Egypt Exploration Society

Meroitic Studies
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Source: *The Journal of Egyptian Archaeology*, Vol. 3, No. 1 (Jan., 1916), pp. 22-30
Published by: [Egypt Exploration Society](#)
Stable URL: <http://www.jstor.org/stable/3853588>
Accessed: 18/07/2013 18:03

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MEROITIC STUDIES

BY F. LL. GRIFFITH

a. The Numerals.

STUDENTS who may refer to my publications of Meroitic inscriptions will find very few signs registered as numerical. Such as there are however bear a general resemblance to Egyptian numerals, and this connexion is confirmed by the comparatively large series furnished by a collection of ostraca from Faras and Buhen¹ on the one hand and the great stela of Akinizaz and a fragmentary obelisk, both from Prof. Garstang's excavations, on the other². The ostraca naturally deal with small numbers, but on the stela and obelisk quite high numbers are found. By observing carefully the grouping in different examples it becomes clear that the Meroitic numerals originated in the Egyptian³. Presumably like them they are on the decimal system, and in fact it is generally easy to decide whether individual signs represent units, tens, hundreds or thousands. But the forms are so much altered from the known forms of Egyptian cursive numerals that the latter are by no means clear guides to the Meroitic values, and purely arithmetical evidence is at present very scarce.

But some points can be ascertained at once. Excluding for the moment the ostraca, the lowest figures in other inscriptions are the units from 1 to 4, denoted by corresponding numbers of simple upright strokes I, II, III, IIII: beyond these we find 8 made in the same way IIIIIII in the great inscription at Kalabsha⁴, though doubtless a cipher was generally employed for 8 as for the other numbers above 4. The ostraca however, in which all sorts of small quantities would naturally be recorded, show groups of dots from 1 to 9 following the unit figures. Evidently these are divisions of the unit, and apparently decimal divisions; thus ::::III would be 3·9. In one case (Far. Ostr. 28) eleven dots occur suggesting that they represent a division by twelve, but the arrangement ::::: 9+2 is suspiciously like an addition of two dots for extra items not noted at first, and while nine dots occur several times there is no instance of ten. Above or after the dots we often find a symbol which must mean $\frac{1}{2}$. It is hardly likely that this notation represents a purely arithmetical system. It must rather be

¹ To be published in the memoirs on the Oxford Excavations at Faras; those from Buhen were found in Randall-MacIver and Woolley's excavations for the University of Pennsylvania.

² The stela is published in the Liverpool *Annals of Archaeology*, VII, Pl. IX; Prof. Sayce generously lent me his copy of the obelisk fragments.

³ No numerals exist in the scanty inscriptions written in Meroitic hieroglyphs.

⁴ *Inscr.* 94/23.

Hierogl. Units	Abnorm. hierogl. cent. IX-III.	Early demotic cent. VIII-VI	Later dem. cent. IV-I	Metrolitic (suggested)	Hierogl. Hundreds	Late hieratic	Abnorm. hier.	Early demotic	Later demotic	Metrolitic (suggested)
I	I	I	I	I	ρ	1		1	1	1
II	II	II	4	II	ρρ	11		11	11	11
III	III	III	ϐ	III	ρρρ	111		111	111	111
IIII	IIII	IIII	ϐϐ	IIII	etc.	1111		1111	1111	1111
IIII	IIII	IIII	ϐϐϐ	IIII	500	11111		11111	11111	11111
IIII	IIII	IIII	ϐϐϐϐ	IIII	600	111111		111111	111111	111111
IIII	IIII	IIII	ϐϐϐϐϐ	IIII	700	1111111		1111111	1111111	1111111
IIII	IIII	IIII	ϐϐϐϐϐϐ	IIII	800	11111111		11111111	11111111	11111111
IIII	IIII	IIII	ϐϐϐϐϐϐϐ	IIII	900	111111111		111111111	111111111	111111111
Tens					Thousands					
10	10	10	10	10	10	10		10	10	10
20	20	20	20	20	20	20		20	20	20
30	30	30	30	30	30	30		30	30	30
etc	etc	etc	etc	etc	etc	etc		etc	etc	etc
50	50	50	50	50	50	50		50	50	50
60	60	60	60	60	60	60		60	60	60
70	70	70	70	70	70	70		70	70	70
80	80	80	80	80	80	80		80	80	80
90	90	90	90	90	90	90		90	90	90

