

# Bulletin of the Indus Research Centre

ROJA MUTHIAH RESEARCH LIBRARY

No. 1 | September 2009

# **BULLETIN OF THE INDUS RESEARCH CENTRE**

No. 1, September 2009

Indus Research Centre  
Roja Muthiah Research Library  
Chennai, India



# The Indus Script: Text and Context

## A Statistical-Positional Analysis of Significant Text Segments

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Suvidha Nair, and Iravatham Mahadevan

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Published with partial financial assistance from the  
Central Institute of Classical Tamil, Government of India  
vide Sanction No.F.11-264/2007-08/CECT/Projects

**THE INDUS SCRIPT: TEXT AND CONTEXT**  
**A STATISTICAL-POSITIONAL ANALYSIS OF SIGNIFICANT TEXT**  
**SEGMENTS**

(Sundar Ganesan, Chandrasekhar Subramanian, Suresh Babu, Suvidha Nair, and  
Iravatham Mahadevan)\*

**1. Scope of the paper**

While the total number of signs and sign combinations in the Indus texts is large, the texts can be segmented into much smaller numbers of signs, sign pairs and sign triplets (The segmentation procedures are well-known and are not included in this paper)<sup>1</sup>. If these significant segments are analysed textually and contextually, one can extract the core of information recorded in the texts (Statements 1.1 to 4.3 attached). Such a study will not only save much time and labour, but also hopefully show the way to further progress in understanding the Indus texts. The analysis makes no assumptions about the language of the texts or the sounds or meanings of the signs.

**2. Source:**

The attached statements are derived from the computer database (henceforth M77) compiled at the TIFR by Iravatham Mahadevan et al (1977 - 80) and the pictorial version in the book '*The Indus Script: Texts, Concordance and Tables*' (Mahadevan 1977).

**3. Significant Text Segments:**

3.1 Signs: There are 417 signs with a total of 13372 occurrences in M77. However, only 153 signs occurring 10 times or more account for as much as 94.24 percent of the total sign occurrences.

3.2 Sign pairs: There are 2758 sign pairs in M77, but only as few as 166 pairs occur 10 times or more (excluding those commencing with signs 'I', 'U' or 'J', or with 'U' or 'A' (these two with some exceptions such as EU, AU, EA), or with 'J' which do not occur initially in significant pairs).

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<sup>1</sup> Mahadevan(1978), Nisha Yadav, et al. (2008)

3.3 Sign triplets: There are 3710 triplets in M77; but only as few as 68 triplets occur 10 times or more (excluding those commencing with signs '॥', '।', 'ঁ' and 'ঁ' and 'ঁ' which do not occur initially in significant triplets).

The exclusions and exceptions are based on segmentation analysis (not included in this paper). Thus 153 signs, 166 sign pairs and 68 sign triplets have been identified as significant text segments for further analysis.

#### **4. Textual Analysis: (Statements 1.1 to 1.3)**

The selected signs, pairs and triplets are listed in the order of total frequencies as well as in the order of positional frequencies (solus, initial, medial and final).

The preliminary analysis shows that the significant text segments can be classified broadly into only two categories, viz., one including solus and initial occurrences, and the other of final occurrences. The medial occurrences may belong to either category depending on whether they are quasi-initial (that is, word-initial segments occurring in the middle) or quasi-final (that is, word-final segments occurring in the middle). (Signs may occur in solus / initial and final positions with respect to a line of text, but not generally with respect to the whole text. Exceptions to this pattern require further study and may include errors in coding.)

#### **5. Context Analysis:**

5.1 Parameters: The following three parameters have been chosen for context analysis:

- (1) Sites: Inscribed objects from 19 Harappan and 5 West Asian sites have been included in M77. However, only four sites, viz, Mohenjodaro (MD), Harappa (HP) Lothal (LL) and Kalibangan (KB) (yielding a minimum of 100 inscribed objects each) account for 2789 out of 2906 objects (95.97%).
- (2) Object types: 2906 inscribed objects classified into 9 types have been included in M77. However, only 5 types, namely seals, sealings, miniature tablets, copper tablets and pottery graffiti each with a minimum of 100 occurrences, account for as much as 98.11% of the total.

(3) Field symbols: 99 field symbols (that is, pictorial or iconographic motifs occupying the field as distinguished from signs of the Indus script) are listed in M77. However only 17 field symbols with a minimum of 10 occurrences each account for 84.97 % of the total. The field symbols 35 (uncertain animal), 97 (geometrical patterns), 98 (ornamental borders) and 99 (damaged or illegible) are not considered. See attached list of selected Significant Field Symbols.

#### 5.2 Analytical Statements (Attached):

The significant text segments (signs, pairs and triplets) are analysed with respect to the selected parameters (site, object type and field symbol) in the attached statements.

#### 5.3 Locus and Stratigraphy – not included:

We would have liked to include another important parameter, namely the locus and stratigraphy of inscribed objects. Statistics on locus and stratigraphy available in respect of MD, HP and CH are included in the computer data base (M77) but not published in Mahadevan 1977. However, due to the pre-modern techniques of excavation, true stratigraphy has not been scientifically recorded for these sites (Mythili Rangarao and Iravatham Mahadevan 1987). When the original Field Notes are fully published, such context analysis may become possible.

### **6. Some Preliminary Results**

#### 6.1 Frequency-Distribution Analysis of frequent signs by sites (Statement 2.1):

The total sign occurrences in M77 (13372) are distributed in the major sites as follows:

Site	Sign occurrences	Percent
MD	7281	54.45
HP	4359	32.60
LL	760	5.68
KB	423	3.16
<b>Total</b>	<b>12823</b>	<b>95.89</b>

The enclosed statement (Statement 2.1) highlights cases of significant deviations from the expected normal frequency of sign occurrences. Some examples are given below.

<b>Sign</b>	<b>MD</b>	<b>HP</b>
𒃩	101	239
𒌵	28	288
𒃣	120	175
𒃶	68	84

The observed deviations from normal distribution prompt us to seek explanations. In these particular cases, the deviations may be due to sites. However, that this is not the sole cause can be seen from the following analysis of sign occurrences with respect to object types (Statement 3.1).

#### 6.2 Frequency-Distribution Analysis of frequent signs by object types (Statement 3.1):

The total sign occurrences in M77 (13372) are distributed among the major object types as follows:

<b>Object types</b>	<b>Sign Occurrences</b>	<b>Percent</b>
Seals	8312	62.16
Sealings	2582	19.31
Miniature Tablets	1261	9.43
Copper Tablets	718	5.37
Pottery Graffiti	281	2.10
<b>Total</b>	<b>13154</b>	<b>98.37</b>

6.2.1 Miniature Tablets: Sign 𒌵 (7<sup>th</sup> in the order of total frequency) overtakes even the most frequent sign 𒃩 and is ranked first on miniature tablets. Similarly the sign 𒃩 which shows abnormal deviation with respect to sites (more in HP than in MD), also has equally abnormal deviation with respect to object types, preferring miniature tablets to seals. Thus it appears that the main cause of deviation in these cases is the object type and not the site. However, miniature tablets do not at all occur in MD probably because the lowest levels could not be reached due to the much higher water table in modern times.

6.2.2 Copper Tablets: The copper tablets occur only at MD and at no other site. In this case, there is clear correlation between object type and site. One may say that copper tablet - using people lived only at Mohenjodaro (in the Late Period as known from stratigraphic evidence).

Another important feature relating to copper tablets is that some frequent signs do not occur on them with expected frequencies. Examples:

- (1) The following frequent signs do not occur at all on copper tablets:  
, , , ,  and .
- (2) On the other hand, the following signs occur relatively much more often on copper tablets:  
, , ,  and .

An important result is that some similar-looking signs are not really sign-variants but separate and independent signs as revealed by the evidence of copper tablets. For example:

 and ;  and ;  and ;  and ;  and .

6.3 Frequency-Distribution Analysis of frequent signs by Field Symbols (Statement 4.1):

All selected signs occur at least once with FS=01 (Unicorn).

The FS=16 (Hare) occurs only with signs , , ,  and .

The sign  and ,  and  occur most frequently with FS=83 (Dot in circle).

Sign  occurs most frequently with FS=14 (Ox-Antelope).

## 7. Analysis of Sign Pairs and Triplets

Similar analysis with respect to the other significant text segments (pairs and triplets) has been carried out with respect to the selected parameters (Statements 1.2, 1.3, 2.2, 2.3, 3.2, 3.3, 4.2 and 4.3).

### 7.1 Textual and Contextual Analysis of Pairs and Triplets

(1) Of the 166 pairs selected, 33 start with Number signs (19.5%) and 25 start with a fish sign (14.8%). Similarly, 38 of the 166 pairs end with the Jar sign (22.5%) and 16 end with fish signs (9.5%).

(2) The sign pair occurs mostly in the initial position with a frequency of 254 out of 291, mostly on seals and sealings but does not occur on copper tablets, while occurs mostly in the final position with a frequency of 179 out of 184, occurs mostly on miniature tablets and sealings and does not occur on copper tablets. The greater affinity for the former pair is towards MD along with the field symbol Unicorn, while for the latter it is Harappa along with the field symbols Gharial / Dot in circle.

(3) The following pairs occur neither in initial nor final positions: , , . occurs mostly in MD along with FS=14 (Ox-Antelope) and mostly on copper tablets and one occurrence on sealings; in HP along with FS=01 (Unicorn) and only on sealings and seals; only in MD along with FS=14 (Ox-Antelope) only on copper tablets; mostly in MD along with FS=01 (Unicorn) mostly on copper tablets and seals.

(4) The following triplets occur more frequently as solus and therefore may represent a complete phrase: (f=41) occurs mostly in Harappa along with FS=83 (Dot in circle) mostly on miniature tablets and never on copper tablets or pottery; (f=14) (FS – 01 (Unicorn), 07 (Elephant) and 91 (Shape of Double shield or Double-axe)) mostly in HP and mostly on miniature tablets; (f=12) occur mostly in HP along with FS=44 (Kino tree) and FS=01 (Unicorn) mostly on seals and sealings; (f=11) occur mostly in MD and HP along with FS=01 (Unicorn) and FS=83 (Dot in circle) mostly on seals and miniature tablets.

(5) The FS=16 (Hare) occurs only with the following triplets: , , and .

(6) The pair and the triplet show much greater affinity to Harappa (site), Miniature tablets (type) and Dot in circle (field symbol).

(7) The significant text segments do not appear to have special affinity to field symbols with which they are associated on seals and sealings. This is also shown by the simple observation that the same text occurs with different field symbols and vice versa. However, one notable exception is the association of significant text segments with particular field symbols on the copper tablets, (e.g. texts with the field symbol ‘hare facing a bush’).

## **8. Preliminary Conclusions**

Our exercise is confined to the statistical analysis of position and frequency of the textual segments and their special affinity to the background such as site, object type and field symbol.

We wish to emphasize that the choice of frequent segments and frequent parameters would enable us to extract the core of available information of the Indus Script with minimum effort. This is a preliminary exercise and our expectation is that this study will show the way for reaching other areas not covered in this study.

One of our goals is to ascertain the language of the Indus Script through a study of its textual segments; we have in mind the work of Emil Forrer (1932) who studied the Hittite hieroglyphic script through such methods even before deciphering the script.

