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Title: Diwani Numerals: Towards a Model for Encoding Numerals of the Siyaq Systems
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1 Introduction

The intent of this document is to determine possible models for encoding numerals of the Siyaq system in the Universal Character Set (ISO/IEC 10646). It does so through an analysis of the Diwani Numerals, one of the four sub-systems of Siyaq numerical notation.

This document draws upon information originally presented in L2/07-414 "Proposal to Encode Siyaq Numerals in ISO/IEC 10646" (December 2007). In L2/07-414, the present author analyzed the four Siyaq sub-systems and recommended a unified encoding for the numerals of these systems. Although the numerals of the Diwani, Ottoman, Persian, and South Asian traditions are based upon a common typology, there are sufficient differences in character shapes and orthography to warrant an independent encoding for the numerals of each system.

Certain Siyaq traditions have unique requirements for shaping and other rendering behaviors; for example, in the Diwani and South Asian systems there are rules for positioning numerals when writing composite numbers. Certain Siyaq traditions have forms for numerals not found in others; for example, the Persian tradition developed distinct forms for numerals for representing currencies and weights. Also, the Diwani and South Asian systems have alternate forms of the primary numerals that are used for writing composite numerals, while the Ottoman and Persian systems do not. Moreover, certain Siyaq traditions evolved through the influence of local accounting systems; for example, the manner of representing large numerical orders in the South Asian tradition is based not upon the Arabic model, but upon the number system of Sanskrit. Thus, in addition to distinct technical requirements, the four Siyaq traditions differ also on account of their linguistic and historical contexts.

Diwani is the least complex of the four systems of Siyaq. It is, therefore, the system chosen to analyze possible encoding models for Siyaq numerals. It is hoped that a presentation of the typology and numerical notation system of Diwani Numerals will provide information that will facilitate the encoding and implementation of numerals of the Siyaq family in the UCS.

2 Background

The Diwani Numerals are a specialized subset of the Arabic script that were used for maintaining accounting records and other administrative documents. They were developed in the 8th century during the Umayyad caliphate. The numerals originated from the practice of writing numbers using not digits, but the full Arabic names for numbers. As the practice changed through the introduction of abbreviations and calligraphic features, the original Arabic words evolved into distinct monograms. While elements of the original words are visible in a given Diwani numeral, the degree of stylistic innovation masks the relationship between the numerals and the original words. These numerals are not simply presentation forms of the original Arabic letters from which they are derived; they are independent characters that possess particular numerical values.

		*x*1	*x*10	*x*100	*x*1,000	*x*10,000	*x*100,000
1	(ا)	ا	عا (ع)	ما	الف	عالف	مالف
2	(لا)	لا	عله	مله	الفى	عالها	مالالف
3	(للا)	للا	عسلا	مسلما	اسالف	عسلالا	مسلاالف
4	(لعا)	لعا	لعما	لعمما	لعالف	لعملا	لعماالف
5	(حا)	حا	حما	حمما	حالف	حملا	حماالف
6	(سا)	سا	سما	سمما	سالف	سملا	سماالف
7	(بعا)	بعا	بعما	بعمما	بعالف	بعملا	بعماالف
8	(ها)	ها	هما	همما	هالف	هملا	هماالف
9	(نعا)	نعا	نعما	نعمما	نعالف	نعملا	نعماالف

Table 1: Forms of the Diwani Numerals for each order and magnitude

3 The Notation System

Structure Diwani Numerals represent units of a base-10 (decimal) positional system. The notation system is additive, that is, the value of a number is the sum of the values of the numerals that constitute it. There is no character for zero; it is inherently represented in the distinct numerals for the various decimal orders.

Directionality Diwani Numerals are written right-to-left in the regular manner of the Arabic script, unlike the left-to-right directionality of the Arabic-Indic digits. The exception is composite numbers of the primary and larger units, which are transposed on account of the manner in which numbers are expressed in Arabic.

