The concept of Account-Lists in Ancient Egypt

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Abstract: This paper presents a detailed explanation is included the concept of Account- Lists appeared in ancient Egypt, and this is evidenced by the huge number of these documents written in hieratic and then demotic; The texts of this quality included (tax records, agendas, grain distribution tables, accounting tables, distribution records of wages and receivables, food orders, materials Lists of various items and materials, lists of the contents of the temples, documents for the transfer and delivery of materials and yields). Then presented the terms related to the mathematical text and similarly wages and taxes. The study concluded with the presentation of the written form of the texts Full detailed explanation followed by the conclusion.

Key Words: Account, List, Arithmetic, Mathematical, Wage, Daybooks, Tax.

مفهوم قوائم الحسابات في مصر القديمة

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الملخص: يقدم هذا البحث شرحًا تفصيلياً متضمنًا المفهوم الخاص بقوائم الحسابات التي ظهرت في مصر القديمة، ويتضح ذلك من خلال الكم الهائل من هذة الوثائق التي كتبت بالهيراطيقية ثم الديموطيقية واشتملت النصوص الخاصة بتلك النوعية علي (السجلات الضريبية، جداول الاعمال، جداول توزيع الغلال، جداول محاسبات، سجلات توزيع اجور ومستحقات، طلبيات مواد غذائية ومواد كساء، قوائم بأشياء ومواد متنوعة، قوائم لحصر محتويات المعابد، وثائق لنقل وتسليم مواد وغلال) ومن ثم تم عرض المصطلحات الخاصة بالنص الحسابي وبالمثل المصطلحات الخاصة بالأجور والضرائب ثم اختتمت الدراسة بعرض الشكل الكتابي الخاص بالنصوص عرضًا تفصيليًا كاملًا متبوعًا بإستنتاج.

الكلمات الدالة: حساب، قائمة، مصطلح حسابي، مصطلح رياضي، أجر، كتب يوميات، ضريبة.

Will discuss the issue through several points:

- Terminology.
- Computational reporting.
- Daybooks.
- Wages records & income of individuals.
- Tax reports.
- Categories.
- General Form.

Terminology:

Although there is no term describing or refer to the Arithmetic or Statistical form in some papyri, there are expressions that refer to the different mathematical and statistical forms as titles¹:

Term	Texts	Source	Transcript	Remarks
<i>ḥsb</i>	A- Abu- sir Papyrus B- Boulaq Papyrus 18 C- Louvre Papyrus E 3226 D- Raisner Papyrus 1 E- Kahun Papyrus	Wb, III, 166 Faulkner, CD, 178 LD, 140. Ranier Hannig, Handworterbuch, KAW, Band 64, (Berlin: Philipp von zebern 1995), 1554 DELC, 313		Calculates & Calculates or budget Continued writing during Coptic language in these biblical forms 20CBE, 20CB 2ACBE
'ḥ't	A- Rhind Papyrus Mathematical B- Mosco Papyrus Mathematical C- Kahun	Wb, I, 221 Faulkner, CD, 47		Total Quantity amount List

¹ Mohamed Sherif, "A collection of administrative hierarchies in the Egyptian Museum comparative linguistic study" (unpublished MA thesis, Cairo University, Faculty of Archeology, 1989) 8

	Papyrus		
	D- Hieratic Ostraka		
Rht	A-Thothmosis III Annuals in Karnak B- Raizner Papyrus II C- Boulaq Papyrus II D- Egyptian Museum Papyrus No 58072 E- New kingdom Ostraca F- Kahun Papyrus	Wb, II, 448 CD, 152. LD, I, 68.	List quantities or List the amount or A known account
Imy-rn.f	A- Kahun Papyrus B- Raisner Papyrus 1 C- Raisner Papyrus II D- Anstasi Papyrus IV	Wb, I, 74,15 CD,19 LD, III, BL, 12,c Haning,Wb 1434 CDD, 47 Er. Glossar. 249.	Names list Sometimes rn is written only in the demotic accounts by these two forms
šs	A- Louvre Papyrus E 3226		an document and translated when it appears in a

	B-Heka Nkht Papers	Wb, III, 476,14 Faulkner, CD, 246.	statistical document with an accounting document or a list ¹ As in the list of Heka Nacht ²
Rdyt	A- Boulaq Papyrus II B- Louvre Papyrus E 3226	Wb, V, 419 Faulkner, CD, 154.	Statistical registration & The material is statistically recorded
sḥwy	A- Louvre Papyrus E 3226	Wb, IV, 10-14	An arithmetic expressions means "summary" or "abbreviated"
sh3	A-Louvre Papyrus E 3226	Wb, IV,232	An arithmetic expressions means a memorandum or a total statement ³ it been reported in these forms

¹ Sherif, A collection of administrative hierarchies in the Egyptian Museum, 13.
² James Henary, The Hekanakht Papers and other Early Middle Kingdom documents, (Newyork:

Metropolitan Museum 1962), 52-53, pl.10, 2-3.

Mounir Magally, *Notion de comptabilite à propos du papyrus E3226 du Musee du Louvre* (Cairo: Institut français d'archéologie orientale1977), 54, 61-63.

snn	A-Egyptian Museum Papyrus No 58085 B- Egyptian Museum Papyrus No 58082	Wb, III, 460, 1-4 Faulkner, CD, 232.	an mathematical expression that means "copy of a document" or book.
km- kmt	A- Raisner Papyrus 1 B- Formal Letter Middle kingdom	Wb,V,128, 8- 11. Faulkner, CD, 286.	An arithmetic expression means "paid", it comes at the beginning of the lists of multiple things or materials paid from a person or person to someone ¹

¹ Fayza Haikal, "A Letter of the Middle Kingdom", *JAE 70* (1984-1985): 314. Pap.Reisner, I, 83.

Discussion:

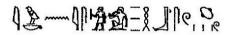


Is one of the words that are described by some arithmetic or that mean some arithmetical texts, and this word has been received since the old kingdom¹ means the word in the old Egyptian verb (calculated) and the name (account) and use this word as a term in the arithmetic texts, The calculation itself or in the sense of the most precise process²(accounting settlement) or (budget) Therefore, the text that is described or described as hsb or the prefix with the word hsb, were able directly to make sure that the text in it is a mathematical text or an arithmetical balance, not just a general census list³, and also a calculation of income (income) as the title of the arithmetic form at the beginning The papyrus, as mentioned in Boulaq papyrus 18^4 as read:

ḥsb 'kw n nb (.i) 'nḥ wd3 snb n rnpt-sp 3 3bd 2 sw 28

To calculate the income of (my) lord in order to live and recover and enjoy the health of the third year, the second month of the flood season (today) 28.

As in Anastasi papyrus IV use hsb with the word nis in this form nis-hbswTo mean count or form an account as read⁵:



iw.k [r] nis hsbw

You (do) to form calculations

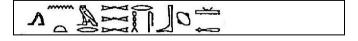
As in Bologna Papyrus No 1094, as read⁶:

全见见空见则是重

ih di.k hsb r-3bw

I will give you a good account

As for the meaning of statistics, find it as read':



¹ Prosener- Krieger Paule, Louis De Cenival, *Hieratic Papyri in British Museum, Abu Sir Papyri, 5th Series* (London: The Trustees of the British Museum, 1968), PL. 41, c.2; 47, A2; B, 2.

² Magally, Notion de Combliblites, 38, 53-55.

³Sherif, "A collection of administrative hierarchies in the Egyptian Museum", 8-9

⁴ Alexandre Scharff, "Pap. Boulaq 18", ZAS 57 (1922), PL. 8, XXI, 1.

⁵ P. Anstasi, V, A 23, 4 = A. Gardiner, *LEM*, 69.

⁶ P. Bolomga 1094, 1, 2 = A. Gardiner, *LEM*, 1; *LEM*, 3.

⁷ Norman Daveis, "The Rock Tombs in Deir el Gabarawi", ASE 11-12 (1902): 1. 13.

iw imy-r tswt r hsb '3 (He attended) supervisor of the groups for the

great census

And find also in the sense of the census within the administrative titles as read¹:

の毎一幅のしば

hsbw sš hprt

Records of census accountants

Use this word permanently for this determative Which appeared in various forms² — , , , Simpson³ and Moruno⁴ Both agree in translating the word *hsbw* into Humans who have been counted, while Helck⁵ Translation to Workers engaged in forced labor as read⁶:

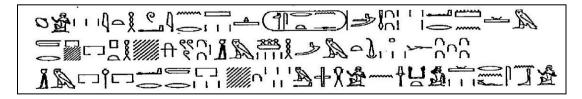
Imny ^enḥ-wd3-snb ḥnt.n.i m ḥsbw 400 m stpw nb n mš^e.i iw m ḥtp nn nhw.sn in.n.i nbw

Amini live and recover and enjoy the health for him I have sent 400 selected workers, most of them from my army, and they have returned in peace without losing any of them, I have brought the gold.

And also as read⁷:

'nh n niwt [i]w iri.n.hbs m k3' it rdi mwy m hr-ib hrw
Life for the city, he ordered the workers to empty the grain
and give water (to them) in the first day

As mentioned in the Kahun Papyrus as read⁸:



¹ Perci Newberry, EL-Bersheh, II (London: Heidelberg University Library 1895), PL.VIII.

³ Simpson, *Papyrus Reisner*, II (Boston: Boston Museum of Fine Arts 1965), 34.

² Islam Amer, "Census of Cattles in ancient Egypt until the end of the era of the new kingdom" (unpublished MA thesis, Alexandria University, Faculty of Arts, 2011), 81.

⁴ Garcia Moreno, "La Population Mrt': Une Approche du Probleme de la Servitude, dans L' Egypt du III III Millenaire", I; *JEA* 84 (1998): 82.

⁵ Wolfgang Helck, "Frodienst", LA II (1977), sp. 333.

⁶ Urk, VII, 15, 4-5.

⁷ Suit, V, Pl. 15, 5.

⁸ P. Kahun- Gurob, II, PL. XVIII, 42-48, I, 48.

hsbw ith htp snwsrt m3° hrw 'rmn m phr h3r 321 ini sš hm3t ht 50 ini m pr-hd rdi phr ... 15 m im-s3 n hpr k3t rn.f snb

The emulators (who) are conducting the stones: Hetep Snosert Sadiq say 25 pieces were placed and remained in the barn ... 321 pouch brought from the salt county swamps 50 stick brought from the treasury department and given to the barn ... 15 from im-s3 to business manager seneb

Simpson commented on term *hsbw* is that it sometimes describes the type of workers who prepare for work assignments, and an expression hsbw m3t \bigcirc Describes the additional workers of the list, or means the workers of the new list, and in any case, the word hsb as an act directly refers to a statistic as previously or calculate (arithmetic list) as read¹:

sš ikr n wn m3° tp-hsb n ht nbt di n hh hsb n h3 ... dmd n °rf.f hfn s°h ...

The excellent writer, presented the list of real account for each property, he has made hundreds of thousands, and counted hundreds of all his plants and tens of thousands (for) nobles...

