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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.

	x1	x10	x100	x1,000	x10,000	x100,000
1	(ﺍ) ﺍ	(عا) عا	ﻣﺍ	الی	عالی	ﻣﺍﻟﻰ
2	(لا) لا	عىى	مﺍ	الىى	عﻳﻼ	لا ﻣﺍﻟﻰ
3	(لا) للا	ﺳﻛ	ﻟﻟﺍ	ﺳﺍﻟﻰ	ﺳﻼ	ﻳﻛﻣﺍﻟﻰ
4	(لﻋ) لﻋﺍ	لﻋﺍ	لﻋﺍ	لﻋﺎﻟﻰ	لﻋﻼ	ﻟﻋﻮﻣﺎﻟﻰ
5	(ﺣ) ﺣﺍ	ﺣﺍ	ﺣﺍ	ﺣﺎﻟﻰ	ﺣﻼ	ﺣﻮﻣﺎﻟﻰ
6	(ﺳ) ﻟﻰ	ﺳﻰ	ﻧﻔﺍ	ﺳﺍﻟﻰ	ﺳﻼ	ﺳﻣﺎﻟﻰ
7	(ﺳﻋ) ﺑﻋﺍ	ﺑﻋﺍ	ﺑﻋﺍ	ﺑﻋﺎﻟﻰ	ﺑﻋﻼ	ﺑﻋﻮﻣﺎﻟﻰ
8	(٣) ﻟﺮ	ﺳﻰ	ﻣﺍ	ﻣﺎﻟﻰ	ﺳﻼ	ﻣﻮﻣﺎﻟﻰ
9	(ﺳﻋ) ﺳﻋﺍ	ﺳﻋﺍ	ﺳﻋﺍ	ﺳﻋﺎﻟﻰ	ﺳﻋﻼ	ﺳﻮﻣﺎﻟﻰ

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
ﺣ	ﺣﺍ	ﺣﺍ	ﺣﻣﺍ	ﺣﺎﻟﻰ	ﺣﻼ	ﺣﻮﻣﺎﻟﻰ
	ﺍ + ﺣ	ﻋ + ﺣ	ﻣﺍ + ﺣ	ﻛﻰ + ﺍ + ﺣ	ﻳﻼ + ﺣ	ﺣ + ﻣﺍ + الی

2

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 حمح (حـ FIVE BASE + ع TEN BASE): خمسة عشر 'five-ten'.

- 25 حوعى (حـ FIVE BASE + عو TWENTY): خمسة و عشرون 'five and twenty'.

- 55 حوحا (حـ FIVE BASE + حا FIFTY): خمسة و خمسون 'five and fifty'.

- 505 حاحا (حا FIVE + حا FIVE HUNDRED): خمس مائة و خمسة. The incorrect form is *حوحا (حـ FIVE BASE + حا FIVE HUNDRED). The form *حوحا could theoretically represent 'fifty-five hundred', but this amount would be parsed as 'five thousand and five hundred' and written as حالىحا.

- 515 حاحمح (حا FIVE HUNDRED + حـ FIVE BASE + ع TEN BASE): خمس مائة و خمسة عشر 'five hundred and five-ten'.

- 5,005 حا حالى (حا FIVE + حالى FIVE THOUSAND): خمسة الاف و خمسة 'five thousand and five'. The incorrect form is *حوحالى (حـ FIVE BASE + حالى FIVE THOUSAND).

- 50,005 حا حلا (حلا FIFTY THOUSAND + حا FIVE): خمسون الفا و خمسة 'fifty thousand and five'.

- 55,000 حوحلا (حـ FIVE BASE + حلا FIFTY THOUSAND): خمسة و خمسون الفا 'five and fifty thousand'.

- 55,005 حا حوحلا (حا FIVE + حلا FIFTY THOUSAND + حـ FIVE BASE): خمسة و خمسون الفا و خمسة 'five and fifty thousand / and five'.

- 505,505 حوماالىحالىحاحا (حـ FIVE BASE + ما ONE HUNDRED + الى ONE THOUSAND + حالى 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 ﺣﺤﺎ ﺣﺤﻼ ﺣﺎ ﺣﺤﻼ ﺣﺎ (ﺣﺎ) ﺣﺎ + FIVE HUNDRED + ﺣ FIVE BASE + ﺣﻼ FIFTY THOUSAND + ﺣﺎ FIVE HUNDRED + ﺣ FIVE BASE + ﺣﺎ (FIFTY): خمسون و خمسة و خمس مائة و خمسون الفا و خمس مائة و خمسة و خمسون

