Provinces inscriptions of the Ancient Egyptian Votive Cubit

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Abstract:

The votive cubits are those kinds of antiquities that have never been satisfactorily published, and called *ceremonial cubit* because of their high degree of decoration. The cubit *mḥ* is one of the first recorded units of length used by the ancient people. For the Ancient Egyptians it was the standard measure. Those kinds of votive cubits were not actually used as tools, but as votive, or were made for the funerary equipment and therefore more made of hard stone.

The main goal of this paper is to explain some of their extraordinarily inscriptions. The searcher made a sort of a comparison between some votive cubits dating back to several periods, and studying the hieroglyphs text found on them. The present research aims to study the provinces of both Upper and Lower Egypt that decorated these kinds of the linear measure, and also their relation with the numerals which carved on. The searcher also makes a comparison with some other tables that appeared on other monuments that might pertain these kinds of inscriptions.

Keywords:

votive cubit - provinces

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It would be difficult to point to any civilization more aware of or concerned with measurement than that of Ancient Egypt. Our knowledge of early Ancient Egyptian length measuring methods comes from many sources like scenes, buildings, papyri and some measuring devices are still preserving in museums. Among these measurements, cubit was a common unit used for short distances and lengths.

What is the Cubit?

Cubit was a necessary tool or even the symbol for technicians and craftsmen who were involved in all kind of architectural works. It is represented by the hieroglyph  *mḥ*,[1] and used to be made out of wood, bronze, basalt, and other materials. Lepsius[2] was the writer of the first study about length measurements in Ancient Egypt especially the Cubit, it is published in 1884. But later many archeologists start their wide studies for this tool.

The Egyptian used to decorate it with formulas indicating their ceremonial purpose and their religious background. That great value of the cubit appeared in a kind of text occupying usually one of its surfaces, it reads as following:

mḥ m ꜥnḫ wḏꜣ snb

"Cubit as life, strength, health"

The text reveals its magical value as source of life, health, protection and power. It was a sacred tool that has the power of Gods. Some texts of Edfu temple refer to the cubit by calling it 'cubit of Thoth,'[3] and 'lord of the cubit,'[4] they both indicate that the god Thoth was considering its guardian and inventor. It is reflected being in accordance with the writings of Thoth, who was one, makes measurements, and God of writing and lord of scribes.

(1) Faulkner, R.O. *A concise dictionary of Middle Egyptian*, p.113.
(2) Lepsius, R. *Die alt-äegyptische Elle und Ihre Eintheilung*.
(3) Chassinat, É. *Le Temple d`Edfu*, tome 6, p.7(2-3).
(4) Chassinat, É. *Le Temple d`Edfu*, tome 7, p.126 (15).

Our attempting to show development of cubit rods is troubled by the great differences among existing examples, lack of examples from early Egyptian history or the Pre-dynastic Period, and lack of long-term continuity that we can reliably follow. It is notable to mention that all of the rod monuments are dating to the New Kingdom and late Period.

The Ancient Egyptians used different types of cubits[5] (with range lengths from 45 cm. to 60cm.) through periods, for different purposes, are mention in the following table:

Cubit Types	Metric System
Small Cubit *mḥ*	45 cm.
Royal Cubit *mḥ nsw*	52.4 cm.
Great Cubit *mḥ ꜥ3*	60 cm.
Scribe's Palette *gsty*	50 cm.
God's Cubit *mḥ nṯr* (Ptolemaic Period)	52.5 cm.
Alexandrian Cubit (Greco-Roman Period)	47 cm.
Nilometer Cubit or Thoth Cubit *mḥ ḏḥwty* (Greco-Roman Period)	53-55 cm.

Table 1: Glossary of the Metrological Cubits used in Ancient Egypt

After archaeologists studied the evidences from all available cubits, they decided that there had been no regular lengths over any long period of Egyptian history. They found that all the measures differ more or less slowly as time passed. Hirsch[6] believes that the small cubit disappeared during the Twenty-sixth Dynasty while the royal cubit kept up. The Ptolemies and Romans inherited and integrated the ancient Egyptian cubits to which they added their own linear measurements.

While cubits vary greatly, there were many distinct size ranges, a shorter 'common cubit' (~ 45 cm.) and a longer 'royal cubit' (~ 52.4

[5] For more information about types of cubits see: Hirsch, A.P. *Ancient Egyptian Cubits – Origin and Evolution*, p.1-190.
[6] Hirsch, A.P. *Ancient Egyptian Cubits – Origin and Evolution*, p.1.

cm.).[7] They consider the small cubit to be a division of the royal one rather than an independent cubit. Some archaeologists[8] considered that small cubit to be the second one providing everyday measurements.

Not a big number of cubits survived. They are classified into main four different kinds; the first (mostly wooden) seems to have no inscriptions but only marks which refer to the divisions of the cubit (few of them doesn't have even marks), give the impression to be used for workaday measures; another kind has dedicatory texts and sometimes marks for its main divisions; other type mentioned as 'votive cubit' has five surfaces occupied by enormous inscriptions and a dedicatory texts on its base; while the last is the wooden folded cubit, which has no texts, but only marks.

The most wide knowledge of this kind of measure rod are driven from the ceremonial cubit-rods (votive) which is usually made of stone and deposited in temples, or kept by officials during their daily life in their homes and later buried with them. The heavy weight of this votive rod makes us believe that it was ritual and factitious object, above all symbolic and not intended for a technical or a practical use. As a matter of fact, it often incorporate mistakes, which are sometimes clumsily drawn.

Early measuring methods for length based on the use of human body parts. Body-spans, hand-spans, hands, thumbs, lengths and widths of fingers are all parts of the Cubit, and seem to have been popular choices. Its biggest unit is the forearm *mḥ*, and the smallest unit is the finger (digits) *ḏpʿ* (~ 1.8 cm.). The Royal Cubit had 7 palm *šsp* divisions and 28 fingers in a cubit, while the Small Cubit had 6 palms and 24 fingers. The next table (no.2) shows the small unit divisions of the Royal cubit Rod, they are as following:

[7] Lepsius defined its length, 52.5 cm. While, modern scholarship gives it a length varying between 52 and 54 cm. Pommerening, T. *Die altägyptischen Hohlmaße*, Helmut Buske, p.274; Zignani, P. *Le temple d'Hathor à Dendara: Relevés et étude architectural*, p.153.

[8] Robins, G. and Shute, C. *The Rhind Mathematical Papyrus, an Ancient Egyptian Text*, p.13.

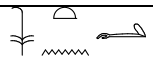
Unit		Equivalent	Length
	*mḥ-nsw*	Royal-cubit = 7 palms = 28 digits	52.4 cm.
	*mḥ*	Short cubit = 6 palms = 24 digits	44.8 cm.
	*rmn*	Upper arm = 5 palms = 20 digits	37.4 cm.
	*ḏsr*	Bent arm = 4 palms = 16 digits	29.9 cm.
	*pḏ ꜥ*	Great Span = 3.5 palms = 14 digits	26.2 cm.
	*pḏ šsr*	Small Span = 3 palms = 12 digits	22.4 cm.
	*šspwy*	2 palms = 8 digits	14.9 cm.
	*ꜣmm*	Fist = 1.5 palms = 6 digits	11.2 cm.
	*ḏrt*	Handbreadth = 1.25 palms = 5 digits	9.3 cm.
	*šsp*	Palm = 4 digits	7.5 cm.
	*ḏpꜥw*	3 digits = 0.75 palm	5.6 cm.
	*ḏpꜥwy*	2 digits = 0.5 palm	3.7 cm.
	*ḏpꜥ*	Digit = 0.25 palm	1.8 cm.