It also expresses the enumeration of individuals as read²:



ḥsb m 3ḥ

Counting of the soul

Or farmland or Cattles³ and their own titles as read⁴:

hsb 3ht nt wb hr s3w

Counting the field of the priest regarding the guard (battalion)

In imy-r pr hsb ihw snbni w^crt mht

By overseer of House of the cattle farmers Sinini for the northern region

sš hsb it imn m h3t hsb it imn m h3t imy-r pr hsb rmt

The writer accountant of grain imn-m-h3t, the grain

¹ CG 583, 5 = L. Borchardt, 'Statuen und Statuetten von Konigen und Privatleuten', Bd, I (Berlin: Museum von Kairo, 1919), 135.

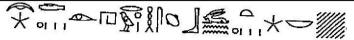
² Urk, V, 105.

³ Amer, "Census of Cattles in ancient Egypt", 92.

⁴ P. Kahun- Gurob, II, PL. 12, 2, I, 52.

account imn-m-h3t the supervisor of house, counting of the

As for the counting of numbers and time, they are received as read²:



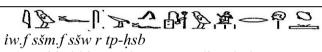
3bd iri hrw hsb wnwt nb

I have done (in this) month (and in this) today a count for all the

Ink hsb 'r tnwt hh ...srd

Iam accountant of reeds and counted thousands of trees³

When the word hsb comes with the word to \mathfrak{D} in this form $\overset{\sim}{\longrightarrow}$ Refer to an account or arithmetic list as read⁴:



I've guided him to the account list clerks

This term expresses the total amount of delivery and often relates to the quantities of grain and always comes in the charts of the charts of the hieratic charts⁵. As for the examples of 'h' found in the era of the Twelfth Dynasty - the Middle Kingdom, the thirteenth Dynasty where the term is mentioned in the Kahun Papyrus as read⁶:

In the seventeenth Dynasty, in the Rind Mathematical Papyrus, in addition to most of the records of the new kingdom era and also in the Moscow sporty papyrus, and in the texts of the new kingdom, 'h't, 'h' meaning (amount, quantity, number) as read in Boulag 18⁷:

¹ Urk, IV, 105, 10- 13.

² Norman Davies, *The Rock Tombs in EL-Amarna*, I (London: Archeological survey of Egypt, 1903), PL. PL. 36.

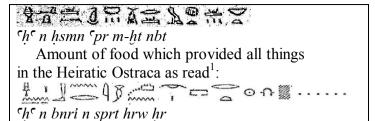
³ CG 583, P.137, 3.

⁴ Urk, IV, 20, 1.

⁵ Megally, *Notion de comptabilite*, 56-57.

⁶ Kahun-Gurob, II, 119.

⁷ Megally, *Notion de comptabilite*, 57.



Amount of Fruit ready for delivery today

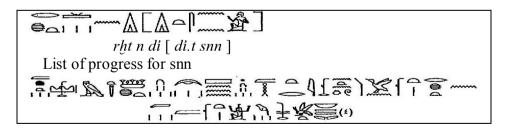


The most important terms used as the title of some statistical forms or forms of arithmetic, and this word came from the era of the old kingdom and it refers specifically to the meaning of (a list of numbers or quantities or amount)² and therefore they lead or mean statistical forms are lists or abstract statistics Without reference to the same calculation³; As I mentioned in the annals of King Tuthmosis III in Karnak as a tribute list as read⁴:

rht inw iny n b3w hm = f in wrw nw rtnw

The income list to His Majesty (because of the power of His Majesty) by the heads of Ritno

The word rht is a feminine term of indirect words that are related to the process of statistics and help in the completion of the inventory and statistics process where it is mentioned in wb as a list or statement, ie, a paper that lists names or objects in a row for the purpose of inventory⁵, Lesko⁶ mentioned that this word came in the form of "list" in in some texts as well as in other texts to refer to a statement with payment information, and often rht comes with the letter n in case of direct addition to indicate a list of 7 As read⁸:



¹ ZAS, 57 (1922) 193.

² Dimitri Meeks, *Dictionnaires e lexicographique de l'égypte ancienne* (Paris: Bibliotheca Orientalis 56/5–6, 1999), I, 77 .2415, II, 78.2430 ; III, 79. 1780.

³ Sherif, "A collection of administrative hierarchies in the Egyptian Museum", 10.

⁴ Urk, IV, 689, 17.

⁵ Wb, II, 448; Faulkner, CD, 152; Hannig, Wb, 1434.

⁶ Leonard Lesko, *Late Egyptian Dictionary*, I (United States America, 1982), 68.

⁷ Amer, "Census of Cattles in ancient Egypt", 93.

⁸ Griffith, "Siut", PL.7, 283.

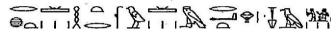
m-ht h3wt m tpy 3ht sw 15 3bd 3 šmw sw 15 mhtri n tnw n rnpt rht n dkr(w) m rnpt hh hfn nsw bity nb t3wy

accompanying the list of properties in the first month of the flood season, Day 15, and in the third month of the flood season, Day 5, due to each year, a list of offerings for millions and hundreds of thousands of years (coming) of the King of Upper Egypt and the Lower Master of the double Earth¹

Sometimes it means "list" or "statement" with payment information as in the second Kahun papyrus as read²:

hnt rht pn 4000
[Paid] of this statement 4000

For example, you may mean; (1) a list for delivery or deposit³ as read⁴:



rht htrw m rdi.t hr sm3

Annual list of taxes (which) give to the people

rht ini hr – s3 in nswt m ht pr n hrw pf

The list (which) was brought by the king after that of the house of this enemy⁵

As well as in Kahun Papyrus as read⁶:

rht b3kw n st 100

List of duck production 100

(2) List of cereals or legumes⁷ as read⁸:

rht šmw ini n ḥm=f m 'ḥwt mdik stw ḥk3t h3r 207 , 300

The harvest list (which) was brought by His Majesty from the fields of Megiddo: four times the *hk3t* of grain 207,300

² P.Kahun- Gurob, II, Pl.21, 31, I, 54.

¹ KRI, I, 90, 14-16.

³ Ferdric Griffith, *The Petrie Papyri: hieratic papyri from Kahun and Gurob; principally of the Middle Kingdom*, Band I (London: Bernard Quaritch 1897) 18 & Band II (London: Bernard Quaritch, 1898), PL. 8, 44.

⁴Kahun- Gurob, II, Pl. 21, 30.

⁵ Urk, IV, 664, 17.

⁶ Kahun- Gurob, II, Pl. 8, 44, I, P. 18.

⁷ Wb, II, 448, 15.

⁸ Urk, IV, 667, 13-14.

(3) A list of individuals or persons as read¹:

EMMINISTER TO THE PROPERTY OF THE PROPERTY OF

rht msw srw ini m rnpt tn s 36 hm hmt 181

The list of children of leaders (who) were present this year: 36 men, 181 men

And when you come merged with this word \bigvee *iri* it means a list of something, a list of it, a list of this thing ... "as read²:

THE THE ME AKE

wn m-c p3 sip n it rht iry

(Which) is in the hands ... handed to it a list of it

'h' n rdi.n n.i nb.i nbw hswt rht iry nbw šby 2 'w'w 4

I have made to my favorite gold sidi (his) list of gold: two decades and four rings³

It also came in some texts in the sense of size as read⁴:

FIND SCALIFORM SOLUTIONS OF THE SERVICE SERVIC

Ink iw r smi n.i r dd iri.tn n.i rh 's3 m it m ps m p3y.i 3ht

A servant came to tell me that you made a large quantity / amount of barley in a part of my field

In the first Reisner papyrus, it came in the sense of arithmetic, accounting, or arithmetic⁵ as read⁶:

rht hmt htr 3dyt hn

Calculation or statement of collection of copper

rh bw in inn im

List or statement of places (that) brought (of them) those there⁷

In addition to used rht to describe some mathematical forms such as balancing hsh and this type of use is due to the middle kingdom¹ in the papyrus of the Egyptian Museum No. 58072 as read²:

¹ Urk, IV, 667, 13-14.

² P. Kahun- Gurob, II, Pl. 37, 21, I, 82-83.

³ Urk, IV, P. 893, 10-11.

⁴ P. Anstasi, V, 27, 4.

⁵ P. Reisner, II, Lexical Index, 30.

⁶ P. Reisner, I, B 31, PL. 5 A, 27.

⁷P. Reisner, I, 31.

rht n3 n it nty iw=sn r prt
List (amount) of grains that will be (used) as seeds

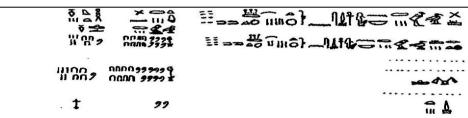
The expression has been used $\bigcirc \bigcirc \bigcirc \bigcirc$ literally translates "to cause to know" and means (list) at the beginning of some statistical lists since the second half of the new kingdom³ in one of the appendices as read⁴:

tha to call to the season

r rdit rh=tw 3ht nbt idi nht-m-mwt n hri

make it known (list) of him all things given by Nakhm to mother of Huri

The word rht is included with the word hsb in one paragraph of Papyrus 18, where hsb describes the arithmetic form or the balancing process, while Rht refers to quantities of different materials as read⁵:



hsb b3kw n nb nh wd3 snb n rnpt 3 3bd 2 3ht 28 t hsb n hnkt Rht b3kw n nb nh wd3 snb n rnpt 3 3bd 2 3ht 28 b3kw 1680 hnkt 135 dmdt b3kw 1980 hnkt 145

d3t 200 nfr

The account of lord s servants year 3 month 2 winter session bread, beer the account of lord s servants year 3 month 2 winter session 1680 beer 135 treasury 1980 beer 145

Balance 200 finish.

Imy- rn.f

Means a list of names or literally (name - by name)⁶ and was often used as a list of lists to record or name the names of the workers assigned to a work⁷, as mentioned in the initial Raisner papyrus as read¹:

² Egyptian Museum Papyrus No. 85072 (Public Record), First line.

¹ P. Reisner, II, pl. 6 a, 1.

³ Jroslav Cerny, Alan Gardiner, *Hieratic Ostraca* (Oxford: Griffith Institute at the University Press, 1957); pl. xviii, 3, 1; XXI, 2,1; LXXII, 1, rt, 1.

⁴ Sherif, "A collection of administrative hierarchies", 12.

⁵ Sherif, "A collection of administrative hierarchies", 10.

⁶ Abd el- Mohsen Bakir, Egyptian Egistolography (Cairo, Bibliotheque d' Etude 48, 1979), 67f.

⁷ Sherif, "A collection of administrative hierarchies", 12.