The Meroitic Numerals.

metrical, the dot representing some unit of measure or weight which is $\frac{1}{10}$ (or $\frac{1}{12}$) of some other unit, and itself is commonly halved: the Egyptian *hin* or pint, a tenth of the *heqt* or bushel, or for weight the *kite*, a tenth of the *teben*, may be suggested. On the ostraca these figures and dots are accompanied sometimes by a peculiar symbol like an arrowhead; it may signify a unit such as the artaba or the *heqt*, or some principal article of Nubian produce or merchandise, such as corn or dates. The ἀράβη actually seems to occur several times on the ostraca of the middle period in the form *arbate*, and this explains satisfactorily the derived word *arebeta(n)ke* in a long Eg. demotic inscription (of later—third century—date) at Philae beginning:

“The adoration of *Tamy*¹ the (masc.) *arebeta(n)ke* of Isis, here before Isis of Philae and Pawebe (i.e. Abaton = Bige) the great goddess, the good Dame, the good Comfortress of a year productive of wealth, the mistress of heaven, earth and the underworld. I passed ten years as *arebetanke*, busied over the temple of Isis with the great *maaze*-measure; the measure was not diminished(?), and I made 20 *gy:ss*(?) each year. But in the tenth year” (things all changed)².

Thus so long as *Tamy* was *arebetanke* he was apparently in charge of the “great *maaze*” measure of Isis which would be kept in the temple of Philae and was probably standard for the whole of the Dodecaschoenus. *Arebetanke* (of which we fortunately have the Meroitic spelling on a tombstone from Anibe³ of a man who held the same office at Shimalê, i.e. Ibrim, beyond the Dodecaschoenus) must therefore mean something like “keeper of the artaba.” The various standards for artabas and the standard measures for the *maaze* (μάριον) and its multiples in Egypt are dealt with by Wilcken from Greek sources in his well-known works⁴.

The accompanying table shows the leading forms of the Egyptian numerals in different classes of the variable cursive writing of late times⁵, followed by a column in which the numerical signs of Meroitic cursive are arranged in an order that may be nearly correct. The comparison shows points of contact between Meroitic and Egyptian all along and in each column; but the signs in the Eg. demotic columns are further removed than the hieratic from the Meroitic, see especially 6 and 10 which are amongst the least doubtful. To anyone who has studied Egyptian palaeography I think that the cipher assigned to 20 would be the most interesting. It is very different from the ordinary forms of 20 in Eg. hieratic and demotic, but is almost identical with a peculiar form which characterises the period of Psammetichus I in hieratico-demotic (labelled “*Rylands*” in the table) and in “abnormal hieratic⁶.” This is precisely the point in history at which the Egyptianising of Ethiopia, which had been active under the Twenty-fifth Dynasty, parted company from its source in Egypt, to resume a less close contact only from time to time. With the triumph of Psammetichus in Upper

¹ Perhaps to be vocalised Temêye, to judge by the Meroitic name Maqel-temêye below, p. 25.

² L. D. VI dem. no. 13, BRUGSCH, *Thes.* 1009, cf. *Inscr.* II, p. 46.

³ *Kar.* 92.

⁴ WILCKEN, *Ostraka*, I, 751, 770, *Grundriss*, p. LXVIII.

⁵ See MÖLLER, *Hieratische Paläographie*, Bd. III; BRUGSCH, *Numerorum apud veteres Aegyptios demoticorum doctrina*.

⁶ See my *Catalogue of Demotic Papyri in the John Rylands Collection*, pp. 11—14, for the meaning of this term. Few of the documents in question have been published but the numerals are taken from photographs, etc., in my possession.

Egypt may have begun that gradual specialisation of the cursive writing in Nubia which was to end in the alphabetic script of the Meroites.