Table 2: Cubit divisions and its metric lengthwise

I would like to note that, Robins[9] studies 60 mummies from Cairo, British, and Manchester museums; also the natural and canonical proportions in Egyptian art. She concluded that the canonical length of the forearm from the elbow to the fingertips, it was one royal cubit of (52.4 - 52.5 cm.).

[9] Robins, G. "The Length of the Forearm in Canon and Metrology," pp.61–75.

Thus the "cubit," whose extraordinary divisions are astronomical, geometric, and geodetic coordinates has a vigorous meaning; it gave us extensive information about numbers, factors, measures of area, capacity, volume, weight, inundation levels in different locations, provinces, and recording the physical extentions of Egypt.

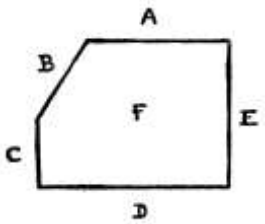


Fig.1: Zivie's standardization of the sides of a cubit-measure.

cf. Zivie, A. "Un fragment inédit de coudée votive," fig.1.

It has a very special useful beveled shape surface (fig.1) with a pentagonal section. The five rectangular faces (A to E) and two bases (F), occupied all by a variety of inscriptions[10] as following:

Face A: Along the top of this face is a *ḥtp di nsw* formula addressed to "all the gods and the Royal Cubit."[11] While the lower part occupied by 28 guardian deities[12] one for each finger.

There is no direct correlation between the deities and the provinces because, those six provinces of Lower Egypt that are represented on Face E are represented without any deities above them as usual on Face B, indicating that there isn't any association between them at all. Therefore, those deities only appeared on this Face only.

Face B: Along this face, the cubit is marked off into seven palms. Each of these palms contains four fingers, but only the first sixteen

[10] For more information about the different kind of inscriptions, see: Scott, N.E. "Egyptian Cubit Rods," pp.70-75; Schlott-Schwab, A. "Altägyptische texte über die Ausmaße Ägyptens," pp.109-119; Zivie, A. "Un fragment inédit de coudée votive," pp.181-188; Clagett, M. *Ancient Egyptian Science*, pp.7-15.

[11] Scott, N.E. "Egyptian Cubit Rods," p.72.

[12] Local geographical conditions were imagined to be mirrored in the sky, across which the gods travelled in their celestial boats to set in the west - the land of the dead. According to that, each province is usually coordinating by a name of the protecting god of each digit. While, in the oldest known cubits, the names of the deities are representing alone, sometimes even without any reference to the cubit-measure.

fingers are indicated. Each part inscribed with the names of its divisions, starting with  and ended by  . While, the province names (signs) and the cubit-measures are inscribed on the bottom of this face.

Face C: Along this face, it is decorated with subdivisions (smallest fractions)[13] of the 15 right-most digits; the first finger is divided into halves, the second into thirds, and so on to the fifteenth, which is divided into sixteenths. While on the bottom of this face, there is a group of texts of big numbers and *ỉtrw*-measures.

Faces D and E: These faces inscribed with royal dedications made to the king or by His Majesty to an individual. Also on them, appeared numbers and measurements of astronomical proportions inscriptions. Moreover, on Face E, some of the province-signs of Lower Egypt are representing.

Provinces of the Cubit

The Ancient Egyptians divided the Nile Valley into nomes,[14] or provinces, called  *spꜣt*,[15] each with a capital city and a local deity. Province-signs decorated many Ancient Egyptian monuments (temples, papyri, coffins, cubits and others), then far along, it performed on many others. Morkot[16] suggests that they were clearly defined by the Fifth Dynasty of the Old Kingdom, and they can be traced back to the Pre-dynastic Period, when they first appeared, according to the theory of Najovits.[17] Those province-signs represented along some cubits, give the official name of the provinces, symbolized by a grid pattern refer to its roads, surmounted by its emblem.

Berio[18] has a different suggestion based on parallels between the iconography of the provinces list and the classical constellations

[13] This Ancient Egyptian system of fractions be determined by the Eye Of Horus defined number one, such as, 1 = 1/2 + 1/4 + 1/8 + 1/16 + 1/32 + 1/64, and a 1/64 is needed to have the exact value 1.
[14] The Greeks were quite aware of these territorial divisions in Egypt; they translated the Ancient Egyptian word *ḥsb* "province" by the Greek word *Nome*.
[15] Faulkner, R.O. *A concise dictionary of Middle Egyptian*, p.222.
[16] Morkot, R. *The Egyptians: An Introduction*.
[17] Najovits, S.R. *Egypt, Trunk of the Tree: A Modern Survey of an Ancient Land*.
[18] Berio, A. "The Celestial River: Identifying the Ancient Egyptian Constellations," p.1.

visible in Ancient Egypt. While the early theory created by Daressy[19] in 1916, that the 22 provinces of Upper Egypt had astrological and planetary alignments on a grand scale.

Each of the 28 fingers of the cubit are connected in somehow with the provinces that decorated the bevel side of the rod, with the 22 provinces of Upper Egypt joined to the first 22 digits, and followed by the first 6 provinces of Lower Egypt joined the rest of cubit's divisions on Face B. Although the next 6 provinces (Seventh to Twelfth) of Lower Egypt are decorate the left end (sometimes the right end) of the opposite side on Face E of the votive-cubit. The matter, which makes us facing a puzzle about the 8 provinces (Thirteenth to Twenty) of Lower Egypt that are completely omitted from all the rods.

The eight missing provinces of Lower Egypt are all located in the northern part of Nile Delta. I don't think that there is a political reason for this because those provinces, they are already represented on several monuments dating back to the same time of making those cubits (New Kingdom and Late Period) such as sarcophagus of Wereshnefer, and others. Also, the majority of archaeologists assumed that those inscriptions of the cubits are inspired by earlier sources dating back to the Middle Kingdom, the period during which many monuments such as chapel of Sesostris I occupied by the Egyptian provinces without any attempt to exclude the Eastern Delta provinces.

The provinces from the 7th to the 12th of Lower Egypt are usually represented on Face E and followed directly by a large collection of cryptic numerals and dedicatory texts along the cubit without any clear indication of those lost provinces. I see that those numbers were important enough to be inscribed more than the missing provinces of Lower Egypt. Especially because all the other cubit surfaces are stacked with many other inscriptions.

Under each province-sign there is a cubit-measure written in 'cubits' *mḥ*  and 'palms' *šsp*  ,[20] starting from [one cubit, three

[19] Daressy, G. *L'Egypte celeste*, pp.1–37.
[20] Faulkner, R.O. *A concise dictionary of Middle Egyptian*, p.271.

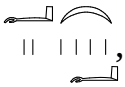
palms] to [two cubits, four palms]. They are usually inscribed on the upper part of Face C, exactly under the group of provinces of Upper and Lower Egypt on Face B. While they also appeared again under the six provinces of Lower Egypt that occupied the Face E. They are representing with slightly varying values from one province to another.