Cale manifesat

Imv-rn=fmnv ntv (m) Gbtvw

List of workers of mny (from) Qeft

This expression is closely related to the census and census of the population, whether they are workers, soldiers or slaves, as they are listed in the "wb"² (list of names) as translated by Faulkner³, the list of names as in the Kahun Papyrus as read⁴:

+多色為三萬一川---

Imy -rn.f iri nn r-gs .sn

List the names of individuals who have done those things to

As in the Heiratic texts of the British Museum No. 5646 as read⁵:

Imy - rn.f n n3 .n ht nty m s

List of names of things for this man

Which come as a note in Anastasi Papyri IV as read⁶:

验写"风中·鱼"及严强严强

dd s3 n.n n3 rnw imy -rn.f

Read the names aloud from the contact list

It is clear from this text that this expression refers to the process of calling on the names of soldiers or workers, where he says or calls the commander or observer on the name of the person responds to the person who was calling for his name, and this procedure was intended to make a census of workers or soldiers or prove their Presence or absence, and when this term is associated with a word⁷ $\sqrt[4]{n}$ iri by this form:

Imy -rn firi
A list of their names⁸

iw rdi.n.i n.f hsbw 3 imy - rn.f iri

I have given him three workers (and this) a list of their names⁹

¹ P. Reisner I, PL. 2.

² Wb, I, 74, 15.

³ CD, P. 19.

⁴ P. Kahun- Gurob, II, PL.13, 1, I, 32.

⁵ ZAS 6 (1868), 41.

⁶ P. Anstasi, V, 25, 8.

⁷ Wb, I, 74, 16.

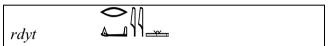
⁸ P. Kahun- Gurob, II, PL. 30, 32, I, 73.

⁹ P. Kahun- Gurob, II, PL. 30, 32, I, 73.

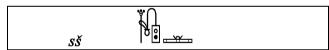
It is also clear from previous texts that the expression *imy -rn.f* is closely related to the conduct of the census process, whether it is a population, a worker or a soldier¹ **Haning**² referred to it as a book of names or a directory of names, as in the Ryzner papyrus II, as read³:



It is actually associated with *shni* and this term literally means "whose name is" i.e. it is used as a descriptive name or as a sign of existence, and Dominique valbelle⁴ states that this combination appeared from the dynasty 12 meaning sign or restrict. Scientists confirm that this expression means a list of names or a directory of names as Lepsius⁵ stated that this expression came as the title of the list of names.



The old Egyptian used to start recording his statistics and accounts, especially those that are recorded for official operations carried out by certain departments and by officials responsible for them in terms of the beginning of the statistical registration and refers to the statistical process in terms of nature and vary according to the difference and also the difference of registration and may be the most famous words are $rdyt^6$ Derivative of the verb rdiMeaning (gives) or also verb diThe Term rdyt is mentioned in many texts⁷ and refers to a material that is statistically recorded as being given by one part to another part⁸.



It means a written document and is translated when it is presented in a statistical address with an arithmetic document or a list as it appears in the papers of Heka Nakht as read⁹:

³ P. Reisner, II, H3, Pl. 11 A, 31.

¹ Amer, "Census of Cattles in ancient Egypt", 113.

² Haning, Wb, 1434.

⁴ Dominique Valbelle, Jonviv Hoson, *State and Institutions in Egypt since the Pharaonic age to the Roman Emperors* (Cairo: Dar al- Fikr, 1992), 113.

⁵ LD, III, BL, 12, c.

⁶ Eric Peet, "The Unit of Value Saty in papyrus Boulaq II", *Melanges Maspero* I (1935): 188, irt; Megally, Louvre E 3226, Passim; Schafik Allam, *Hieratische Ostraka und Papyri aus der Ramessidenzeit* (Tübingen, 1973) 74-75.

⁷ Sherif, A collection of administrative hierarchies, 13-14.

⁸ Sherif, A collection of administrative hierarchies, 13.

⁹ Amer, "Census of Cattles in ancient Egypt", 68.

2十三三川是二届叶二兴二州

sš n it mḥy n ḥk3-nḥt swd .n=f n mry-sw
The Corns list of Heka Nakhth Which delivered to mry-Sue

As for concerning the terms used on the census process were found as follows:

Term	Texts	Source	Transcript	Remarks
101111	IOAGS	Source	Transcript	TOHIGHTO
Тp	A- Raisner	Wb ,I, 66		Account or Count
	Papyrus I	CD, 16.	1	Continue until the
	D 4		ЛП	Coptic language it
	B- Anstasi	Hannig, Wb,	\ <u> </u>	wrote
	Papyrus I	1554.		
	C- Anstasi	LD, 29.	4	ωπ
	Papyrus IV	LD, 29.	1 \	As for
		CDD I 90	1	713 101
	E- CG Papyrus	CDD, I, 89 Er.Glossar.28	7 🗆	Ipt , ipw
	20025	EL.GIOSSAL.28	N B	
	F- Sallier		40 \$2	written in Coptic
	Papyrus I		1	by this form
	- wp j1 wo 1			
			N □ ₽	нπі, нπ€
			<u> </u>	
			4 = 1	
			121	
			. ,	
			4421	
			*	
<u>t</u> nwt	A- Harris	Wb, v, 379, 5-7		Counting
	Papyrus I	GD 205	0	
		CD, 305.		Quantity
	B- Ostraca CG			Numerical amount
	42185			
	C- Inscription			
	one of Barcha			
	Tombs			

irw , irt irw	D- Inscriptions one of a rock tomb in Deir al-Jabrawy A- Kahun Papyrus B- Coffin Texts C- Inscriptions of the tomb of Ibi in dir al-Jabrawi A- Kahun Papyrus B- Sallier Papyrus IV	Wb, I, 114. CD, 27. Wb, I, 303 Faulkner, CD, 59	Counting of Cattle Account Statement Digital data
šnhi	A- Anstasi Papyrus IV B- Anstasi Papyrus Papyrus V	Wb, IV, 167 CD, 233 LD, III, 64. Haning, Wb,	Counting of Individuals

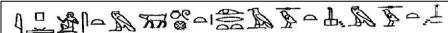




The express ipt is derived from the verb ip and means counting or estimating. Doxey points out that when an ip is used as a noun or a noun means counting, counting, counting, counting, imposing or calculating a tax, and this verb is constant in the context of your speech The economic aspect and that the names are:

- Aip means the art or science of accounting and interpretation and also means a census or calculation of taxation.
- T_{pt} \bigcap_{\square} means count. B-
- Tpw | I means payments or inventories. C-

When talking about ip and its derivatives ipt, ipw in ancient Egyptian texts, we find many similar examples in the second Raisner papyrus as read²:



Ip=i st m hnw irt wst hk3t m wst hk3t

I will take it at the seat of government, and I will make weight of Heka like the weight of the new Heka

Ostraca No.CG 20025 as read³:

Nb hmnw di ip tnw ht=f

The lord of Ashmonien (who) provided a census of his various properties

tw. i ipt n. sn smw mnt

Count (or allocate) their grass daily

Anastasi papyrus I as we read⁵:



¹ Denise Doxey, Egyptian Non-Royal Epithets in the Middle Kingdom: A Social and Historical Analysis, (Leiden: Boston, Brill, 1988), 178.

² Pap.Reisner, II, 21.

³ CG 20025, 29- 30.

⁴ P. Sallier, I, 4, 10.

⁵ P. Anstasi. I, 17, 5.

t3 ipt rmt 'š3 ti r.k hr p3 nkt šri r r.sn

Who counts many people for you, who know everything small for them...?

In Anastasi papyrus V as read¹:



P3 sr hr dd n.n imi tw w ipt rmt hr wn.n hr dd 's3 n.n n3 rnw r imy-rn.f The leadership told us, they do in order to count the people, we tell him to read aloud to us the names that (in) the lists of names

In this last example, we note the existence of *ipt* with *imy-rn.f* in one example.

The first is used for the last and last names list, as mentioned earlier, but if it is associated with the word nsw, it means the Royal Statistics House and also the main economic center Prepositions; And came with the letter n to express the count or count or allocate something to someone as mentioned in the texts of the pyramids as read²:

ip= f n.k ibw.sn ini n.f ntrw nb m sp

Perhaps he has counted (or dedicated) their hearts to you, and I have brought you all the gods immediately

It is also used with the uppercase letter to express counting or counting on a person or a debt account as read³:

'Ipw r h3wty-6 hk3w hwt knbwt nw whmw nw sp3wt sš.sn sšw 3hwt.sn

I have counted the mayors and the rulers of the villages (through) the messengers of the registrants of the territories, their books and their field accountants

It was used with m- $^{\circ}$ preposition to express a count or continuous count of a person⁴ as read⁵:



ir ipt n3 n d^cbt m^c.tn in h3ty-^c imy-h3w=f

Count of Coal by the mayor, who in his time

³ Urk, IV, 1129, 1-2.

¹ P. Anstasi. V, 25, 8.

² Pyr. 590.

⁴ Amer, "Census of Cattles in ancient Egypt", 77-78.

⁵ Fredric Griffith, *The Inscriptions of Siut and Der Rifeh* (London: Trubner, 1889), I, pl. 7, 294.

tnwt _____

The express <u>tnwt</u>, which means census or census, is derived from the verb <u>tnw</u> in terms of counting or counting¹, the express <u>tnwt</u> came in many texts. It is noticeable that that this word was the first expression of the census and census of the country's wealth of gold and fields for the purpose of limiting and to estimate taxes on them as read²:

hd hsbd sp 2 tnwt

The second year of the count of silver and lapis lazuli

Irt wd mdw tnwt pr-dt sš im3hw hr nb.sn

(Done) the matter of the census (related) property (by) scribes revered to their master³

On the count of quantities or amount reported *tnwt* as read⁴:

THE WARLEY BELLE

'š3 tnwt nt prt km3 m ibw p't

Count lots of grains and materials for human hearts

POPULATION OF THE MENT OF THE

šmnt m 3 sš hsb tnwt dmd sm3 hh hfnw db^cw h3w štw

Record writing and computation of numbers in thousand categories, tens of thousands, thousands and hundreds⁵

And sometimes found with the word *iri* to express a census⁶ or establish a count as read⁷:

Twt m htp spr r sh n irt \underline{t} nwt '3t m idrw.f n zrt nsw hn' idrw.f \underline{d} t m sp3wt wnin h3ty-'

Arriving in peace and access to the tent, to conduct a general census of his livestock for the royal bulls and his livestock in the provinces of the rabbit province by the mayor

If the word $\underline{t}nw$ comes in some texts followed by the word \underline{h}^cw to mean (by appearance) as read⁸:

_

¹ Wb, V, 379, 5-7; Faulkner, CD, 305.

² Urk, I, 235.

³ Davies, *The Rock Tombs*, PL. 8.

⁴ Urk, IV, 249, 2-3.

⁵ Urk, IV, 336, 5-6.

⁶ Amer, "Census of Cattles in ancient Egypt', 78-79.

⁷ Urk, VII, 52, 17- 19.

⁸ CG 42185, 51.