Typology Diwani numerals are highly stylized monograms of the Arabic names for numbers for the primary units and their magnitudes in the orders of tens, hundreds, thousands, ten thousands, and hundred thousands. The numerals may be decomposed into basic forms for the numbers 1–10 and distinctive signs that indicate units for different magnitudes (see Section 4 for fuller discussion). The following table illustrates the basic typology with magnitudes of 5 for six decimal orders:

BASE	5	50	500	5,000	50,000	500,000
حـ	حا	حا	حما	حالف	حملا	حماالف
	حـ + ا	حـ + ا	حـ + ما	حـ + ا + لف	حـ + لا	حـ + ما + الف

3.1 Ordering

The ordering of Diwani numerals is visual, which reflects the method of expressing numbers in Arabic.

3.2 Orthography

Diwani Numerals are written according to the rules for expressing numbers in Arabic. The largest numeral of a number is written first. The writing of composite numbers is governed by the following rules:

1. Composite numbers consisting of the primary numerals and those of the tens, ten thousands, and hundred thousands units are written transposed and with the base form of the primary numeral.
2. Composite numbers consisting of the primary numerals and those of the hundreds and thousands units are written using the independent form of the primary numerals in the regular order.
3. The numbers 11–19 are written using the base forms of both the primary numeral and TEN.

When written in composite numbers, the base forms of the primary numerals are shaped differently. They are not written fully linearly, but take a cursive shape and extend beneath the following numeral. This shaping feature is shown in the numbers 11–19 in section 4.7.

Examples of the above rules are

- 15 ٥ح (ح FIVE BASE + ٥ TEN BASE): خمسة عشر ‘five-ten’.
- 25 ٥ح٢٠ (ح FIVE BASE + ٢٠ TWENTY): خمسة و عشرون ‘five and twenty’.
- 55 ٥ح٥٠ (ح FIVE BASE + ٥٠ FIFTY): خمسة و خمسون ‘five and fifty’.
- 505 ٥٠٠٥ (٥٠٠ FIVE HUNDRED + ٥ FIVE): خمس مائة و خمسة ‘five hundred and five’. The incorrect form is *٥ح٥٠٠ (ح FIVE BASE + ٥٠٠ FIVE HUNDRED). The form *٥ح٥٠٠ could theoretically represent ‘fifty-five hundred’, but this amount would be parsed as ‘five thousand and five hundred’ and written as ٥الف٥٠٠.
- 515 ٥٠٠٥ح٥ (٥٠٠ FIVE HUNDRED + ح FIVE BASE + ٥ TEN BASE): خمس مائة و خمسة عشر ‘five hundred and five-ten’.
- 5,005 ٥الف٥ (الف FIVE THOUSAND + ٥ FIVE): خمسة الاف و خمسة ‘five thousand and five’. The incorrect form is *ح٥الف (ح FIVE BASE + الف FIVE THOUSAND).
- 50,005 ٥٠الف٥ (٥٠الف FIFTY THOUSAND + ٥ FIVE): خمسون الفا و خمسة ‘fifty thousand and five’.
- 55,000 ح٥٠الف (ح FIVE BASE + ٥٠الف FIFTY THOUSAND): خمسة و خمسون الفا ‘five and fifty thousand’.
- 55,005 ح٥٠الف٥ (ح FIVE BASE + ٥٠الف FIFTY THOUSAND + ٥ FIVE): خمسة و خمسون الفا و خمسة ‘five and fifty thousand / and five’.

- 505,505 حاحاالف حاالف حاحا (حا FIVE BASE + ما ONE HUNDRED + الف ONE THOUSAND + حالف FIVE THOUSAND + حا FIVE HUNDRED + حا FIVE: خمس مائة الف و خمسة الاف و خمس مائة و خمسة ‘five hundred thousand / and five thousand / and five hundred / and five’.

- 555,555 حا حاحلا حا حاحا (حا FIVE HUNDRED + حـ FIVE BASE + حلا FIFTY THOUSAND + حا FIVE HUNDRED + حـ FIVE BASE + حا FIFTY): خمس مائة و خمسة و خمسون الفا و خمس مائة و خمسة و خمسون ‘five hundred / and five and fifty thousand / and five-hundred / and five and fifty’.

