonetic form)

Underlying: * ra?ajtu? alqamar 'I saw the moon'

Truncation: * ra?ajt # alqamar V $\rightarrow$ $\emptyset /C--VCC$

Phonetic: * ra?ajt # 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:

raʔajtuμ ≠ 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 right most one must be also [+ high] for the glide to be deleted.

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

roots:

xwf *xawif + tu 'I was afraid'
P-rule 10:*xaif + tu

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

11. Truncation

a) Short vowels are dropped in WCC sequences:

\[
V \rightarrow \emptyset / C \rightarrow \text{VCC}
\]

*xaif +tu → xlftu 'I was afraid'

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

\[
V \rightarrow \emptyset / \quad + V^\# \quad \text{[+rule 9'c]}
\]
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%tha + u → haju 'wherever'
*%tha + umma → umma '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

\[
\begin{align*}
&\text{a) } \left( \begin{array}{c} \text{u} \\ \text{i} \end{array} \right) \rightarrow \text{a} \\
&\text{b) } \text{u} \rightarrow \text{i} \\
\end{align*}
\]

The resulting V_iV_i sequences are lengthened by P-rule 14.

root: xwf * xawifa 'he was afraid'
P-rule 10: * xalfa
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 qw! * 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.

a) $\begin{array}{c}
-\text{voc.} \\
-\text{cns.} \\
+ \text{high}
\end{array} \xrightarrow{V} \begin{array}{c}
\text{high} \\
\beta \text{round}
\end{array} \longrightarrow \begin{array}{c}
\text{high} \\
\beta \text{round}
\end{array}$

* ?irmi j $\longrightarrow$ * ?irmii 'throw!'
* ?ilaj $\longrightarrow$ * ?ilaa 'toward'

b) $\begin{array}{c}
-\text{voc.} \\
-\text{cns.} \\
+ \text{high}
\end{array} \xrightarrow{V} \begin{array}{c}
\text{high} \\
\beta \text{round}
\end{array} \longrightarrow \begin{array}{c}
\text{high} \\
\beta \text{round}
\end{array}$

* manwam $\longrightarrow$ * manaam 'sleep'
* jakwunu $\longrightarrow$ * 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

$\begin{array}{c}
V_i V_i \rightarrow \overline{V} / \longrightarrow \text{CV}
\end{array}$

* xaafa $\longrightarrow$ xāfa 'he was a fraud'
* maqhaan $\longrightarrow$ maqhān 'cafeteria'
* ?armii $\longrightarrow$ ?armī 'I throw'
* ?ilaa $\longrightarrow$ ?ilā 'toward'
* jakuunu $\longrightarrow$ jakūnu 'he is'
* manaam $\longrightarrow$ manām 'sleep'
* qīla $\longrightarrow$ qīla 'it was told'
When not morphologically distinctive, the length is neutralized by the following rule of V shortening.

15. \( V \) shortening
\[
\overline{V} \rightarrow V / C \{ \neq \}
\]

*maqhäñ \( \rightarrow \) maqhan 'cafeeteria'

*?iłä \( \rightarrow \) ?ila 'toward'

16. Vowel dissimilation

a) The anaptctic vowel \(/a/\) inserted by P-rule 9'b.

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

*bab +ā +na \( \rightarrow \) bābanı 'two doors'

doors
[ + dual ]
[ - def. ]

b) \( V \rightarrow V / C \) 
\[
+\text{high} / [ -\text{high} ]
[ -\text{long} ]
\]

\( +\text{round} / [ -\text{round} ] \)

\( V / C \)

ex. * madTnT \( \rightarrow \) madanT 'urban'

* hiJT \( \rightarrow \) hiJa 'she'

17. Short vowel deletion

Short vowels are dropped before long vowels.

\[
V \rightarrow \emptyset / \overline{V}
\]

*kitāb + u +T \( \rightarrow \) Kitābī 'my book'

book +nom. me
18. **Long vowel diphthongization**

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

\[ T \rightarrow a / \tilde{V} \rightarrow \neq \]

\*walad + \tilde{a} + T \rightarrow wala\text{d}a\text{ja} 'my two boys'

\*boy [+dual] me [+nom.]

\*walad + aj + T \rightarrow wala\text{d}ajja

[+dual]

[+ gen.]

19. **Haplology**

Two syllabic sequences beginning with identical consonants are either reduced to a single syllable, or lose a \( V \).

a) \( C_i V_j C_i V_j \rightarrow C_i C_i V_j \)

\*madada \rightarrow madda 'he stretched'

b) \( C_i V + C_i V \rightarrow C_i V \)

\*ta + taqadamūna \rightarrow taqadamūna 'you(masc.pl.) advance'

\*?inna + nT \rightarrow ?innT 'indeed, I'

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

\* the god

\* ?al + ?unas \rightarrow ?a nās 'the people'

20. **Vowel syncope II**

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

\( V \rightarrow \emptyset /X CVC - CVCY \)

\( fā + l i + j a n\text{ūr} \rightarrow fāl jān\text{ūr} 'then let him look' \)
21. **Vocalic harmony**

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

\[
\begin{align*}
V & \quad \longrightarrow \quad V \\
[+\text{round}] & \quad \quad [\text{cns}] \quad \quad [+\text{high}] \\
[-\text{round}] & \quad \quad [-\text{round}] \\
[+\text{round}] & \quad \quad [+\text{round}] \\
\end{align*}
\]

*kitāb + l + hu \quad \longrightarrow \quad kitābihl 'of his book'

book [+gen] him

* ṭalaj + hum \quad \longrightarrow \quad ṭalajhim 'on them (masc. pl.)'

on them

22. **Stress assignment**

Every word has a primary stress on the first long syllable from the end except CV[^2] and CVC[^1]; 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:

\[
V \quad \longrightarrow \quad [\text{stress}] / \quad C_e((VC)VC_1)^1_2
\]

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/, /-a/, /-u/, /-i/.

**dual forms:** humā' katabā 'they two have wrote'

ʔantumā 'you two'

**genitive construct:** waladā' ʕadīqī 'my friend's two boys' (nom.)

māfa waladāj ʕadīqī 'with my friend's boys' (gen.)
Brame's rule correctly predicts these special cases provided that the \( V \) be considered equivalent to \( VV \) sequences or to diphthongs at the point in phonological derivations at which stress is assigned.

\[
V \rightarrow [+\text{stress}] / \rightarrow C_o (( V C ) V C^4) \neq \\
\rightarrow \emptyset \quad \emptyset \quad V \emptyset \neq \quad (\text{for long vowels}) \\
\rightarrow \emptyset \quad \emptyset \quad \emptyset \emptyset \neq \quad (\text{for diphthongs})
\]

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) \([katab + tu]\rightarrow katabtu \quad 'I wrote'\)
b) \([katab + tunna]\rightarrow katabtúna \quad 'you(fem.pl.) wrote'\)
c) \([katab + ū]\rightarrow katabū \quad 'they(masc.pl.) wrote'\)
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 CV₃ syllables).