一是们雪二年食艺名

wšd nsw Imn tnw h^cw.f

The king who speaks to Amun according to his appearance

tn(w) h'(w).k iw 'pr m t hnkt ihw 3pdw irpw sntr dg3

Offerings in front of you according to your appearance, and was provided with bread, beer, bulls, birds, wine, incense, fruit¹

irw, irt irw o 🗠 🖳

The express *irw* is in Wb² meaning cattle tax, the term *irt irw* is translated into wb in terms of the payment of cattle tax, and Faulkner translates the word *irw* in the livestock tax³, and there is certainly a difference between paying the tax and collecting The tax, and Anthes⁴ pointed out this express and translated into livestock accounts, while Montet⁵ that the word *irw* refers to the census of cattle, as read⁶:

Irt irw md
Registration of Cattle production

This confirms that the term $irt\ irw$ means the new cattle production count, which supports the difference between \underline{tnwt} and irw as two separate events or events, as stated in the text of the coffins as read⁷:

BOTE BENGT

 $nhm \ m^{-c} \ irw \ n \ swth \ \underline{t}nwt \ nt \ ist$

Save from the production count of six and the count of Isis.

Kruchten⁸ has analyzed this word through several examples⁹ feast and found that sometimes it is written *iry*, *irty*, or *irrw*, and it differs from the ad. It is possible to have a papyrus, bull, mummy or three forms of pluralism. However, if the census is a public

² Faulkner, CD, 27.

³ Amer, "Census of Cattles in ancient Egypt": 93.

⁷ Anthony De Buck, *The Egyptian Coffin Texts*, II (Chicago, 1938), 157.

⁹ Amer, "Census of Cattles in ancient Egypt", 94.

¹ P. Harris, I, 7, 4.

⁴ Rodulf Anthes, "Die Nominalbildungen irwt Zeremonien und irw Benehmen und Abrechung", *MDIAK MDIAK* 24, (1969): 34 ff.

⁵ Pierre Montet, Les Scenes de la vie privee dans les tombes des egyptiens de l'Ancien Empire: Chapter IV, le recen sement des troupeaux (Paris: Revue belge de Philologie et d'Histoire, 1925), 128.

⁶ Davies, The Rock Tombs, PL.VII.

⁸ Jean-Marie Kruchten, *Le décret d'Horemheb. Traduction, commentaire épigraphique, philologique et institutionnel*, (Bruxelles: Editions de l'Université de Bruxelles, 1981), 85-86.

and official event involving the state The work of the census of *irw* can be considered a personal work by the individual to know his personal property or for the body in which he works, and when the supervisor of the king's cattle is doing a census of the king's *irw* and not the individual property¹.

$$W_{pwt}$$
 V_{0}

The term *wpwt* is derived from the verb *wp* in Wb² which refers to information, information or data relating to arithmetic as an arithmetic term. Faulkner³ translated or translated and translated it as an "inventory" while Hanning⁴ List as read⁵:

 $\overset{c}{h}^{c}$ n.f in.n iri wpwt m f tp [hry] ... $\check{s}m^{c}w$ it.f r ... It.f r [$^{c}3w.f$] r [mnmnwt.f]

Then he brought a list [of all his possessions], which he made ... of individuals ... and a rite in the tribal face and a lamb [and his donkey] [and cattle]

Tmy-r pr hn^c d3d3 wrt ntf iri wpwt m b3h ihw nb iri wpwt im.sn

The house supervisor with the great council made lists of all cattle, and provided the data by $them^6$

Dominique valbelle⁷ see that means "digital data" as read⁸:

In any case, *wpwt* is an arithmetic expression that means a list, statement or statement that is indirect words related to the conduct of statistics and in some cases referred to the census of individuals or population⁹ (as in the second Kahun Papyrus) as as read¹⁰:

¹ Amer, "Census of Cattles in ancient Egypt", 95.

² Wb, I, 303, 1-2.

³ Faulkner, CD, 59.

⁴ Hannig, Wb, 1434.

⁵ Kurt Sethe, "Aegyptische Lesestucke", Morgenland 12 (1928): 25.

⁶ Urk, IV, P. 1115, 6-7.

⁷ Valbelle; Hoson, *State and Institutions in Egypt*, 111.

⁸ P.Kahun-Gurob, I, 46.

⁹ Amer, "Census of Cattles in ancient Egypt", 97.

¹⁰ P. Kahun- Gurob, II, Pl. 9, 16, I, 221.

Wpwt nt h3wty Dhwty hry 100

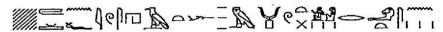
List of counting (individuals) House members (Relatives) Soldier Jhouti son of Hri 100

Wpwt nt hr-hb n shm sn wrst m3° hrw

List of counting (individuals) House of free - love of the leader of Sinusrat honest sound¹

We must point out that when *wpwt* comes with this customization by this forms:

mentioned in the previous example or the meaning of individuals crowds as stated in the papyrus Salier IV as read²:



...phr n.f iw sh3wt m wpwt r h3t .sn

For this reason, drums and crowds were knocked in front of them.....

snhi I W

Since the twelfth dynasty, the lists of *imy-rn.f* names have already been associated with the "*shni*" (wb)³ meaning to register, bind, check and translate (Faulkner)⁴ to "register", "restrict" or "examine" while Haning⁵ mentioned as means a list or statement, statement, and Lesko⁶ is referred to as a census of the population. Dominique valbelle⁷ valbelle⁷ has made it closely linked to the process of counting individuals or workers. The appearance of this act has been linked to the lists of names since the 12 th century, Registration is not just about calling or registering workers; But it also involves gathering the necessary workers and determining the nature of the tasks to be accomplished⁸. *šhni* is mentioned in many texts in terms of "recording" or "restricting" and often relating to individuals:

¹ P. Kahun- Gurob, II, Pl. 10, 2, I, 27.

² P. Sallier, IV, 1, 4.

³ Wb, IV, 167.

⁴ Faulkner, CD, 233.

⁵ Hannig, Wb, 1434.

⁶Lesko, LED, III, 64.

⁷ Valbelle; Hoson, State and Institutions in Egypt, 113.

⁸ Amer, "Census of Cattles in ancient Egypt", 106.

(1) - workers as read¹:

二届2010个户——阿贝里在面面在_四二 多三位如何一次多位一位型(SO)

snhi n.i t3 mrw r ^crt iw it3 .f t3 mrw iw.st m p3y.f dmit

We have registered weavers (textile workers) on the list, I took them away, (and) they are in my city

(2) Soldiers as we read²:

STATE THE STATE OF THE SAME

sš mš^c m-b3h hm=f snhi d3mw n nfrw

The army accountants in front of His Majesty records the young soldiers

iw.i hr snhi mš^c n (ti)-nt-htr r-prw

I have counted the soldiers of the military vehicles of the temples³.

Caminos⁴ translated the word *shni* into a counting of individuals in the so-called men's assessment departments (prw hsbw rmt) as read⁵:

t3 st snhi p3y.k mš^c

This is where your army is registered

The word *shni* also came to express the review of lists or lists of names⁶ as read⁷:

Tw=f hr hprw T ir=f snhi n.i 'rt m hwt ntr (R' msw mri imn) 'nh wd3 snb He began a review of the lists of names in the Temple of R^c msw mri imn, so he would enjoy a miracle

Computational reporting

The main objective of accounting is to prepare financial information about the entity. Therefore, this information is summarized in accounting reports. The most important reports that the accounting system must provide are⁸:

¹ P. Anstasi. IV, 14.

² Urk, IV, 1006, 3-4.

³ P. Anstasi, IV, 7, 8.

⁴ Ricardo Caminos, "Literary Fragments in The Hieratic Script", LEM (1956): 149.

⁵ P. Anstasi. III, 7, 5-6.

⁶ Amer, "Census of Cattles in ancient Egypt", 108.

⁷ P. Anstasi. IV, 15.

⁸ Tom Plank, Lois Plank, Encyclopedia of Accounting System, Second Edition, Volume 1(New York: Prentice Hall, 2005) 2.

Financial Statements:

It is the list that controls the recording, tabulation and analysis of transactions of financial value related to a unit held in a set of books and records with a view to determining the movement of funds, goods, goods or property¹. The list aims to provide financial information of all forms, whether agricultural, industrial, commercial, and service, to individual establishments or individuals. The main financial statements include²:

(A) The budget or the statement of financial position

This list includes all accounts in the public ledger.

(B) The income statement

Includes statement of income and expenses and net profit or loss

(C) The distribution or retained earnings list.

It includes an analysis of changes in the rights of account holders.

In addition to these main lists, there are other auxiliary or sub-lists to give details of some items, which appear briefly in the basic financial statements. These lists are often in the form of tables that give details of buildings, land or equipment, inventory³

In ancient Egypt, business-related accounting books were written day by day⁴ in most of Egypt's ancient commercial records, known as *hrw* or 'rt *hrw* Plill Political Notebooks "or" diary books or daybooks⁵.

Daybook

A daily record that contains several documents for the daily administrative work and its purpose was to register directly, it was found to be a complete and systematic archival reference, and Carmona & Ezzamel⁶ called it a daily extract and any new entry added to it called due today⁷.

As for the private sources of gnwt which means an archival record or book that gives a very early and primitive history and is neglected in the use of the Egyptian archives back to the Middle Kingdom era. The word gnwt is defined as a kind of daily record of daily business⁸ and written in the following forms:

²Salvador Carmona, Mahmoud Ezzamel, Accounting and forms of Accountability in Ancient Civilizations: Mesopotamia and Ancient Egypt, IE Working Paper (2005), 14-18.

Andreiw Monson, "Demotic Granary Account from the Early Ptolemaic Fayoum: P. Stanford Classics Dem 8 & and 11", CENIM 14 (2016): 423-434.

⁷ Carmona, Ezzamel, *Accounting Encyclopedia*, 15-16.

Plank, Plank, Encyclopedia, 4-5.

³ Amer, "Census of Cattles in ancient Egypt", 85.

⁴ For those types of accounts see:

⁵ Chistopher Eyre, *The use of Documents in Pharaonic Egypt* (Oxford :Oxford Scholarship 2013), 315

⁶ Carmona, Ezzamel, Accounting Encyclopedia, 15.

⁸ Redford Donald, *Pharaonic King-lists, Annals and Daybooks' a contribution to the study of the Egyptian sense of history*, SSEA, Book 4 (1986), 97.

The Egyptian derivation of hrw or rt hrw equipment in the Abu Sir papyrus was clearly used to change but not true for archival records?

The Egyptian derivation of hrw or Thrw equipment in the Abu Sir papyrus was clearly used to inspect the equipment inventory for each month when the list of priests had to change but not true for archival records?

The Competent Group, which receives the requirements for the stores and delivers them to the author to make a note and record each individual requirement called "Departing Phyle". The registration of the inputs was done by a team called Incoming Phyle. Both teams prepare reports on delivery of roses Called Shift Delivery³.

It should be noted that the publication of individual books, which include records or accounts tend to be regular reference to the late but distinctly the tools of work for periodic accounts and not documents final statement of long-term term so far as enormous list as in the Wilbur papyrus Wilbour papyrus" "Which recorded the responsibility for revenues for grain harvesting and appears to be the annual business documents, not a record for records. It is similar to the diary books of the Roman era in the monastery of Medina, which used the tools of work for the various administrative parts of the cemetery, not the same archival documents⁴.

It also took the more common characteristic of "administrative papyrus" written by the right author for the daily entries of receipts, income, expenses, and daily business and again seemed to be business and not long- term reference lists⁵.