4 The Numerals

4.1 The Primary Unit

The primary unit of Diwani consists of the numbers 1 through 9 and 10. They are stylized monograms of the Arabic names or abbreviations of the names consisting of the initial and one or more letters in a name written with a terminal stroke, which is a stylized representation of the word-final ة TEH MARBUTA in the names of the units: ا

ا	—	احد	*aḥad*	one
لا	—	اثنان	*iṯnān*	two
للا	—	ثلاثة	*ṯalāṯa*	three
لعا	لعـ + ا	اربعة	*arbaʿa*	four
حا	حـ + ا	خمسة	*ḫamsa*	five
سا	ـس + ا	ستّة	*sitta*	six
بعا	بعـ + ا	سبعة	*sabʿa*	seven
ثا	ا + ثـ	ثمانية	*ṯamāniya*	eight
تعا	تعـ + ا	تسعة	*tisʿa*	nine
عا	ا + ع	عشرة	*ʿašara*	ten

Base Forms of the Primary Numerals The primary numerals may be decomposed to produce base forms:

	1	2	3	4	5	6	7	8	9	10
INDEPENDENT	ا	لا	للا	لعا	حا	سا	بعا	ثا	تعا	عا
BASE	ا	لا	لـ	لعـ	حـ	ـس	بعـ	ثـ	تعـ	ع

Variant Forms The following characters have variant forms:

- The base form of 3 (لـ) takes the shape لـد when writing tens and hundreds.
- The base form of 8 (ثـ) takes the shape ـث when writing tens and hundreds.

4.2 The Tens Unit

The numerals for 30–90 are composed from the base forms of the primary numerals joined to the tens terminal, which is a stylized form of the ن NOON in the Arabic suffix for the tens (اون *ūn*), which is represented as a hook: ٦. The exception is 20, which is modeled after ۶, the base form of ۶٦ 10, as its name عشرون is the dual form of the Arabic name for 10.

۶٦	٦ + ۶	عشرون	*ʿišrūn*	twenty
٣٦	٦ + ٣	ثلاثون	*ṯalāṯūn*	thirty
٤٦	٦ + ٤	اربعون	*arbaʿūn*	forty
٥٦	٦ + ٥	خمسون	*ḫamsūn*	fifty
٦٦	٦ + ٦	ستّون	*sittūn*	sixty
٧٦	٦ + ٧	سبعون	*sabʿūn*	seventy
٨٦	٦ + ٨	ثمانون	*ṯamānūn*	eighty
٩٦	٦ + ٩	تسعون	*tisʿūn*	ninty

4.3 The Hundreds Unit

The numerals for 300–900 are composed from the base forms of the primary numerals joined to the numeral 100 ۸, which is the abbreviation (ما) of the Arabic word مائة ‘hundred’. The exceptions are 100 ۸ and 200 ۸۸, which are monograms of their Arabic names.

۸	—	مائة	*miʾa*	one hundred
۸۸	—	مائتَان	*miʾātān*	two hundred
٣۸	۸ + ٣	ثلاث مائة	*ṯalāṯu miʾa*	three hundred
٤۸	۸ + ٤	اربع مائة	*arbaʿu miʾa*	four hundred
٥۸	۸ + ٥	خمس مائة	*ḫamsu miʾa*	five hundred
٦۸	۸ + ٦	ستّ مائة	*sittu miʾa*	six hundred
٧۸	۸ + ٧	سبع مائة	*sabʿu miʾa*	seven hundred
٨۸	۸ + ٨	ثمان مائة	*ṯamānu miʾa*	eight hundred
٩۸	۸ + ٩	تسع مائة	*tisʿu miʾa*	nine hundred

Variant Forms The following character has a variant form:

- The numeral THREE HUNDRED (٣۸) also takes the shape ٣۸.