The values of the first four units and the symbols for 6 and 10 can hardly be questioned. Armed with these we can proceed to the examination of an inscription containing several numerals which is engraved in the chamber of Meroitic sculptures at Philae¹. Here we have in succession (separated by words and phrases)

2—6—12—2—1—1—1—5(?)—10,

the only doubtful value being the 5. These appear to fall into two groups $2 \times 6 = 12$ and $2 + 1 + 1 + 1 + 5 = 10$, and that 10 and 12 may have similar functions here is shown by each closely following a word *atmi*, *tmi* of unknown meaning. It would be perhaps too rash to try to connect this word with the Egyptian word *tmt* "total," although Meroitic certainly borrowed much of the nomenclature of civilisation as well as its machinery from Egypt. The text evidently records gifts made by a member of the royal house to the temple of Philae through the official Mashtaraq: they seem to include "two large *shazarte* (each of?) six *zé*...making *atmi-wes* 12; 2 *keñ*, 1 *arite-wil*, 1 *che* of Isis in Philae, 1 *che* of Isis in Tebawe (Abaton)...Isis nurse(?) of Horus, 5 *shazarte* in *zé*, making(?) *keñ-tmi* 10; *keñ*, nurse(?) of Horus, a *che*" and so on but without any more figures.

This makes the value 5 for the sign in question probable. Two of the ostraca (Far. Ostr. 4, 7) show small numbers followed by a larger one at the end suggestive of a summation, but they do not confirm the values already gained or suggested; and indeed they cannot give a satisfactory result for both are imperfect.

On the other hand the funerary inscriptions compared with Eg. demotic graffiti give confirmation of the value 5 for the same sign. But this point cannot be properly dealt with except by a long digression.

b. *Wise men of Ethiopia.*

Various points of contact have been established between names, titles and descriptive phrases in the Meroitic inscriptions, especially in the north, and those in the graffiti of Ethiopian officials written in Egyptian hieroglyphic or demotic in the temples of Dakka and Philae. In fact these parallels have furnished some of the best means of progress in the decipherment. In the Meroitic funerary texts numerals are exceedingly rare: I know only of three texts which contain them, viz. a mutilated stela no. 44 from Faras, where various numerals appear to refer to the number of distinguished ancestors possessed by the deceased, and two stelae, *Kar.* 47 and *Inscr.* 89, on which the numeral supposed to be 5 is found in phrases *5-nw: h-tek-ke-lé:* and *5-ni: yeteke-lé:* which are not without resemblance to each other; the second of these phrases is accompanied by one with a further numeral which ought to read 34. It is to these last two that I desire now to draw special attention.

Among the titles and descriptions of persons in the Egyptian graffiti to which I have referred there is one series only (so far as I have observed) which includes numerals. It occurs thrice, once at Dakka and twice on the Hadrian gate at Philae, and in no case is easy to read or interpret.

¹ *Inscr.* 101.

(a) The first example is in a hieroglyphic graffito in the name of "Harentyotf, son of Wayekiye (*Wygy*) and his mother Taësi, *qêreñ* of Isis, Agent of Isis in Philae and Tebawe, hereditary prince (*orpai*) of the foreign land of Takompso, sheikh (*htopai*) of the Thirty(?), royal scribe(?) of Cush, great wizard (or expert) in the cities of the south(?) . . . of Horus of 3 years(?) in . . . of the Burning Bull (i.e. the sun in the zenith?), prophet of Sothis in reckoning the course of the moon, priest of the 5 Live Stars (i.e. planets), who reckons the time when the sun and moon rise¹(?)."

(b) The second is in a demotic graffito in the names of *Mentwe* and Harentyotf, the prophets of Isis, *qêreñs* and Agents of Isis, Agents of the king of Negro-land, hereditary princes of the foreign land of Takompso, sheikhs of the 30..., royal scribes(?) of Cush, who reckon the risings of the 5 Live Stars and determine the time when the sun and moon take(?) the net (*sic*)², who come yearly from Negro-land³."