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

a) \([kətab]+\tilde{a}\) → kətabā 'they two(masc.wrote')

b) \([kətab+ū]+hu\) → kətabūhu '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. $CV\tilde{a}$, $CVC\tilde{a}$, $CVCC\tilde{a}$. A long syllable is obtained by applying the following rules:

23. Short vowel elision

\[ V \rightarrow \emptyset / C \rightarrow / / \]

\[ \text{؟alkitāb} + \tilde{a} \rightarrow \text{؟alkitāb} / / \ 'the book' \]

\[ \text{؟kāraba} \rightarrow \text{؟kārāb} / / \ 'he hit' \]

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) \[ V+n \rightarrow \emptyset / - / \]

\[ \text{؟kitābun} \rightarrow \text{؟kitāb} / / \ 'book' (nom.indef.) \]

b) \[ V+n \rightarrow \tilde{a} / - / \]

\[ \text{؟kitāban} \rightarrow \text{؟kitābā} / / \ 'book' (accus.indef.) \]
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 \(-a/\):

Or \(-a/\) : 

\[ \text{at} \rightarrow \text{a(h) / } / \]

Root: kbr

\[ * \text{?al-kabr- at - u } / // \text{ ' the big' } \]

P-rule 23

\[ * \text{?al-kabr-at } / // \]

P-rule 25

\[ \text{?al-kabr+ } / // \]

Root: zwr

\[ * \text{?al-kabr- at - u } / // \text{ ' the big' } \]

P-rule 23

\[ * \text{?al-kabr-at } / // \]

P-rule 25

\[ \text{?al-kabr+ } / // \]

Summary of P-rules:

Stem rules

\[ /?/ \text{ dissimilation P-rule 1} \]

Vowel assimilation P-rule 12

\[ /w-j/ \text{ dissimilation P-rule 2} \]

Syllabicity assim. P-rule 13

\[ /?/ \text{ assimilation P-rule 3} \]

Vowel coalescence P-rule 14

\[ /w-j/ \text{ assimilation P-rule 4} \]

\[ /w-j/ \text{ syncope P-rule 5} \]

Vowel shortening P-rule 15

Vowel syncope I P-rule 6

Vowel deletion P-rule 17

\[ /?/ \text{ deletion P-rule 7} \]

Vowel dissimilation P-rule 18

\[ \text{V diphthongization P-rule } \]

Haplology P-rule 19

\[ \text{Vowel syncope II P-rule } \]

Vocalic harmony P-rule 20

\[ \text{Stress assignment P-rule } \]

Vowel truncation P-rule 11

\[ /-at/ \text{ elision P-rule 25} \]
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 $C_1V_{12}C_2C_3V_3$ 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 $/aC_1C_2C_3a/$ provides the pattern for the causatives, the fifth for reflexives, and so on.

root: $\Im$

I. $\elllma$ 'he knew'
II. $\elllma$ 'he taught'
IV. $\elllma$ 'he advised'
The action of the verb is viewed under two aspects: completed (perfect) and incompletely (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. 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.

- **Indicative**
  \[ + \text{indic} \rightarrow \begin{cases} u /C- \rightarrow & :ja +ktub + u \quad \text{'he writes'} \smallskip \na /\nu- \rightarrow & :ja +ktub + a \quad \text{'(that) he writes'} \end{cases} \]

- **Subjunctive**
  \[ + \text{subj} \rightarrow \begin{cases} a /C- \rightarrow & :ja +ktub + a \quad \text{'(that) he writes'} \end{cases} \]

- **Energetic**
  \[ + \text{energ} \rightarrow \begin{cases} \tilde{a} /\nu- \rightarrow & :ja +ktub +Anna \quad \text{'he writes heartily'} \end{cases} \]

- **Jussive**
  \[ + \text{juss} \rightarrow \emptyset \rightarrow :ja +ktub \quad \text{'let him write'} \]

- **Imperative**
  \[ + \text{imper} \rightarrow \emptyset \rightarrow :?u +ktub \quad \text{'write! (masc.sing.)'} \]

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

ex. *?aI# nās# --> ?annās 'the people'
*?aI#jams# --> ?aʃjams '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 --> kāt ib 'writer' (masc.sing.)
kāt ib +at --> kāt ibat '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’
  - dimāq ‘Damascus’

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

ex.  
  
  - muslimat- ‘a female muslim’
  
  but  
  
  - riḍālat- ‘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/- ‘nunciation’) in the singular, which is vocalized by P-rule 9' in the plural.

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

- ?alā ′dār+i + hi  ‘to his house’
  
  to house his
  + gen
  +sing.
  +masc.
  +def.
The dual marker for definite nouns is/-a/ in the nominative and
/-aj/ otherwise.

ex.    waHd + a ≠ zär + T   'the two boys of my neighbour'
        boy +dual neigh- my
        +nom. bour
        +def.

    #T ≠ madrasat + aj ≠ #madTnati '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 + a + na → waladāni 'two (nom.) boys'

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

ex.    waHd + a ≠ zadTqT   'my friend'two boys'
        but    #walad + a + 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.]→ T 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.
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:
  jawrazād- 'Sheherazade
- feminine names ending in /-at /
  faʿlmat- 'Fatima'
- nouns ending in /-ān/ , or of the pattern C₁uC₂aC₃, or verb-like names:
  ḥumar 'Omar'
  jazTd 'Yazid'
- nouns ending in /-ēʔ/
  ṣaxrāʔ- 'desert'
- adjectives of the pattern /aC₁C₂aC₃/
  ṭaxmar '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, /ʔaI mутaʔallɪm/ '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, /ʔaI muχaːtab/ 'the one who is addressed' indicates the person(s) spoken to, except the speaker. The third person, /ʔaI yapib/ '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. The third person is a lexicon inherent category (or feature) of nouns and other nominal terms when they are not used vocatively.