4.4 The Thousands Unit

The numerals for 3,000–9,000 are composed from the base forms of the primary numerals joined to the terminal ـكف, which is a monogram of the Arabic word الف ‘thousand’. The forms for ـالف one thousand and ـالفى two thousand are monograms of their Arabic names.

ـالف	—	الف	*alf*	one thousand
ـالفى	—	الفان	*alfān*	two thousand
ـسالف	ـللا + ـكف	ثلاثة الاف	*ṯalāṯa ālāf*	three thousand
ـلعالف	ـلعا + ـكف	اربعة الاف	*arbaʿa ālāf*	four thousand
ـحالف	ـحا + ـكف	خمسة الاف	*ḫamsa ālāf*	five thousand
ـسالف	ـسا + ـكف	ستّة الاف	*sitta ālāf*	six thousand
ـبعالف	ـبعا + ـكف	سبعة الاف	*sabʿa ālāf*	seven thousand
ـهالف	ـها + ـكف	ثمانية الاف	*ṯamāniya ālāf*	eight thousand
ـىعالف	ـىعا + ـكف	تسعة الاف	*tisʿa ālāf*	nine thousand
ـعالف	ـعا + ـكف	عشرة الاف	*ʿašara ālāf*	ten thousand

Variant Forms The following character has a variant form:

- The numeral ONE THOUSAND (ـالف) also takes the shape ـالح.

4.5 The Ten Thousands Unit

The ten thousands are written using modified forms of the tens numerals joined to the terminal ـلا, which is a contraction of الفا. The leftward hook in the stylized form of final NOON that marks the tens terminal ـٮ is dropped and the base is joined to ـلا. This is supported by the presence of the variant forms of the base forms of THREE and EIGHT that are used for writing THIRTY and EIGHTY. Moreover, the Arabic names for these numerals supports this typology: 30,000 is ‘thirty thousands’. The exception to the typology for the ten thousands is 20,000 ـىرلا, which is modeled after 20 ـىرٮ.

ـىرلا	ـلا +	عشرون الفا	*ʿišrūn alfan*	twenty thousand
ـللا	ـلا +	ثلاثون الفا	*ṯalāṯūn alfan*	thirty thousand
ـلعلا	ـلا +	اربعون الفا	*arbaʿūn alfan*	forty thousand
ـحلا	ـلا +	خمسون الفا	*ḫamsūn alfan*	fifty thousand
ـسلا	ـلا +	ستّون الفا	*sittūn alfan*	sixty thousand
ـبعلا	ـلا +	سبعون الفا	*sabʿūn alfan*	seventy thousand
ـىلا	ـلا +	ثمانون الفا	*ṯamānūn alfan*	eighty thousand
ـىعلا	ـلا +	تسعون الفا	*tisʿūn alfan*	ninty thousand

4.6 The Hundred Thousands Unit

The numerals for the hundred thousands unit are written as الف ONE THOUSAND + ما ONE HUNDRED + the base form of the primary unit.

ماالف	ما + الف	مائة الف	*miʾa alf*	one hundred thousand
لاماالف	لا + ما + الف	مائتا الف	*miʾatā alf*	two hundred thousand
ـهماالف	ـه + ما + الف	ثلاث مائة الف	*ṯalāṯu miʾa alf*	three hundred thousand
لعماالف	لعـ + ما + الف	اربع مائة الف	*arbaʿu miʾa alf*	four hundred thousand
ـحماالف	ـح + ما + الف	خمس مائة الف	*ḫamsu miʾa alf*	five hundred thousand
ـسماالف	ـس + ما + الف	ستّ مائة الف	*sittu miʾa alf*	six hundred thousand
معماالف	معـ + ما + الف	سبع مائة الف	*sabʿu miʾa alf*	seven hundred thousand
ـثماالف	ـث + ما + الف	ثمان مائة الف	*ṯamānu miʾa alf*	eight hundred thousand
نعماالف	نعـ + ما + الف	تسع مائة الف	*tisʿu miʾa alf*	nine hundred thousand

It may be possible to compose the numerals for this unit using الف ONE THOUSAND + the hundreds unit of a digit, but this rule is not attested:

ـهماالف ← الف ONE THOUSAND + ما ONE HUNDRED + لعـ THREE

ثلثاالف ← الف ONE THOUSAND + ثلثا THREE HUNDRED

4.7 Composite Numbers

The rules for writing composite numbers in the Diwani system are given in Section 3.2. The numbers 10–19 are shown below to illustrate the use of the base form of TEN in writing composite numbers of this range.