Graefe[21] suggests that the existence of provinces at cubits with different lengths for each province, give the impression that it is a list of the Egyptian provinces and their extent with precise measurements. Another hint, Hayes[22] believes that these measures under the province-signs given the relative heights of the annual flood along the Nile. All these suggestions imply that cubit measure in clearly connected for each province.

Another view: Zivie,[23]Schlott[24] and Graefe[25] believe that these measurements are taken away from the "100 cubits"[26] which is the land measure *st3t* (or aroura in Ancient Greek) of each province. *st3t* an area measurement, the unit of which is equal a square of 100 royal cubits per side = 10,000 square cubits. It was successively necessary to define a variable for each province allowing adjustment for the 100 cubits side involved in the calculation of this surface area. This was frequently used during the New Kingdom, but more commonly during the Late Period. It also clearly justifies the use of the royal cubit as a converter. It is possible to define the cubit used in each province of ancient Egypt.[27] It may originally have varied in size across Egypt's provinces.[28]

Cubit-measure is a part of *st3t* appear different from one province to another, its purpose is to calculate the value of the measurement unit for each province and adjusting them to suit a standard unit of

[21] Graefe, E. "Einige Bemerkungen zur Angabe der *st3t* - Grosse auf der Weissen Kapelle Sesostris I," p.72.
[22] Hayes, W.C. *The Scepter of Egypt*, p.413.
[23] Zivie, A. "Un fragment inédit de coudée votive," p.185.
[24] Schlott-Schwab, A. "Altägyptische texte über die Ausmaße Ägyptens".
[25] Graefe, E. "Einige Bemerkungen zur Angabe der *st3t* - Grosse auf der Weissen Kapelle Sesostris I," pp.72-76.
[26] *ḫt* = 100 cubits, was a linear measure used for the agricultural fields, while their area measured in *st3t*.
[27] Hirsch, A.P. *Ancient Egyptian Cubits – Origin and Evolution*, p.86.
[28] Thompson, H. "Length-Measures in Ptolemaic Egypt," p.153.

measurement. This indicates differences in area measurements from one province to another. For example, if the cubit user working in the 17th Province of UE, so he keeps in mind that the side of the *sṯȝt* square is equal  , while if he is in the 18th Province of UE, so he uses a side equal  .

However, it seems that this system of *sṯȝt*[29] was in use far earlier, as depicting on the walls of the White Chapel of Sesostris I at Karnak. Actually, Lacau and Chevrier[30] were the first to point out that many of these texts are of the same vein as those found in the Chapel of Sesostris I, and are somehow connected to the *ḥb-sd* festival or the "jubilee of the king's reign". Moreover, on Earlier source, Palermo Stone which dating back to the Old Kingdom, *sṯȝt*[31] appeared as area records of lands. Similarly, it performed in later sources like many mathematical papyri, and others. It corresponds to the Greek *Aroura*. That determine as the following:

- 1*sṯȝt* or 1 Aroura = 100 x 100 cubits = 10.000 square Cubit (approximately 2735 square m.) [32]
- *mḥ* (1 cubit-area) = 1/100 *sṯȝt* [33]

Analysis

There are many cubits rods discovered, but I chose a number of sixteen fragments the only ones which had been decorated by representation of different provinces of Upper and Lower Egypt; among them are five dating back to the New Kingdom (four from the 18th Dynasty, and only one of the 19th Dynasty), seven to Late Period, and four for uncertain Period.

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[29] For more information about *sṯȝt* see: Chace, A.B. *The Rhind Mathematical Papyrus – British Museum 10057 and 10058*, vol.1, pp.33-34.

[30] Lacau, P. and Chevrier, H. *Une chapelle de Sésostris I er à Karnak*, pp. 217-248.

[31] Gardiner, A. in his Book: *Egyptian Grammar: Being an introduction to the study of Hieroglyphic*, p.200, §266; he mentioned that *sṯȝt* is divided into: (*rmn* = 1/2 *sṯȝt* , *ḥsb* = 1/4 *sṯȝt* , *sȝ* = 1/8 *sṯȝt*).

[32] Michel, M. *Les mathématiques de l'Égypteancienne*, pp.129-132.

[33] There are some other area-measure used by the Ancient Egyptians like:
1*ṯȝ* = 10 x 10 cubits = 100 square Cubit
1*ḫȝ* = 10 x100 cubits = 1000 square Cubit = 1/10 *sṯȝt*

In this part of the article, I make a comparison between these groups of votive-cubit fragments dating back to several periods and study the hieroglyphs text concerning provinces found on them. While the majority of the inscriptions on the votive cubit rods have been clarified by Schlott-Schwab,[34] many texts pose sizeable difficulties of interpretation and are still to be correctly understood. Here I attempt to shed some light on provinces representation that has so far eluded explanation completely.

The database of this study depends on measurable objects from museums around the world, while only two fragments are belonging to private collections.[35] The main purpose is to verify whether both the province-signs and cubit-measures that appeared on the surfaces of the cubits are related to each other or to the other divisions of the cubit. All objects[36] are referenced and classified in the next table (no.3) according to their registration numbers and period; they are as following:

Cubit Code	Present Location	Registration number	Dating
A	Neues Museum, Berlin	7358	18th Dynasty
B	Metropolitan Museum	102282	18th Dynasty
C	Metropolitan Museum	102283	18th Dynasty
D	Mallawi Museum	265	Amenophis III
E	Paris no.1 Private Collection[37]		Mernptah
F	British Museum	EA36656	Late Period
G	Petrie Museum	16373	Late Period
H	Turin Museum	2681	Scheschonk I
I	Egyptian Museum at Cairo	31/12/22/2	Osorkon II

[34] Schlott-Schwab, A. "Altägyptische texte über die Ausmaße Ägyptens," pp.109-113.
[35] Not all of them published.
[36] For the figures of Cubits A, B, C, D, E, G and H see Plate.1; and for Cubits I, L, M, N, O, P, Q and R see Plate.2.
[37] For more information see: Zivie, A. "Un fragment inédit de coudée votive".

L	Petrie Museum	16374	25th Dynasty
M	Egyptian Museum at Cairo	31/12/22/1	Nektanebos II
N	Brooklyn Museum	71.83	30th Dynasty
O	Egyptian Museum at Cairo	31/12/22/3 and 1/12/22/5	Unknown
P	Egyptian Museum at Cairo	31/12/22/4	Unknown
Q	Metropolitan Museum	41-160-102	Unknown
R	Alexandria Private Collection(38)		Unknown

Table 3: Cubit Distribution

Because of that great similarity of provinces inscriptions which occupied big parts of the votive cubits, it seems that they depended on the same original source, which Gardiner(39)dated it according to its language to the Middle Kingdom, to which no cubit rods earlier than this time have survived.