The connexions made by Jespersen 1965:212-15 between the concept of person and various local adverbs (I-here, You-there, He-yonder) 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 \( j(a) \)

\[ \star h - j \rightarrow huwa \quad 'he' \quad (P\text{-rule 4}) \]

Both occur as interjections \( \text{li} \, \text{tanbāh} \) 'to attract attention':

- \( hajja \) 'make haste!' 
- \( hā \) 'see! there!' 
- \( hā \, hijje \) 'here she is' (Syrian dialect) 
- \( ?ajā / jā \) 'o!' 
- \( ?āj \) 'certainly, yes!' 

\( h \) 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:

\( hādā \, fashādun \, ?aj \, ḍahabun \quad 'this is gold, that is, gold' \)

\( j \) is also found in the relative pronoun:

- \( ?ajjūn \) 'who, which' (masc.)
- \( ?ajjatun \) 'who, which' (fem.)

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

\[ \star ?a - t \rightarrow ?anta \quad 'you' \quad (masc.\, sing.) \]

\( t(a) \) appears in adverbs:

- \( ūṭātā \) 'until'
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 /$t$-$\theta$-$\delta$-$k$/ alternance appears in many pronouns and adverbs related to the idea of distance:

- $\text{hunâ}$ 'here' / $\text{hunâkâ}$ 'there'
- $\text{hâdâ}$ 'this'(masc.) / $\text{âkâ}$ 'that'(masc.)
- $\text{hâdâhi}$ 'this'(fern.) / $\text{tilkâ}$ 'that'(fem.)

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

- $\text{ta-ktubu}$ 'you(masc.sing.)wrote'
- $\text{dârâbâka}$ 'he has beaten you'

Combined with the vocative particle $\text{jâ}$ '0!' the root $t(a)$ locates the person invocated at a certain distance:

- $\text{ja} \neq ?\text{ummatT}$ '0, my mother!' 0 mother[+acc.] me
- $\text{ja} \neq ?\text{abbatT}$ '0, my father!' 0 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 (ʔa)n marks the second and the first persons (ʔan̩a/'I', /naha/'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) ʔin 'if, whether'
4) ʔinna: 'indeed'(emphasises declarative sentences)
5) ʔan/ʔanna 'that' (complementizers which select the subjunctive mood endings for verbs and the accusative endings for nominals)
6) -(ʔa)n(ʔa) (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) ʔan ʔalmufassira (the explicative/ʔan/which means 'that is'
serves to introduce what someone has
actually said or communicated by gesture,
in direct speech and quotations

\[\text{e.g. } \text{?afar}+\text{?uilaj}+\text{?tan}+\text{?u} \text{?sha} \text{'} \text{she made me a sign : (that) Take her!}\text{'}\]

Both the explicative/?an/ and the personal base /?an-/ 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.

Another demonstrative root/?a/ distinguishes the first person
from the second:

\[\text{* } \text{?an} + \text{?a} \rightarrow \text{?an}+ \text{I}'\]
\[\text{?a} + \text{ktub} \quad \text{'} \text{I write '}\]

It occurs as a vocative particle before nouns in nominative and accusative
and also as a questioning particle:
\[\text{?af?d?} \text{f} + \text{l?do?} \quad \text{'} \text{Is this he who... ? '}\]

In the plural, the first person /nahnu/presents in addition
the demonstrative root h. It is found in adverbs and interjections com­
combined with/tal/, /ja/, etc. and locating things in time or space:
\[\text{hat?} \quad \quad \text{'until'}\]
\[\text{haj?u} \quad \quad \text{'when'}\]
\[\text{hajja} \quad \quad \text{'come now!' }\]

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'
- ?awlād(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 /a/) 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: ?anaʃu tabTbu "I (am) the doctor" or stress the person indicated by a non-independent pronoun:

lāʃu tabTbu ?anta 'don't you go!' (masc.sing.)
juqaddirun?/?anā '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.

kīlābT 'my book'
nafsT '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)

<table>
<thead>
<tr>
<th>Personal pronouns</th>
<th>Disjunctive</th>
<th>Copied to the aspect stem</th>
<th>Conjunct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Suffixed</td>
<td>Prefixes</td>
<td></td>
</tr>
<tr>
<td><strong>Singular</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3d masc.</td>
<td>huwa</td>
<td>-∅</td>
<td>ja-</td>
</tr>
<tr>
<td>3d fem.</td>
<td>hija</td>
<td>-at</td>
<td>ta-</td>
</tr>
<tr>
<td>2d masc.</td>
<td>?anta</td>
<td>-ta</td>
<td>ta-</td>
</tr>
<tr>
<td>2d fem.</td>
<td>?anti</td>
<td>-ti</td>
<td>ta•••T</td>
</tr>
<tr>
<td>1st</td>
<td>?anā</td>
<td>-tu</td>
<td>?a-</td>
</tr>
<tr>
<td><strong>Plural</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3d masc.</td>
<td>hum</td>
<td>-ū</td>
<td>ja•••ū</td>
</tr>
<tr>
<td>3d fem.</td>
<td>hunna</td>
<td>-na</td>
<td>ja•••na</td>
</tr>
<tr>
<td>2d masc.</td>
<td>?antum</td>
<td>-tum</td>
<td>ta•••ū</td>
</tr>
<tr>
<td>2d fem.</td>
<td>?antunna</td>
<td>-tunna</td>
<td>ta•••na</td>
</tr>
<tr>
<td>1st</td>
<td>nahnu</td>
<td>-nā</td>
<td>na-</td>
</tr>
<tr>
<td><strong>Dual</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3d masc.</td>
<td>humā</td>
<td>-ā</td>
<td>ja•••ā</td>
</tr>
<tr>
<td>3d fem.</td>
<td>-atā</td>
<td>ta•••ā</td>
<td></td>
</tr>
<tr>
<td>2d masc.</td>
<td>?antumā</td>
<td>-tumā</td>
<td>ta•••ā</td>
</tr>
<tr>
<td>2d fem.</td>
<td>?antumā</td>
<td>-tumā</td>
<td>ta•••ā</td>
</tr>
</tbody>
</table>

Table 2
As the output of the syntactic component, the personal pronouns are represented by complex symbols:

\[
(*) \quad \begin{array}{c}
N \\
\text{[+Pronoun]} \\
\text{[+Person]} \\
\text{[+Number]} \\
\text{[+Gender]} \\
\text{[+Case]} \\
\end{array}
\]

where

\[
[+1st \text{ pers.}] \rightarrow [+2d \text{ pers.}] \\
[+2d \text{ pers.}] \rightarrow [-1st \text{ pers.}] \\
[+3d \text{ pers.}] \rightarrow [-1st \text{ pers.}] \\
[+\text{sing.}] \rightarrow [+\text{plur.}] \\
[+\text{plur.}] \rightarrow [+\text{sing.}] \\
[+\text{masc.}] \rightarrow [+\text{fem.}] \\
[+\text{nom.}] \rightarrow [+\text{accus}] \\
[+\text{gen.}] \rightarrow [+\text{nom.}] \\
[+\text{acc.}] \rightarrow [+\text{gen.}] \\
\]

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:

1.1.a. /huwa/ 'he'

Underlying: 3d pers. - sing. - masc.
Derivation: 3d pers. - Ø - Ø
R.A.6: hu-ja

P-rules

j assimil.: hu-wa
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 /?anã/ 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. - ϕ - fem.