عا	—	عشرة	*ʿašara*	ten
اع	ا + ع	احد عشر	*aḥad ʿašara*	eleven
لاع	لا + ع	اثنا عشر	*iṯnā ʿašara*	twelve
ـهع	ـه + ع	ثلاثة عشر	*ṯalāṯa ʿašara*	thirteen
لعع	لعـ + ع	اربعة عشر	*arbaʿa ʿašara*	fourteen
ـحع	ـح + ع	خمسة عشر	*ḫamsa ʿašara*	fifteen
ـسع	ـس + ع	ستّة عشر	*sitta ʿašara*	sixteen
معع	معـ + ع	سبعة عشر	*sabʿa ʿašara*	seventeen
ـثع	ـث + ع	ثمانية عشر	*ṯamāniya ʿašara*	eighteen
نعع	نعـ + ع	تسعة عشر	*tisʿa ʿašara*	nineteen

Composite numbers from 21–99 are also written with the base form of the primary numeral and the respective tens numeral. They are expressed using the conjunction و *wa* 'and'. Thus, 21 is written ۲۱ and is expressed as احد و عشرون 'one and twenty', 22 is ۲۲ اثنا و عشرون 'two and twenty', etc.

5 Implementation

5.1 Encoding Model

Given the above analysis, the possible models for encoding the Diwani Numerals are:

1. Encode each numeral as an atomic character
2. Encode the base forms of the primary units and unit marks
3. Encode the numerals for the primary, tens, hundreds, thousands, and ten thousands units

1. Encode each numeral as an atomic character The most elementary approach to encoding the Diwani Numerals is to encode each individual numeral as an atomic character. This model would require 69 characters: primary units (10), base forms of the primary units (10), tens (9), hundreds (10), thousands (10), ten thousands (10), and hundred thousands (10).

The advantage of this model is that no special rendering rules are needed to write the numerals. The disadvantage is the encoding of redundant characters, in particular the hundred thousands unit, which may be written using characters for other units.

2. Encode the base forms of the primary units and unit marks This is an extreme alternative to encoding each numeral as an atomic character. It is a means of encoding Diwani Numerals according to their typological decomposition. In this approach, the Diwani Numerals would be written using the base forms of the primary numerals and the distinctive sign for each decimal order. This approach would require only 16 characters: base forms of the primary units (10) and signs for the units (6).

With this approach, the number five حا would be produced as ا UNITS SIGN + ح FIVE, and the number ۵۰ FIFTY would be composed using ۱۰ TENS MARK + ح FIVE.

The major disadvantage to this approach is the heavy reliance upon rendering rules. The shaping engine would need to produce the appropriate forms for special ligatures. The number one thousand الف would be produced using الف THOUSANDS SIGN + ح ONE; ten thousand عالف would be ک TEN THOUSANDS SIGN + ۶ TEN; twenty thousand ۲۰۰۰ would be ک TEN THOUSANDS SIGN + لا TWO.

Another disadvantage is ordering. With this approach the rendering engine would need to first compose the appropriate number for a base numeral + a unit sign, then order these pairs according to the Arabic counting order.

Although the primitives approach reflects the pattern that underlies the typology of the Diwani Numerals, the complexity of this encoding model may restrict its implementation.

3. Encode the numerals for the primary through ten thousands units A third approach is a mean between the two discussed previously. In this approach, the numerals of the primary, tens, hundreds, thousand, and ten thousands units are encoded as atomic characters. Based upon their glyphic representation, the numerals for these units are unique and cannot be represented using other characters (apart from the primitives

model). The numerals for the hundred thousands unit may be written using the base forms of the primary unit + ONE HUNDRED + ONE THOUSAND.