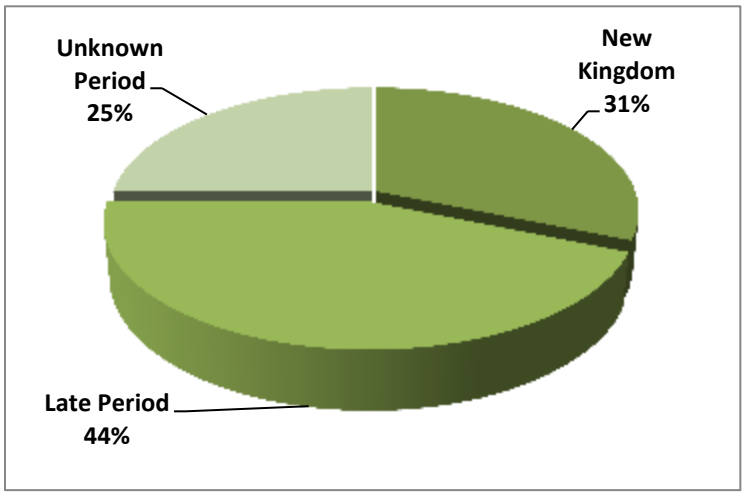
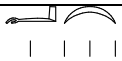
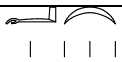


Fig.2: Cubits frequency by Period

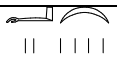
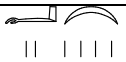
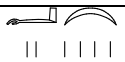
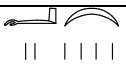
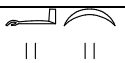
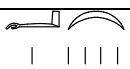
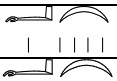
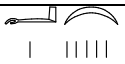
(38) It is found in Alexandria and it is now belong to Hrn. Harris's private collection at Stein. For more information see: Lepsius, R. *Die alt-äegyptische Elle und Ihre Eintheilung*, p.15.
(39) Gardiner, A.H. "Horus of Behdeite," p.34.

According to (fig.2), the majority of the cubits used in this study are dating back to Late Period, while only 31% are dating to New Kingdom. However, concerning to the decoration and measurement system of those 25 % dating back to Unknown Period, they seem to be dating back to the New Kingdom, so the large number is dating to that earlier period.

In the next table (no.4), I get thirty-four provinces of Egypt appeared on the surfaces of the Cubits; their signs and cubit-measures are those given by the votive cubit rods, while the Greek names are given by Bevan[40]and Verreth;[41] they are as following:

Provinces of Upper Egypt					
	Egyptian name		**Greek name**	**Cubit-measure**	**Appeared on Cubit**
1		*t3-sty*	Elephantine		D-I-L-N
2		*ỉmnty-ḥr*	Apollonopolis Magna		D-I-L-N
3		*nḫn*	Hierakonpolis		B-D-I-L-N
	Egyptian name		**Greek name**	**Cubit-measure**	**Appeared on Cubit**
4		*w3st*	Thebes		B-D-I-N
5		*Bỉkwy*	Coptos		B-D-I-N
6		*ỉty*	Tantere		B-D-G-I-N
7		*p3t*	Diospolis Parva		B-D-G-I-N
8		*t3-wr*	Thinis		D-I-N-M
9		*mnw*	Panaopolis		G-H-I-M
10		*w3ḏt*	Antaeopolis		C-F-H-I-M-R
11		*š3*	Hypselis		F-M-O-P-H-R

[40]Bevan, E. *A History of Egypt under the Ptolemaic Dynasty*, pp.140-141.
[41]Verreth, H. *A survey of Toponyms in Egypt in the Graeco-Roman period*, 2013.

12		*ḏw.f*	Hieracon		F-H-M-O-P-R
13		*nḏft-ḫntt*	Lycopolis		F-H-M-O-P-R
14		*nḏft-pḥtt*	Cusae		F-H-M-O-R
15		*wn*	Hermopolis Magna		F-H-M-O-R
16		*mḥyt*	Akoris		F-M-O-R
17		*ỉnpw*	Cynopolis		F-M-O-R
18		*ꜥnty*	Ankyronon		M-O
19		*wꜣbw*	Oxyrhynchus		M
20		*nꜥrt-ḫntt*	Herakleopolis Magna		M
21		*nꜥrt-pḥtt*	Akanthon		-
22		*mntw*	Aphroditopolis		-
Provinces of Lower Egypt					
	Egyptian name		**Greek name**	**Cubit-measure**	**Appeared on Cubit**
1		*ỉnb-ḥḏ*	Memphis		A
2		*ỉwꜥ*	Letopolis		A-E
3		*ỉmnt*	Gynaikopolites		A-E
4		*nỉt-rsy*	Prosopites		A-E
5		*nỉt-mḥyt*	Sais		A-E
6		*ḏw-ḫꜣsw*	Xoites		A-E
7		*rꜥ-ỉmnty*	Menelaites		B-D-I-N
8		*rꜥ- ỉꜣb*	Heroonpolis		B-D-I-N
9		*ꜥnḏty*	Busiris		G-M-Q

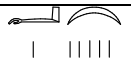
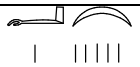
10		*km-wr*	Athribis		G-M-N-Q
11		*kȝ ḥsb*	Leontopolis		C-D-I-N
12		*ṯb-nṯrt*	Sebennytos		C-D-I-N

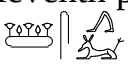
Table 4: Provinces of Upper and Lower Egypt on Cubits

According to the previous table, the province-sign are usually written above the sign  , except for the Cubit R,  omitted; and the same on Cubit D, they are omitted only for provinces of Upper Egypt. While on Cubit B it is completely not clear.

Because of the bad damage that most of those fragments suffered, and because we haven't a complete list of provinces on a single cubit surviving, so I have face a difficulty to read some signs, but depending on the other fragments and making a comparison according to their positions on the cubit, it gets easier to imagine them. Here are some notes about the province-signs on Cubits:

1- The sign  of the First province of UE[42] on Cubits D and I is omitted.

2- Province-signs are partly damaged in some cubits, as: First province of UE on Cubit L; Second province of UE on Cubits B and L; Eighth province of UE on Cubits N, M and G; Tenth province of UE on Cubits F, I and R; Eleventh province of UE on Cubit O; Twentieth province of UE on Cubit M; First province of LE[43] on Cubit A; Sixth province of LE on Cubit A; Seventh province of LE on Cubit N; Seventh and Eighth provinces of LE on Cubit Q; and finally, Eighth province of LE on Cubit M.

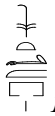
3- Province-sign of the Eleventh province of UE on Cubit P is partly damaged, but it reads as  , while usually (according to most of the cubits) the name of the god Imset is written in the eleventh digit as  . The mistake that the cubit's maker did, is writing the name as  only, and add the rest of the name incorrectly to the

[42] *UE* is an abbreviation for 'Upper Egypt'.
[43] *LE* is an abbreviation for 'Lower Egypt'.

province's sign (add  and omit ), he also wrote the name of the province as  ; while in Cubit R it reads as  .

4- Province-signs are completely damaged in some cubits, as: Third to Seventh provinces of UE on Cubit B (but the sum of the digits are clear because of the field of cubit-factors under each digit); Fourth province of UE on Cubit L; Seventh to Ninth provinces of UE on Cubit G; Eleventh to Fourteenth provinces of UE on Cubit F; Thirteenth province of UE on Cubit P; Eighth province of LE on Cubit N (except for ); Tenth to twelfth provinces of LE on Cubit C; and finally, Twelfth province of LE on Cubit O.

5- Province-signs are badly damaged in some cubits, as: Sixteenth province of UE on Cubit E; Seventeenth province of UE on Cubit F; and finally, Twentieth province of UE on Cubit Q.

6- Face E of cubits D, I and N, ended by the text:  *nswt mḥ m pr* "House of the Royal Cubit" which refers and parallels the first digit of the Cubit, it appeared Just exactly next to the representations of the Lower Egypt provinces.