We can note in the documents of Deir Al Madinah⁶ that there is simple evidence of the method of writing documents for the cemetery (records, letters, reports) for the so-called workshop accounts⁷ that were saved or used as reference and not in those texts in in the administrative house or the private archive or The keeper of the writings, it seems to be similar to those kept by the proper scribes to write themselves either at home or at work⁸.

¹ Posener- krieger, De cenival, *Abu sir* (1968), 18-20: Posener- krieger, *Les archives du temple funéraire de Néferirkarê- Kakaï*, Vol. I & II (Cairo: Institut français d'archéologie orientale1, 976), 125- 208.

² Eyre, *The use of Documents*, Plate 24.

³ Carmona, Ezzamel, Accounting, 17-18.

⁴Eyre, The use of Documents, 317-318.

⁵ Eyre, *The use of Documents*, 318.

⁶ Donker van Heel, J. Haring, "Writing in A workmen village": Scribal Practice in Ramiesside Deir-Elmadina, Egyptologische utgaven 161, (2003) 86.

⁷ S. Carmona & M. Ezzamel, *Accounting*, 19.

⁸ Eyre, *The use of Documents*, 319.

It seems that the administrative books that were carried out by the appropriate clerks who could not reach the main institution took it upon themselves to convey that accurate information to the failure of the current documents for the final statement due to the sale¹. The administrative letters that were dealt with by the departments on the basis of their employees and are of an administrative nature are divided into several types as follows²: (A) Letters of order (b) Letters are reports (c) Letters exchanged between departmental staff. (D) Letters of information or communication. (E) Letters of official or friendly complaints. (F) Receipts taking the form of rhetoric.

These are the types of talks about receipts and the type of letters recorded on papyrus or ostraka, which are receipts either by taxes or receipt of a particular commodity or the payment of debt, and Mattha³ sees that the receipt of tax receipts, which took the form of letters continued on papyrus during the Ptolemaic and even Roman era.

Wages records & income of individuals

The expression of pay in the ancient Egyptian language was as follows:

Term	Text	Source	Remarks
b3kw	A- Kahun Papyrus ⁴ B- Inscriptions	Faulkner, CD,18	Wage Wages
	of the tomb of Rakhmi Ra ⁵	Lesko., LD, 127	
	C- Resolutions of a Hur-Moheb ⁶		
	D-Resolutions of Nuri ⁷		

² Soaad Abdel Aal, "Correspondence through Demotic Documents" (unpublished MAThesis, Cairo University, Faculty of Archeology, 1983) 56-57.

³ Gerges Matta, Demotic Ostraca From The Collection at Oxford, Paris, Berlin, Vienna, and Cairo (Cairo: Impr. de l'Institut français d'archéologie orientale 1945) 9-11.

⁴ Francis Griffith, *Hieratic papyri from Kahun and Gurob principally of the Middle kingdom* (London: Quaritch, 1898), pl. xv, 39-43 ff.

⁵ Norman Davies., *The tomb of RKH- MI-RA at Thebes*, Vol 1 (New York: Metropolitan Museum of Art, Art, 1973), Pl. 56, 57, 47 f.

¹ Eyre, *The use of Documents*, 320.

⁶ Kruchten, Le Decret d Horemheb, 62.

⁷ Francis Griffith, "The Abydos Decree of Seti 1 at Nauri", *JEA* 13 (1927): 193-209.

Fnfnw	A- A text for	Wb, 576	Wage
**************************************	Rakhmi Ra works with the	Faulkner, CD, 98	
	builders in the	Urk, IV, 1151, 4	
	Temple of		
	Amun		
hsf-c	A- An	Faulkner,CD,197	Wage strike
希男 丁	engraving of a worker from the reign of Tuthmosis II	Urk, IV, 138, 10	
Mint	A- the story of	Faulkner, CD, 104.	Daily fare
	Snohi	GNS, 14	Daily food

The linguistic aspect:

The use of b3kw as a typical expression as a wage means the value or price of the work practiced by man or animal¹ and I have written in many forms of writing can be reviewed as follows:

And the difference between them and the word htri, which means the salary (tax estimated) mentioned in the salaries of the workers of Deir- ElMadina² and by comparing both terms we see that the htri means the obligation to pay the salary continuously even if the person does not work or b3kw is paid as a fee in exchange for performing the work so If this is not done, do not pay the $b3kw^3$.

Discussion:

The wages of workers in ancient Egypt were paid for cereals, which were used to make bread, wine or directly paid for bread⁴ and wine, which were the main elements of of their food. The monthly quota of workers was four wheat $b\underline{d}t$ It is bread grains and one and a half outside of the barley it Barley, wine, while presidents

Iman El Mahdi, *Bread in Ancient Egypt, Egyptian General Book Authority* (Cairo: Egyptian General Book Authority, 2009).

¹ Zeinab Mahrous, "Taxation in Ancient Egypt to the End of the new kingdom" (unpublished Master Thesis, Cairo University, Faculty of Archeology, 1986), 185.

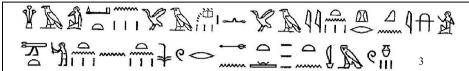
² Mandiville Richard, *Wage Accounting in Deir el- Medina* (London United Kingdom Abercromby Press, Press, 2014).

³ Mahrous, "Taxation in Ancient Egypt", 191.

⁴ For the kinds of bread see:

and clerks receive more. The average workers and a large sector of their superiors paid them for their daily bread. They used these surplus shares to swap for other goods¹.

The story of Khufu and the Magicians told us that barley was used as a grain in the payment of wages. He gave the priest Ra and the secret of the gods who helped his wife in the process of giving birth a few pints of barley as a reward for them²:



h3 di.tn p3 it n p3y.tn hr kni it.tn n.tn sw r swnt tnmw⁴

I hope that you will give this measure of barley to your bearer and take it for yourselves in your pots as wage⁵

These may be meant to be used in the storage of grain and others, and must be utensils containing barley, from which beer and wine are made; Bread has also been used as a means of paying wages. In the texts of Ankh Chashniki⁶, he says:



iw. rwy ty k n mr-šn r-tb3šn iw=f tm šn iw=w št-f

He gives the observer bread for inspection, and if he does not do the inspection, the bread is cut off

Ankh Chashanki identified the amount of bread that the worker gets and takes a loaf as a reward for him while the supervisor takes him or who leads him with two loaves because he is the highest ranking and in this he says⁸:



mi w k n p3 nty ir ip.t mi 2 p3 nty wh-shn

I gave a loaf to the worker, and I gave two to the top of it.

The payment of wages has an economic effect on the employer, where the worker makes more effort in his work, which results in an increase in production, says Ankh Chashanqi¹:

¹ Mona Saleh, "Economic Life through Ancient Egyptian Literature" (unpublished PhD thesis, Alexandria Alexandria University, Faculty of Arts, 2013), 197.

² Saleh, "Economic Life Through Ancient Egyptian Literature", 197.

³ Manely Blackman, The Story of King Kheops and the magicians: transcribed from Papyrus Westcar Berlin Papyrus, 3033 (Australia: J.V. Books, 1988).

⁴ Mark- Jan Naderhof, *Papyrus Westcar Berlin Papyrus 3033* (London: RHB 2009), 48-49.

⁵ Adolf Erman, *The Ancient Egyptians, A sourcebook of their writings translated by blackman* (London: Harper & Row, 1978), 45.

⁶ Robert Ritner, *The Instruction of Onchsheshonqy (p. British Museum 10508)* in: William Simpson, 'The Literature of Ancient Egypt' (Cairo: Yale University Press, 2003), 524.

⁷ K. Glanville, Mark Smith, *Catalogue of Demotic Papyri in British Museum*, Vol. II (London: trustees of of the British Museum, 1955), 54-55, Plate 24.

⁸ Ritner, The Instruction of Onchsheshangy, 5, 23.

⁹ Glanville, Catalogue of Demotic Papyri in British Museum', Vol. II, 50-51, Plate 22.



Mi w rk p3y.k ipt t3y 2 n n3y.f hpš.w

Give the worker a loaf that takes two loaves from the shoulders of him.

The standard wage in the real economic life of the simple laborer was ten kilos of bread, along with the equivalent of about 20 bars of beer a day, the lowest wage possible, while the highest wage was twice the wage of the worker².

Wine as wages for workers:

Wine was part of the wages of soldiers and farm workers and there is a reference in O. Egy. Mus. No. 25504 attributed to the seventh year of the reign of Merneptah, which we know that 50 bottles of wine were allocated to the workers of Deir-Elmadina³, An account of the goods and supplies of the vine growers where he wrote, "Delivery of bread to vine growers daily⁴.

These wages have helped to buy goods or barter in the consumer goods markets outside the official system, thus enabling the individual to pay his needs through paid work⁵.

In any case, there were complaints made especially in the failures of the delivery of wages, the appropriate administrative conditions can supply the quantity of grain already, but the wages of other goods were irregular, which called for workers representatives to look at the administrative documents and provide information by tracking them and then highlighted the accounts Annual accounts of those receivables⁶ preserved in the Turin papyrus No. 1903⁷.

In that regard, he found many complaints⁸, which spoke of a lack of income levels of individuals, including official and friendly in what is now known (strike action).

Tax receipts:

The tax, as defined by Janssen⁹, is a contribution imposed by the State on its nationals of a specific nature. The tax is paid by the State to fulfill its obligations to its nationals, whether at home or abroad.

¹ P. Walcot, "Hesiod and The Instruction of Onchsheshongy", JNES 21 (1962): 216 (22/19).

² Saleh, "Economic Life Through Ancient Egyptian Literature", 198.

³ O. Egy. Mus. No. 25504

⁴ Hamada, "A Stela from Manshiyet es-Sadr", ASAE 38 (1938): 223.

⁵ Saleh, "Economic Life Through Ancient Egyptian Literature", 198.

⁶ Eyre, *The use of Documents*, 320.

⁷ The papyrus of Turin is a papyrus written by the writer (Amon- Nacht), which scientists called the Turin papyrus strike and talk about the workers' strike during the reign of Rameses III and you see:

Pascal Vernos, Affaires et Scanddales sous les Ramses, le crise des valeurs dans l'Egypte du Nouvel Empire (Paris: Bibliothéque de l'Egypte ancienne1993), 82.

Jac Janssen, "A Twetieth- Dynasty Account Papyrus (Pap. Turin, No.cat. 1907/8)", JEA 52 (1966): 81-94.

⁸ Abdel Aal, Correspondence through Demotic Documents, 77.

⁹ Jac Janseen, "Prolegomna to the study of Egypt economic History During the New kingdom", SAK 3

In the modern sense, they are reports on the amount of money imposed by governments on activities, expenses, jobs and income of individuals or enterprises in order to obtain financial support for the services provided¹.

As for taxation in ancient Egypt, it represents an important aspect of economic life as it represents one of the sources of state resources. It also reveals the extent to which the administrative administration has the ability to manage and regulate the economic aspects and taxes².