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

R.A.6: hu-ja - ji

P-rules

Haplology: hu-j-ji

u assimil.: hi-j-ji

P-rule 12: u → i \(-\text{round}\)

Sylab. assim.: hi-j-ii

P-rule 13b: j → i \(-\text{voc.}\) → i

VV coalesc.: hi-j-T

P-rule 14: i → T

V dissimil.: hi-j-a

P-rule 17: T → a /iʃ-

Phonetic: hiJa

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

P-rule 11a: V → ϕ /VCC

j delet.: hu - um -wu

P-rule 10: j → ϕ /u → u

Truncat. b: h - um -wu

P-rule 11b: u → ϕ /V

Syl. assim.: h -um -uu

P-rule 13b: w → u /C-u

VV coalesc.: h -um -ū

P-rule 14: uu → ū

V short.: h -um -u

P-rule 15: ū → u /u-

Phonetic: humu
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 l.l.c. correctly accounts for the existence of the final /u/ in such contexts as: humu/kutubu '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# ?aγâa? 'they are enemies '

l.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 l0,l1b(as in l.1.c.)
mm assimil. : hun-na
Phonetic : hunna

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

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

Its application in the pronominal derivation above is analyzed in Denz 1962 and Trager & Rice 1954.
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 (syllabic 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 →\{wifāda\} →ʔifāda 'arrival'

- an underlying /j/ never becomes /ʔ/ in initial position:
ex. root: jqā →jaqāa 'vigilence'

but it does change to /w/ by P-rule 4 as in /huwa/ 'he'
ex. root: jqn→*mujqīn→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. /u/ 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:

?umtuqija —→ ?untuqija 'he turned pale'
mintār —→ mintār '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 - ō 'they two wrote' (masc.)
1.2.f. katab - at ō 'they two wrote' (fem.)
The number and gender markers in 1.2. are those of nouns:

\[
\begin{align*}
[	ext{+sing.}] & \rightarrow \emptyset \\
[	ext{+masc.}] & \rightarrow 0/[	ext{+sing.}] \\
[	ext{+fem.}] & \rightarrow 0/[	ext{+sing.}] \\
[	ext{+nomin.}] & \rightarrow 0/[	ext{+nom.}] \\
[	ext{+dual}] & \rightarrow 0/[	ext{+nom.}] \\
\end{align*}
\]

The derivation contains two new R.A. rules:

\[
\begin{align*}
\text{R.A.4'} & : \text{[+plur.]} \rightarrow 0/[	ext{+suf.asp.}] \\
\text{R.A.6'} & : \text{[+3d pers]} \rightarrow 0/[	ext{+suf.asp.}] \\
\end{align*}
\]


Derivation : katab - 3d pers. - 0 - 0

R.A.6' : katab 0 0 - 0

However the phonetic realization 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 $\emptyset$ (\(\text{[+masc]} \rightarrow 0 \) \(\text{[+sing.]} \rightarrow 0\) and \(\text{[+3d pers]} \rightarrow 0\)) 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.


Derivation: katab - 3d pers. - Ø - at

R.A.6' : katab - Ø - Ø - at

Phonetic : katabat

'she wrote'


R.A.4' . katab - 3d pers. - Ø - ū

R.A.6' : katab - Ø - Ø - ū

Phonetic : katabū

'they wrote'(masc.pl.)


R.A.4' : katab - 3d pers. - Ø -nā

R.A.6' : katab - Ø - na

Phonetic : katabnā

'they wrote'(fem.pl.)

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

R.A.5 : katab - 3d pers. -Ø - ă

R.A.6' : katab - ă - ă

Phonetic : katabă

'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 - ə
   R.A.6': katab -ə - at - ə
   Phonetic: katabatə '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:

\[ (+\text{indic.}) \rightarrow \begin{cases} 
  u /\text{C} \\ 
  \text{na}/\text{V} \\ 
  \text{ni}/\text{V} \\ 
  \emptyset /\text{na} \\
\end{cases} \]

1.3.a: ja-ktub-u 'he writes'
1.3.b: ta-ktub-u 'she writes'
1.3.c: ja-ktub-u-na 'they write' (masc.)
1.3.d: ja-ktub-na 'they write' (fem.)
1.3.e: ja-ktub-ə-ni 'they two write' (masc.)
1.3.f: ta-ktub-ə-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:
Rules similar to R.A.7' operate in the derivation of other pronouns where the demonstrative roots /ā-k/ are dropped before the feminine markers /tī/:

ex: ṣālika —• tīlika 'that'
[+fem.] [+masc.]
[+pref.asp.]

allerālika —• allawātī 'those!
[+fem.]
[+pref.asp.]

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 -Ø - u
R.A.6'' : ja -ktub -u
Phonetic : ĵaktubu 'he writes'


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 : ĵaktubūna 'they write'(masc.)

   Derivation: 3d pers. - ktub - na - Ø

   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 - ə - ni

   R.A.6'': ja - ktub - ə - ni

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


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

   R.A.6'': ja - ktub - at - ə - ni

   R.A.7 : ja - ta - ktub - - ə - ni

   R.A.7' : ta- ktub - ə - ni

   Phonetic: taktubəni '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. ?antî 'you'(fern.sing.)
2.1.c. ?antum 'you'(masc.pl.)
2.1.d. ?antunna 'you'(fern.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/ :


Derivation : 2d pers. - ∅ - ∅
R.A.8 : ?an-ta
Phonetic : ?anta 'you'(masc.sing.)

Derivation : 2d pers. - ∅ - ∅ - fem.
R.A.1 : 2d pers. - ∅ - T
R.A.8 : ?an-ta - T
Phonetic : ?antî 'you'(fem.sing.)
The fact that /ta/ loses its vowel before the feminine marker /T/ equivalent to the /j/ in 1.1. suggests that the abstract homorganic diphthongs phonetically realized as $V_i\tilde{V}_i$ 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 [± voc] with the preceding segment.


