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**The hierarchy of the characters on the Diskus of Phaistos  
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## Abstract

Recently<sup>1</sup> the thesis came up that the arrangement of the signs on the Phaistos Disk can be explained with a simple rule. You can examine the correctness of this thesis without large troubles as follows:

- 1) You print from the Internet a picture of the Phaistos Disk (side A and side B). The signs of the Disk should be well readable.
- 2) You let away the sign at the lefthand side of each field.
- 3) You state that all other signs are arranged always in the same order: Shield is located in each field before helmet, skin is located in each field before shield, etc. Between the signs skin and shield; between the indications shield and helmet may be further signs, but shield always is located before helmet and skin always is located before sign.

One can imagine this system in such a way for elucidation that each sign represents a person. In each field are different persons. The persons are sorted according to their social rank in each case. Depending on, which persons are contained, different person combinations result. But social rank is always kept with the order.

Due to this regularity a coincidence appears impossible. Only with one sign there is an exception, which can be however explained. The explanation can be found in the German original text.

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<sup>1</sup> Henke: Die Hierarchie der Zeichen auf dem Diskus von Phaistos, [www.denkeanhenke.de](http://www.denkeanhenke.de)

## 1. Introduction<sup>2</sup>

### 1.1. Description Diskus














































The Diskus of Phaistos was found to 1908 by Luigi Pernier in Phaistos (Festos, Phaestos) in a building complex from the *minoic* time. It exists in reciprocally described, irregularly formed and uneven clay/stone disk with approx. 16 cm diameters and 2 cm a thickness. Before burning the clay/stone 242 characters with a kind stamp were pressed into the clay/stone. The characters are in 61 small boxes (side A: 31 and side B: 30 small boxes) groups and spiral arranged. The characters represent among other things humans, animals, tools and plants. The Diskus is issued in the archaeological museum of Heraklion.

### 1.2. Question

In the following it is to be followed to the question whether the characters on the Diskus are arranged after a certain system.

### 1.3. Numbering of the individual characters

For better overview one can translate the characters into numbers. Available to a frequently used numbering one falls back, which was inferred from the book „The Phaistos disk “ by Thomas Balistiere:

1		10		19		28		37	
2		11		20		29		38	
3		12		21		30		39	
4		13		22		31		40	
5		14		23		32		41	
6		15		24		33		42	
7		16		25		34		43	
8		17		26		35		44	
9		18		27		36		45	

<sup>2</sup> Please you note that I am not a native speaker. I ask to excuse the errors.

Source: Thomas Balistiere, The Phaistos disk, 2000, P. 45.

#### **1.4. Numeric sequence of the writing on the Diskus**

In the numbering mentioned following numeric sequence of the characters results, whereby it remains open whether the text is to be read from right to left or from left to right. The character marked by XX is illegible.

##### **Side A:**

38 - 03 - 10 | 01 - 13 | 21 - 37 - 35 - 27 - 27 - 12 - 02 | 38 - 03 - 10 | 35 - 19 - 23 | 01 - 13 - 12 - 02 | 12 - 26 - 31 | 19 - 17 - 18 - 06 | 27 - 18 - 32 - 14 - 27 - 12 - 02 | 26 - 31 - 12 - 02 | 01 - 28 | 18 - 23 - 10 - 25 - 27 - 02 | 26 - 31 - 12 - 02 | 23 - 33 | 21 - 37 - 35 - 27 - 27 - 12 - 02 | 26 - 31 - 12 - 02 | 01 - 28 | 18 - 23 - 10 - 25 - 27 - 02 | 11 - 39 | 38 - 23 - 32 - 12 - 02 | 07 - 40 - 41 - 01 | 35 - 19 - 41 - 12 - 02 | 35 - 26 - 31 | XX - 18 - 06 - 12 - 02 | 08 - 44 - 27 | 12 - 07 - 45 - 27 | 33 - 40 - 04 - 12 - 02 | 34 - 29 - 29 | 07 - 45 - 29 | 12 - 40 - 24 | 18 - 01 - 13 - 12 - 02 ||

##### **Side B:**

07 - 45 | 25 - 23 - 34 - 29 | 07 - 23 - 35 - 06 - 02 | 07 - 18 - 39 - 30 - 09 | 08 - 07 - 36 - 29 - 22 | 24 - 18 - 23 - 07 | 07 - 45 - 07 | 35 - 18 - 07 | 25 - 23 - 34 - 27 | 08 - 07 - 36 - 29 - 22 | 07 - 45 - 29 | 13 - 08 - 29 | 08 - 07 - 36 - 29 | 01 - 27 - 09 - 02 | 33 - 39 - 32 - 35 - 06 | 01 - 33 - 29 | 18 - 14 - 16 | 35 - 20 - 24 - 24 - 29 | 01 - 38 - 25 - 27 | 40 - 36 - 26 - 02 | 35 - 40 - 24 - 07 | 25 - 42 - 37 - 22 | 18 - 01 - 13 - 07 - 15 | 33 - 39 - 01 - 13 | 43 - 18 - 23 - 16 | 12 - 20 - 24 - 33 | 27 - 25 - 22 | 05 - 23 - 37 - 02 | 35 - 07 - 45 - 27 | 07 - 40 - 22 - 12 - 02 ||