Tax	Text	Source	Category	Remarks
(šmsw hr, tnwt) Solvential to the state of	A- Palermo Stone ³ B- Queen Abbott compartment ⁴ C- Inscriptions of the Temple of King Neusar Ra ⁵	Wb, IV, 485, 4-5 Wb, V, 379, 5-7	General Tax	Those terms are two equal events that serve the same purpose as the counting
(irw)	A- Inscriptions of the tomb of Sennab ⁶ B- Inscriptions of the Tomb of Iby ⁷ C- Wehem- Ka Tomb ⁸	Wb, I, 114, 4-5 Faulkner, CD, 27	Cattle Tax	In effect and thus refers to the product or production of cattle

^{(1974): 174.}Plank, Plank, Encyclopedia of Accountting System, 5.

² Mahrous, Taxation in Ancient Egypt, p. C-D.

³ Von Beckerath, "Smsy Hrw in der agyptischen vor-und fruzeit", MDIAK 14 (1956): 6.

⁴ Heinrich Schaffer, Ein Bruchstuck Altagyptischer Annalen (Berlin: akademie der wissenschaften,

⁵ H- Goedicke, "Koniglische Dokumente aus dem Alten Reich", *JEA* 42 (1956): 50-53.

⁶ Von Bissing, Kees, Das Ra- Heilegtum des Konig Ne- Wsr- Ra, vol. II (Leipzig: Hinrichs, 1905- 1928),

⁷ Mahrous, *Taxation in Ancient Egypt*, 20, 38-39, 320-321.

⁸ Hermann Junker, "Gîza 5. Die Mastaba des Snb (Seneb) und die umliegenden Gräber. Akademie der Wissenschaften", Wien Philosophisch-historische Klasse Denkschriften 71 (Leipzig: Hölder- Pichler-Tempsky 1941), 76.

(htr)	D- Chesterbity Papyrus ¹ A- Chesterbity Papyrus V ² B - The house of the governor of the reign of Rameses II ³	Urk,IV,1236 ,16 KRI,II, 197,10	Amount Tax	Means the amount of the tax in particular, regardless of the quality of the tax
(šmw,b3kw)	A- Wilpour Ppyrus ⁴ B- Louvre Papyrus E 3226 ⁵ C- Griffith Papyrus ⁶ D- Valancy Papyrus ⁷ E- Turin Papyrus ⁸ 2006+1896 F- British Museum	Faulkner, CD, 267 URK, IV, 499, 4	Grain Tax	The tax is estimated according to the extent of land use from the flood water and the impact on the productivity of the land

¹ Davies, The Rock Tombs of Dier El Gabarawi (London: Cambridge library collection, 1900), Pl.vii.

² Hans Kayser, Die Mastaba des Uhemka, Ein Grab in der Wuste Hannover (Berlin: Fackeltrager-Verlag Verlag Schmidt-Kunster GmbH, 1964), 36-37.

³ Alan Gardiner, *Hieratic Papyri in The British Museum 3rd Series*, Chester Beaty Gift, Vol. 1 (London: British Museum, 1935), pl. xviii, R, 2-3, 37.

⁴ David Lorton, The Juridical Terminology of international relations in Egyptian texts through Dyn. XVIII XVIII (London: Johns Hopkins University, 1974), 9.
⁵ Alan Gardiner, *Hieratic Papyri in The British Museum 2nd Series* ', Chester Beaty Gift (London ,1935),

⁶ Meeks, *Annee Lexicographique* (Paris: Impr. de la Margeride, 1980), 793307, grg kmt.

⁷ Mahrous, *Taxation in Ancient Egypt*, 323.

⁸ Alan Gardiner, *Papyrus Wilbour*, 4 Vol (London: Oxford University Press, 1941).

(š3yt)	Papyrus No.1044 ¹ A-Neferty prophecy ² B-Renni Tomb ³ Tomb ³	Wb,IV,402,8 Wb,IV,403, 9- 10	Occupational tax	Is the estimated or in-kind taxes
(b3kw)	A-Leiden Papyrus No.344 ⁴ B-Turin Papyrus No.1874 ⁵ C- Ghwty- ms Letter ⁶	Wb, I, 427 Faulkner, CD, 156	Production Tax	Pharaoh Hormoheb abolished so it was not found in the tax lists recorded in the Harris Papyrus
(tp- drt)	A-Turin Papyrus No.1874 ⁷ B-The text of the priest Amenhotep ⁸	Meeks., Lexicograph, 793396	Head tax	Especially Pharaoh only
mħ3wt	A- Barcha Text ⁹ B- Siti – Decision-	ASAE, 42, P.108	Customs duties tax	This tax is collected in the form of funds only, but their value

¹ Megally, *Notion de Comptabilites*, 42.

² Mahrous, *Taxation in Ancient Egypt*, 152,176, 325.

³ William Helck, *Die Prophezeing Des Nfrti* (Weisbaden: Otto Harrassowitz, 1970), 19.

⁴ Jon Taylor, Wall Painting and Monuments of EL-Kab IV, The Tomb of Renni (London: Quaritch, 1900)), Pl. iii, iv.
Mahrous, "Taxation in Ancient Egypt", 170, 326.

⁶ Alan Gardiner, Admonitions of an Egyptian Sage, from a hieratic papyrus in Leiden Pap. Leiden 344 recto (Leipzig: Hinrichs, 1909), P. 72. Rt 10, 3-10, 6.

⁷ KRI, II, 819.

Schafik Allam, *Hieratische Ostraka und Papyri aus der Ramessiden Zeit* (Tubingen: Postfach, 1973), PL.86, 278.

⁹ Davies, The tomb of RKH- MI-RA, 52.

Elfantini ¹	Vi	aries either
	b	y a third or a
	h	alf or by a
	q	uarter
	T	They are often
	d	erived from
	tl	he word <i>mḫ3t</i>
	in	n terms of the
	So	cale

With regard to the competent authority to pay taxes and found as follows²:

Category	Text	Source	Mean	Remarks
(t3-št)	A-The text of the priest Amenhotep B- Chesterbity PapyrusV ³	Alan Gardiner, Ramesside Texts Relating to the Taxation and Transport of Corn, JEA 27, (1941) 67.	Public taxpayers	Sometimes translated as tax collectors
(nmhyw)	A- Pharaoh's decree Hur- Moheb B- Dakhla Stela ⁴	Wb, II, 268, 4, 5.	Private taxpayers	They are the servants of pharaoh's treasury
(smdt)	A- First intermediate Stela ⁵ B-A Text for a	Faulkner, CD, 229. URK,IV, 94, 4	Young users	They occupy small occupations

¹ Alan Gardiner, the Royal Canon of Turin, Griffith Institute (Oxford: Griffith Institute at the University,

Alan Gardiner, the Royal Canon of Turni, Griffith Institute (California 1959), Pls. V- IX.

² Mahrous, "Taxation in Ancient Egypt", E -G.

³ P. Chester Beatty, V, rt.7, 12- 8.

⁴ Alan Gardiner., "The Dakhla Stela", *JEA 19* (1933): 21.

⁵ Dows Dunham, *Naga ed Der Stelae From First Intermediate Period* (Boston: Museum of fine arts, 1937), PL. XIII A2, 43 N. 30.

	cemetry worker ¹			
šwtyw	A- Harris Papyris I ² B- Boulaq Papyrus II C- Lancing Papyrus ³ 4, 8-10	Wb, IV, 434, 1-4 Meeks., Lexicograph, 792951.	Merchants	They are divided into three categories: (A) a class working for the temples. (B) A category that works for individuals. (C) A class that exercises selfemployment in favor of its own profit.

Categories:

The main task of the clerks was the registration and statistics operations. Some clerks who carried out the census were called hsb. Each administration was distinguished by separate accounts, with a specific number of clerks and accountants. The accountants were found in the private administration under the supervision of the Chief of Accounts imy-r pr hsbw r In addition to these special account clerks, some of the clerks held the title of accountant ss hsb r In general, as the officials responsible responsible for recording the statistics are mainly accountants; this is done through their specialization as follows⁶:

A-Cattle Scribes r:

1.11411110,1,10,2

¹ Jarsolav Cerny, *Community of Worken in Thebes in the Ramesside Period* (Cairo: Bibliothèque d'études IFAO, 1937), 183 ff.

² P.Harris, I, 46, 2.

³ Walter Reinike, "Waren die Swtyw wirklich kaufleute", AF 6 (1979): 10.

⁴ Mohammed Ali, "Titles and civil functions in the era of the new kingdom" (unpublished MA thesis, Mansoura University Faculty of Arts, 2012), 311.

⁵ Ali, "Titles and civil functions in the era of the new kingdom", 311.

⁶ Geoffery Martin, *The tomb of Hetepka and Other Reliefs and Inscriptions from the Sacred Animal Necropolis*, North Saggara (London: Egypt Exploration Society, 1964-73), 10, Pl. ii, 9.

⁷ Ali, "Titles and civil functions in the era of the new kingdom", 315-321.

Title	Texts	Source	Mean	Remarks
hsb ihw	A- An inscription of conical for the priest Nefer Renbet	Norman Davies, Miles Macadam., A Corpus of Inscribed Egyptian Funerary Cones I, (Oxford: Oxford University Press, 1957) 464.	Cattle scribe	Tomb No.43 El- hwza el-olya
sš hsb ihw n t3 mnmnt	Inscription of byai tomb	Lefebvre., Histoire des grand pretres d'Amon de Karnak, (Paris: Cambridge University Press, 1929) 131.	scribe and accountant of herd bulls	Tomb No.263 Sheikh abd el korna
sš nfrw	Inscription of amon- em-ubet tomb	KRI, I, 385 (6)	Cows scribe	Tomb No.265 Deir el- madina
sš nsw hsb ihw	Inscription of Sa- mut tomb	KRI, III , 334 (10)	Royal scribe accountant of bulls	Tomb No.409 Assassif

The concept of Account-Lists in Ancient Egypt

imy- r ḥsb iḥw	Inscription of Sa- mut tomb	Abdel kader Muhammed., "The Hittite Provincial Administratio n of Conquered Territories", ASAE, 59, (1966), PL. XXXIV	The overseer of bulls accounts	
r hsb bhsw	Inscription of Sa-mut tomb	KRI , III, 334 (8)	The overseer of calves accounts	
sš nsw imy- r ḥsbw iw3	Inscription of Sa- mut tomb	Muhammed, The Hittite Provincial, PL. LXXIII	The royal scribe, overseer of oxen account	
sš nsw imy- r hbsw ihw n šm w mhw	An inscription of conical for the priest amon- ms	KRI , III, 334 (4) Muhammed, The Hittite Provincial, Pl.xxxvi.	The royal scribe, overseer of calves accounts of North and South gods	Tomb No.9 Deir el- madina

In ancient Egypt, the census of cattle was carried out periodically - usually every two years. This process was sometimes linked to the imposition of a specific tax for the government¹. It was conducted under the supervision of the head of the herd or the royal archivist and representatives of the government. Farms in the provinces², there is no doubt that the herd was included on all types of cattle of cows and bulls of different types besides small calves, and the process of counting livestock depends on the classification of these species and discrimination.