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
VjV'coalescence: ?an-t-um-û P-rule 14
V short.: ?antumu 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


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 - $\bar{a}$
R.A.8 : $\?an-ta$ - um - $\bar{a}$
Truncation: $\?an-t$ - um - $\bar{a}$ P-rule 11b
Phonetic: $\?antuma\sim$ '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 $\text{ta}$:

R.A.9 [ ?2d pers.] $\rightarrow$ ta / $\dagger$suf.asp.

Derivation: katab - 2d pers. - $\emptyset$ - $\emptyset$
R.A.9 : katab - ta
Phonetic: katabta 'you wrote' (masc.sing.)

Derivation: katab - 2d pers. - (as in 2.1.b.)
R.A.9 : katab - ta - $\bar{T}$ - "$\bar{T}$" - "$\bar{T}$"
Phonetic: katabti 'you wrote' (fem.sing.)

Derivation: katab - 2d pers. - (as in 2.1.c.)
R.A.9 : katab - ta - um - $\bar{u}$ - "$\bar{u}$" - "$\bar{u}$"
Phonetic: katabtum 'you wrote' (masc.pl.)
The remaining forms are:

2.2.d. katabtunna 'you wrote' (fem. pl.)
2.2.e. katabtumă '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-ț-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-ă-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 / [2 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. /ț/ .

2.3.a. Underlying: 2d pers. -ktub -masc. sing. -indic.

Derivation: 2d pers. -ktub ș - u 

R.A.9' : ta - ktub - u

Phonetic: taktubu 'you write' (masc. sing.)


R.A.1. : 2d pers. -ktub - T - na 

R.A.9' : ta-ktub-Ț-na

Phonetic: taktuțñā 'you write' (fem. sing.)
2.3.c. Underlying: 2d pers. - ktub - masc.plur. - indic.
Derivation: 2d pers. - ktub - ù - na
R.A.9': ta - ktub - ù - na
Phonetic: taktubuna 'you write'(masc.pl.)

R.A.2: 2d pers. - ktub - na - Ø
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 - nī
R.A.9': ta -ktub - ā - nī
Phonetic: taktubānī '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. /dārabṭumū + hu / 'you(masc.pl.) hit him'
/dārabṭumū + 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/ :

/dārabṭī -nī / 'you(fem.sing.) hit me'
/dārabṭī-hā / 'you(fem.sing.) hit her'
3. The first person pronouns

The first person disjunctive pronouns are /ṭānā/ 'I' and /nāḥnu/ 'we'. In the singular, the person markers are introduced by R.A.10:

R.A.10 : [+1st pers.] → Yān-āa [+ Pron.]
          [+sing.] [+nom.]

There is no gender distinction and the singular marker is ∅ as in nouns and as in the preceding derivations.


R.A.10 : ṭān-ā  - ∅

P-rules

? deletion : ṭān-ā  P-rule 7
V shorten. : ṭāna  P-rule 15
Phonetic : ṭāna

P-rule 15 is blocked before pause where the final syllable must be long.

Interestingly enough, the application of P-rule 7 has the same affect on the following vowel as the P-rule 13b(syllabicity assimilation) which creates VV sequences subsequently lengthened by P-rule 15, in V. This not only suggests that the /ʔ/ is a glide homorganic to /a/ in abstract diphthongs, but is also in agreement with the hypothesis of /*/ placement in such diphthongs. (p.55).
The plural form /nahnu/ 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.4'':

\[ \text{R.A.4':} \quad [+\text{plur.}] \rightarrow \text{ū} / +\text{Pron.} \\
\quad \quad \quad +\text{1st pers.} \]

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

\[ \text{R.A.11 :} \quad \text{[1st pers.]} \rightarrow \text{ʔanā-h-nā} / +\text{Pron.} \\
\quad \quad \quad +\text{plur.} \\
\quad \quad \quad +\text{nom.} \]

The /h/ insertion creates a long, closed syllable $nah$ before
which the initial /ʔa/ is dropped, and whose vowel is shortened:

\[ \text{R.A.12 :} \quad \text{ʔa} \rightarrow \emptyset / \quad \text{nah} \]

3.1.b. Underlying:

<table>
<thead>
<tr>
<th>R.A.4'</th>
<th>R.A.11</th>
<th>R.A.12</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1st pers. - plural]</td>
<td>[1st pers. - u']</td>
<td>[ʔanā-h-nā - u']</td>
</tr>
<tr>
<td>[1st pers. - u]</td>
<td>[ʔanā-h-nā - u]</td>
<td>[nahhu]</td>
</tr>
</tbody>
</table>

P-rules

Truncation : nahhu - u P-rule 11b

U shorten. : nahnu P-rule 15

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

- reduplication (of the personal elements)
- insertion of a new demonstrative root / h /
- suffixation of a plural affix / u /
3.2. First person pronominal affixes in the suffixed aspect

3.2.a. katab-tu 'I wrote'
3.2.b. katab-na '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/).


Derivation: katab -1st pers. - Ø
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. - Ø
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./nā/. (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:

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

Derivation: 1st pers. -ktub - ø - u

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

Phonetic: ?aktubu 'I write'


R.A.14 : nā -ktub - u

P-rules
\[ \bar{\nu} \text{ shorten.}: naktubu \rightarrow naktubu \]

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

- at the suffixed aspect the third person marker is $\emptyset$ 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 $\emptyset$. The fem.sing. is /-st/ 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/, $\emptyset$ 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:

\[
\begin{align*}
E.R.A.a & \quad \text{at} \rightarrow \text{ta} / [+ \text{pref. asp.}] / [+ \text{nom.}] \quad R.A.7 \\
& \quad \quad / [+ 3\text{d pers.}] / [- \text{plur.}] \\
E.R.A.b & \quad \text{ja} \rightarrow \emptyset / [+ \text{pref. asp.}] / [+ \text{nom.}] \quad R.A.7' \\
& \quad \quad / [+ \text{fem.}] / [- \text{plur.}] \\
E.R.A.c & \quad \text{?a} \rightarrow \emptyset / \underline{\text{?a}} \underline{\text{?a}} \underline{\text{?a}} / [- \text{aspect}] / [+ \text{plur.}] \quad R.A.12 \\
& \quad \quad / [+ 1\text{st pers}] / [+ \text{nom.}] \\
\end{align*}
\]

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 /?an-?a/ 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 /?anna/ or /?inna/; 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.