#### **1.5. Conditions of the research**

So far one knows only few about the Diskus.<sup>3</sup> The substantial questions are unsettled. Like that is open,

- when, where, as and why the Diskus was manufactured,
- who created the Diskus,
- whether it is due to a person or a team,
- whether it concerns with the characters a writing,
- whether the characters show letters, phonograms, syllables, numbers or symbols,
- with several characters, which is represented on them,
- which the 61 fields mean,
- why the spiral was scratched so little carefully into the clay/tone, while the stamps was very carefully worked,
- into which direction the text is to be read,
- in which direction the text was written,
- whether the characters were arranged after a certain system,
- which the text contains,
- in which language the text is written,
- why some characters in the still damp clay/tone were deleted and replaced by other characters,
- served which purpose the Diskus and
- whether a deciphering without additional pieces of find is possible.

## **2. The hierarchy of the characters**

### **2.1. The system of the arrangement of the characters**

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<sup>3</sup> See to the conditions of the research Balistiere, Thomas: The Phaistos disk, 2000, P. 10 FF mwN.

In the following the proof is to be led that the characters on the Diskus are arranged in a hierarchical order. First the two theses are represented, with whose assistance the discovery of the hierarchy of the characters succeeded (2.1.1 and 2.1.2). It concerns rules, according to which the characters could be arranged. These theses are then examined with the help of the mathematical method of the induction (2.2). Subsequently, it is to be considered whether the two output theses can be still refined (2.4).

### 2.1.1. First thesis: Character with double meaning

The first thesis reads as follows: Eight of the 45 characters are characters with double meaning. The eight characters with double meaning are the characters 1 (current humans), 7 (cap?), 12 (sign?), 13 (Zypresse?), 24 (buildings), 25 (ship), 27 (skin?) and 35 (plant part). The Diskus consists therefore not of 45, but of 53 different characters. The characters with double meaning are either underlined or not underlined in the following listing depending upon their meaning.

#### Side A:

38 - 03 - 10 | 01 - 13 | 21 - 37 - 35 - 27 - 27 - 12 - 02 | 38 - 03 - 10 | 35 - 19 - 23 | 01 - 13 - 12 - 02 | 12 - 26 - 31 | 19 - 17 - 18 - 06 | 27 - 18 - 32 - 14 - 27 - 12 - 02 | 26 - 31 - 12 - 02 | 01 - 28 | 18 - 23 - 10 - 25 - 27 - 02 | 26 - 31 - 12 - 02 | 23 - 33 | 21 - 37 - 35 - 27 - 27 - 12 - 02 | 26 - 31 - 12 - 02 | 01 - 28 | 18 - 23 - 10 - 25 - 27 - 02 | 11 - 39 | 38 - 23 - 32 - 12 - 02 | 07 - 40 - 41 - 01 | 35 - 19 - 41 - 12 - 02 | 35 - 26 - 31 | XX - 18 - 06 - 12 - 02 | 08 - 44 - 27 | 12 - 07 - 45 - 27 | 33 - 40 - 04 - 12 - 02 | 34 - 29 - 29 | 07 - 45 - 29 | 12 - 40 - 24 | 18 - 01 - 13 - 12 - 02 ||

















#### Side B:

07 - 45 | 25 - 23 - 34 - 29 | 07 - 23 - 35 - 06 - 02 | 07 - 18 - 39 - 30 - 09 | 08 - 07 - 36 - 29 - 22 | 24 - 18 - 23 - 07 | 07 - 45 - 07 | 35 - 18 - 07 | 25 - 23 - 34 - 27 | 08 - 07 - 36 - 29 - 22 | 07 - 45 - 29 | 13 - 08 - 29 | 08 - 07 - 36 - 29 | 01 - 27 - 09 - 02 | 33 - 39 - 32 - 35 - 06 | 01 - 33 - 29 | 18 - 14 - 16 | 35 - 20 - 24 - 24 - 29 | 01 - 38 - 25 - 27 | 40 - 36 - 26 - 02 | 35 - 40 - 24 - 07 | 25 - 42 - 37 - 22 | 18 - 01 - 13 - 07 - 15 | 33 - 39 - 01 - 13 | 43 - 18 - 23 - 16 | 12 - 20 - 24 - 33 | 27 - 25 - 22 | 05 - 23 - 37 - 02 | 35 - 07 - 45 - 27 | 07 - 40 - 22 - 12 - 02 ||

### 2.1.2. Second thesis: Hierarchy of the characters

The second thesis reads as follows: Those now 53 characters are arranged in each field in a hierarchical order. That means that the characters are not coincidentally arranged, but that the sequence for each single character is precisely prescribed in each field on the Diskus.