On Cubits B, C, D, I, M, N and O, cubit-measures are inscribed under the sign  , on the upper part of Face C, just exactly under the group of provinces of Upper and Lower Egypt on Face B. Likewise directly under the six provinces of Lower Egypt that occupied the Face E. While, on cubits A, F, H, L, P and R, they inscribed surrounding the sign  . Here are some notes about the cubit-measure:

1- They are omitted completely from Cubit E.

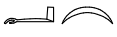
2- Cubit-measures are partly damaged in some cubits, as: Second province of UE on Cubit Q (only  appeared on the right side of  , while the  measure is damaged); Third province of UE on Cubit B (only  appeared on the left side of  , while the  measure is damaged); Seventh province of UE on Cubit B (only

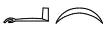
appeared on the right side of  , while the  measure is damaged) and on Cubit I reads as  ; Eight province of UE on Cubit N; Tenth province of UE on Cubit R (only  appeared to the left side of  , while the measure is damaged, so no way to recognize the cubit-measure); Twelfth province on of UE on Cubit R (only appeared to the left side of  , while the  measure is damaged, so no way to recognize the cubit-measure); Seventeenth province of UE on Cubit F (only appeared on the right side of  , while the  measure is damaged), and on Cubit R (only appeared on the right side of  , while the  measure is completely damaged); Fifteenth province of UE on Cubit H (only appeared on the right side of  , while the  measure is damaged); Sixteenth province on of UE on Cubit R ( omitted); and finally, First province of LE on Cubit A (only  appeared on the left side of  , while the  measure is damaged, so no way to recognize the measure).

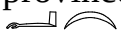
3- Measures are completely damaged in some cubits, as: Seventh to Ninth provinces of UE on Cubit G; Tenth province of UE on Cubits G and I (completely damaged, except , while the  measure is damaged); Eleventh province of LE on Cubit I; Eighteenth province of UE on Cubit M; Sixth province of LE on Cubit A; Tenth province of LE in Cubit F; Twelfth province of LE on Cubit O, except  ; and finally, the marks under of the Fourteenth, Fifteenth and Seventeenth provinces of UE on Cubit O are also completely damaged.

4- Measures are badly damaged in some cubits, as: Twelfeth, Fifteenth and sixteenth provinces of UE on Cubit F; Thirteenth province of UE on Cubit P; and finally, Twenty province of UE on Cubit M.

5- Some cubits have completely different cubit-Measures than the majority of the parallel measures on the other cubits. These differences are as following:

- Eleventh province of LE on Cubit F, reads as  , and on Cubit P reads as  , while it appeared as  on the other cubits.

-Twelfth province of LE on Cubit P, reads as  , and on Cubit D reads as  ; while it appeared as  on the other cubits.

-Thirteenth and Fourteenth provinces of UE on Cubit F read as  , while it appeared as  on the other cubits.

- Seventh province of LE on Cubit D reads as  , while it appeared as  on the other cubits.

According to these differences, I recognize that the wide variances belong to both Cubits F and P of the Late Period, and only the Cubit D which dating back to the New Kingdom; moreover, they belong to the provinces of Lower Egypt. We should be aware that the changes also detect the last group of Lower Egypt provinces that all have the same cubit-measure reading as  on the majority of the cubits.

For Cubit D, it seems that the changes chanced in only two provinces, is a matter of mistake by carving one extra palm-measure  , and the same for the reading of the Thirteenth and Fourteenth provinces of Upper Egypt on Cubit F. However, the changes on Cubits F and P, looks purposeful clear, which seems to be real changes in the *st3t* measure happened in the Eleventh and Twelfth provinces of Lower Egypt during Late Period.

Amenemope Cubit

A very distinctive 'reformed' wooden cubit[(44)] was offered by King Horemheb to Amenemope (according to its dedicatory text) has extraordinary inscriptions. This cubit artifact is the only

[(44)] Cubit no.6347 at Turin Museum.

complete cubit rod showing its divisions in two different colours: white and black. This colour meteorology system designates a transfiguration process similar to the process used to shift from the royal cubit to the reformed cubit.(45)

It is decorated with dedication texts on its Faces A and E, and scales of different divisions on Faces B and C. I compared this rod to the sixteen cubit-fragments that appeared in this article, because of their similarities in general shape, hieroglyphic inscriptions, scales, and location of scales, but in a single difference. Amenemope's cubit (fig.3) has not any significant to the province-signs, which omitted completely.

Fig.3: Cubit of Amenemope

cf. https://hiveminer.com/Tags/saqqara%2Cwood

While, the cubit-measures (which always connected directly to their province-signs in each digit) on Amenemope's cubit are also completely omitted from the first fifteen digits, and replaced by the fractions which as usual ended in the fifteenth Digit by the fraction  1/16. While, starting from the sixteen Digit, the cubit-measures had been added and reproduced in the same line with the fractions, ending in the last digit (no.28) of the Cubit, by their respective position like all the other cubits.

That makes no sense in the position in which they appear on the other cubits. The following table shows the cubit-measures on this unique cubit, in a comparison with the parallel measures on the other cubits, we could read them as following:

(45) Hirsch, A.P. *Ancient Egyptian Cubits – Origin and Evolution*, p.4.

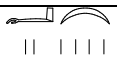
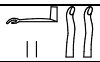
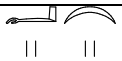
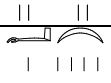
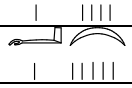
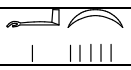
Cubit-measure		Position
Amenemope	Others	
		Digit 16
		Digit 17
		Digits 18 and 19
		Digits 20 to22
		Digit 23
		Digit 24
		Digits 25 to 27
		Digit 28

Table 5: Amenemope Cubit Markers

The reading for table (no.5), shows enormous difference measures in most of the digits, except for the Digits 18, 19 and even the last four ones. For example: it reads "two cubits and two fingers" in Digit 16 of Amenemope Cubit, while it is "two cubits and four fingers" on the other cubits. Moreover, the measure '  *dp*ᶜ 'Finger or Digit' appeared for the first time as a part of the cubit-measure on Digit 24 of Amenemope, it reads as "two cubits and two fingers," while it is "two cubits and two fingers" on the other cubits. I suppose that the designer of this rod made a mistake by carving  for  .

Also, the First province of LE which occupies Digit 23 reads as only  , which is completely damaged on most of the fragments, except on Cubit A, we could read only the palm-measure as  '2 palms' (while the  measure is completely damaged). So it is seems that Amenemope completely omitted the palm-measure of this digit. Actually, there is no way to make a full comparison for the measures of Digits (20 to 23) because they are completely damaged on all the sixteen cubit fragments.

Firenze Papyrus

The special divisions and inscriptions of the cubit appeared also on a single Papyrus called Firenze (fig.4),[46] which is a badly damaged papyrus cutting into 19 fragments, and dating back to unknown period, but according to its inscriptions, it seems that dating back to Late Period. Among its inscriptions are representations for 10 provinces associated by their cubit-measures.

By studying the papyrus, we could recognize the typical style of decorating the real cubit-rods. The sign of the provinces are written on  , and the cubit-measure appeared around both sides of  , with the cubit-measure  to the right, and the palm-measure  to the left side, that for all the provinces of Upper and Lower Egypt that decorated Face B of the cubit; while the writer made a big mistake by doing the opposite for the provinces of Lower Egypt on side E (cubit-measure  to the left, and the palm-measure  to the right side of ).