This model would require 59 characters: primary units (10), base forms of the primary units (10), tens (9), hundreds (10), thousands (10), and ten thousands (10). Of the three, this approach offers the least complicated method of encoding Diwani Numerals.

5.2 A Basic Character Set for Diwani Numerals

Based upon encoding model #3, 59 characters are required to encode Diwani Numerals in the UCS:

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xx01 DIWANI NUMERAL ONE
xx02 DIWANI NUMERAL TWO
xx03 DIWANI NUMERAL THREE
xx04 DIWANI NUMERAL FOUR
xx05 DIWANI NUMERAL FIVE
xx06 DIWANI NUMERAL SIX
xx07 DIWANI NUMERAL SEVEN
xx08 DIWANI NUMERAL EIGHT
xx09 DIWANI NUMERAL NINE
xx0A DIWANI NUMERAL TEN
xx0B DIWANI NUMERAL COMBINING ONE
xx0C DIWANI NUMERAL COMBINING TWO
xx0D DIWANI NUMERAL COMBINING THREE
xx0E DIWANI NUMERAL COMBINING FOUR
xx0F DIWANI NUMERAL COMBINING FIVE
xx10 DIWANI NUMERAL COMBINING SIX
xx11 DIWANI NUMERAL COMBINING SEVEN
xx12 DIWANI NUMERAL COMBINING EIGHT
xx13 DIWANI NUMERAL COMBINING NINE
xx14 DIWANI NUMERAL COMBINING TEN
xx15 DIWANI NUMERAL TWENTY
xx16 DIWANI NUMERAL THIRTY
xx17 DIWANI NUMERAL FORTY
xx18 DIWANI NUMERAL FIFTY
xx19 DIWANI NUMERAL SIXTY
xx1A DIWANI NUMERAL SEVENTY
xx1B DIWANI NUMERAL EIGHTY
xx1C DIWANI NUMERAL NINETY
xx1D DIWANI NUMERAL ONE HUNDRED
xx1E DIWANI NUMERAL TWO HUNDRED
xx1F DIWANI NUMERAL THREE HUNDRED
xx20 DIWANI NUMERAL FOUR HUNDRED
xx21 DIWANI NUMERAL FIVE HUNDRED
XX22 DIWANI NUMERAL SIX HUNDRED
XX23 DIWANI NUMERAL SEVEN HUNDRED
xx24 DIWANI NUMERAL EIGHT HUNDRED
xx25 DIWANI NUMERAL NINE HUNDRED
xx26 DIWANI NUMERAL ONE THOUSAND
xx27 DIWANI NUMERAL TWO THOUSAND
xx28 DIWANI NUMERAL THREE THOUSAND
xx29 DIWANI NUMERAL FOUR THOUSAND
xx2A DIWANI NUMERAL FIVE THOUSAND
xx2B DIWANI NUMERAL SIX THOUSAND
xx2C DIWANI NUMERAL SEVEN THOUSAND
xx2D DIWANI NUMERAL EIGHT THOUSAND
xx2E DIWANI NUMERAL NINE THOUSAND
xx2F DIWANI NUMERAL TEN THOUSAND
xx30 DIWANI NUMERAL TWENTY THOUSAND
xx31 DIWANI NUMERAL THIRTY THOUSAND
xx32 DIWANI NUMERAL FORTY THOUSAND
xx33 DIWANI NUMERAL FIFTY THOUSAND
xx34 DIWANI NUMERAL SIXTY THOUSAND
xx35 DIWANI NUMERAL SEVENTY THOUSAND
xx36 DIWANI NUMERAL EIGHTY THOUSAND
xx37 DIWANI NUMERAL NINETY THOUSAND
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6 References

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LES CHIFFRES « DÎVÂNÎ » CHEZ LES ARABES (1)