### **Enclosure: List of attached statements**

#### **List of attached statements:**

- 1.1 - Positional Distribution of Selected Signs: Within a Line of Text
- 1.2 - Positional Distribution of Selected Pairs: Within a Line of Text
- 1.3 - Positional Distribution of Selected Triplets: Within a Line of Text
- 2.1 - Frequency Distribution of Frequent Signs by Major Sites
- 2.2 - Frequency Distribution of Frequent Pairs by Major Sites
- 2.3 - Frequency Distribution of Frequent Triplets by Major Sites
- 3.1 - Frequency Distribution of Frequent Signs by Object Types
- 3.2 - Frequency Distribution of Frequent Pairs by Object Types
- 3.3 - Frequency Distribution of Frequent Triplets by Object Types
- 4.1 - Frequency Distribution of Frequent Signs by Field Symbol
- 4.2 - Frequency Distribution of Frequent Pairs by Field Symbol
- 4.3- Frequency Distribution of Frequent Triplets by Field Symbol

## List of Selected Significant Field Symbols

<b>Field Symbol</b>	<b>Description</b>
01	Unicorn, generally facing a special cult object
03	Humped Bull
04	Short-horned bull, generally with head lowered over a trough
06	Buffalo, generally with a trough in front
07	Elephant, sometimes with a trough in front
09	Tiger, generally with a trough in front
11	Rhinoceros, generally with a trough in front
13	Goat-antelope with a short tail (and different types of horns), sometimes with a trough in front
14	Goat-antelope with a long tail, generally with a trough in front
16	Hare facing a bush
25	Fabulous animal with the body of a ram, horns of a bull, trunk of an elephant, hind legs of a tiger and an upraised serpent-like tail
36	Gharial, sometimes with a fish in its jaw and/or surrounded by a school of fish.
37	Inscribed object in the shape of a fish
44	Kino tree, generally within a railing or on a platform
83	One or more dotted circles
85	The special cult object (the so-called ‘manger’ or ‘incense-burner’)
91	Inscribed object in the shape of a double-shield or double-axe (?)

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**Statement 1.1: Positional Distribution of Frequent Signs  
Within a Line of Text**  
**(Minimum total sign frequency =10)**

Solus		Initial		Medial		Final		Total	
Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq
Ⓐ	18	❖	298	Ⅱ	625	Ⓣ	971	Ⓣ	1,395
Ⓑ	9	Ⅱ	147	Ⓣ	420	Ⓔ	316	Ⅱ	649
Ⓜ	8	Ⅲ	140	Ⓐ	309	Ⓛ	274	Ⓐ	381
Ⅲ	7	ⓧ	135	Ⓜ	209	↑	184	❖	376
˥	7	Ⓐ	77	Ⅱ	199	〽	130	Ⅱ	365
ԥ	7	ԥ	74	˨	186	❖	92	Ⓔ	355
Ӣ/	5	՚	72	┉	168	〽	90	┉	323
ܵ	4	Ⅲ	71	Ⅲ	159	ܵ	86	Ⅲ	314
ܶ	3	┉	68	┉	152	ܶ	69	┉	279
ܷ	3	⠇	67	܀	148	ܷ	61	⠇	240
ܸ	3	┉	65	܀	137	┉	43	┉	236
ܹ	3	ܻ	65	┉	136	ܶ	30	↑	227
ܺ	3	┉	59	┉	128	┉	22	┉	216
ܻܻ	3	┉	51	┉	116	┉	21	┉	212
ܷܸ	3	┉	50	┉	109	┉	20	┉	207
┉ܷ	2	܀	40	┉	106	܀	18	ܷ	195
┉ܸ	2	┉	38	┉	103	┉	18	┉	193
┉ܻ	2	┉	37	┉	96	┉	17	┉	188
┉ܻܷ	2	┉	36	┉	93	┉	16	┉	177
┉ܻܻ	2	┉	36	┉	92	┉	16	┉	170
┉ܻܻܷ	2	┉	35	┉	87	┉	16	┉	168
┉ܻܻܻ	2	┉	32	┉	75	┉	15	┉	151
┉ܻܻܻܷ	2	┉	31	┉	74	┉	14	┉	149
┉ܻܻܻܻܷ	1	┉	30	┉	72	┉	14	┉	136
┉ܻܻܻܻܻܷ	1	┉	28	┉	72	┉	13	┉	134
┉ܻܻܻܻܻܻܷ	1	┉	26	┉	70	┉	13	┉	134
┉ܻܻܻܻܻܻܻܷ	1	┉	25	┉	70	┉	12	┉	132
┉ܻܻܻܻܻܻܻܷ	1	┉	25	┉	69	┉	12	┉	130
┉ܻܻܻܻܻܻܻܷ	1	┉	24	┉	69	┉	12	┉	126
┉ܻܻܻܻܻܻܻܷ	1	┉	22	┉	65	┉	12	┉	118
┉ܻܻܻܻܻܻܻܷ	1	┉	22	┉	63	┉	11	┉	105

Solus		Initial		Medial		Final		Total	
Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq
☰	1	☱	21	☱	62	☲	11	☲	105
☲	1	☲	20	☲	61	☵	10	☵	102
☱	1	☱	20	☱	61	☴	9	☴	99
☴	1	☴	19	☴	59	☷	9	☷	93
☵	1	☵	19	☵	58	☲	7	☲	92
☶	1	☶	19	☶	58	☱	7	☶	91
☵	1	☵	18	☵	55	☱	7	☲	91
☲	1	☲	18	☲	54	☲	6	☴	90
☱	1	☱	18	☱	53	☵	6	☵	89
☶	1	☶	18	☶	49	☲	6	☲	88
☷	1	☷	17	☴	49	☱	5	）	88
☲	1	☲	17	☲	49	☲	5	☵	80
☱	1	☱	17	☱	47	☲	5	☱	78
☲	1	☲	17	☵	45	☲	5	☱	76
☱	1	☱	16	☱	45	☱	5	☲	73
☳	1	☳	16	↑	44	☱	5	☱	73
☲	1	☲	16	☲	42	☱	5	☲	70
☱	1	☱	15	☱	41	☱	5	☲	70
☲	1	☲	15	☶	38	☲	4	☲	70
☱	1	☱	15	☱	38	☲	4	☱	64
☲	1	☲	14	☲	36	☱	4	☲	63
☱	1	☱	14	☲	36	☲	4	☱	63
☲	1	☲	14	☲	35	☵	4	☵	63
		☲	13	☱	35	☲	4	☲	61
		☳	13	☱	33	☱	4	☲	60
		☲	12	☱	33	☳	4	☱	59
		☱	12	☲	32	☲	4	☱	58
		☲	12	☱	32	☲	3	☲	57
		☲	12	☱	31	☲	3	☲	54
		☲	11	☲	31	☲	3	☵	54
		☱	11	☲	31	☱	3	☱	53
		☲	11	☵	30	☱	3	☲	53
		☲	10	☵	29	☴	3	☱	51
		☲	10	☱	29	☲	3	☱	51

Solus		Initial		Medial		Final		Total	
Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq
ㄓ	10	ㄕ	29	ㄔ	3	ㄕ	50		
ㄉ	10	ㄕ	28	ㄑ	2	ㄐ	50		
ㄔ	10	ㄤ	27	ㄩ	2	ㄤ	49		
ㄦ	10	ㄩ	26	ㄩ	2	ㄦ	48		
ㄱ	9	ㄩ	25	ㄩ	2	ㄦ	44		
ㄤ	9	ㄢ	25	ㄩ	2	ㄩ	43		
ㄭ	9	ㄩ	24	ㄤ	2	ㄭ	42		
ㄮ	9	ㄩ	23	)	2	ㄮ	41		
ㄮ	7	ㄳ	23	ㄭ	2	ㄮ	38		
ㄮ	7	ㄩ	22	ㄭ	2	ㄮ	38		
ㄮ	7	ㄤ	20	ㄩ	2	ㄮ	38		
ㄮ	7	ㄩ	20	ㄩ	2	ㄮ	35		
ㄮ	7	ㄩ	20	ㄩ	2	ㄮ	35		
ㄮ	6	ㄩ	20	ㄤ	1	)	35		
ㄮ	6	(ㄩ)	19	ㄩ	1	ㄮ	35		
ㄮ	5	ㄩ	19	ㄩ	1	ㄩ	35		
ㄮ	5	ㄩ	18	ㄩ	1	ㄩ	33		
ㄮ	5	ㄩ	17	ㄩ	1	ㄩ	32		
ㄮ	5	ㄩ	17	ㄩ	1	ㄩ	30		
ㄮ	5	ㄩ	17	ㄩ	1	ㄩ	29		
ㄮ	5	ㄩ	16	(ㄩ)	1	ㄩ	29		
ㄮ	5	(ㄩ)	16	ㄩ	1	ㄩ	29		
ㄮ	5	ㄩ	16	ㄩ	1	ㄩ	27		
ㄮ	5	ㄩ	16	ㄩ	1	ㄩ	27		
ㄮ	5	ㄩ	15	ㄩ	1	ㄪ	27		
ㄮ	5	ㄩ	14	ㄩ	1	ㄩ	27		
ㄮ	4	ㄩ	14	ㄩ	1	ㄩ	26		
ㄮ	4	ㄩ	14	ㄩ	1	ㄩ	26		
ㄮ	4	(ㄩ)	13	ㄩ	1	ㄩ	26		
ㄮ	4	ㄩ	13	ㄩ	1	ㄩ	26		
ㄮ	4	ㄩ	13	ㄩ	1	ㄩ	25		
ㄮ	4	ㄩ	12	ㄩ	1	ㄩ	24		
ㄮ	4	ㄩ	12	ㄩ	1	ㄩ	24		
ㄮ	3	ㄩ	11	ㄩ	1	ㄩ	23		
ㄮ	3	ㄩ	11	ㄩ	1	ㄩ	22		

Solus		Initial		Medial		Final		Total	
Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq
X	3	D	11	X	1	III	22		
Y	3	O-O	11	OO	1	A	22		
W	3	X)	10	OO	1	X	22		
K	3	N	10	OO	1	U	22		
W	3	A	10			I	21		
H	3	H	10			丰	21		
占	3	OO	10			昌	21		
自	3	欣	9			中	21		
X)	3	K	9			人	20		
△	3	丰	9			日	20		
*	2	中	9			K	19		
X)	2	自	9			昌	19		
尤	2	夕	9			人	18		
宜	2	日	9			(III)	17		
II	2	尤	8			日	17		
III	2	日	8			ノ	16		
II	2	夕	8			昌	16		
△	2	丰	8			鸟	15		
威	2	日	8			A	15		
昌	2	鸟	8			X	15		
X	2	昌	7			◊	15		
自	2	日	7			フ	14		
Y	2	鸟	7			△	14		
OO	2	尤	6			X)	14		
欣	1	日	6			○	14		
威	1	昌	6			Y	14		
I	1	XX	6			威	13		
X	1	X)	6			○○	13		
H	1	日	6			フ	13		
W	1	Q	6			△	13		
A	1	威	5			X)	13		
X)	1	威	5			○	13		
U	1	鸟	5			○	13		

Solus		Initial		Medial		Final		Total	
Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq
		U	1		5			♣	13
		Uf	1		5			♦	13
				'	5			○○	13
				▲	4			※	12
				X	4			○	12
				◊	4			▲	11
				◊	3			/	11
				◎	2			/	11
				▲	2				11
				○○	2				11
				丰	2			X	11
				▲	2			X	11
				◊	2			◊	11
				/	1			○○	11
				X	1			○	11
				○	1			D	11
								◎	10
								■■	10
								XX	10
								♣	10

**Statement 1.2: Positional Distribution of Frequent Pairs  
Within a Line of Text**

(Minimum total frequency of pairs = 10)