#### Hierarchy of the characters

A01		A15		A29		A43	
A02		A16		A30		A44	
A03		A17		A31		A45	
A04		A18		A32		A46	

A05		A19		A33		A47	
A06		A20		A34		A48	
A07		A21		A35		A49	
A08		A22		A36		A50	
A09		A23		A37		A51	
A10		A24		A38		A52	
A11		A25		A39		A53	
A12		A26		A40			
A13		A27		A41			
A14		A28		A42			

Source: Own graphics, based on the numbering of Balistiere (see above 1,3).

Since the text on the Diskus is relatively short, the exact position of some characters in the hierarchy cannot be determined accurately. It is possible therefore the construction of several hierarchies. The represented hierarchy selected from the different possibilities is sufficient, in order to explain the order of all 242 characters.

## 2.2. The proof of the hierarchical sequence of the characters

If the two rules are correct, all characters on the Diskus in the hierarchy mentioned must. In no case it may come to a deviation. The proof for the mathematical correctness of the theses can be led with the help of the method of the induction as follows: To the place of the characters the number of the sequence in the hierarchy is set. From this it becomes recognizable that in no case in a field (during a read direction from right to left) a higher number before a lower stands. Thus the proof of the hierarchy of the characters is furnished.

### Side A:

A45 - A43 - A28 | A21 - A20 | A46 - A29 - A18 - A13 - A13 - A02 - A01 | A45 - A43 - A28 |  
A51 - A41 - A34 | A21 - A20 - A02 - A01 | A53 - A08 - A07 | A41 - A36 - A35 - A06 |  
A52 - A35 - A26 - A17 - A13 - A02 - A01 | A08 - A07 - A02 - A01 | A21 - A12 | A35 -

A34 – A28 – A24 – A13 - A01 | A08 – A07 – A02 - A01 | A34 - A33 | A46 – A29 – A18 – A13 – A13 – A02 - A01 | A08 – A07 – A02 - A01 | A21 - A12 | A35 – A34 – A28 – A24 – A13 - A01 | A42 - A27 | A45 – A34 – A26 – A02 - A01 | A50 – A32 – A22 – A21 | A51 – A41 – A22 – A02 - A01 | A18 – A08 - A07 | XX – A35 – A06 – A02 - A01 | A39 – A16 - A13 | A53 – A50 – A23 - A13 | A33 – A32 – A31 – A02 - A01 | A15 – A04 - A04 | A50 – A23 - A04 | A53 – A32 - A25 | A35 – A21 – A20 – A02 - A01 ||

**Side B:**

A50 - A23 | A38 – A34 – A15 - A04 | A50 – A34 – A18 – A06 - A01 | A50 – A35 – A27 – A14 - A05 | A39 – A19 - A09 – A04 – A03 | A37 – A35 – A34 - A19 | A50 – A23 - A19 | A51 – A35 - A19 | A38 – A34 – A15 - A13 | A39 – A19 – A09 – A04 - A03 | A50 – A23 - A04 | A49 – A39 - A04 | A39 – A19 – A09 - A04 | A21 – A13 – A05 - A01 | A33 – A27 – A26 – A18 - A06 | A48 – A33 - A04 | A35 – A17 – A10 | A51 – A40 – A25 – A25 - A04 | A48 – A45 – A24 - A13 | A32 – A09 – A08 - A01 | A51 – A32 – A25 - A19 | A38 – A30 – A29 - A03 | A35 – A21 – A20 – A19 - A11 | A33 – A27 – A21 - A20 | A44 – A35 – A34 - A10 | A53 – A40 – A37 - A33 | A52 – A24 - A03 | A47 – A34 – A29 - A01 | A51 – A50 – A23 - A13 | A50 – A32 – A03 – A02 - A01 ||

To answer remains, into which direction the Diskus is to be read. If it is to be read from right to left, the indicated hierarchy is the correct. If it is to be read from left to right, the hierarchical sequence of the characters is to be turned around.