Fig.4: Representation of the biggest part of Firenze Papyrus

cf. Rosati, G. Un Modello di Cubito "Votivo"?

The signs and cubit-measures of the First, Second and Fourth provinces of Upper Egypt, and both the Sixth and Eighth provinces

[46] The papyrus is in Instituto Pappirologico "G. Vitelli" at Florence, with registration no.PSI inv.1 I.

of Lower Egypt are partly damaged. However, the signs and cubit-measures of the Third and Tenth provinces of Upper Egypt and the Fourth of Lower Egypt are completely damaged. Only the sign and measure of the Ninth province of Lower Egypt is in varied appearance.

We can also recognize that province-signs on Face E are completely drawn on an opposite direction of the whole inscription on the papyrus. Moreover, the palm measure in both the Ninth and Tenth provinces wrote in completely different rarely way as:

1- Ninth province: reads  for  .

2- Tenth province: reads  for  .

In general, the system of writing both the signs and the cubit-measures are parallel to inscriptions on the real cubits, which seems that the writer depend on the same source. Rosati[47] believes that it indicated through physical cubit rods dating back to the reign of Amenhotep III, were usually kept in the library of Tebtunis temple which includes two versions of the text, one Hieroglyphic and one Hieratic.

Other Monuments (a comparison study)

The pictorial and hieroglyphic text giving an inclusive description of the country was recorded at many monuments dating back to several Periods. It is clear, however, that the representation of the provinces is dating back to precursors recorded as early as the Middle Kingdom (12th Dynasty), for example, they appear in the inscriptions of Sesostris I's White Chapel at Karnak (fig.5).

This chapel has that kind of inscriptions that called 'river unit,' which gives information about the 22 provinces of Upper Egypt, and only 18 provinces in Lower Egypt; show the wide knowledge of the Ancient Egyptian with the science of surveying. These lists give the official name of each province, with more information about its capital, area of the province, the average Nile flood, the principal

[47] Rosati, G. Un Modello di Cubito "Votivo"?, p.125; Haring, B. "Administration and Law: Pharaonic," p.726.

god, the sacred barque, names of the temples, names and titles of the High Priests, the sacred tree, and more.

The lists give the height of the flood at various points on the Nile, for example: Elephantine, 21 cubits and 3 1/3 palms; while, for Diospolis, the most northerly town of the Delta, 6 cubits, 3 palms and 3 fingers.

Fig.5: A part of the outer wall of White Chapel of Sesostris I at Karnak

cf.https://commons.wikimedia.org/wiki/Category:White_Chapel_of_Senusret_I#/media/File:Nome_L_4_6.jpg

Concerning the Nile height, we may usefully quote that many annals appeared through the time between the First up to Fifth Dynasty, describing the rise of the Nile, among them, Palermo Stone[48] is considered the most famous. The principal purpose of the *Annals* gave the names of the years and more information including the Nile heights. It may partly answer when the royal cubit was first used as a converter.

From the New Kingdom onwards, continued on the votive cubit rods, province-signs are also found on the Tanis Geographical Papyrus (fig.6). It is a list of province-capitals in columns, naming the feast-day, sacred tree, sacred bark, cemetery, forbidden objects, lake of each city and other information. Unfortunately, some provinces had been omitted, as there is not space for all the numbers.

[48] For more information see: Clagett, M. *Ancient Egyptian Science*, pp.47-142.

Fig.6: Tanis Geographical Papyrus, part 2.

cf. Petrie, W.M.F. "The Geographical Papyrus," pl.x.

In addition to texts of specific significance like Firenze and Tanis Papyri, a number of cult-specific texts are also showed on the representation of the provinces. The best-preserved masterpiece of this type is the Book of the Fayum,[49] which is a cult geographical book concerning specifically to Sobek. The book that dating back to the Greco-Roman Period, is attested in several copies from the Tebtunis temple library, one or two Hieroglyphic, four or more Hieratic, and two Demotic translations with commentary.[50] The Hieroglyphic versions (written on the Boulaq/ Hood/ Amherst papyrus)[51] include a schematic mythologized map of the province. The large part of the papyrus is taken up by a wide, flat oval included in an extended rectangle, surrounding Lake Moeris that is central to the Faiyum province, where deities of the 42 provinces are combined with their cult centers.

Another well-preserved cult topographical treatise is Papyrus Jumilhac[52] which is compared the Book of the Faiyum; it is dating back to late Ptolemaic era; written in Hieroglyphs with occasional Demotic jottings, which pertains to the 17th and 18th provinces of Upper Egypt. It covers much of the same basic information that recorded in the Priestly Manual but adds a lot more detail and information.

[49] It is one of the last Ancient Egyptian mythological books. Egyptologist Beinlich published a full and illustrated edition of the hieroglyphic versions of the *Book of the Faiyum* in 1991. This publication is entitled as *Das Buchvom Fayum: Zum Religiösen Eigenverständnis Einer Ägyptischen Landschaft.*

[50] Haring, B. "Administration and Law: Pharaonic," p.726.

[51] This papyrus named for the three modern collectors who once held its pieces after its division in 1859. Beinlich, H. "The Book of the Faiyum," p.28.

[52] It is named after its first owner, Comte Odet de Jumilhac. For more information see: Vandier, M. "Le Papyrus Jumilhac"; Vandier, J. *Le Papyrus Jumilhac*.

Further evidences of the same Book, a version appeared at the temple of Kom Ombo (fig.7). The scene there is representing Emperor Marc Aurelian making a Wedjat-eye and surgical instruments as offered to a god and goddess. Another kind of offering, a representation of the country in a slightly trapezoidal shape, in which next to each item in the uncompleted list comprising the some provinces of Egypt, are inscribed the fractional numbers of the eye of Horus (1/2, 1/4, 1/8 etc.) (fig.7, right). Priskin[53] suggests that it is part of a 'recipe' that prescribes the amount of water needed from the listed provinces for rinsing the Osiris figures fashioned from soil and grains.

Fig.7: The topographical list on the enclosure wall of the temple at Kom Ombo

cf. Priskin, G. "A map of Egypt reconstructed from the description of the country at Edfu," fig.7.

Two more monuments dating back to Late Period of Egypt representing the map of the Cosmos are showing how Egyptians viewed themselves and their place in the world. The first of these is on the sarcophagus lid of the priest Wereshnefer (fig.8),[54] while the other similar circular map appears on piece of stone slab,[55] now in Yale Peabody Museum of Natural History.

Here the outermost sphere of the world is defined as goddess Nut, between her hands and legs, appears Geb representing the earth and supporting the circle-shape world. In the topmost register of the

[53] Priskin, G. "A map of Egypt reconstructed from the description of the country at Edfu," p.32.
[54] For more information see: Ransom, C.L. "A Late Egyptian Sarcophagus," pp.118-120.
[55] For more information see: Clère, J.J. "Fragments d'une Nouvelle Représentation Égyptienne du Monde," pp.30-46.

circle, there are two rectangles with adjoining wavy lines representing the two sources of the Nile flood to the south Egypt. In a ring that touches on this point the signs of the 42 provinces listed.