¹ Norman Davies, *The Tomb of Kenamun*, (New york: Metropolitan Museum of art, 1865-1941), Pls. xxvi- xxvii.

Urk iv: 1394 (3-4)

² Ali, "Titles and civil functions in the era of the new kingdom", 312.

B-Birds scribes¹:

Title	Texts	Source	Mean	Remarks
sš hb	Inscription of Ghwty-nfr tomb	Georges Daressy, "Receuil de Cones Funeraires", Mission archéologique française au Caire, 8 (1893), n.165	Birds scribe	Tomb No. 317 Sheikh abd el korna
sš hsb ihw hbw	Inscription of Ghwty-nfr tomb	Herny Gauthier, "Rapport sur une campagne de fouilles à Drah abou'l Neggah" BIFAO, 6 (1908), 124	The scribe and accountant of bulls and birds	

The Karnak temple included the sheds for the raising of birds, poultry and geese to provide the sacred offerings of the temple's deities, and there was carried the post of writer and accountant of cattle and birds of Amun as mentioned above. C-Treasury scribes²:

Title	Texts	Source	Mean	Remarks
sš hwt- nwb	An inscription of conical for the priest Nefer Renbet	KRI, III, 330 (1)	The scribe of gold residence	

¹ Ali, "Titles and civil functions in the era of the new kingdom", 322. ² Ali, "Titles and civil functions in the era of the new kingdom", 323.

The concept of Account-Lists in Ancient Egypt

sš pr-ḥd	A- Inscription of User-hat tomb B-Inscription of amon-ms	Ahmed Fakhry, " A Report on the Inspectorate of Upper Egypt", ASAE, 46, (1947), 44 PM I : I, 427-428	The scribe of treasury	Tomb No.56 Sheikh abd el korna
sš prwy-ḥd	A- inscription of conical for the priest Nefer Renbet B-The Memorial inscription No.1960 western Thebes	KRI, III, 323 (4)	The scribe of dual treasury	A-This title, called Amon - Nekho Word, was Memorial inscription was given to the chief of the workers at Deir- Elmadina Medina B- inscription of Hay tomb NO.328

The work of the workers inside the treasury was largely based on the category of clerks, where they concentrated on a lot of operations such as recording the quantities of raw materials used in artisans' workshops, recording the works that are finished by the manufacture. There is no lack of photocopying of the treasury or workshops of artisans there are a number of clerks holding their records the clerk of the treasury has some administrative tasks besides the calculations performed by the clerk of the treasury and many titles that show his assumption of the tasks of writing and accounts in the treasury¹.

D-Sacred Seals Scribes:

Title	Texts	Source	Mean	Remarks
sš htmt- ntr tpy	Inscription tomb of po- m- ra	KRI, III, 225 (10)	The first scribe for divine treasury	Tomb No.39 Elkhokha

¹ Ali," Titles and civil functions in the era of the new kingdom", 323-327.

The concept of Account-Lists in Ancient Egypt

sš htmt- ntr sn- nw	Inscription tomb of po- m- ra	PM , I, 393 (4)	The second scribe for divine treasury	
sš htmt-ntr	A-Inscription tomb of Nb- Kdnw B-Inscription tomb of Sr-Ws	KRI, III, 358, (6)	The scribe of divine treasury	B-Tomb No. 232 Draa Abu el naga
htm htmwt nbt ⊕ N Q ⊕ N △Q T	Inscription tomb of aniny	Urk, iv, 68 (11)	The bigger of all seals	Tomb No.31 El- Hoza el ulya
imy-r htmt nbt	Inscription tomb of aniny	Urk , iv, 68, (15-17)	The overseer of all seals	
htm pr.wy-hd	Inscription tomb of Ghwty	Urk, iv, 429 (6), 436 (15-17)	The teasurer of dual treasury	Tomb No. 11 Draa Abu el naga

The title of the divine seal "ss htmt-ntr" appeared in the old kingdom, and the title of the author of all the divine seals ss htmt-ntr nbt was one of the titles carried by the priests and treasury workers in the new kingdom and the era of the Ramses. The task of seals writers was to register the foreign products of the country whether imported into the treasury such as precious metals, textiles and textiles; or other products such as cattle, monkeys, and leather and bird feathers¹.

E-The Barn Scribes:

Title	Texts	Source	Mean	Remarks
sš šnwt	Inscription tomb of Menna	Margret Murray, Index of Names and Titles of the old kingdom,	The barn scribe	Tomb No. 69 El- Hoza el Ulya
		(London: Office of British School of		

¹ Ali, "Titles and civil functions in the era of the new kingdom", 330.

The concept of Account-Lists in Ancient Egypt

sš hsb it m šnwt	A- Inscription tomb of Sennefr B- Inscription tomb of Neb- Amun	Archaeology190 8), pl. xliii; Wolfgang Helck, Undersuchunge n zu den Beamentiteln des Alten Reiches, (Hamburg: Verlag Augustin 1975), plate xxxviiix Murray, Index of Names, 64 Urk, iv, 1049 (15), 1051 (7)	The scribe of barn accounts	A-Tomb No.96 El-Hoza el Ulya B-Tomb No.17 Draa Abu el naga also wrote in the inscriptions of the tomb of Amenmhat Tomb No. 53 at Sheikh abd el Korna
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The barn scribes¹ were assigned to the registration and calculation of yields and quotas. They can be categorized into three categories, beginning with clerks, supervised by the censor of the library clerks and headed by the supervisor of the library clerks. The clerks specialize in the fields in several fields. (Records) and supervised by the head of the archives of the Barn and have existed these specialties between the clerks of the Barn since the old and the middle and found the titles as mentioned above².

Khaled Awad, Grain Stores in Ancient Egypt, Ain for Human and Social Studies and Research (Cairo: Ain for human and social studies and research, 2007).

Ali, "Titles and civil functions in the era of the new kingdom", 334.

¹ For more details on this point, see:

F-Stores Scribe:

Title	Texts	Source	Mean	Remarks
sš ḥsb itw m šnwt ḥtp-nt̞r	A- Inscription tomb of Neb-Amun B- Inscription tomb of Ghwty- nfr	Urk, iv, 1050 (13,15), 1050 (3), 1052 (15- 16)	The accountant scribe of crops in barn of offerings	
sš n šn'	Inscription tomb of biay	KRI, III, 381(4-5), (7-8)	Stores scribe	
sš wdhw	Inscription tomb of Amwn- Htp	Daressy, <i>Receuil</i> de Cones, Nos 264-266	The offerings scribe	A-Tomb No.73 El- Hoza el Ulya
sš htp-ntr	Inscription tomb of 3mwn- htp	Norman Davies, "Some Representations of Tombs from the Theban Necropolisin" JEA, 24, (1938), fig.8	The scribe of divine offerings	
sš hsb t	Inscription tomb of Amwn-Htp Inscription tomb of Nb- Amwn	Daressy, Receuil de Cones, n.47	The scribe and accountant of bread	
sš n t3 k3wt	Inscription tomb of Inhr- ms	Davies, Macadam, A Corpus of Inscribed, n. 430	Works scribe	

sš ḥmwt nbt	Inscription	Davies,	The scribe of	
	tomb of	Macadam,	all crafts	
	Amwn- Htp	A Corpus of		
1113% 198		<i>Inscribed</i> , n.		
		354		

In addition to this, a group of other employees, similar to their clerks, was found to be the surveyors who measured the area of grain fields before harvesting to estimate the quantity of the crop that would enter Shun As titles mentioned above¹.

G- Secondary Administrative Departments Scribes:

Title	Texts	Source	Mean	Remarks
sš pr md3t	Inscription of a worker of Deir- Elmadina	Murray, Index of Names, PL. xxxviii	The scribe of books house	
sš st df3wt	Inscription of a worker of Deir- Elmadina	Murray, Index of Names , PL. xxxvii	The scibe of food section	It emerged from the era of the Second Dynasty
sš niwt m3wt	Inscription of a worker of Deir- Elmadina	Abdel Moneim Abubakr, Excavations at Giza,I (Cairo: Government Press, 1953), 69, 75.	The scribe of new cities	
šs hwt	Inscription of a worker of Deir- Elmadina	Paul Smither, "A Tax- Assessor's Journal of the Middle Kingdom" JEA, 27(1941), 74.	Fields scribe	Sometimes wrote sš 3hwt

¹ **Ali**, *Titles and civil functions in the era of the new kingdom*, 334-339.

šs tst	Inscription of a worker of Deir- Elmadina	Selim Hassan, Excavation at Giza, II, (Cairo: Government Press 1936), 96	Workers scribe	
šs gs wi3	Inscription of a worker of Deir- Elmadina	Murray, Index of Names, PL. xxxviii	The ship scribe	

The old Egyptian could express the function of the clerk of the departments or administrative departments or the author of the specialization depending on the circumstances surrounding each department and we can distinguish the administration by the titles taken by the writer, and can be limited in two types through the

composition of verbal; The first type is that the first $s\check{s}$ has a close relationship with the names of the departments that are defined by the word pr, which means "house", the second type defined by the word st, the third type is defined by the names of regions, the fourth type is specific to specific jurisdictions, the fifth type is specific groups as mentioned above.

General Form:

The Ancient Egyptian has known a fixed system for recording his daily and public accounts. This is evident in the various texts written on the papyri and dioceses mentioned above. It seems that this system was started since the early ages. It is clear from us that seals and seals of books and cards written from the era of the first two families with a specific recording system for accounts².

The statistical text usually consists of certain elements:

- (A) The registered or registered material
- (B) The unit of the article, i.e. the unit to which this article is attached.
- (C) The quantity assigned to that unit.
- (D) Some data on the recorded statistical process.

The mathematical and statistical documents had their distinctive form from other documents. However, this form differed and developed according to the age of the papyrus or the arithmetic document³.

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¹ Megally, "The Post of the Writer in the Age of the Old Kingdom" (unpublished MA thesis, University of Alexandria, Faculty of Arts, 1955), 26-31.

² Stephen Quirke, Administrative Texts, Redford Encyclopedia, 1(Oxford: Oxford University Press, 2001), 24.

³ Sherif, "A collection of administrative hierarchies", 16.

Firstly: the old kingdom:

The most important characteristic of the arithmetic text in the old kingdom is the great detail in the recording of accounts and statistics. The scribes were keen to record their statistics within overlapping horizontal and vertical lines or in other words in square boxes resulting from horizontal and vertical lines.

The data for both of the various resources, units and quantities has been given to the arithmetic bar in the old kingdom a distinctive geometric shape in the presence of this tabular form¹ (see Table 1). This complex geometric form, which distinguishes Abu sir papyrus as a model of the old kingdom calculations, Which is the size of the compass in the old kingdom in size between the size of the medium or new kingdom papyrus, where the height of 21- 24 cm, the red ink was used in public papyrus to indicate the quantities as well as the overall balance², and wrote lines Writing horizontally and vertically while the vertical columns were predominant³.

Secondly: Middle kingdom:

In the Middle Kingdom, the detailed spirit of recording statistics and accounts was less than in the old kingdom, Some of the models that belong to that period- with the full shape of the table⁴ (horizontal and vertical lines)- are different from those in the old kingdom with relatively large volumes and thus the clarity of the words within the different cells⁵.