Solus		Initial		Medial		Final		Total	
Pairs	Freq	Pairs	Freq	Pairs	Freq	Pairs	Freq	Pairs	Tot. Freq
U	111	"◊	254	U	104	EU	179	"◊	291
U	74	"⊗	73	*¶	55	UU	88	EU	184
U	50	*)	54	¶	53	*U	79	U	126
¶	11	U¶	52	*¶	44	U*	66	U	124
QW	9	IX	37	/¶	41	†¶	49	U¶	114
U¶	8	■A	29	Y¶	40	■■■	42	UU	110
Y	8	OO	22	XX	35	†	40	U*	93
¶	7	U	22	U¶	34	U¶	37	*U	87
†¶	6	"⊗	22	*¶	30	UXX	34	"⊗	83
Y	6	¶¶	21	"◊	26	UX	34	U	78
Y	6	U¶	12	U*	25	UY	34	*¶	76
U¶¶	6	A◊	20	O	24	U)	34	■■■	70
"◊	6	JX	19	Y¶	23	UY	32	¶	67
■■■	5	QA	17	■¶	21	U	29	/¶	58
Y	5	■■■	17	*XX	21	UU	29	U	58
†XX	4	■X	16	†	21	E¶	25	†¶	55
Y	4	YA	15	U■	21	U)	25	Y¶	54
¶X	4	/¶	14	UU	21	U¶	22	*)	54
U¶	4	¶	14	U¶	20	U¶	22	UY	48
¶¶¶	3	Q	12	U¶	18	¶X	22	Y¶	47
¶	3	S	12	"Y	18	¶¶	22	U¶	44
U¶	3	ΔU	12	U¶	17	†¶	21	XX	44
¶¶	3	¶¶	12	)O	17	U)	21	†	44
U)	3	¶¶	12	¶¶	17	U¶	19	UX	44
oT	3	T¶	12	■X	16	Y	18	IX	44
††	2	"⊗	12	"¶	16	Y¶	18	U	42
U*	2	¶¶	11	UΔ	15	U■	18	UXX	40
UX	2	XX	11	*¶	14	†¶	17	UY	40
JX	2	¶¶	11	OCMM	14	¶X	17	*¶	40
A◊	2	UE	11	Y¶	14	Y	16	U)	37
U¶	2	¶¶	11	Y¶	13	†¶	15	U■	34
UO	2	††	10	XX	13	U¶¶	15	O	34
U¶	2	TXX	10	U	13	UOO	15	■■■	32

Solus		Initial		Medial		Final		Total	
Pairs	Freq	Pairs	Freq	Pairs	Freq	Pairs	Freq	Pairs	Tot. Freq
ဗု	2	ဗု	10	ဗု	13	ဗု	14	ဗု	32
ဗု	1	ဗု	10	ဗု	13	ဗု	14	ဗု	32
ဗု	1	ဗု	9	ဗု	13	ဗု	12	ဗု	31
ဗု	1	ဗု	9	ဗု	13	ဗု	12	ဗု	31
ဗု	1	ဗု	8	ဗု	13	ဗု	12	ဗု	30
ဗု	1	ဗု	8	ဗု	12	ဗု	12	ဗု	30
ဗု	1	ဗု	7	ဗု	12	ဗု	12	ဗု	29
ဗု	1	ဗု	7	ဗု	12	ဗု	11	ဗု	29
ဗု	1	ဗု	7	ဗု	12	ဗု	11	ဗု	28
ဗု	1	ဗု	7	ဗု	12	ဗု	11	ဗု	28
ဗု	1	ဗု	7	ဗု	12	ဗု	11	ဗု	28
ဗု	1	ဗု	7	ဗု	12	ဗု	11	ဗု	28
ဗု	1	ဗု	6	ဗု	12	ဗု	10	ဗု	27
ဗု	1	ဗု	6	ဗု	11	ဗု	10	ဗု	27
ဗု	1	ဗု	6	ဗု	11	ဗု	10	ဗု	27
ဗု	1	ဗု	6	ဗု	11	ဗု	10	ဗု	26
ဗု	1	ဗု	5	ဗု	11	ဗု	10	ဗု	26
ဗု	1	ဗု	5	ဗု	11	ဗု	10	ဗု	26
ဗု	1	ဗု	5	ဗု	11	ဗု	10	ဗု	25
ဗု	1	ဗု	5	ဗု	11	ဗု	9	ဗု	24
ဗု	1	ဗု	5	ဗု	10	ဗု	9	ဗု	24
ဗု	1	ဗု	5	ဗု	10	ဗု	8	ဗု	24
ဗု	1	ဗု	5	ဗု	10	ဗု	8	ဗု	24
		ဗု	5	ဗု	10	ဗု	8	ဗု	23
		ဗု	5	ဗု	10	ဗု	7	ဗု	23
		ဗု	5	ဗု	10	ဗု	6	ဗု	22
		ဗု	5	ဗု	10	ဗု	6	ဗု	22
		ဗု	4	ဗု	9	ဗု	6	ဗု	21
		ဗု	4	ဗု	9	ဗု	6	ဗု	21
		ဗု	4	ဗု	9	ဗု	5	ဗု	21
		ဗု	4	ဗု	9	ဗု	5	ဗု	21
		ဗု	3	ဗု	9	ဗု	5	ဗု	21
		ဗု	3	ဗု	8	ဗု	5	ဗု	21
		ဗု	3	ဗု	8	ဗု	5	ဗု	20
		ဗု	3	ဗု	8	ဗု	5	ဗု	20
		ဗု	3	ဗု	8	ဗု	5	ဗု	20
		ဗု	3	ဗု	8	ဗု	4	ဗု	20
		ဗု	3	ဗု	8	ဗု	3	ဗု	20
		ဗု	3	ဗု	8	ဗု	3	ဗု	19



Solus		Initial		Medial		Final		Total	
Pairs	Freq	Pairs	Freq	Pairs	Freq	Pairs	Freq	Pairs	Tot. Freq
		U	3					U	13
		《+	3					“ �	13
		ㄣX	3					X	13
		U )	3					Q 人	13
		U P	3					U Ψ	13
		Q Q	3					U M	13
		Q Q	3					I 白	13
		T Q	3					Q U	13
		U I	2					I U	13
		U W	2					U W	12
		Q	2					Q	12
		W	2					W	12
		↑↑	2					◆	12
		U E	2					◎	12
		田 A	2					I	12
		Y X	2					S	12
		ㄣX	2					M A	12
		U )	2					A U	12
		U Φ	2					W U	12
		U U	2					Q Q	12
		U O	2					Q I S	11
		I Q	2					↑↑	11
		Y Q	2					Q Q	11
		大 大	1					Q Q	11
		E S	1					U Q	11
		↑↑	1					* Q	11
		↑↑	1					△ X	11
		Y III	1					U X	11
		Y III	1					W	11
		U III	1					Y III	11
		U A	1					U III	11
		U W	1					《+	11
		U W	1					Y H	11
		U W	1					A	11
		E ↑						E ↑	11
		U ◊						U ◊	11
		Y )						Y )	11



**Statement 1.3 : Positional Distribution of Frequent Triplets****Within a Line of Text**

(Minimum total frequency of triplets = 10)

Solus		Initial		Medial		Final		Total	
Triplets	Freq	Triplets	Freq	Triplets	Freq	Triplet s	Freq	Triplets	Freq
ԷԱՆ	41	ՄԻՋ	30	ԽՎՃ	31	ԴԻՄՈ	36	ԷԱՆ	46
ՄՈՒ	14	ՋԻՓ	25	ՄՄԱ	17	ՄՎՃ	31	ՄՎՃ	44
ՀՅԱ	12	ՄԱԱ	20	ՋԻՎ	15	ՄՎՃ	27	ԴԻՄՈ	44
ԴՔՄ	11	ՋԻՓ	19	ՅՎՃ	13	ՄՎՃ	25	ԽՎՃ	37
ՄԳՄ	5	ԼԻՓ	16	ԿՎՃ	12	ՄԼՈ	21	ՄՎՃ	37
ՄԼՈ	5	ԻՎԱ	15	ՄՎՃ	12	ՄՎՃ	20	ՄՎՃ	36
ԹՎՃ	4	ԼՄՈ	12	ՅՎՃ	12	ՄՎՃ	20	ՄԻՋ	30
ՄՎՃ	4	ՋՎՃ	12	ՄՎՃ	11	ՃՎՃ	17	ՄԼՈ	28
ՄՎՃ	4	ՄԻՋ	11	ՅՎՃ	11	ԷՄՄ	16	ՀՅԱ	27
ՄՎՃ	4	ՋԻՓ	11	ԻՎՃ	11	ՄՎՃ	16	ՋԻՓ	27
ԴԻՄ	4	ԼԻՄ	11	ՄՎՃ	11	ՃՎՃ	15	ԹՎՃ	24
ՄՎՃ	3	ԸՎՃ	11	ԴՎՃ	11	ՄՎՃ	13	ՄՎՃ	24
ՄՎՃ	2	ՋՎՃ	10	ՋՎՃ	10	ՄՎՃ	12	ԴՔՄ	21
ՄՎՃ	2	ՄՎՃ	10	ՕՎՃ	10	ԷՄՄ	11	ՄՎՃ	21
ՄՎՃ	2	ԼԻՓ	10	ՋՎՃ	10	ԷՄՄ	10	ՋՎՃ	20
ՄՎՃ	1	ՀՅԱ	10	ՋՎՃ	10	ԴՎՃ	10	ԼՄՈ	20
ՃՎՃ	1	ԾՎՃ	9	ՇՎՃ	10	ԷՄՄ	10	ԼՄՈ	20
ՄՎՃ	1	ԸՎՃ	7	ՎՎՃ	10	ԴՔՄ	10	ՄՈՒ	20
ՄՎՃ	1	ԽՎՃ	6	ԿՎՃ	10	ՀՅԱ	10	ՄԱԱ	20
ՄՎՃ	1	ՄՎՃ	6	ԼՎՃ	9	ՄՎՃ	10	ՋԻՓ	20
ԸՎՃ	1	ՄՎՃ	5	ՎՃ	8	ՄՎՃ	7	ԼԻՄ	20
		ԸՎՃ	5	ԼՎՃ	8	ՄՎՃ	7	ՃՎՃ	18
		ՀՅԱ	5	ԼՎՃ	7	ՄՎՃ	6	ՄՎՃ	17
		ՎՃ	3	ԸՎՃ	7	ՄՎՃ	6	ՄՎՃ	17
		ԼՎՃ	3	ՄՎՃ	6	ՄՎՃ	6	ԴՎՃ	17
		ԼՎՃ	3	ՄՎՃ	5	ԴՎՃ	6	ՃՎՃ	16
		ՄՈՒ	3	ՄՎՃ	5	ՄՎՃ	5	ԷՄՄ	16
		ՄՎՃ	3	ՄՎՃ	4	ԷՄՄ	4	ՋԻՎ	15
		ՄՎՃ	2	ԼԻՄ	4	ՄՎՃ	4	ԻՎՃ	15
		ՄՎՃ	2	ՄՎՃ	3	ՄՈՒ	1	ՋՎՃ	15
		ԷՄՄ	1	ԸՎՃ	3			ՀՅԱ	14
		ՅՎՃ	1	ԴԻՄ	3			ՎՎՃ	14



Solus		Initial		Medial		Final		Total	
Triplets	Freq								
						八〇〇	10		
						三〇〇	10		

**Statement 2.1: Frequency Distribution of Frequent Signs by Major Sites (min. 100 inscriptions)**  
**(minimum sign frequency =10)**