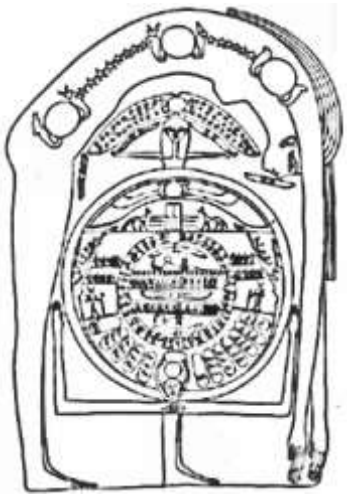


Fig.8: The cosmographic drawing on Wereshnefer's sarcophagus

cf. Ransom, "A Late Egyptian Sarcophagus," fig.3.

There is a great match between the signs of provinces on the cubits used this study, and those decorated the other kinds of monuments; except for some few differences. However, it is noticeable that the cubit-measures that occupied a wide part of the cubit disappeared from other monuments on which the province-signs appeared even the Chapel of Sesostris I which was overloaded by many types of measurement for flood-level and others.

Cubit's *ỉtrw*

As a matter of fact, to measure a long distance just in cubits would be like giving the distance from Cairo to Aswan in meter instead of kilometers. The Egyptians would have had larger units of measurement at hand; especially the *ḫt* "rod," which is a measure of 100 cubits for these long lengths (especially for field measurements) used if they had wished to stretch larger distances.

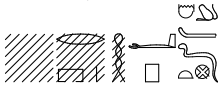
On this group of sixteen cubits, the name of some provinces appeared in a repeated text. The fascinatingly interesting inscription appeared gives a dimension between specific two provinces (*pḥdt* and *Pỉ-ḥʿpy*) as 20 *ỉtrw*, and a further detailed statistics of the

dimensions of Egypt, and indicates as its total length  106 *ỉtrw*. The same text repeated in the geographical papyrus from Tanis[56] and at the temple of Edfu; Brugsch[57] published and translated it at his *Thesaurus*. While the group of votive cubits afforded the complete elucidation of these data, as following:

dmḏ smɜn ỉtrw 106 m mḥt sšm ḫt ɜbḏw r Pỉ-ḥʿpy ỉtrw 86

ḫnt Pỉ-ḥpy pḥ Pḥdt ỉtrw 20

"Sum-total is of 106 *ỉtrw* in full mode of calculating it; *Pḥdt* to *Pỉ-ḥʿpy*,[58] 86 *ỉtrw*; from upstream at *Pỉ-ḥʿpy* to the end of *Pḥdt*,[59] 20 *ỉtrw*"

Among the group of the cubits discovered until now, the most completed record of this text founded on Cubit M that dates back to the reign of Nektanebos II.[60] The same text also decorated some other cubit-fragments like: Cairo (I and O),[61] Metropolitan (Q), and Turin Museum (H) but they are partly damaged. Moreover, another version appeared on the cubit of Mallawi (D) reads as  *(r pr ḥʿpy) pỉ-ḥpy pḥw Pḥḏt mḥ 20 ỉtrw* "--- until the temple of Hapy at the end of *Pḥḏt*, 20 *ỉtrw*."[62] While on the Cubit N at Brooklyn Museum[63] the text was omitted and the last word in the sentence reads as  *mḥt* "complete" or "full."

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[56] Petrie, W.M.F. "The Geographical Papyrus," *Two Hieroglyphic Papyri from Tanis*, pl.9, fr.9.
[57] Brugsch, H. *Thesaurus Inscriptionum Aegyptiacarum*, pp.604.
[58] *Pỉ-ḥpy* province is the modern Atar en-Naby district at Cairo. Gardiner, A.H. *Ancient Egyptian Onomastica*, vol.2, no.397.
[59] *pḥ Pḥdt* province is existing in the Delta, now Damnhur city.
[60] Cubit no.31.22.12.1 at Cairo Museum.
[61] For more information see: Borchardt, L. Borchardt, L. "Die Altägyptische Zeitmessung," pl.11; Schlott-Schwab, A. "Altägyptische texte über die Ausmaße Ägyptens," pls.xxiv-xxvi.
[62] Gabra mistakenly omitted  *ỉtrw* from the text. Gabra, S. "Coudée de Touna el Gaebel, Hermopolis Ouest – La Khemenow pa Meket des Egyptiens," p.135.
[63] Zivie, A. "Un fragment inédit de coudée votive," pp.181-188; Clagett, M. *Ancient Egyptian Science*, p.187.

The text is starting with a reference to the "total length as 106 *ỉtrw* in full," moreover, the course of the Nile *sšm ḫt* is calculated in two sections: the southern one stretches from Elephantine to Atar en-Naby;[64] while the other northern one from there to *pḥ wbḥdt* "hinterland of Damnhur. This gives us (according to the text) the total length of 86 + 20 = 106 *ỉtrw* from Elephantine to the sea.

This length of the country as 106 *ỉtrw* denoting the south-north extent already appeared for the first time ever on the walls of the White Chapel Kiosk of Sesostris I at Karnak; continued to perform on New Kingdom and Late Period cubits rods, also found on Tanis Geographical Papyrus (Second century CE) and some other sources.

The description of the country in the form of a map found also on a scene and a text dating back to the Ptolemaic Period, decorating the enclosure wall of the Edfu temple it reads as following:

> "The cultivable lands of all Egypt as they are set down under Horus in eternity, from Elephantine to the marshes, 27000000 *sṯȝt* of land …… In specification: All the rivers of Upper and Lower Egypt with the water found in them every day, 2400000 *sṯȝt* ……. Because Egypt is the eye of Horus, its length from Elephantine in its entirety, that is one side of its perimeter, is 106 *ỉtrw*, its width on the land from the western river branch of Egypt to the eastern one is 14 *ỉtrw*; 27000000 *sṯȝt* in total."[65]

The scene is representing a geographical procession under the supervision of Thoth, following by a text giving a description of Egypt. From the data in the text, it is clear that Edfu map take the shape of a rectangle since the north-south (106 *ỉtrw*) and east-west (14 *ỉtrw*) dimensions of Egypt.

This kind of hieroglyphic Egyptian inscriptions on the cubits and other monuments had included a series of reference made to a measure of length called *ỉtrw*. It is a specific river-measure equal to

[64] Gardiner, A.H. "Horus of Behdeite," pp.33-34.
[65] Brugsch, H. *Thesaurus Inscriptionum Aegyptiacarum*, pp.603-604; Priskin, G. "A map of Egypt reconstructed from the description of the country at Edfu," p.25.

20.000 cubits,[66] or a kind of road-measure of approximate (10.5 km.).[67] It is a measure used for roads and large fields, is considered the largest distance measurement the Ancient Egyptian used.

Egyptologists attempted to determine the exact length of the *ỉtrw*, they faced the problem of deciding whether the distances referred to were meant to be measured in a straight roads or along the river Nile routes.

It was merely some sort of generic word for river, in an early example from the latter half of the Fifth Dynasty. Also it is identical to the writing of *ỉtrw* 'seasons' in the Pyramid Text.[68] Kadish[69] called attention to what he saw as a parallel between *rnpwt*, "yearly offerings" and the cases of *ỉtrw* which he understood to mean "seasonal offerings." The word  *ỉtrw* was also used for 'month.'[70]

A measure Herodotus[71] named as 'schoenus' was identical to the *ỉtrw*;[72] the term that used during the Ptolemaic Period.[73] He mentioned that schoenus was 60 stadia make up one *ỉtrw*; "schoenus, which is an Egyptian measure, is of sixty stades." The main problem of this suggestion that we are not sure about the kind of cubit Herodotus used, the Royal Cubit or the Small one; while the majority of Egyptologists believe that this cubit cannot be the Royal one. So the dimension that he used is completely different from this used on the cubit' texts.