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

ex. 
-  
\[ \ddot{\text{g}}\text{araba} + \text{hu} \rightarrow \ddot{\text{g}}\text{arabahu} \quad \text{'he hit him'} \]
-  
\[ \ddot{\text{g}}\text{araba} + \text{hunna} \rightarrow \ddot{\text{g}}\text{arabahunna} \quad \text{'he hit them'} \text{(fem.plur.)} \]

When added to a noun as in

-  
\[ \text{kitab} + \text{un} + \text{ka} \rightarrow \text{kitab} + \text{u} + \text{ka} \quad \text{'your book'} \text{(masc.sing.)} \]

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:

\[ \text{kita}b\+ \text{un} + T \rightarrow \text{kita}b\text{T} \ 'my book' \quad \text{(P-rule 17)} \]

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

\[ \text{mudarris}\text{una} '\text{teachers}' / \text{mudarris}\text{u}-\text{kum} '\text{your(masc.pl.)teachers}' \]
\[ \text{mudarris}\text{ani} '\text{two teachers}' / \text{mudarris}\text{a}-\text{kum} '\text{your two teachers}' \]

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

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

\[ \text{la-ka} \text{\# kitāb} \ 'you(masc.sing.) have a book'} \]
\[ \text{\#inda-hu\# walad} \ 'he has a boy' \]
\[ \text{ma\#a-hā\# qalam} \ 'she has a pencil' \]
\[ \text{ladaj-kum\# bint} \ 'you two have a girl' \]

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

\[ \text{\#alaj+kum} \ 'on you' / \text{\#alā} \ 'on' \]
\[ \text{ladaj\#ki} \ 'to you'(fem)/ \text{ladā} \ 'to' \]
\[ \text{\#ilaj+hā} \ 'to her' / \text{\#ilā} \ 'to' \]
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:

\[
\text{R.A.a'} : [+ 3d pers.] \rightarrow \text{hu} / [+ \text{Pron.}] \\
\quad [+ \text{Pron.}][- \text{nom.}]
\]

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

\[
\text{R.A.e'} : [+ \text{fem.}] \rightarrow \text{ā} / [+ \text{Pron.}] \\
\quad [+ \text{Pron.}][- \text{sing.}][- \text{nom.}]
\]

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).


\[
\text{R.A.d} : 3d \text{ pers.} - \text{sing.} - \emptyset \\
\text{R.A.f} : 3d \text{ pers.} - \emptyset - \emptyset \\
\text{R.A.a'} : \text{hu} \\
\text{Phonetic} : \text{-hu} \quad \text{'him, his'}
\]


\[
\text{R.A.f} : 3d \text{ pers.} - \emptyset - \text{fem.} \\
\text{R.A.e'} : \text{hu} - \emptyset - \text{ā}
\]
P-rules

V deletion : h - a  

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):

\[
\begin{align*}
\text{fT} + [\text{hum} & \rightarrow \text{fThim}} & \text{ ' in him'} \\
\text{?ilaj} + [\text{hum} & \rightarrow ?\text{ilajhm} & \text{ ' to them'(masc.pl.)} \\
\text{bi} + [\text{hunna} & \rightarrow \text{bihinna} & \text{ ' at them'(fem.pl.)} \\
\text{fT darj-uma} & \rightarrow \text{fT darihima} & \text{ 'in their(dual) house'}
\end{align*}
\]

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

ex. root : jbh \rightarrow ju-\text{bih-u } does not become * jujblhl 'he ressembles'

P-rule 21 applies twice on /humu/: ta\text{tT} + [\text{humu}\text{kitāb} \rightarrow ta?\text{TThim\text{kitāb} '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.

\[
\text{R.A.b'} \rightarrow \text{ka} / [+ \text{Pron.}] \\ [- \text{nom.}]
\]

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':

\[
\text{R.A.c'} \rightarrow T / [+ \text{Pron.}] \\ [+ \text{sing.}] \\ [- \text{nom.}]
\]

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

\[
\text{E.R.A.d} \rightarrow \emptyset / [+ \text{aspect}] \\ [+ \text{Pron.}] \\ [+ \text{lst pers.}] \\ [+ \text{sing.}] \\ [- \text{nom.}]
\]

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

\[
\text{R.A.c''} \rightarrow \text{nā} / [+ \text{Pron.}] \\ [+ \text{plur.}] \\ [- \text{nom.}]
\]
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:

\[
\begin{array}{c}
\text{涨价} \\
\text{[+voc.]} \\
\text{[+round]} \\
\text{[along]} \\
\end{array} \rightarrow \begin{array}{c}
\text{消退} \\
\text{[-voc.]} \\
\text{[-round]} \\
\text{[-along]} \\
\end{array}
\]

* mudarris - T - T \rightarrow mudarris - T - T
  teacher ([-plur]) me \quad \text{my teachers}'

P-rule 18:

\[
\begin{array}{c}
\text{涨价} \\
\text{[+voc.]} \\
\text{[along]} \\
\end{array} \rightarrow \begin{array}{c}
\text{涨价} \\
\text{[v]} \\
\end{array}
\]

* mudarris - T - T \rightarrow mudarris - T - ja

?ilaj - T \rightarrow ?ilaj-ja

xata - T \rightarrow xata-ja

The first person conjunct pronouns in the accusative /nT/ and /n\overline{a}/ 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:

\[
\begin{array}{c}
\text{tea} \\
\text{[-voc.]} \\
\text{[-along]} \\
\end{array} \rightarrow \begin{array}{c}
\text{tea} \\
\text{[a long]} \\
\end{array}
\]

?uktub+n\overline{a} ris\overline{a}la \rightarrow ?uktubnaf\overline{a}ris\overline{a}la 'write us a letter', '(masc. sing.)'

?uktub+n\overline{a} ris\overline{a}la \rightarrow ?uktubnaf\overline{a}ris\overline{a}la 'write us a letter'
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. "\(\text{?a}\text{?}\text{t}\text{?}\text{h} \text{u}/\text{?a}\text{?}\text{d}\text{?} \text{q} \text{a}\text{?} \text{h} \text{u}/\text{k}\text{i}\text{t}\text{a}\text{b} \text{a}\text{n}\)" he gave his friend a book  
he gave friend his a book

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

"\(\text{?a}\text{?}\text{t}\text{?}\text{h} \text{u}/\text{r}\text{i}\text{s} \text{a}\text{l} \text{a} \text{t} \) an" 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.