MD		HP		LL		KB	
Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq
U	766	U	472		73	U	44
	374	U	288	U	71		33
◊	216	E	239	◊	35	†	21
◊	205		175	◊	25		16
	165		162		20	◊	14
U	156		137	U	20	◊	12
X	147	◊	122	◊	17		9
■	144	X	103	U	17	E	9
◊	135	◊	90	Y	16	D	8
Y	134	A	84	X	15	O	8
Y	133	Y	79		15		7
▲	130	▲	74	▲	15		7
O	130	□	69	■	15	U	7
	120		58	†	14	D	7
	120		57		14	U	7
◊	109	▲	57	□	14	O	6
E	101	◊	54		13	A	6
U	101	U	54	◊	12	▲	6
	91	O	52	(   )	11	▲	6
	84		51	Y	11	X	5
X	79	■	45	▲	11		5
■	78	X	44	Y	11		5
□	78	Y	43	U	11	X	5
O	77	■	43	■	10	)	5
X	74	O	43	O	10	U	5
†	70	■	41	◊	8	A	5
U	69	X	41	◊	8		4
A	68	■	40	X	7	Y	4
O	68	U	39	†	7		4
X	67		37		7	■	4
	67	O	37	H	7	O	4
	62		36	□	7	◊	3
◊	60		36	■	6	X	3
A	58	D	35	*	5	A	3
	56	U	35	A	5	◊	3
)	55	A	35	X	5		3
X	54	*	28	X	5		3
■	52	J	28	)	5	■	3
A	51	)	24	A	5	W	3

MD		HP		LL		KB	
Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq
↑	51	↑	22	↑	4	↑	3
○	46	☰	22	○	4	□	3
⤠	44	X	22	⤠	4	♠	3
⤡	43	⤡	22	☰	4	“f	3
⤢	42	⤢	21	⤢	4	○	3
X	41	☰	21	○	4	⤠	2
⤠	41	⤠	20	⤠	4	⤠	2
⤠	40	⤠	20	⤠	3	//	2
☰	40	▲	20	⤠	3	☰	2
☰	40	⤠	20	⤠	3	☰	2
⤠	40	⤠	19	⤠	3	X	2
☰	39	⤠	19	⤠	3	☰	2
⤠	36	○	19	⤠	3	⤠	2
○	35	▲	18	⤠	3	⤠	2
X	34	▲	18	⤠	3	U	2
↑	34	⤠	18	☰	3	⤠	2
□	34	□	18	☰	3	⤠	2
⤠	33	⤠	18	☰	3	○	2
⤠	32	◊	18	↑	3	⤠	1
⤠	32	⤠	18	⤠	3	*	1
⤠	31	○	18	⤠	3	⤠	1
○	31	⤠	17	▲	3	⤠	1
⤠	30	▲	17	⤡	3	⤠	1
⤠	30	⤠	16	U	3	⤠	1
⤠	28	⤠	16	○	3	⤠	1
⤠	28	⤠	16	⤠	2	⤠	1
⤠	28	⤠	15	⤠	2	⤠	1
⤠	27	○	15	⤠	2	//	1
⤠	27	⤠	14	☰☰	2	//	1
☰	26	⤠	14	☰☰	2	☰☰	1
☰☰	25	⤠	14	⤠	2	⤠	1
⤠	25	⤠	12	▲	2	⤠	1
⤠	24	⤠	12	⤠	2	⤠	1
⤠	23	⤠	12	⤠	2	⤠	1
⤠	22	⤠	11	⤠	2	⤠	1
⤠	22	⤠	11	⤡	2	⤠	1
⤠	21	⤠	11	⤡⤡	2	▲	1
⤠	21	⤠	11	⤠	2	⤡⤡	1
◊	21	⤠	11	⤠	2	⤠	1
⤠	21	○	11	⤠	2	⤠	1
⤠	20	⤠	10	○	2	⤠	1
⤠	20	⤠	10	⤠	1	⤠	1

MD		HP		LL		KB	
Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq
○	20	—	9	×	1	)	1
◆	20	≡	9	≡	1	†	1
□	18	□	9	≡	1	×	1
(*)	17	≡	9	人	1	○	1
≡	17	≡	9	厂	1	≡	1
◇	17	△	8	×	1	○	1
○○	17		8	≡	1	○○	1
	16	≡	8	≠	1		
X	16	▲	8	≡	1		
↑	16	◆	8	≡	1		
≡	16	○○	8	≡	1		
×	16	♪	7	≡	1		
≡	15	≡	7	×	1		
△	15	X	7	×	1		
人	15	≡	7	×	1		
A	15	≡	7	≡	1		
≡	14		6	◆	1		
▲	14	↑	6	)	1		
≡	14	⊗	6	D	1		
×	13	◇	6	◆	1		
X	12	○	6	≡	1		
□	12	≡	5	≡	1		
◊	12	≡	5	≡	1		
≡	11	×	5	○	1		
≡	11	(	5	○	1		
⊗	11	≡	4	≡	1		
○	11	≡	4	○○	1		
≡	11	△	4	○○	1		
≡	10	≡	4	○○	1		
≡	10	≡	4				
○○	10	◆	4				
○○	9	○○	4				
≡	9	≡	3				
≡	9	≡	3				
⊗⊗	9	≡	3				
≡	9	≡	3				
≡	9	≡	3				
○○	9	≡	3				
○○	9	≡	3				
⊗⊗	8	≡	3				

MD		HP		LL		KB	
Sign	Freq	Sign	Freq	Sign	Freq	Sign	Freq
▲	8	□	3				
■	8	◇	3				
■	8	)	3				
◇	8	○	3				
(	8	†	3				
♠	8	⊗	3				
●	7	‡	2				
●	7	‡	2				
●	7	‡	2				
●	7	‡	2				
‡	6	×	2				
	6	▣	2				
▲	6	●	2				
■	6	▼	2				
◇	6	▷	2				
○	6	♠	2				
♪	5	□	2				
	5	‡	1				
▲	5	○	1				
▲	5	■	1				
■	5	▣	1				
‡	4	◇	1				
■	4	○	1				
▣	4	‡	1				
▢	4						
	3						
	3						
▷	1						

**Statement 2.2: Frequency Distribution of Frequent Pairs  
by Major Sites (min. 100 inscriptions)**  
(Minimum total frequency of pairs= 10)

MD		HP		LL		KB	
Pair	Freq	Pair	Freq	Pair	Freq	Pair	Freq
"◊	177	EU	150	"◊	33	"◊	8
	94	U	120	U△	12	△△	7
UU	65	U	77	△U	12	△U	7
U*	62	U△	61		11	EU	7
"⊗	52	U	54	U	11	"⊗	5
△U	51	"◊	54	△U	10	U△	4
	47	△△	33	UU	10	UOC	3
	46	UU	33	U(  )	9	MM	3
U△	42		28	U△	8	U△	3
△△	41	UY	27	"◊	8	U△	3
Y)	36	Y□	26		6	U△	2
Y△	35		25	U△	6	U△	2
△△	32	U*	23	UOC	5	△△	2
*△	32	MM	23	△△	5		2
△	29	U	23	Y)	5		2
UX	29	Y□	22	U*	4	△	2
U)	29	"⊗	21	U△	4	UX	2
UU	27	E△△	20		4	"⊗	2
Y△	26	△△	20	Y	4	OCMM	2
△	26	UY	20	YX	4	A◊	2
U)	26	OO'	18	YX	4	"A	2
EU	26	QA	18	"⊗	4	U*	1
Y□	25	U■	18	△△	3	Y△	1
Y△	24	△Q	18	U△	3	"△	1
YX	24	△△	17	△△	3	U△	1
	23	Y△	17	UY	3	△△	1
YQ	22	"Y	16	YX	3	△△	1
UOC	20		16	Y△	3	△△	1
U△	20	△U	16	Y△	3	△△	1
△	20	Y△	15	U)	3		1
U■	20	UOO	15	Y⊗	3	■	1
UY	18	U△	14	"A	3	U	1
YX	18	△△	14	Y△	2	△	1
O	18	YX	14	△△	2	Y	1
Y△	17	UM	14	△△	2	OO'	1
U)	17	A◊	14	△△	2	Y	1

MD		HP		LL		KB	
Pair	Freq	Pair	Freq	Pair	Freq	Pair	Freq
٢٦	17	٤٦	13	٣٦	2	٢٦	1
١٦	17	٥٦	13	٤٦	2	٣٦	1
٤٦	16	٣٦	13	٣٦	2	٥٦	1
٥٦	16	٦٥	12	٣٦	2	٤٦	1
٦٥	16	٢٦	12	٦٥	2	٣٦	1
٢٦	16	١٦	12	٦٥	2	٤٦	1
٦٥	16	٥٦	11	٦٥	2	٥٦	1
٣٦	15	٤٦	11	٣٦	2	٣٦	1
٤٦	15	٣٦	11	٣٦	2	٣٦	1
٣٦	15	٢٦	10	٣٦	2	٤٦	1
٢٦	15	٤٦	10	٣٦	1	٦٥	1
٣٦	15	٤٦	10	٣٦	1	٣٦	1
٤٦	15	٣٦	10	٣٦	1	٣٦	1
٣٦	15	٣٦	9	٣٦	1	٣٦	1
٣٦	15	٣٦	9	٣٦	1	٣٦	1
٣٦	14	٣٦	9	٣٦	1	٣٦	1
٣٦	14	٣٦	8	٣٦	1	٣٦	1
٣٦	14	٣٦	8	٣٦	1	٣٦	1
٣٦	13	٣٦	8	٣٦	1	٣٦	1
٣٦	13	٣٦	8	٣٦	1	٣٦	1
٣٦	12	٣٦	7	٣٦	1	٣٦	1
٣٦	12	٣٦	7	٣٦	1	٣٦	1
٣٦	12	٣٦	7	٣٦	1	٣٦	1
٣٦	12	٣٦	7	٣٦	1	٣٦	1
٣٦	12	٣٦	7	٣٦	1	٣٦	1
٣٦	12	٣٦	7	٣٦	1	٣٦	1
٣٦	12	٣٦	6	٣٦	1	٣٦	1
٣٦	12	٣٦	6	٣٦	1	٣٦	1
٣٦	12	٣٦	6	٣٦	1	٣٦	1
٣٦	12	٣٦	6	٣٦	1	٣٦	1
٣٦	11	٣٦	6	٣٦	1	٣٦	1
٣٦	11	٣٦	6	٣٦	1	٣٦	1
٣٦	11	٣٦	6	٣٦	1	٣٦	1
٣٦	11	٣٦	6	٣٦	1	٣٦	1
٣٦	11	٣٦	6	٣٦	1	٣٦	1
٣٦	11	٣٦	6	٣٦	1	٣٦	1
٣٦	10	٣٦	5	٣٦	1	٣٦	1



MD		HP		LL		KB	
Pair	Freq	Pair	Freq	Pair	Freq	Pair	Freq
七八	7	𠂔𠂔	3				
𠂔𠂔	7	𠂔𠂔	3				
𠂔	7	𠂔	3				
𠂔𠂔	7	𠂔𠂔	3				
𠂔𠂔	7	𠂔	2				
𠂔𠂔	7	𠂔𠂔	2				
𠂔	7	𠂔	2				
𠂔𠂔	6	𠂔𠂔	2				
"𠂔	6	𠂔𠂔	2				
𠂔𠂔	6	𠂔	2				
𠂔𠂔	6	𠂔	2				
𠂔𠂔	6	𠂔	2				
𠂔𠂔	6	𠂔	2				
𠂔𠂔	6	𠂔	2				
𠂔𠂔	6	𠂔	2				
𠂔𠂔	6	𠂔	2				
𠂔𠂔	6	𠂔	2				
𠂔𠂔	6	𠂔	2				
𠂔𠂔	6	𠂔	2				
𠂔𠂔	6	𠂔	2				
𠂔𠂔	5	𠂔	2				
𠂔𠂔	5	"𠂔	2				
𠂔𠂔	5	𠂔	2				
𠂔𠂔	5	𠂔	1				
𠂔𠂔	5	𠂔	1				
𠂔𠂔	5	𠂔	1				
𠂔𠂔	5	𠂔	1				
𠂔𠂔	5	𠂔	1				
𠂔𠂔	4	𠂔	1				
𠂔𠂔	4	𠂔	1				
𠂔𠂔	4	𠂔	1				
𠂔𠂔	4	𠂔	1				
𠂔𠂔	4	𠂔	1				
𠂔𠂔	4	𠂔	1				
𠂔𠂔	3	𠂔	1				
𠂔𠂔	3	𠂔	1				
𠂔𠂔	2	𠂔	1				
𠂔𠂔	2	𠂔	1				
"𠂔	2						
𠂔	2						
𠂔	2						
"𠂔	2						