It must be highlighted that there are many texts containing the figure of 106 *ỉtrw* referring to the length of Egypt, but Edfu text reveals a great deal of new information that is not preserved

[66] Borchardt, L. "Einweiterer Versuchzur Längenbestimmung der ägyptischen Meilen (*ỉtrw*)," p.120.
[67] Schlott-Schwab, A. "Altägyptische texte über die Ausmaße Ägyptens," pp.118-120.
[68] Faulkner, R.O. *A concise dictionary of Middle Egyptian*, p.33.
[69] Gerald, E.K. "Seasonality and the Name of the Nile," p.193.
[70] Faulkner, R.O. *A concise dictionary of Middle Egyptian*, p.81.
[71] Herodotus, *The Histories*, book 2, chapter 6.
[72] Priskin, G. "Reconstructing the Length and Subdivision of the Iteru from Late Egyptian and Greco-Roman Texts," p.58.
[73] Thompson, H. "Length-Measures in Ptolemaic Egypt," p.153; Gillings, R.J. *Mathematics in the time of the Pharaohs*, p.209.

elsewhere, such as the width of Egypt from east to west is14 *ỉtrw* and its size in terms of area measurements 27000000 *sṯ3t* overall.

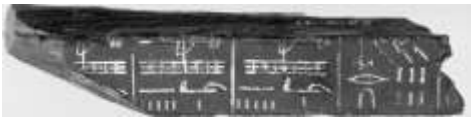
Conclusion

This article is reviewing the special type of inscriptions that occupied parts of the cubit' surfaces. It is limited to a particular aspect of this unique kind of measurement tools, especially the provinces representation. The inscriptions make us think that the votive cubits had symbolic, rather than practical significance. The texts inscribed on it records a list of the Egyptian provinces, the physical extentions of Egypt, the variations of the land measure according to the provinces, and many other similar information.

I introduced the concept of a *cubit* as a tool, and then I studied a group of 16 cubits to propose concepts for the representation of province-signs and cubit-measures on this kind of rods. In the last section of this paper, I observed on some other sources engaged by provinces' representations, also comparisons with those on the cubits.

The representation of the provinces on the cubit is another form of the old Egyptian's fondness for drawing and representing a map of Egypt, the matter that prove they had a great vision about the extent of their country. Provinces are occupying big portion of many Cubits dating back to different Periods. They also established a connection between the two units of the *ỉtrw*, *sṯ3t* and Cubit. *sṯ3t* may originally have varied in size across Egypt's provinces.

Plates

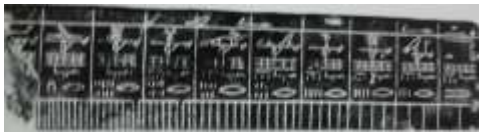
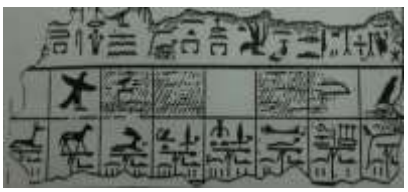
 **A** (Neues Museum no.7358)	 **B** (Metropolitan Museum no.102282)
 **C** (Metropolitan Museum no.102283)	 D (Mallawi Museum no.265)
 E (Paris no.1)	 F (British Museum EA36656)
 G (Petrie Museum 16373)	 H (Turin Museum 2681)

Pl.1: Some votive cubits.

Cf. **A:** https://artsandculture.google.com/asset/fragment-of-an cubit/NAGMmRlDR7RO-g**; B:** https://www.metmuseum.org/art/collection/ search/ 554519; **C:** https://commons.wikimedia.org/wiki/File:Fragment _ of_a_Cubit_ Measuring_Rod_MET_102083.jpg; **D:** Gabra, S. "Coudée de Touna el Gaebel, Hermopolis Ouest – La Khemenow pa Meket des Egyptiens," fig.3B; **E:** Zivie, A. "Un fragment inédit de coudée votive," fig.3;

F: https://research.britishmuseum.org/ research/collection_online/ assetid=424049001&objectid=118310&partid=1**;**

G: http://petriecat.museums.ucl.ac.uk/detail.aspx**; H:** Schlott-Schwab, "Altägyptische texte über die Ausmaße Ägyptens," pl.xxiii;

 I (Egyptian Museum at Cairo 31/12/22/2)	 L (Petrie Museum 16374)
 M (Egyptian Museum at Cairo 31/12/22/1)	 N (Brooklyn Museum 71.83)
 O (Egyptian Museum at Cairo 31/12/22/3 and 31/12/22/5)	 P (Egyptian Museum at Cairo 31/12/22/4)
 Q (Metropolitan Museum 41-160-102)	 R (Alexandria)

Pl.2: Some votive cubits.

Cf. **I:** Borchardt, L. "Die Altägyptische Zeitmessung," pl.11;

L: http://petriecat.museums.ucl.ac.uk/detail.aspx#30311**;**

M: Borchardt, L. "Die Altägyptische Zeitmessung," pl.11;

N: https://www.brooklynmuseum.org/opencollection/objects/97114;

O: Schlott-Schwab, A. "Altägyptische texte über die Ausmaße Ägyptens," pl.xxvi; **P:** Schlott-Schwab, A. "Altägyptische texte über die Ausmaße Ägyptens," pl.xxviii**; Q:** https://www.metmuseum.org/art/collection/search/551184**; R:** Lepsius, R. *Die alt-äegyptische Elle und Ihre Eintheilung*, fig.iv.24.

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نقوش الأقاليم على الذراع (وحدة قياس الأطوال) النذرى المصرى القديم

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الملخص

الذراع النذري هو ذلك النوع من الآثار التي لم يتم دراستها أبداً بصورة مُرضية، حيث يذخر هذا النوع من أدوات قياس الطول فى مصر القديمة بالعديد من النقوش المعقدة التى يصعب فهمها ودراستها. كلمة "ذراع" *mḥ* تستخدم أيضا كمدلول لأحدى وحدات قياس الطول حيث يعتبر المصريين القدماء من أقدم الشعوب أستخداماً لهذه الوحدة. ولم يكن هذا النوع من الأذرع النذرية والتى فى الغالب مصنوعة من أحجار ثقيلة يستخدم فعلياً كأداة قياس فى الحياة اليومية، ولكن كجزء من الأثاث الجنائزى أو للأحتفاظ بها فى المعبد.

تهدف هذه الدراسة إلى المساعدة فى فهم وشرح تلك النقوش المثيرة للأهتمام، وللوصول لذلك أجريت نوعاً من المقارنة بين بعض من تلك الأذرع النذرية التي يعود تاريخها إلى عدة فترات متفاوتة على مر التاريخ المصرى القديم، ودراسة النصوص التى نُقشت عليها، من أجل تحقيق الهدف الرئيسى من هذا البحث الا وهو دراسة النقوش الخاصة بأقاليم مصر العليا والسفلى التى مثلت على أداة القياس تلك، وأيضا دراسة العلاقة بينها وبين الكثير من الأرقام المرتبطة بتلك الأقاليم. كما قام الباحث فى هذه الدراسة بإجراء مقارنة بين تلك النقوش التى تمثل الأقاليم على الأذرع النذرية وغيرها من الأثار الأخرى.

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