"\(\text{?a}\text{?}\text{t}\text{?}\text{h} \text{u}/\text{?a}\text{?}\text{d}\text{?} \text{q} \text{a}\text{?} \text{h} \text{u}/\text{r}\text{i}\text{s} \text{a}\text{l} \text{a} \text{t} \text{a}\text{n} \rightarrow \text{?a}\text{?}\text{t}\text{?}\text{h} \text{a} \text{?} \text{i} \text{?} \text{h} \text{i} \text{?} \text{a}\text{?}\text{d}\text{?} \text{q} \text{h} \text{i}\)"
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.

"\(\text{?a}\text{?}\text{n} \text{a}/\text{w} \text{a} \text{f} \text{u}\text{?} \text{a} \text{f} \text{a}\text{?} \text{b} \text{a}\text{n}\text{i}\)"
'I and he are doctors'

"\(\text{z}\text{a}\text{?}\text{l}\text{a}\text{b} \text{a} \text{k} \text{a}\text{?} \text{h} \text{a}\text{?}\)"
'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 /?i?/ bearing no definite meaning and behaving like a leading term in an identificaly construct.

ex. \[
\text{R.A.16 : [+Pron.] } \\
\text{[+accus.]} \\
\text{[+gen.]} \\
\text{[+accus.]} \\
\]

\(?\text{a}\text{?}\text{t?h\text{a}}/\text{a}\text{?}\text{h}\text{u} \\
\text{'he gave you it'}

This rule becomes obligatory under two conditions:

a) If the priority ordering is reversed:

\(?\text{a}\text{?}\text{t?h\text{a}}/\text{a}\text{?}\text{h}\text{a} \\
\text{'he gave it to you'}

b) If both pronouns have the same person feature:

\(?\text{?}\text{a}\text{t?}\text{n\text{a}}/\text{?}\text{xawatuh\text{a}}/\text{m\text{n}\text{t}\text{azw}\text{a}}/\text{?}\text{h}\text{i}\text{?}/\text{?}\text{h\text{a}} \\
\text{abstained brothers her from marrying him to her}

\text{'her brother abstained from marrying her to him'}

The complete pronominal paradigm with /?i?/ is:

5.1. ?i?ja \text{'me'} 5.7. ?i?j\text{kum\text{a}} \text{'you'(dual)}
5.2. ?i?j\text{h\text{a}} \text{'us'} 5.8. ?i?j\text{\text{h\text{u}} \text{'him'}}
5.3. ?i?j\text{ka} \text{'you'(masc.sing.)} 5.9. ?i?j\text{\text{h\text{a}} \text{'her'}}
5.4. ?i?j\text{ki} \text{''(fem.sing.)} 5.10. ?i?j\text{\text{h\text{u}} \text{'them'(masc.)}}
5.5. ?i?j\text{kum} \text{''(masc.plur.)} 5.11. ?i?j\text{\text{h\text{un\text{na}} \text{'(fem.}}
5.6. ?i?j\text{kun\text{na}} \text{''(fem.plur.)} 5.12. ?i?j\text{\text{h\text{u}} \text{'(dual}}

The R.A. rules proposed in the pronominal derivation 1-5 can be collapsed as follows:
R.A.a. [+ 3d pers.] \(\rightarrow\) 
\[
\begin{align*}
\{ & \text{hu} / [+\text{Pron.}] \\
& \text{ja} / [+\text{pref. asp.}] \\
& \text{\(\emptyset\)} / [+\text{suf. asp.}] / [+\text{nom.}] \}
\end{align*}
\]

R.A.b. [+ 2d pers.] \(\rightarrow\) 
\[
\begin{align*}
\{ & \text{ta} / [+\text{aspect}] \\
& \text{ka} / [+\text{Pron.}] / [-\text{nom.}] \}
\end{align*}
\]

\[?\text{a}n+\text{ta} / [+\text{Pron.}] / [+\text{nom.}] \]

R.A.c. [+ 1st pers.] \(\rightarrow\) 
\[
\begin{align*}
\{ & \text{T} / [+\text{Pron.}] / [-\text{nom.}] \\
& \text{\(\emptyset\)} / [+\text{sing.}] \\
& \text{\(\text{a}\)} / [+\text{Pron.}] / [+\text{3d pers.}] / [-\text{nom.}] \}
\end{align*}
\]

R.A.d [+ masc.] \(\rightarrow\) 
\[
\begin{align*}
\{ & \text{\(\bar{u}\)} / [-\text{1st pers.}] / [+\text{plur.}] \\
& \text{\(\bar{a}\)} / [+\text{sing.}] \}
\end{align*}
\]

R.A.e [+ fem.] \(\rightarrow\) 
\[
\begin{align*}
\{ & \text{T} / [+\text{Pron.}] / [+\text{2d pers.}] / [-\text{nom.}] / [+\text{sing.}] \}
\end{align*}
\]

\(\text{T} / [+\text{aspect}] / [+\text{2d pers.}] / [+\text{nom.}] / [-\text{plur.}] / [+\text{3d pers.}] / [+\text{plur.}] \)
A single E.R.A. rule has to be added to those on page 65:

E.R.A.d  \( \emptyset \rightarrow n / T \)

[ + Pron.]
[ + 1st pers.]
[ + sing.]
[ + accus.]

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 realized 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 /a/ or /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 /ā/, /ī/ and /ū/ are derived, indicate that the placement of their underlying glide /ː/ depends on the [± vocalic] feature of the preceding segment.
NOTES


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

\[ \text{zd - zî - zz - qî - hî} \quad \text{'to cut'} \]
\[ \text{wrx - rxx - rjx - rxw} \quad \text{'to be soft, weak'} \]

and that tri-consonantal roots beginning with the same \( C_1 C_2 \) are akin in sense:

\[ \text{zmw - zml - zmhr - zmÎ} \quad \text{'to collect'} \]

3) Arabic is a language of aspects and not of tenses. The use made by the Arabian grammarians of terms equivalents 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 \underline{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' /"al-māḏī/ , 'the present' - /"al-hālī/ and 'the future' - /"al-mustaqbalī/; 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-Altaïques, 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 prono-
minal elements, one for 'here, I, now', elements beginning with /m-/, /n-/,
and another for 'not-I, there', elements beginning 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, autrefois, 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 taqātu bajna ẓumlatajni fil-ʔūlā minhumā maqā
duına lafūhi/) - (Rashid Shartuni 1957:377).

8) In a morphophonological analysis it is not important to find
out whether the nature of the complementizer is determined by the per­
formative 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 /ʔaddamTru 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 /?anna/ 'that', /?inna/ 'indeed', /ka?anna/ 'as if', /lakInna/ or /larkin/ 'however':

ex. wiftakartu ?annak?tabTbu
ka?annahufrraTsufnafsuhu
As if he were the president himself

The pronominalized subject of a sentence may be in the genitive after the pronominal element /?i?j?/ :

You take care not to cry!