MD		HP		LL		KB	
Pair	Freq	Pair	Freq	Pair	Freq	Pair	Freq
ΔΨ	2						
ιΓ	2						
ΤΩ	2						
ΑΥ	1						
ΙΓ	1						
ΩΥ	1						

**Statement 2.3: Frequency Distribution of Frequent Triplets by Major Sites  
(min. 100 inscriptions)**

(Minimum total frequency of triplets = 10)

MD		HP		LL		KB	
Triplets	Freq	Triplets	Freq	Triplets	Freq	Triplets	Freq
ဗုံး	31	ဧော	42	ါး	11	တုံး	2
ဤၢၢ	29	ပုံင်	26	ၢၢၢ	11	ပိၢၢ	2
ၢၢၢ	22	ပုံင်	19	ၢၢၢ	11	ပိၢၢ	2
ၢၢၢ	21	သူး	18	တုံး	8	ဝါၢၢၢ	2
ပုံင်	20	ပုံင်	17	ပုံင်	6	ပိၢၢၢ	2
ၢၢၢ	19	ၢၢၢ	16	ပုံင်	3	ဧော	1
ၢၢၢ	18	ၢၢၢ	15	ၢၢၢ	3	ၢၢၢ	1
ၢၢၢ	17	ၢၢၢ	15	ပုံင်	2	ၢၢၢ	1
ၢၢၢ	17	ပုံင်	14	ၢၢၢ	2	တုံး	1
ၢၢၢ	16	ဧော	13	ၢၢၢ	2	ပုံင်	1
ပုံင်	16	ၢၢၢ	13	ဧော	1	ဗုံး	1
ၢၢၢ	15	ၢၢၢ	12	ၢၢၢ	1	ၢၢၢ	1
ပုံင်	15	ၢၢၢ	11	ၢၢၢ	1	ၢၢၢ	1
ပုံင်	14	ဧော	11	ပုံင်	1	ၢၢၢ	1
ၢၢၢ	13	ၢၢၢ	11	ပုံင်	1	ၢၢၢ	1
ၢၢၢ	13	ၢၢၢ	11	ၢၢၢ	1	ပုံင်	1
ၢၢၢ	13	ၢၢၢ	11	ပုံင်	1	ၢၢၢ	1
ၢၢၢ	13	ၢၢၢ	11	ပုံင်	1	ၢၢၢ	1
ၢၢၢ	12	ၢၢၢ	11	ပုံင်	1		
ပုံင်	11	ၢၢၢ	10	ပုံင်	1		
ၢၢၢ	11	ၢၢၢ	10	ပုံင်	1		
ၢၢၢ	11	ၢၢၢ	9	ၢၢၢ	1		
ၢၢၢ	11	ဧော	9	ၢၢၢ	1		
ၢၢၢ	11	ပုံင်	9	ၢၢၢ	1		
ၢၢၢ	11	ၢၢၢ	8	ၢၢၢ	1		
ၢၢၢ	11	ၢၢၢ	8	ၢၢၢ	1		
ၢၢၢ	10	ၢၢၢ	7	ၢၢၢ	1		
ၢၢၢ	10	ဧော	6				
ၢၢၢ	10	ၢၢၢ	6				
ၢၢၢ	10	ၢၢၢ	5				
ၢၢၢ	10	ပုံင်	5				
ၢၢၢ	10	ၢၢၢ	5				
ၢၢၢ	9	တုံး	4				
သူး	9	ၢၢၢ	4				
ၢၢၢ	8	ၢၢၢ	4				

MD		HP		LL		KB	
Triplets	Freq	Triplets	Freq	Triplets	Freq	Triplets	Freq
	8		4				
	7		4				
	7		4				
	7		4				
	7		4				
	6		4				
	6		3				
	6		3				
	6		3				
	5		3				
	5		2				
	5		2				
	5		2				
	5		2				
	5		1				
	5		1				
	4		1				
	3		1				
	3		1				
	3		1				
	3						
	2						
	2						
	2						
	2						
	2						
	1						
	1						

**Statement 3.1: Frequency Distribution of Frequent Signs by Object Types**  
**(min. 100 inscriptions)**  
**(minimum total sign frequency =10)**

Seals		Sealings		Min. Tab		Cop. Tab		Pot. Graf	
Sign	Freq.	Sign	Freq.	Sign	Freq.	Sign	Freq.	Sign	Freq.
U	835	U	273	U	160	U	82	U	34
II	515	U	140	U	152	Y	60	A	14
Diamond	288	E	121	E	127	Grid	48	Y	13
A	244	II	115	III	80	Heart	34	III	12
II	188	II	76	II	68	III	29	II	9
X	168	III	75	X	48	U	27	III	6
Y	163	A	72	III	48	O	25	II	6
Y	162	X	72	A	34	Triangle	22	E	6
O	162	Box	57	Diamond	24	II	21	III	5
Up	155	Diamond	50	X	23	A	20	X	5
U	151	U	50	X	19	U	20	Grid	5
A	148	Y	47	Up	19	Heart	17	Diamond	5
U	134	Dot	42	Grid	18	A	16	U	5
A	133	Dot	42	U	17	I	16	X	4
III	124	Up	42	P	16	Heart	16	OC	4
Y	115	Grid	38	Stylized A	15	Dot	15	Dot	4
I	111	X	34	OO	15	)	15	I	4
Grid	109	Triangle	34	I	14	A	14	III	4
Y	103	Y	33	II	13	O	14	U	4
III	102	U	33	Stylized I	12	X	13	Stylized A	3
Box	97	O	32	Triangle	12	Dot	12	III	3
E	89	OC	31	Dot	12	Box	11	Y	3
OC	86	III	29	Stylized I	11	III	10	Up	3
Dot	84	Stylized A	27	Box	11	Grid	10	Y	3
Stylized A	80	*	26	Diamond	11	III	9	X	3
O	80	Y	26	Dot	9	)	9	Box	3
Triangle	79	Stylized I	25	Stylized II	9	X	8	Y	3
Dot	76	A	24	Box	9	Up	8	O	3
O	75	Box	23	III	8	*	7	Dot	2
U	74	OO	22	Stylized I	8	OC	7	Stylized A	2
A	73	Y	21	Stylized I	8	III	7	Dot	2

Seals		Sealings		Min. Tab		Cop. Tab		Pot. Graf	
Sign	Freq.	Sign	Freq.	Sign	Freq.	Sign	Freq.	Sign	Freq.
I	71	ʃ	21	U	8	H	7	†	2
X	69	X	21	ʃ	7	♣	6	N	2
W	67	III	20	田	7	U	6	I	2
K	64	U	20	リ	6	A	5	◎	2
W	62	D	19	X	6	-	5	A	2
I	62	O	19	ㅂ	6	₩	5	A	2
I	62	I	18	)	6	I	4	I	2
A	59	△	17	◐	6	(◐)	4	I	2
ㅂ	56	)	17	◐◐	6	◐	4	II	2
人	54	▲	16	❖	5	X	3	人	2
田	54	田	16	II	5	◊	3	△	2
)	51	◑	16	₩	5	❖	3	▲	2
X	48	-	15	M	5	U	3	X	2
□	48	▲▲	15	♣	5	II	2	₩	2
OO	48	III	13	U	5	ʃ	2	↑	2
III	47	田	13	↑	4	↑	2	◊	2
X	47	(◐)	12	↑	4	□	2	◊	2
半	43	X	12	II/	4	U	2	◊	2
桔	42	X	12	III	4	A	2	)	2
III	42	▲	12	□	4	III	1	U	2
ㄍ	42	M	12	❖	3	III	1	O	2
MM	42	◐	12	人	3	リ	1	OO	2
▲	41	H	12	◐	3	₩	1	†	1
◐	41	O	12	*	2	)	1	桔	1
I	38	A	12	N	2			↑	1
H	38	↑	11	❖	2			(◐)	1
III	36	I	11	❖	2			❖	1
↑	36	A	11	III	2			III	1
❖	34	X	11	II	2			III	1
ʃ	33	*	10	III	2			I	1
)	33	(◐)	10	III	2			X	1
U	33	M	10	III	2			X	1
†	32	M	10	X	2			↑	1

Seals		Sealings		Min. Tab		Cop. Tab		Pot. Graf	
Sign	Freq.	Sign	Freq.	Sign	Freq.	Sign	Freq.	Sign	Freq.
ꝝ	31	ꝝ	9	ꝝ	2			ꝝ	1
ꝝ	30	ꝝ	9	ꝝ	2			ꝝ	1
ꝝ	30	)	9	ꝝ	2			ꝝ	1
ꝝ	28	ꝝ	8	ꝝ	2			ꝝ	1
ꝝ	27	ꝝ	8	ꝝ	2			ꝝ	1
ꝝ	27	ꝝ	8	ꝝ	2			ꝝ	1
ꝝ	26	ꝝ	8	ꝝ	2			ꝝ	1
ꝝ	26	ꝝ	8	ꝝ	2			ꝝ	1
ꝝ	25	ꝝ	7	ꝝ	2			ꝝ	1
ꝝ	25	ꝝ	7	ꝝ	2			ꝝ	1
ꝝ	25	ꝝ	7	ꝝ	2			ꝝ	1
ꝝ	25	ꝝ	7	ꝝ	2			ꝝ	1
ꝝ	25	ꝝ	7	ꝝ	2			ꝝ	1
ꝝ	25	ꝝ	7	ꝝ	2			ꝝ	1
ꝝ	25	ꝝ	7	ꝝ	2			ꝝ	1
ꝝ	22	ꝝ	7	ꝝ	1			ꝝ	1
ꝝ	22	ꝝ	7	ꝝ	1			ꝝ	1
ꝝ	22	D	7	ꝝ	1			ꝝ	1
ꝝ	21	ꝝ	7	ꝝ	1			ꝝ	1
ꝝ	21	ꝝ	6	ꝝ	1			ꝝ	1
ꝝ	20	ꝝ	6	ꝝ	1			ꝝ	1
ꝝ	19	(ꝝ)	6	(ꝝ)	1			ꝝ	1
ꝝ	19	ꝝ	6	(ꝝ)	1				
(ꝝ)	17	ꝝ	6	ꝝ	1				
ꝝ	17	ꝝ	5	ꝝ	1				
ꝝ	17	ꝝ	5	ꝝ	1				
ꝝ	16	ꝝ	5	ꝝ	1				
ꝝ	16	ꝝ	5	ꝝ	1				
ꝝ	16	ꝝ	4	ꝝ	1				
ꝝ	16	ꝝ	4	D	1				
ꝝ	15	ꝝ	4	ꝝ	1				
ꝝ	15	ꝝ	4	ꝝ	1				
ꝝ	14	ꝝ	4						