خمس '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
ﺍﻻ	—	ثلاثة	*ṯalāṯa*	three
ﻟﻌﺍ	ﻟﻌﺮ + ﺍ	اربعة	*arbaʿa*	four
ﺣﺎ	ﺣ + ﺍ	خمسة	*ḫamsa*	five
ﺳﺎ	ﺍ + ﺳ	ستّة	*sitta*	six
ﺑﻌﺎ	ﺍ + ﺑﻌﺮ	سبعة	*sabʿa*	seven
ﻫﺎ	ﺍ + ﺭ	ثمانية	*ṯamāniya*	eight
ﺗﻌﺎ	ﺗﻌﺮ + 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	ﺍﻻ	ﻟﻌﺎ	ﺣﺎ	ﺳﺎ	ﺑﻌﺎ	ﻫﺎ	ﺗﻌﺎ	ﻋﺎ
BASE	ﺍ	ﻻ	ﺑﻌ	ﻟﻌﺮ	ﺣ	ﺳ	ﺑﻌﺮ	ﺭ	ﺗﻌﺮ	ﻉ

Variant Forms   The following characters have variant forms:

• The base form of 3 (ﺑﻌ) takes the shape ﺑﻌ when writing tens and hundreds.
• The base form of 8 (ﺑﻌﺮ) takes the shape ﺑ 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: **1**. The exception is 20, which is modeled after ع, the base form of عا 10, as its name عشرون is the dual form of the Arabic name for 10.

ع	1 + ع	عشرون	*ʿišrūn*	twenty
ٮ	1 + ؏	ثلاثون	*talātūn*	thirty
لعا	لعر + 1	اربعون	*arbaʿūn*	forty
حا	1 + ح	خمسون	*ḥamsūn*	fifty
ٮ	1 + ے	ستّون	*sittūn*	sixty
بعا	1 + معر	سبعون	*sabʿūn*	seventy
ٮ	1 + ٮ	ثمانون	*tamānūn*	eighty
لعا	لعر + 1	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 ما, which is the abbreviation (ما) of the Arabic word مائة 'hundred'. The exceptions are 100 ما and 200 ماه, which are monograms of their Arabic names.

ما	—	مائة	*miʾa*	one hundred
ماه	—	مائتان	*miʾātān*	two hundred
للما	ما + ؏	ثلاث مائة	*talātu miʾa*	three hundred
لعما	لعر + ما	اربع مائة	*arbaʿu miʾa*	four hundred
حما	ما + ح	خمس مائة	*ḥamsu miʾa*	five hundred
ٮما	ے + ما	ستّ مائة	*sittu miʾa*	six hundred
بعما	معر + ما	سبع مائة	*sabʿu miʾa*	seven hundred
لما	ٮ + ما	ثمان مائة	*tamānu miʾa*	eight hundred
لعما	لعر + ما	تسع مائة	*tisʿum miʾa*	nine hundred

Variant Forms   The following character has a variant form:

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

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 کی, which is a monogram of the Arabic word الف 'thousand'. The forms for الی one thousand and الفی two thousand are monograms of their Arabic names.

الفى	—	الف	*alf*	one thousand
الفى	—	الفان	*alfān*	two thousand
سالى	لا + كى	ثلاثة الاف	*ṯalāṯa ālāf*	three thousand
لعالى	لعا + كى	اربعة الاف	*arbaʿa ālāf*	four thousand
حالى	حا + كى	خمسة الاف	*ḫamsa ālāf*	five thousand
سالى	سا + كى	ستّة الاف	*sitta ālāf*	six thousand
بعالى	بعا + كى	سبعة الاف	*sabʿa ālāf*	seven thousand
هالى	ها + كى	ثمانية الاف	*ṯamāniya ālāf*	eight thousand
بعالى	بعا + كى	تسعة الاف	*tisʿa ālāf*	nine thousand
عالى	عا + كى	عشرة الاف	*ʿašara ālāf*	ten thousand

Variant Forms   The following character has a variant form:

- The numeral ONE THOUSAND (الفى) also takes the shape الش.

4.5   The Ten Thousands Unit

The ten thousands are written using modified forms of the tens numerals joined to the terminal لا, which is a contraction of الفا. The leftward hook in the stylized form of final NOON that marks the tens terminal ٮ is dropped and the base is joined to لا. 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 لوع, which is modeled after 20 عى.

لوبا	+ لا	عشرون الفا	*ʿišrūn alfan*	twenty thousand
سلا	+ لا	ثلاثون الفا	*ṯalāṯūn alfan*	thirty thousand
لعلا	+ لا	اربعون الفا	*arbaʿūn alfan*	forty thousand
حلا	+ لا	خمسون الفا	*ḫamsūn alfan*	fifty thousand
سلا	+ لا	ستّون الفا	*sittūn alfan*	sixty thousand
بعلا	+ لا	سبعون الفا	*sabʿūn alfan*	seventy thousand
سلا	+ لا	ثمانون الفا	*ṯamānūn alfan*	eighty thousand
بعلا	+ لا	تسعون الفا	*tisʿūn alfan*	ninty thousand