**2.3. Excursion: The discovery of the two theses**

The discovery of the two theses succeeded as follows:

- First it noticeable is that the character 02 (=A01=Helm?) always at the right edge of a field finds. The moreover one it falls in the eye that some characters are located tendentious left, others tendentious right in the field. The idea of the hierarchy of the characters develops.
- Not to survey it is that the character 12 (=A02=A53=Schild?) without exception either at the lefthand side or closely at the right edge stands. That leads to the consideration that it could concern two characters in place of an character.
- Subsequently, a hierarchy of the characters is provided: It in each case is examined, whether there is an character, which on the left of or completely right in all 61 fields is located completely without exception. If this is the case, the character is taken up in front either in the back (if it left stands) or (if it right stands) to the hierarchy. Then it is blackened in the numeric sequence of numbers. The step repeats itself. If it continues to go not, according to the principles by trial and error it is accepted that one of the remaining characters is an character with double meaning. Also the characters with double meaning are arranged in the hierarchy. The process repeats itself until all characters are blackened.
- This attempt is repeated several times. Each mark another hierarchy develops. The eight characters with double meaning are however always the same – even if the respective meaning not in all cases clearly to light come.
- Any hierarchy is coincidentally selected.
- Finally the Diskuszeichen is translated into the characters of the hierarchy. It turns out that in no case the sequence of the hierarchy is hurt. The proof for the hierarchical arrangement of the characters succeeded.

**2.4. Refinement of the theses**

On the preceding the two theses can based be refined. With the analysis it notices to the numeric sequence of the characters in 2.1.1 that the accepted characters with double meaning nearly always at the lefthand side of a field. One can replace therefore the thesis that there are eight characters with double meaning, by two other theses:

- On the one hand by the thesis that the character forms 45 with the character 7 (which isolated to occur can) a unit.
- On the other hand by the thesis that the character at the in each case lefthand side of a field has another meaning or function than the remaining characters on the Diskus.

With acceptance of these two theses all characters can be brought on the Diskus (with exception of the characters at the lefthand side of a field) into a hierarchical order, without it is necessary to take the double meaning of individual characters.<sup>4</sup> Also after these Lesart are hierarchically arranged the characters on the Diskus of Phaistos. The hierarchical arrangement of the characters can apply thereby as proven.

### **2.5. Conclusions from discovery of the hierarchy of the characters**

In view of the hierarchy of the characters it is improbable that it concerns with the characters letters, phonograms or syllables. Because a language, in which the letters, phonograms or syllables in the individual words in hierarchical order are arranged, is difficult to handle. The German word REBE was written for example during hierarchical (here exemplary alphabetical) arrangement of the letters BEER. Only from the connection with the other characters it could be determined whether the word REBE or ERBE is meant.

Improbable it is also that it concerns with the writing a flowing text. Because a flowing text, in which all characters are arranged in hierarchical order, is producible in us the well-known languages (so far evident) only at large dichterischen expenditure. It is not completely impossible that the author gave itself Diskus for an unknown reason such a trouble. But the acceptance is more near during such arrangement that it does not concern a flowing text.

### **3. Contents Diskus**

If one follows and assumes the preceding the fact that the characters on the Diskus are neither letters nor phonogram still syllables and it does not concern also a flowing text places itself the question, which possibilities for the explanation Diskus remain remaining. Is possible above all an explanation, whereby it concerns certainly a speculation: It could concern with the characters family names. Main argument for this interpretation is that it gets along without the hypothesis of an unknown writing. Because the characters exhibit similarity with the castings of minoischer seals, which were likewise pressed as stamps into the clay/tone and persons to symbolize. One would get along with the interpretation Diskus therefore with already well-known characters and a likewise well-known write technology. If two theses are located in the area, with which the presence of an unknown writing and write technology presupposes, while the other one gets along with an already existing writing and write technology, the burden of proof shifts on the first. During an interpretation of the characters as family names it is from lack because of better alternatives close that the fields are time periods. If the characters family names and the fields are time periods, the Diskus explains itself informally as follows:

- Unknown ones manufactured stamps, which symbolize family names in standardized size.
- The characters oriented themselves at the castings of the persons represented by seal rings.

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<sup>4</sup> Here I would like to thank Mr. professor Dr. Gerrit Kloss for the appropriate telephone reference.



- The author Diskus assigned a certain person's group certain in each case time period. It arranged the characters in a hierarchical order (e.g. after social rank or after length of service).
- Which rights, obligations or actions were connected with the respective period, to the Diskus, it cannot be inferred was to be familiar expected.
- The advantage of the thesis represented here is that the Diskus could be understood about everyone, which knew the seals of the persons concerned. It could be served also by such persons, who could not read.

#### **4. Summary**

The characters on the Diskus of Phaistos stand in hierarchical order. Thus it is improbable that it concerns with the characters a flowing text. It is just as improbable that it concerns with the characters letters, phonograms or syllables. It is most convincing that it concerns with the characters names. It requires however further research, in order to decode the Diskus from Phaistos to.