Seals		Sealings		Min. Tab		Cop. Tab		Pot. Graf	
Sign	Freq.	Sign	Freq.	Sign	Freq.	Sign	Freq.	Sign	Freq.
Ⓐ	14	Ⓑ	4						
Ⓑ	13	Ⓐ	4						
Ⓛ	13	Ⓜ	4						
Ⓜ	13	Ⓛ	4						
Ⓝ	13	Ⓓ	4						
Ⓓ	13	Ⓝ	3						
Ⓣ	13	Ⓐ	3						
☰	12	Ⓛ	3						
☱	12	Ⓜ	3						
☲	11	☰	3						
☱	11	☲	3						
☴	11	☱	3						
☵	11	☲	3						
☲	10	Ⓐ	3						
☱/	10	Ⓛ	3						
☲/	10	Ⓜ	3						
☵/	10	☰	2						
☴/	10	☱	2						
☲/☱	10	☲	2						
☱/☲	9	☱	2						
☲/☱	9	☲	2						
☵/☲	9	☵	2						
☴/☲	9	☴	2						
Ⓓ	9	Ⓐ	1						
Ⓐ	8	☱/	1						
☱	8	☱/	1						
☲	8	━	1						
☵	8	━	1						
☴	8	━	1						
☵/☲	8	☴/☱	1						

Seals		Sealings		Min. Tab		Cop. Tab		Pot. Graf	
Sign	Freq.	Sign	Freq.	Sign	Freq.	Sign	Freq.	Sign	Freq.
X	8	L	1						
A	8	H	1						
E	8	X	1						
K	7	A	1						
△	7	O	1						
■	7								
◆	7								
	6								
X	6								
△	6								
▲	6								
XX	6								
L	6								
O	6								
≡	5								
(H)	4								
◊	4								
D	3								
	2								
~	2								
H	1								

**Statement 3.2: Frequency Distribution of Frequent Pairs  
by Object Types (min. 100 inscriptions)**  
(Minimum total frequency of pairs = 10)

Seals		Sealings		Min. Tab.		Cop. Tab.		Pot. Graf.	
Pair	Freq.	Pair	Freq.	Pair	Freq.	Pair	Freq.	Pair	Freq.
"◊	234	EU	71	EU	90	IIIU	27	"◊	5
IIIU	86	UIII	57	UIII	63	UA	22	UN	4
UU	71	"◊	44	UIII	45	UW	20	EU	4
"⊗	71	UII	40	UN	43	UU	20	AI	3
UX	61	AU	24	UII	38	YI	17	UX	2
AI	58	UX	22	UU	16	AO	17	UIII	2
AU	56	UY	22	WY	15	YI	15	UW	2
IY	46	JI	21	UII	14	WI	12	YI	1
AY	43	YI	21	OII	12	WI	12	UW	1
AI	40	UN	19	AI	11	OO	11	WY	1
UN	38	UA	19	IIW	11	UJ	11	AI	1
AI	38	AY	19	UW	11	AO	11	YIII	1
WU	38	UU	19	EII	10	OO	11	YI	1
YI	36	YI	18	UW	10	UW	10	AI	1
WY	33	AI	16	AY	9	WII	10	UX	1
IY	32	WU	16	UJ	9	WY	10	UX	1
UX	29	"Y	15	JI	7	OY	10	IY	1
JI	28	YA	15	A◊	7	YI	10	AI	1
UX	28	UY	14	UX	5	I	10	UY	1
UY	26	UA	14	WY	5	OO	10	WY	1
*A	25	OU	13	U◊	5	OII	9	WY	1
YI	23	*A	13	YIII	4	UJ	9	UA	1
UY	22	WY	13	UM	4	AI	8	IW	1
WY	22	EII	12	"◊	4	UN	8	WU	1
UJ	22	UIII	12	AU	4	YI	8	UJ	1
IW	21	IIIU	12	IIW	4	UN	7	IY	1
A◊	21	OY	12	UJ	3	WII	7	UJ	1
UJ	21	WY	11	AI	3	WY	6	AU	1
WY	20	AI	11	WU	3	WY	6	IW	1
UJ	20	III	11	UW	2	UJ	6	UJ	1
UN	20	UW	11	UJ	2	N	5	OO	1
UJ	20	IU	11	"◊	2	*A	4	"⊗	1
IY	20	TQ	11	OII	2	UW	4	IIW	1
IIW	19	"⊗	11	OII	2	A	4	IIIW	1

Seals		Sealings		Min. Tab.		Cop. Tab.		Pot. Graf.	
Pair	Freq.	Pair	Freq.	Pair	Freq.	Pair	Freq.	Pair	Freq.
¶	18	¶¶	10	¶)	2	¶	3		
"¶	18	¶¶	10	¶¶	2	¶¶	3		
¶¶	18	¶¶	10	¶¶	2	¶¶	3		
¶¶	17	¶¶	10	¶¶	2	¶¶	3		
¶¶	17	¶¶	10	¶¶	2	¶¶	2		
¶¶	17	¶¶	10	¶¶	1	¶¶	2		
¶¶	17	¶¶	10	¶¶	1	¶¶	2		
¶¶	17	¶¶	10	¶¶	1	¶¶	2		
¶¶	17	¶¶	10	¶¶	1	¶¶	2		
¶¶	16	¶¶	9	¶¶	1	¶¶	2		
¶¶	16	¶¶	9	¶¶	1	¶¶	2		
¶¶	15	¶¶	9	¶¶	1	¶¶	2		
¶¶	15	¶¶	9	¶¶	1	¶¶	2		
¶¶	15	¶¶	8	¶¶	1	¶¶	2		
¶¶	14	¶¶	8	¶¶	1	¶¶	1		
¶¶	14	¶¶	7	¶¶	1	¶¶	1		
¶¶	14	¶¶	7	¶¶	1				
¶¶	14	¶¶	7	¶¶	1				
¶¶	14	¶¶	7	¶¶	1				
¶¶	13	¶¶¶	7	¶¶	1				
¶¶	13	¶¶¶	7	¶¶	1				
¶¶	13	¶¶¶	7	¶¶	1				
¶¶	13	¶¶¶	7	¶¶	1				
¶¶	13	¶¶¶	7	¶¶	1				
¶¶	13	¶¶¶	6	¶¶	1				
¶¶	13	¶¶	6	¶¶	1				
¶¶	13	¶¶	6	¶¶	1				
¶¶	12	¶¶	6	¶¶	1				
¶¶	12	¶¶	6	¶¶	1				
¶¶	12	¶¶	6	¶¶	1				
¶¶	12	¶¶	6	¶¶	1				
¶¶	12	¶¶	5	¶¶	1				
¶¶	12	¶¶	5	¶¶	1				
¶¶	12	¶¶	5	¶¶	1				
¶¶	12	¶¶	5	¶¶	1				
¶¶	12	¶¶	4	¶¶	1				
¶¶	12	¶¶	4	¶¶	1				
¶¶	12	¶¶	4	¶¶	1				
¶¶	11	¶¶	4						
¶¶	11	¶¶	4						
¶¶	11	¶¶	4						

Seals		Sealings		Min. Tab.		Cop. Tab.		Pot. Graf.	
Pair	Freq.	Pair	Freq.	Pair	Freq.	Pair	Freq.	Pair	Freq.
፩፪	11	፩፩	4						
፩፭	11	፩፪	4						
፩፪	11	፩፩	4						
፩፭	11	፩፩	4						
፩፭	11	፩፩	4						
፩፩	11	፩፩	4						
፩፩	10	፩፩	4						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	10	፩፩	3						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	9	፩፩	2						
፩፩	8	፩፩	2						
፩፩	8	፩፩	2						
፩፩	8	፩፩	2						
፩፩	8	፩፩	2						

Seals		Sealings		Min. Tab.		Cop. Tab.		Pot. Graf.	
Pair	Freq.	Pair	Freq.	Pair	Freq.	Pair	Freq.	Pair	Freq.
)Ⅲ	8	𠂔	1						
𢃥	8	𠂔	1						
↑↑	8	田	1						
𠂔	8	*	1						
田	8	𠂔	1						
𠂔	8	𠂔	1						
𠂔	8	𠂔	1						
𠂔	8	𠂔	1						
𠂔	7	♦	1						
𠂔	7	𠂔	1						
𠂔	7	)Ⅲ	1						
古	7	𠂔	1						
𠂔	7	𢃥	1						
𠂔	7	𠂔	1						
𠂔	7	𠂔	1						
𠂔	6	𠂔	1						
𠂔	6	𠂔	1						
𠂔	5	𠂔	1						
𠂔	5	𠂔	1						
𠂔	5	)○	1						
)○	5	𠂔	1						
𠂔	5	𠂔	1						
𠂔	5								
𠂔	4								
𠂔	4								
𠂔	4								
𠂔	4								
𠂔	4								
𠂔	3								
𠂔	3								
𠂔	3								
𠂔	3								
𠂔	3								
𠂔	3								
𠂔	3								
𠂔	2								
𠂔	2								
𠂔	2								
𠂔	2								

Seals		Sealings		Min. Tab.		Cop. Tab.		Pot. Graf.	
Pair	Freq.	Pair	Freq.	Pair	Freq.	Pair	Freq.	Pair	Freq.
UΔ	2								
ΔU	2								
Uf	2								
AX	1								
ΘΙΙΙ	1								
	1								
ss	1								
YH	1								
XX	1								

**Statement 3.3: Frequency Distribution of Frequent Triplets by Object Types  
(min.100 inscriptions)**

(Minimum total frequency of triplets = 10)

Seals		Sealings		Min. Tab.		Cop. Tab.		Pot. Grafi.	
Triplets	Freq	Triplets	Freq	Triplets	Freq	Triplets	Freq	Triplets	Freq
↑☰☰	40	☷☰	21	☱☱☱	38	☷☷☷	20	☷☰	1
☷☷	24	☰☷☰	15	☱☱☱	12	☷☷☰	19	☰☰☰	1
☷☰☰	24	☰☷☰	15	☱☱☱	11	☷☷☰	17	☷☷	1
☷☰☰	23	☷☰☰	15	☷☷☰	11	☷☷☷	12		
☰☷☰	20	☷☷	13	☷☷☷	10	☷☷☷	11		
☷☷	20	☷☷	11	☷☷☷	9	☷☷☷	11		
☰☰☰	20	☷☷☷	11	☷☷☷	9	☷☷☷	10		
☰☰☰	19	☷☷☷	11	☷☷☷	9	☷☷☷	10		
☰☰☰	17	☷☷☷	11	☷☷☷	3	☷☷☷	10		
☷☷☷	17	☷☷☷	11	☷☷☷	1	☷☷	10		
☷☷☷	16	☷☷☷	11	☷☷☷	1	☷☷	10		
☷☷☷	16	☷☷☷	10	☷☷☷	1	☷☷	10		
☷☷☷	13	☷☷☷	10	☷☷☷	1	☷☷	10		
☷☷☷	13	☷☷☷	10	☷☷☷	1	☷☷☷	10		
☷☷☷	11	☷☷☷	10	☷☷☷	1	☷☷☷	9		
☷☷☷	11	☷☷☷	10	☷☷☷	1	☷☷☷	9		
☷☷☷	11	☷☷☷	10	☷☷☷	1	☷☷☷	5		
☷☷☷	11	☷☷☷	9			☷☷☷	4		
☷☷☷	10	☷☷☷	9			☷☷☷	2		
☷☷☷	10	☷☷☷	8			☷☷☷	2		
☷☷☷	10	☷☷☷	8			☷☷☷	2		
☷☷☷	10	☷☷☷	8			☷☷☷	1		
☷☷☷	9	☷☷☷	7						
☷☷☷	8	☷☷☷	7						
☷☷☷	8	☷☷☷	6						
☷☷☷	8	☷☷☷	6						
☷☷☷	8	☷☷☷	5						
☷☷☷	7	☷☷☷	5						
☷☷☷	6	☷☷☷	4						
☷☷☷	6	☷☷☷	4						
☷☷☷	6	☷☷☷	4						
☷☷☷	5	☷☷☷	4						
☷☷☷	5	☷☷☷	3						