CHIFFRES	VALEUR	CHIFFRES	VALEUR	CHIFFRES	VALEUR
١	1	١٩	19	الف ou الله	1,000
٢	2	٢٠	20	الفى	2,000
٣ ou ٣٣	3	٣٠	30	٣الف	3,000
٤٤	4	٤٠	40	٤الف	4,000
٥	5	٥٠	50	٥الف	5,000
٦	6	٦٠	60	٦الف	6,000
٧	7	٧٠	70	٧الف	7,000
٨	8	٨٠	80	٨الف	8,000
٩	9	٩٠	90	٩الف	9,000
١٠	10	١٠٠	100	١٠الف	10,000
١١	11	٢٠٠	200	٢٠الفا	20,000
١٢	12	٣٠٠ ou ٣٣٣	300	٣٠الفا	30,000
١٣	13	٤٠٠	400	٤٠الفا	40,000
١٤	14	٥٠٠	500	٥٠الفا	50,000
١٥	15	٦٠٠	600	٦٠الفا	60,000
١٦	16	٧٠٠	700	٧٠الفا	70,000
١٧	17	٨٠٠	800	٨٠الفا	80,000
١٨	18	٩٠٠	900	٩٠الفا	90,000

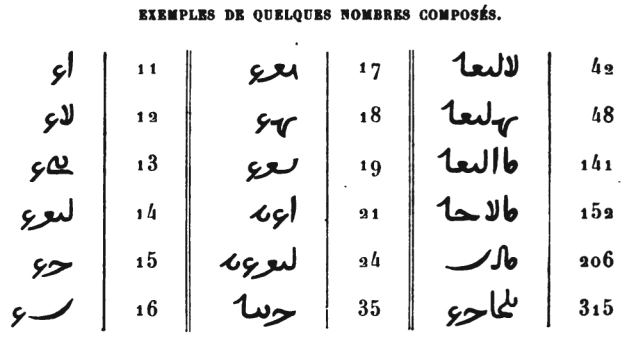
(1) D'après un manuscrit du *Vocabulaire arabe-persan* de ZAMAKHCHARÎ (Bibliothèque Nationale, ancien fonds arabe n° 1256), reproduits dans la *Grammaire arabe* de SILVESTRE DE SACY et dans l'ouvrage de A.-P. Pihan.

Figure 1: Table showing the Diwani number forms (from Kazem-Zadeh 1915: Plate VII).

UNITÉS.		DIZAINES.		CENTAINES.	
ا	1	عا	10	ما	100
لا	2	ءنا	20	مال	200
للا ou ﻟﻠﻠﻪ	3	ﻟﻠﻠﻪ	30	ﻟﻠﻠﻪما ou ﻟﻠﻠﻪما	300
لعا	4	لعا	40	لعما	400
حا	5	حا	50	حما	500
سا	6	سا	60	سما	600
عا	7	عا	70	عما	700
ها	8	ها	80	ها	800
ﻟﻠﻪ	9	ﻟﻠﻪ	90	ﻟﻠﻪما	900

MILLE.		DIZAINES DE MILLE.		CENTAINES DE MILLE.	
الف ou الله	1,000	عالف	10,000	مالف	100,000
الفى	2,000	ءنالا	20,000	لامالف	200,000
سالف	3,000	سلا	30,000	للهمالف	300,000
لعالف	4,000	لعلا	40,000	لعمالف	400,000
حالف	5,000	حلا	50,000		
سالف	6,000	سلا	60,000		
عالف	7,000	ععلا	70,000		
هالف	8,000	ﻟﻠﻪلا	80,000		
ﻟﻠﻪالف	9,000	ﻟﻠﻪلا	90,000		

Figure 2: Table showing the Diwani number forms (from Pihan 1860: 211).



EXEMPLES DE QUELQUES NOMBRES COMPOSÉS.

اع	11	عع	17	لالعا	42
لاع	12	عنا	18	هلعا	48
للهع	13	عع	19	مالعا	141
لعع	14	اعنا	21	مالاحا	152
حع	15	لععنا	24	مالس	206
سع	16	حسا	35	ﻟﻠﻪحع	315

Figure 3: Table showing composite numbers written with Diwani Numerals (from Pihan 1860: 212).