I am careful not to lie!

A strong affective connotation is expressed by the extraposition of the pronominal object suffixed to /?i?j?/ :

It is you that we adore

instead of: nafbuduka
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. wladu?z?rT
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. qalamu?lbrin
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).

My little sister, her name indeed sister-me little name-her Fatima is Fatima
12) After P-rule 21 has applied on the personal marker /hu/ in /humu/, it also applies on the masculine plural affix /u/:

\[
\text{taʔt\textit{ṭ}himil\textit{ṭ}aʔ\textit{bār}} \quad \text{"The news will come to comes-him the news"}
\]

13) Fleisch 1968c:67 notes that /n\textit{T}/ "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 /\textit{T}/, by analogy with the first person plural /\textit{nā}/ following the endings of the energetic mood:

\[
-\text{anna} + \text{n\textit{T}} / -\text{anna} + \text{nā}
\]

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

\[
N_1 + N_2 \rightarrow N_1 + n^+ N_2 \quad \text{and} \quad N + \text{Pron.} \rightarrow N + n^+ \text{Pron}
\]

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 Masīḥ 1973 in the following:

Berber: taddart\textit{ṭ} n \text{\textit{ṭ}urgāz} \quad \text{"the man's house"}

house of the man

\[
\text{tamddutt\textit{ṭ} d \text{\textit{ṭ}urgāz}} \quad \text{"the man's woman"}
\]

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 /nlsba / ' relation'suffixes /-lj/, /- ija/ or /- ānij/, /- āniJa / :
ex. at $\rightarrow$ Ø : madTnat ' the city of Medina'
      madanij ' a man from Medina'
      madanija ' civilisation'
root: snw  sanat ' a year'
      sanawiJ ' annual'
a $\rightarrow$ Ø : huwa ' he'
      huwlja ' identity, nature'
ā $\rightarrow$ Ø : ?anā ' I'
      ?an- ānij ' egoistic'
      ?an-ūniJa ' egoism'
BIBLIOGRAPHY

Titles preceded by an asterisk are referred to in the text. All other works are sources of the examples and have been consulted for the present analysis. The year under which a title is mentioned is that of the edition I have consulted.

Abdo, Daud 1969  On Stress and Arabic Phonology, Beirut: Khayat
Barth, J. 1967  *Die Pronominalbildung in den Semitischen
Sprachen, G.O.V. Hildesheim
Center for Applied Linguistics
University Library
Benveniste, E. 1971a  *"The Relationship of Person in the Verb",
Problems in General Linguistics, Miami: Univ. of Miami Press, pp.195-204
1971b  *"The Nature of Pronouns", Problems in General
Linguistics, Miami: Univ. of Miami Press, pp.217-23
Bierwisch, M. 1967  *"Syntactic Features in Morphology - general
problems of so-called pronominal inflection in German", To Honor Roman Jakobson, vol. I,
The Hague: Mouton
<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brame, M.</td>
<td>1969</td>
<td>&quot;On the Abstractness of Phonology&quot; (unpubl. paper, MIT)</td>
</tr>
<tr>
<td></td>
<td>1970</td>
<td><em>Arabic Phonology</em> (Ph.D. dissertation, MIT)</td>
</tr>
<tr>
<td></td>
<td>1971</td>
<td>&quot;Stress in Arabic and Generative Phonology&quot;, Foundations of Language 7, 556-91</td>
</tr>
<tr>
<td>Brockelmann, C.</td>
<td>1908</td>
<td><em>Grundiss der vergleichenden Grammatik der Semitischen Sprachen</em>, vol. I, Berlin</td>
</tr>
<tr>
<td></td>
<td>1960</td>
<td><em>Etudes de Linguistique Arabe</em>, Paris: Klincksieck</td>
</tr>
</tbody>
</table>


Cowan, W. 1968 *"Notes Toward a Definition of Modern Standard Arabic", Language Learning 18, 29-34*


Denz, A. 1962 *Strukturanalize der Pronominalen Objektsuffixe in Altsyrischen und Klassischen Arabisch, Munich*

Ferguson, Ch. (ed.) 1960 *Contributions to Arabic Linguistics, Cambridge Mass.*


Fischer, D. 1959 *Die Demonstrativen Bildungen der Neuarabischen Dialekte, The Hague: Mouton*

Fleisch, H. 1961 *Traité de Philologie Arabe, Beirut: Imprimerie Catholique*

1968a *L'Arabe Classique—Esquise d'une Structure Linguistique, Beirut: Imprimerie Catholique*

1968b *"Sur les Pronoms Personnels en Arabe Classique", Mélanges de l'Université S. Joseph, Tome XLIV 6, 65-73*

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Halle, M.</td>
<td>1964a</td>
<td>&quot;On the Basis of Phonology&quot;, Katz &amp; Fodor (ed.) 324-333</td>
</tr>
<tr>
<td>Koutsoudas, A.</td>
<td>1967</td>
<td>&quot;Doubled Nominals in Lebanese&quot;, <em>Glossa</em> 1.33-48</td>
</tr>
<tr>
<td>Lyons, J.</td>
<td>1968</td>
<td><em>Introduction to Theoretical Linguistics</em>, Cambridge at the University Press</td>
</tr>
<tr>
<td>Author</td>
<td>Year</td>
<td>Title</td>
</tr>
<tr>
<td>------------------------</td>
<td>------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Masīh, A.</td>
<td>1973</td>
<td>*Class lecture, Summer Institute, Univ. of Michigan</td>
</tr>
<tr>
<td>McCarus, E.N. &amp; A. Jacoub</td>
<td>1969</td>
<td>*Elements of Contemporary Arabic, Ann Arbor: Univ. of Michigan</td>
</tr>
<tr>
<td>Monteil, V.</td>
<td>1960</td>
<td>L'Arabe Moderne, Paris: Klincksieck</td>
</tr>
<tr>
<td>Pellat, Ch.</td>
<td>1966</td>
<td>L'Arabe Vivant, Paris: Adrien-Maisonneuve</td>
</tr>
<tr>
<td>Sharțuni, R.</td>
<td>1957</td>
<td>*Mabādi?u l'arabija, Beirut: Imprimerie Catholique</td>
</tr>
<tr>
<td>Wehr, H.</td>
<td>1971</td>
<td>*A Dictionary of Modern Written Arabic, New York: Spoken Language Services Inc., Ithaca</td>
</tr>
</tbody>
</table>