Seals		Sealings		Min. Tab.		Cop. Tab.		Pot. Grafi.	
Triplets	Freq	Triplets	Freq	Triplets	Freq	Triplets	Freq	Triplets	Freq
ሀዕዑዕ	5	ተዕዑዕ	3						
ሁዕዑ	5	ሆዕዑዕ	2						
ሁዕርዕ	4	ሁዕር	2						
ሁዕቁ	4	ሁዕቁ	2						
ሁዕቃ	4	ሁዕቃ	2						
ሁዕቂ	3	ሁዕቂ	1						
ሁዕቈ	3	ሁዕቈ	1						
ሁዕቊ	3	ሁዕቊ	1						
ሁዕቋ	2	ሁዕቋ	1						
ሁዕቌ	2	ሁዕቌ	1						
ሁዕቍ	2	ሁዕቍ	1						
ሁዕ቎	1	ሁዕ቎	1						
ሁዕ቏	1	ሁዕ቏	1						
ሁዕቐ	1	ሁዕቐ	1						

**Statement 4.1: Frequency Distribution of Frequent Signs by Field Symbols (min. frequency of FS = 10)**  
**(minimum total sign frequency = 10)**

FS	Sig n	Frq														
01	U	550	II	385	◊	212	Q	169	X	135		129	W	119	↑	119
	I	109	U'	105	O	104	U	101	A	97	#	83	Q	81	I	77
	III	75	A	71	Y	67	+	66	III	65	T	65	X	59	Y	59
	E	55	A	51	N	49	X	47	XX	45	I	44	U	43	XX	42
	+	41	X	37	I	37		36	W	36	)	35	I	34	X	34
	A	33	A	33	W	32	O	32	X	30	M	30	U	30	III	29
	+	29	R	29	III	28	P	27	?	27	J	26	↑	26	O	25
	A	24	Y	24	X	23	I	21	U	21	A	20	III	19	XX	19
	I	18	F	18	U	18	)	17	)	17	X	16	A	16	H	16
	U	16	O	16	U	15	(O)	14	III	14	A	14	H	14	II	13
	Y	13	A	13	W	13	H	12	X	12	O	12	U	11	U	11
	U'	11	O	11	K	10	I	10	W	10	↑	10	D	10	AI	9
	W	9	U	9	X	9	◊	9	?	9	X	9	M	8	XX	8
	X	8	Y	8	O	8	O	8	X	7	A	7	O	7	Y	7
	II/	7		7	I	7	III	7	X	7	◊	7	X	7	♠	7
	O	7	N	6	A	6	X	6	I	6	U	6	II	5	A	5
	X	5	XX	5	I	5	U	5	♠	5	X	4	O	4	A	3
	A	3	III	3	A	3	+	3	+	3	M	3	XX	3	◊	3
	Y	3	III	2	A	2	?	2	?	1	H	1	X	1		
03	U	23	II	18	◊	9	W	8	↑	8	O	8	A	6	II	6
	I	5	I	5	U	5	A	4	A	4	Y	4	U	4	A	3
	W	3	I	3	III	3	A	3	X	3	I	3	◊	3	Y	3
	*	2	W	2	A	2	H	2	XX	2	Y	2	W	2	III	2
	III	2	↑	2	+	2	A	2	X	2	#	2	U	2	◊	2
	D	2	U	2	A	2	O	2	X	1	A	1	A	1	A	1
	A	1	I	1	II	1	I	1	A	1	+	1	E	1	+	1
	R	1	H	1	H	1	M	1	X	1	XX	1	XX	1	X	1
	M	1	W	1	I	1	)	1	)	1	Y	1	♠	1	XX	1
	U	1	U	1	O	1										

FS	Sig n	Frq	Sig n	Frq	Sig n	Frq	Sig n	Frq	Sig n	Frq	Sig n	Frq	Sig n	Frq	Sig n	Frq
04	U	43		26	Q	17	A	16	Q	13	A	12	U	11	X	10
	X	10	Diamond	10		9	E	9	W	9	I	8	Grid	8	Left	8
	O	8	Star	7	U	7	A	6	III	6	III	6	X	6	III	5
	I	5	Up	5	W	5	E	5	Box	5	W	4	Cross	4	III	4
	III	4	Curve	4	Triangle	4	Diamond	4	Circle	4	Zero-Zero	4	Dot	3	Star	3
	K	3		3	III	3	III	3	R	3	T	3	Y	3	Wavy	3
	Box	3	Down	3	O	3	U	3	A	3	Dot	2	X	2	Star	2
	III	2	A	2	Triangle	2	Up	2	Text	2	A	2	H	2	Triangle	2
	Box	2	Wavy	2	Grid	2	Diamond	2	Down	2	G	2	P	2	Club	2
	U	2	U	2	O	2	A	1	A	1	A	1	N	1	Heart	1
	I	1		1	Up	1	X	1	X	1	III	1	M	1	B	1
	XX	1	X	1	X	1	A	1	X	1	W	1	O	1	Circle	1
	O	1	Diamond	1	Down	1	Circle	1								
06	U	9		5		4	Diamond	4	Dot	2	Cross	2	Star	2	(Diamond)	2
	III	2	Down	2	Grid	2	Grid	2	A	1	X	1	Star	1	Text	1
	X	1	Up	1	X	1	A	1	III	1	I	1	II	1	III	1
	Curve	1	Up	1	X	1	X	1	X	1	III	1	Triangle	1	A	1
	Diamond	1	Down	1	X	1	Dot	1	Circle	1						
07	U	29		24	Diamond	21	III	10	(III)	10	U	10	Up	9	Q	6
	Down	6		4	X	3	A	3		3	I	3	III	3	U	3
	A	3	Dot	2	X	2	A	2	A	2	R	2	T	2	X	2
	Up	2	Y	2	Text	2	E	2	Box	2	G	2	P	2	U	2
	U	2	O	2	O	2	Circle	2	Dot	1	A	1	W	1	(Diamond)	1
	II	1		1	III	1	II	1	III	1	A	1	Curve	1	Up	1
	X	1	X	1	Text	1	W	1	X	1	III	1	Dot	1	Left	1
	XX	1	Diamond	1	Down	1	Down	1	G	1	W	1	U	1	U	1
	O	1														
09	U	10	A	4	X	4	W	3	A	3		3	E	3	III	2
	I	2	Curve	2	Up	2	Grid	2	Left	2	Diamond	2	O	2	U	2
	Dot	1	X	1	A	1	A	1	OC	1	A	1	X	1	II	1
	III	1	Down	1	A	1	A	1	T	1	X	1	Y	1	Y	1

FS	Sig n	Frq														
	□	1	☒	1	☒~	1	☰	1	☒	1	☰	1	☰	1	☰	1
	ᵁ	1	∅	1	∅	1	∅	1								
11	ᵁ	18	∅	8	☰	7	ᵁ	7	∅	6	∅	6	∅	6	☰	5
	☰	5	☰	5	□	5	∅	4	∅	4	∅	4	☰	3	☰	3
	↑	3	◊	3	☰☰☰	2	↑	2	↑	2	↑	2	☰	2	☰	2
	☰☰	2	☰	2	□	2	ᵁ	2	∅∅	2	∅∅	2	☰	1	∅∅	1
	∅∅	1	∅	1	∅	1	∅	1	∅	1	∅	1	☰☰	1	☰☰	1
	☰	1	☰	1	▲	1	☒	1	☒	1	☰	1	☰	1	☒	1
	ᵁ	1	ᵁ	1	ᵁ	1	∅	1	∅	1	∅	1				
13	ᵁ	18	∅	9	∅	7	∅	7	☰	6	☰	6	↑	6	☰	5
	☰☰	5	☰☰	5	☰☰	5	▲	5	∅	4	∅	4	☰	4	☰	4
	♠	4	○	4	∅	3	∅	3	∅	2	∅	2	☰☰	2	☰☰☰	2
	☰	2	☰	2	♠	2	ᵁ	2	∅	2	∅∅	2	∅∅	1	∅∅	1
	∅	1	∅	1	☰☰	1	∅	1	☰	1	∅	1	∅	1	☰☰	1
	☒	1	☒	1	□	1	◊	1	◊	1	◊	1	◊	1	☒	1
	ᵁ	1	ᵁ	1	∅	1	∅	1								
14	☰	20	ᵁ	20	▲	19	ᵁ	19	∅∅	3	∅	3	Ⓐ	3	☰	3
	♠	3	∅	3	☰	1	ᵁ	1	◊	1						
16	☰	19	☰☰	10	ᵁ	10	∅	10	∅	9	☰☰	9				
25	ᵁ	10	ᵁ	7	∅	6	☰	4	☰	4	◊	4	♠	3	☰	2
	☰☰☰	2	☰	2	↑	2	∅	2	∅	2	∅	1	∅∅	1	∅	1
	∅	1	∅	1	☰	1	☰	1	☰☰	1	☒	1	□	1	ᵁ	1
	ᵁ	1	Ⓐ	1	∅∅	1										
36	ᵁ	38	∅	17	☰	17	☰	14	☰	12	☰	11	ᵁ	11	∅	11
	☰	10	☰	10	☒	10	□	10	☰	9	Ⓐ	8	☰	8	☰	5
	∅	5	◊	3	☰☰	3	☰	3	ᵁ	3	∅	2	☰	2	☰	2
	☰☰	2	☰	2	☰☰	2	▲	2	◊	2	∅	2	ᵁ	2	∅	2
	∅∅	2	∅∅	2	☰	1	∅∅	1	∅	1	∅	1	∅∅	1	∅∅	1
	☰☰☰	1	☰☰	1	☰	1	▢	1	☰☰	1	▢	1	▢	1	▢	1

FS	Sig n	Frq															
	♠	1			1												
37	U	4		3	U	3	X	2	A	2	III	2	X	2	E	2	
	↑	2	◊	2	A	2	O	2	▲	1	Q	1	III	1	II	1	
	III	1	J	1	I	1	X	1	A	1	■	1					
44	U	13	E	12	U	11	A	7	III	7	¶	7	□	7	A	6	
	Q	6	M	5	X	4	A	4	II	3	Q	3	III	3	III	3	
	X	3	*	3	A	2	I	2	¶	2	■	2	II	2	)	2	
	D	2	A	1	X	1	A	1	I	1		1	II	1	III	1	
	J	1	A	1	↑	1	¶	1	A	1	↑	1	◊	1	)	1	
	)	1	Q	1	U	1	Q	1	O	1							
83	U	33	U	28	E	23	A	15	III	15		12	¶	10	Q	7	
	¶	7	D	7	X	5	■	5	◊	5	III	4	≡	4	↑	4	
	I	3	J	3	U	3	U	3	X	2	A	2	II	2	III	2	
	M	2	X	2	A	2	■	2	□	2	U	2	Q	2	O-O	2	
	*	1	O	1	O	1	N	1	A	1	X	1	A	1	B	1	
	(Q)	1	III	1	A	1	J	1	X	1	X	1	¶	1	XX	1	
	≡	1	◊	1	)	1	Q	1	X	1	≡	1	Q	1			
85	U	8	U	8	E	6	A	5	U	5	X	4	◊	4	)	4	
	U	4	O	3		3	II	3	X	2	A	2	N	2	A	2	
	III	2	A	1	Q	1	A	1	III	1	↑	1	↑	1	□	1	
	)	1	Q	1	U	1	Q	1									
91	U	8		7	E	5	U	4	III	2	↑	2	M	2	A	1	
	X	1	X	1	III	1	III	1	I	1	II	1	↑	1	O	1	
	O-O	1															

**Statement 4.2: Frequency Distribution of Frequent Pairs by  
Field Symbols (min. frequency of FS = 10)  
(minimum total frequency of pairs = 10)**