4.6   The Hundred Thousands Unit

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

طالص	ما + الص	مائة الف	*miʾa alf*	one hundred thousand
لاطالص	لا + ما + الص	مائتا الف	*miʾatā alf*	two hundred thousand
طالص	ﯨﻌ + ما + الص	ثلاث مائة الف	*talātu miʾa alf*	three hundred thousand
لعوطالص	لعر + ما + الص	اربع مائة الف	*arbaʿu miʾa alf*	four hundred thousand
حطالص	حـ + ما + الص	خمس مائة الف	*hamsu miʾa alf*	five hundred thousand
رطالص	ــ + ما + الص	ستّ مائة الف	*sittu miʾa alf*	six hundred thousand
بعطالص	معـ + ما + الص	سبع مائة الف	*sabʿu miʾa alf*	seven hundred thousand
هبطالص	ٮ + ما + الص	ثمان مائة الف	*tamānu miʾa alf*	eight hundred thousand
ٮوطالص	لعر + ما + الص	تسع مائة الف	*tisʿu miʾa alf*	nine hundred thousand

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

ﯨﻌطالص   ←   الص ONE THOUSAND   +   ما ONE HUNDRED   +   لعر THREE

للاالص   ←   الص ONE THOUSAND   +   للا 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
اء	ا + ع	احد عشر	* aḥad ʿašara*	eleven
لاء	لا + ع	اثنا عشر	*itnā ʿašara*	twelve
ﯨﻌء	ﯨﻌ + ع	ثلاثة عشر	*talāta ʿašara*	thirteen
لعوء	لعر + ع	اربعة عشر	*arbaʿa ʿašara*	fourteen
حء	حـ + ع	خمسة عشر	*hamsa ʿašara*	fifteen
رء	ــ + ع	ستّة عشر	*sitta ʿašara*	sixteen
معوء	معـ + ع	سبعة عشر	*sabʿa ʿašara*	seventeen
ءٮ	ع + ٮ	ثمانية عشر	*tamāniya ʿašara*	eighteen
لعوء	لعر + 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 اوع and is expressed as احد و عشرون 'one and twenty', 22 is لاوع عشرون 'two and twenty', etc.

7

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 ـح would be produced as ا UNITS SIGN + ـح FIVE, and the number ـح FIFTY would be composed using ١ TENS MARK + ـح 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 + ـح ONE; ten thousand عالى would be لى TEN THOUSANDS SIGN + ۶ TEN; twenty thousand لوى would be لى 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
ا	1	ﻊﻌﻣ	19	الف ou الفﻣ	1,000
لا	2	لﻊ	20	الفﻰ	2,000
لل ou ﻊ	3	لى	30	سالف	3,000
لﻌﻟ	4	لﻌﻟ	40	لﻌالف	4,000
ﺣﻟ	5	لﺣ	50	حالف	5,000
ﺳ	6	لﺣ	60	سالف	6,000
لﻌﻟ	7	لﻊﻟ	70	لﻌالف	7,000
لﻳ	8	لﻳ	80	ﻳالف	8,000
لﻌﻟ	9	لﻌﻟ	90	لﻌالف	9,000
لﻊ	10	ﻟ	100	عالف	10,000
اﻊﻟ	11	لﻟ	200	ﻊ لﻟ	20,000
لاﻊ	12	ou لﻟ	300	سلا	30,000
ﺳﻊ	13	لﻌﻟ	400	لﻌﻟ	40,000
لﻌﻟ	14	ﺣﻟ	500	حﻟ	50,000
ﺣﻊ	15	لﺳ	600	لﺳ	60,000
ﻊﻟ	16	لﻌﻟ	700	لﻌﻟ	70,000
ﻊﻌﻟ	17	لﻟ	800	لﻌﻟ	80,000
ﻊﻳ	18	لﻌﻟ	900	لﻌﻟ	90,000

(1) D'après un manuscrit du *Vocabulaire arabe-persan* de ZAMAKHCHARI (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	عى	20	ملا	200
لاو ou لاو	3	سا	30	ملا ou سها	300
لعا	4	لعا	40	لعا	400
حا	5	حا	50	حما	500
سا	6	سا	60	نعا	600
بعا	7	بعا	70	بعا	700
رها	8	ب	80	بطا	800
بعا	9	لعا	90	بعا	900

MILLE.		DIZAINES DE MILLE.		CENTAINES DE MILLE.	
الف ou الف	1,000	عالى	10,000	ماالى	100,000
الفى	2,000	لاعى	20,000	لاماالى	200,000
سالى	3,000	سلا	30,000	يمماالى	300,000
لعالى	4,000	لعلا	40,000	لعوماالى	400,000
حالى	5,000	حلا	50,000		
سالى	6,000	سلا	60,000		
بعالى	7,000	بعلا	70,000		
رهالى	8,000	سلا	80,000		
بعالى	9,000	بعلا	90,000		

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

EXEMPLES DE QUELQUES NOMBRES COMPOSÉS.

اء	11	بعء	17	لالعا	42
لاء	12	عص	18	رهلعا	48
لاوء	13	بعء	19	ماالعا	141
لعوء	14	اوبه	21	مالاحا	152
حوء	15	لعوء	24	ماس	206
سء	16	حسا	35	بلماحوء	315

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