This is due to the large size of the statistical papyrus in the middle country than in any other era. Therefore, the pages came with a large quantity of accounts, as well as large margins on both sides⁶. The boxes or boxes disappeared little by little until there was no existence of these tables, there is also a horizontal line after each horizontal line of writing⁷, and there is a note on the accounts of the middle and old kingdom. It is concerned with writing the name of the unit used in the various articles. That among the statistical registers as follows:

- (A) The name of the registered material.
- (B) The name of the unit in which that article is directly attached.
- (C) A custom form of the word indicating unity.
- (D) Quantity use.

We note this also on some of the old kingdom paintings. The text of the article itself is written in a separate box, perhaps a reference to the unit assigned to that article⁸, and the red color was used in this period. It is used in the Raisner papyrus to denote the names of the absent workers.

Thirdly: New Kingdom:

The most characteristic of the new kingdom statistical records is the extreme simplification of all the different elements⁹. The most important observation of the

¹ M-Stevelick, "Accounting in Ancient Times": *The Accounting historian Journals* 12, No. 1 (1985): 7-8.

² Posener Krieger, De Cenival, *Abu Sir Papyri*, 211.

³ Posener Krieger, De Cenival, *Abu Sir Papyri*, pls. xi, xii, xiii & passim.

⁴ Quirke, Administrative texts, 25.

⁵ Magally, *Notion de Comptabilites*, 2.

⁶ Simpson, Pap Reisner, passim.

⁷ Stevelick, "Accounting", 8.

⁸ Quirke, *Administrative texts*, 25.

⁹ Magally, Notion de Comptabilites, 4 ff.

arithmetic corpus in this period, especially the 18 family is its small size as it is 18 cm high.

From the page and no longer leaves the large margins that we saw in the old and middle kingdom on both sides¹, as the writer completely away from the tables and lines became horizontal writing is always prevailing and became the form of the arithmetic parody near the form of the literary papyrus², meaning there is no vacuum Between the name of the article and quantity as it used to be; But the recording became consecutive as literary texts without spaces or detail in the line³.

The red color was used less than the old and middle kingdom, where it indicated the titles and some papyri⁴, and continued as was previously used in the texts containing the the quantities of wheat and barley *bdt- it* where the barley was written the quantity of the function in black and write the quantity of the function The wheat was red, and the same use continued in the new kingdom⁵.

Fourthly: Demotic Accounts:

Demotic accounts are a type of text that takes the form of an account-lists list that records the amounts of money, grain, liquids, etc. These accounts start from the age of the 26th Dynasty and continued until the Greco-Roman era. We can confirm that it was used until the second century AD by discovering some papyrus⁶.

Zauzich⁷ noted that the Demotic calculations were greatly extended in the Roman era. In comparison with the Ptolemaic calculations, Demotic calculations are the most written for everyday purposes Muhs⁸ sees that Demotic calculations have been extended extended to a Ptolemaic alike to the third century AD.

The overall average size of the demotic papyrus was 4.21 cm in length and 7.26 cm in width and the size of the ostarca was very varied with the form of the demotic account. The tabular form is no longer used in demotic calculations but we find it somewhat similar to the literary text as a result of the increase the need for Calculations the author took advantage of all the space in writing and the basic parts of writing the text of my arithmetic in demotic were as follows⁹:

Closing Formula	Body of the Account	Heading Formula

In the basic construction of the account the introduction of the so-called entries, which are fixed elements such as goods or component prepared, measuring any number referred to by the quantity, the person who received or sold..... Etc¹⁰.

370

¹ Magally, *Notion de Comptabilites*, 4- 5.

² Magally, *Notion de Comptabilites*, 5.

³ Sherif, "A collection of administrative hierarchies", 19.

⁴ Magally, Notion de Comptabilites, 11.

⁵ Magally, *Notion de Comptabilites*, 6 Note. 4.

⁶ Eid Nagy, "Demotic Accounts" (Un Published MA Thesis, Cairo University, Faculty of Archeology, 2016) 6.

⁷ Karl Zauzich, Die Demotischen Dokumente, Textes et Langages de L'Egypte Pharaonique cent Cinquente Annee de Recherches, Bde 64/3, (1972), 93.

⁸ Brian Muhs, "Demotic and Greek Ostracka in the Third Century", SAOC 51 (Chicago 1992): 249.

⁹ Nagy, "Demotic Accounts", 12.

¹⁰ Nagy, "Demotic Accounts", 11-12.

As for the use of inks, red ink was not used to distinguish some elements as before, but there were other ways of distinguishing by using a number of secondary elements are as follows¹:

A-Checking Marks:

In six categories; Oblique Strock, Horizontal Police, Vertical Strock, Curved Strock, Dot, Opposition (cross)².

We have to remember that these signs usually fall in the beginning, but in some cases they are in the end and all those signs Used in accounts and most of them are used slanted police while others do not occur, sometimes used before the specified name or names may be the sum of money or any distinct element in the account.

B- Partition Indications

The first is the two categories of blank space, which are regular or irregular, vertical or horizontal, and the second lines are also used to separate an account from another account or to separate a section of the account from the other³.

C- Strict Marks

Are signs that exist to give more emphasis on the words or sentences within the texts for that purpose are found on some words or letters form circle or semi-circle and mostly used in the ostraka⁴, Monson⁵ that the drawing of a concentration on those elements ring found to distinguish certain elements from others.

(D) Terminal Marks:

In two categories; double oblique strock, cross mark these marks are usually used to fill gaps or gaps at the end of the account to give the chance of addition, especially on the ostraca⁶.

¹ Nagy, "Demotic Accounts", 13.

² Abdel Halim Nureldin, "Checking Terminal Stress Marks, Partition Indication and Margin lines in Demotic Documents", *Enchoria* 9 (1979): 49.

³ Nureldin, "Checking Stress Marks", 56.

⁴ Nureldin, "Checking Stress Marks", 57-58.

⁵ Andrew Monson, "Agriculture and Taxation in Early Ptolemaic Egypt", *Papyrologische Texte und Abhandungen* 46 (2012): 113.

⁶ Nureldin, "Checking Stress Marks", 81-82.

Conclusion:

- A- The unit that combines the texts and the lists and is included under the mathematical concept is a general unit in terms of the written appearance, but if we look at the internal classification we find that there are some species in the lists do not fall under the category of arithmetic such as inventories, names and orders of materials and clothing.
- B- Differences between the tax records, daybooks, the distribution schedules, the accounting tables, the distribution of wages, dues, food orders and the lists of commodities. The tabular form was taken.
- C- The arithmetic texts that were written in the era of the Old and Middle kingdom and the beginning of the modern kingdom took the tabular form. The late modern era and the period of the demotic and Coptic writing found the calculations in the form of accounting-lists form (see Table 2), which is close to the literary form, He wanted to occupy all the space for writing.
- D- The diversity of titles carried by book guards in ancient Egypt reflects a more diverse character than the Coptic and Greek fonts.
- E- The method of writing the arithmetic text in both the Old and Middle kingdom is more detailed and includes several elements, but in the Demotic and the Coptic it is based on the mention of three basic elements and detail, which is no longer the main concern.
- F- We find the use of the marks of the check Checking Marks and we also find Partition Marks Stress Marks and Terminal Marks both and continued until Coptic.

List of Abbreviation

ASAE: Annales du Service des Antiquités de l'Égypte (SAE) (Cairo).

BdE: Bibliothèque d'Étude (IFAO, Cairo)

CD: Crum, W., A Coptic Dictionary, Abandon, 1929.

CDD: Johnson, J., The Demotic Dictionary of the Oriental Institute of the University of Chicago, Chicago, 2001.

CENIM: Cahiers Égypte Nilotique et méditerranéenne.

DELC: Dictionnaire étymologique de la langue Copte', by W. Vycichl, 1983.

Er. Glossar: Erichsen, W. Demotisches Glossar. Munksgaard, Kopenhagen 1954.

Faulkner, CD: Faulkner, R., Concise Dictionary, Oxford, 1961.

GNS: Gardiner, A., Notes on the Story of Sinuhe, Librairie Honoré Champion, 1916.

Hanning, Wb: Hanning, R., Handworterbuch, Die Sprache der Pharaonen. Großes Handwörterbuch Ägyptisch- Deutsch: (2800- 950 v. Chr.) (Kulturgeschichte Der Antiken Welt, Band 64), Berlin, 1995.

Jea: Journal of Egyptian Archaeology (EES, London).

JNES: Journal of Near Eastern Studies (Chicago).

KAW: Kulturgeschichte der Antiken Welt (Mainz am Rhein)

KRI: Kitchen, A., 'Ramesside Inscriptions, Historical and Biographical. I - VII' (Oxford, 1969-1990)

LA: 'Lexikon der Ägyptologie', 7 vols., ed. W. Helck, E. Otto, W. Westendorf, 1972/5-, Wiesbaden .

LD: Lepsius, K., Denkmäler aus Ägypten und Äthiopien', 6 vols., ed. K. R. Lepsius, Berlin ,1849-1859.

LED: Lesko, H, Late Egyptian Dictionary, 4 Vols, United States America, 1982.

LEM: 'Late- Egyptian Miscellanies', A. H. Gardiner, 1937 (Brussels; BAe 7).

MDIAK: Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo (DAIK) (Mainz/ Cairo/ Berlin/ Wiesbaden).

SAK: Studien zur Altägyptischen Kultur (Hamburg).

Urk: 'Urkunden des ägyptischen Altertums', 8 vols. ed. K. Sethe, H. W. Helck, H. Schäfer, H. Grapow, O. Firchow (Leipzig/ Berlin), 1903-1957.

Wb: Wörterbuch der ägyptische Sprache', 7 vols., A.Erman and W. Grapow, 1926-1931.

ZAS: zeitschrift für ägyptische sprache und altertumskunde, Berlin (1863-1924).

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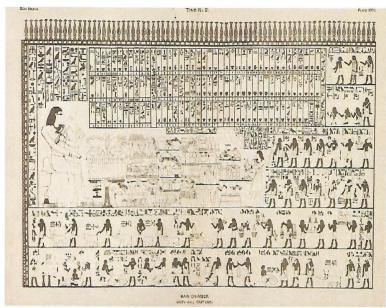


Table 1

The scene represents the recording of some accounts of the sacrifices that were written in tabular form and illustrated on the southern wall of the main chamber of the Amini cemetery in Bani Hassan

Nagy, "Demotic Accounts", 238

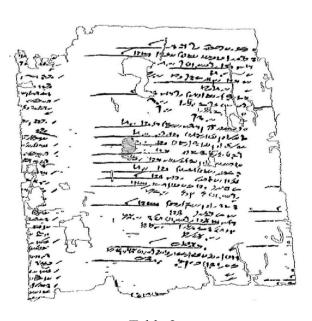


Table 2

The landscape is a facsimile of Brooklyn 37.1647E, D (1) / 2

In which the arithmetic text was written in accounting-lists form

Nagy, "Demotic Accounts", 242.