FS	Pairs	Freq										
<b>01</b>	"◊	175	ψ	53	†ψ	48	ψψ	42	"⊗	42	⊗	40
	ψ*	34	)	34	ψ‡	33	ψψ	31	↑	29	ψ□	28
	ψ⊗	27	⊗‡	24	ψ↓	23	↑⊗	23	ψψ	21	⊗⊗	20
	↑⊗	19	↓⊗	19	"ψ	18	ψ‡	17	ψψ	16	⊗◊	16
	ψ	15	⊗	15	ψΔ	15	ψ)	15	ψΔ	14	ψ⊗	14
	ψψ	14	⊗⊗	14	↑⊗	13	⊗⊗	13	*‡	13	"⊗	13
	ψ)	13	ψ)	13	ψ	12	↑↑	12	ψψ	12	⊗⊗	12
	ψ⊗	12	ψ□	12	"Δ	12	○○	12	⊗⊗	11	ψ⊗	11
	ψ	11	ψΔ	11	ψψ	11	⊗⊗	10	ψψ	10	ψ	10
	ψ	10	ψψ	10	ψ⊗	10	"⊗	9	ψ	9	ψ	9
	ψψ	9	ψ⊗	9	ψ⊗	9	'⊗	9	⊗⊗	8	ψψ	8
	ψ⊗	8	ψ⊗	8	ψ	8	ψΔ	8	"⊗	8	ψΔ	8
	ψψ	8	ψψ	8	ψψ	8	Δψ	8	ψψ	8	⊗⊗	8
	ψ○○	8	ψ⊗	7	ψψ	7	ψ	7	ψ	7	ψ	7
	ψ	7	ψψψψ	7	ψψ	7	ψ	7	ψψ	7	ψψψψ	6
	ψ⊗	6	ψ⊗	6	ψψ	6	ψ⊗	6	*⊗	6	ψψ	6
	"	6	ψψ	6	ψψ	6	ψ	6	ψ	6	ψψ	6
	ψ	6	ψψ	6								
	ψψ	6	ψψψψ	6	ψψ	5	⊗⊗	5	⊗⊗	5	◊	5
	ψ	5	ψψ	5	ψψ	5	ψψ	5	ψψ	4	ψψ	4
	↑↑	4	ψΔ	4	ψψ	4	"◊	4	ψ○	4	⊗⊗	4
	*‡	3	ψ⊗	3	ψ⊗	3	ψ⊗	3	ψ	3	ψψψψ	3
	⊗Δ	3	ψΔ	3	ψ↑	3	'ψ	3	ψ○	3	ψψψψ	3
	ψ○○	3	ψψ	2	ψψ	2	↑⊗	2	ψ⊗	2	ψψ	2
	ψ◊	2	⊗⊗	2	ψψ	2	ψ	1	ψ	1	ψψψψ	1
	ψψ	1	ψψψψ	1								
<b>03</b>	"◊	8	"⊗	4	↑⊗	3	)	3	†ψ	3	ψ‡	2
	ψ□	2	ψψψψ	2	ψ*	1	ψ‡	1	ψ⊗	1	↑⊗	1
	ψψ	1	⊗⊗	1	↑⊗	1	ψψ	1	"	1	◊	1
	ψ	1	ψψ	1	↑↑	1	ψψ	1	*‡	1	ψψ	1
	ψ⊗	1	ψψ	1	⊗◊	1	ψ)	1	ψ)	1	ψψ	1
	ψψ	1	ψψ	1	"⊗	1						
<b>04</b>	ψ*	9	"◊	9	*‡	6	†ψ	5	ψ↓	4	↑⊗	4
	⊗⊗	4	ψ	4	ψψψψ	4	⊗⊗	3	↑	3	ψ⊗	3

FS	Pairs	Freq										
	█ █	3	UU	3	◎ ◎	3	♂ ♂	2	UX	2	U	2
	███	2	QIII	2	QII	2	UA	2	U█	2	ΔU	2
	EU	2	"⊗	2	00	2	*♂	1	TX	1	XX	1
	"Q	1	UQ	1	QX	1	U█	1	*XX	1	QQ	1
	↑X	1	UX	1	QX	1	↑X	1	UQ	1	Q	1
	□	1	U	1	-	1	Y	1	) 00	1	□	1
	U	1	UX	1	IX	1	↑↑	1	Q	1	⊗	1
	W	1	"⊗	1	U	1	■A	1	WA	1	UΔ	1
	E↑	1	UX	1	CMM	1	U█	1	Y	1	"♦	1
	U)	1	U)	1	U)	1	↑	1	UQ	1	"A	1
	Y00	1										
06	"◊	3	U█	2	U♂	1	J	1	UOC	1	███	1
	███	1	) 00	1	UX	1	IX	1	■A	1	U█	1
	U◊	1	U)	1								
07	"◊	19	UGD	9	U	9	) 00	6	U)	6	QQ	3
	↑X	2	IX	2	↑↑	2	U	2	Y*	1	J	1
	U	1	UQ	1	AXX	1	↑X	1	UQ	1	Q	1
	◊	1	U	1	↑	1	QII	1	○ 00	1	Y	1
	UΔ	1	UX	1	Q	1	UX	1	UWM	1	W	1
	A◊	1	U)	1	U	1	00	1	UOO	1		
09	♂U	4	U♂	2	J	2	U█	2	"◊	2	U	2
	Y*	1	UOC	1	XX	1	Q	1	Q	1	Y	1
	IX	1	UE	1	UX	1	U)	1	U)	1	Y	1
11	U	7	Q	6	UQY	4	Y	3	"⊗	3	█	2
	UQ	2	U	2	↑	2	U	2	███	2	W	2
	A◊	2	U	2	00	2	00	2	WQ	1	↑X	1
	△	1	U	1	UE	1	U	1	■A	1	UX	1
	U█	1	Y	1	"◊	1	♂U	1	EU	1	U	1
	Y	1	Y	1								
13	Q	7	♂U	5	Y	5		5	△	5	U*	4
	Y	4	U♂	4	Q	4	U	3	00	2	"	1
	△	1	U	1	U	1	U	1	"⊗	1	Y	1
	U)	1	U	1	U	1	"⊗	1				

FS	Pairs	Freq										
14	田△	19	田田	19	田田	19	田田	3	田△	3	田△	3
	"◇	1	田△	1								
16	田田	10	田田	10	田田	10	田田	9	田田	9	田田	9
25	田田	6	"◇	4	田△	3	田田	2	田△	1	田△	1
	田田	1										
	田田	1										
36	田田	15	田田	11								
	田田	10	田田	10	田田	10	田田	9	田田	9	田田	8
	田田	3	田田	2								
	田田	2	"田	2	田田	1	田田	1	田田	1	田田	1
	田田	1										
	田田	1	田田	1	田田	1	田田	1				
37	田△	2	田田	2	田田	2	田△	2	田田	2	田田	1
	田田	1										
	田田	1										
44	田田	7	田田	7	田田	6	田△	6	田田	6	田田	4
	田田	4	田田	4	田田	4	田田	3	田田	3	田田	1
	田田	1										
	田田	1	田田	1	"◇	1	田田	1	田田	1	田田	1
83	田田	19	田△	14	田田	13	田田	8	田田	5	田田	5
	田田	4	田△	3	田田	3	田田	3	田田	2	田田	2
	田田	2	田△	2	田田	1	田田	1	田田	1	田田	1
	田田	1										
	田田	1										
	田田	1	"田	1								
85	田田	4	田田	4	田田	3	田田	3	田田	2	田田	2
	"◇	2	田△	1	田田	1	田田	1	田田	1	田田	1
	田田	1	"田	1								
91	田田	5	田田	2	田田	2	田田	2	田田	1	田田	1
	田田	1										

**Statement 4.3: Frequency Distribution of Frequent Triplets by Field Symbols (min,  
frequency of FS = 10)  
(Minimum total frequency of triplets = 10)**

FS	Triplet	Freq										
<b>01</b>	↑☰☰	29	☰☲☰	20	☰☵☱	19	☰☱☱	17	☰☱☲	15	☰☲☰	15
	☰☱☴	14	☰☴☰	14	☰☵☰	13	☰☱☱	13	☰☱☰	13	☰☴☰	13
	☰☰☰	11	☰☲☱	11	☰☰☱	10	☰☰☰	9	☰☲☲	8	☰☰☰	6
	☰☰☱	6	☰☰☰	6	☰☲☰	6	☰☱☰	6	☰☰☰	6	☰☰☰	6
	☰☰☰	6	☰☰☰	6	☰☰☰	5	☰☰☰	5	☰☲☰	5	☰☰☰	5
	☰☰☰	5	☰☰☰	4	☰☱☰	4	☰☰☰	4	☰☲☰	4	☰☰☰	4
	☰☴☰	3	☰☰☰	3	☰☰☰	3	☰☰☰	3	☰☱☰	3	☰☰☰	3
	☰☰☰	2	☰☰☰	2	☰☲☰	2	☰☰☰	2	☰☲☰	2	☰☰☰	1
	☰☰☰	1	☰☰☰	1	☰☰☰	1	☰☰☰	1	☰☰☰	1	☰☰☰	1
<b>03</b>	☰☲☰	2	☰☱☱	1	☰☵☱	1	☰☰☰	1				
<b>04</b>	☰☴☰	5	☰☰☰	3	☰☰☰	2	☰☰☰	2	☰☰☰	2	☰☰☰	1
	☰☴☰	1	☰☵☰	1	☰☱☱	1	☰☰☰	1	☰☰☰	1	☰☱☱	1
	☰☰☰	1	☰☰☰	1	☰☱☱	1	☰☰☰	1	☰☲☰	1	☰☰☰	1
	☰☲☰	1	☰☰☰	1								
<b>06</b>	☰☵☰	1	☰☰☰	1	☰☰☰	1	☰☰☰	1				
<b>07</b>	☰☰☰	10	☰☰☰	6	☰☰☰	6	☰☰☰	2	☰☵☰	1	☰☰☰	1
	☰☰☰	1	☰☱☰	1	☰☰☰	1	☰☰☰	1	☰☰☰	1	☰☰☰	1
<b>09</b>	☰☰☰	2	☰☱☰	1								
<b>11</b>	☰☰☰	2	☰☰☰	2	☰☵☱	2	☰☰☰	2	☰☰☰	2	☰☰☰	1
	☰☱☰	1	☰☲☰	1								
<b>13</b>	☰☴☰	4	☰☱☰	4	☰☲☰	1						
<b>14</b>	☰☰☰	19	☰☰☰	19	☰☱☰	3						
<b>16</b>	☰☱☰	10	☰☰☰	10	☰☰☰	9	☰☱☰	9	☰☱☰	9		
<b>25</b>	☰☵☱	1	☰☰☰	1	☰☰☰	1						
<b>36</b>	☰☱☰	11	☰☱☰	11	☰☰☰	11	☰☵☰	10	☰☱☰	10	☰☱☰	10

FS	Triplet	Freq										
	ሀሁስ	9	ሁሁሁ	8	ሬሁሁ	8	ሁቁቁ	3	ሬቁቁ	2	ሁቁቁ	1
	ሁሂሂ	1										
37	ሁወወ	2	ሁወወ	1								
44	ሁወቁ	6	ሁሂሂ	6	ሁወወ	4	ወወወ	3	ቁቁቁ	1	ሁቁቁ	1
	ሁወቁ	1										
83	ሬሁሁ	11	ሁወወ	5	ቁቁቁ	3	ሁቁቁ	1	ቁቁቁ	1	ሬሁሁ	1
85	ሬቁቁ	2	ሁቁቁ	2								
91	ሬሁሁ	1	ሁወወ	1								



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