(c) The third is in a demotic graffito, dated in the seventh year of Severus Alexander (229 A.D.), in the name of "Wayekiye son of Harentyotf born of Tshepshewêri" praying for the favours of Isis for himself and for "Harentyotf the *qêreñ* of Isis," doubtless his father. He ends by describing himself as "prophet of Sothis, determining the risings of the moon, priest of the 5 Live Stars, sheikh of the royal book(?) of Cush⁴."

The only numeral which is common to these three descriptions of persons is 5 in the expression "the 5 Live Stars," and it is obvious that the three instances are in the descriptions of members of a single family, in which the office connected with the planets may have been hereditary. Going back to the Meroitic funerary stelae which show the same numeral we perceive that one of them, *Inscr.* 89, was found by Mr FIRTH at Medik on the southern border of the Dodecaschoenus, which frontier is named in the Egyptian inscriptions Takompso, and that the deceased actually bears the name of Wayekiye, not elsewhere known in Meroitic. Clearly this Wayekiye was one of the same wizard family of hereditary princes of Tacompso who are commemorated in the Egyptian graffiti. We may thus safely connect the Meroitic phrase with the Egyptian, at the same time observing the confirmation which the facts afford of the value 5 attributed to the Meroitic symbol.

c. The Meroitic stela of Wayekiye.

This inscription now stands in need of a fresh commentary. The transcription is as follows⁵.

qê : Wyekiye-qê :

Šipeš²ye(⟨-tê⟩) : Qêresmye : tze-mze-tê

³Hlême : pelmêš : yet-mze-lê :

⁴Mqêltemêye : pelmêš : Beze⁵we-tel : yet-mze-lê :

¹ BRUGSCH, *Thesaurus*, p. 1023, L. D. Text v, 65, CHAMPOLLION, *Not. descr.* I, 128. Amateur copies are in GAU, *Antiquités de la Nubie*, Pl. XIV, no. 45, and CHAMPOLLION, *Monuments*, LIII bis (copy by Vaucelles). Cf. *Inscr.* p. 25.

² See below, p. 29.

³ BRUGSCH, l.c. p. 1023, L. D. VI dem. no. 8; cf. *Inscr.* p. 45.

⁴ BRUGSCH, p. 1027, L. D. VI dem. no. 10; cf. *Inscr.* pp. 45-6.

⁵ *Inscr.* 89, see *Inscr.* II, p. 18 for the original edition; some important changes of reading from the text as there printed will be observed.

Journ. of Egypt. Arch. III.

PHEME : *qêreñl-hl : yet-mze-lê :
 Be'ke : piritel : yt-mze-lê :
 Šnp⁸tete-krêrêl : yet-mze-lê :
⁹Mtewwi plmêš : azblit : yet-¹⁰mze-lê :
 plšn : Qbñti : penn ¹¹5 ni : yeteke-lê :
 šêr : qêrê¹²zeli : yrêhete-lê :
 penn : ¹³34 ñ-kw : ħtke-lê :
¹⁴Wêši : Šêreyi : at-t-ħm¹⁵lêle : yth-tê

"The honourable Wayekiye; of the loving family of Shipeshiye and Qêresmaye; kin of Khalême the strategus; kin of Maqêl-temêye the strategus in Bezewe; kin of Pakhême the great qêreñ; kin of Beke the Agent; kin of Shanapatete-krêrê (or the *akrêr*); kin of Matewawi the strategus of the navy (or land-forces?); chief priest of Qabañ, reckoning(?) the rising of the 5 stars; sheikh(?) of the royal book; determining the rising of the 34 stars.

"O Wêshi, O Ashêri! grant to him all good things(?)."

A multitude of points of contact with Egyptian graffiti exist here, making possible a translation which I hope will be in the main convincing, though many details are doubtful, and the last words of the appeal to Isis and Osiris, which belong to the usual benedictions of funerary texts (form G), are merely guessed. I need not repeat the proofs of meaning for various words and expressions which can be found on reference to the indexes of my *Karandg* and *Meroitic Inscriptions*.

The first thing to notice about the inscription is the large display of kin, often elsewhere the mark of a woman who could hold but few titles of her own. Wayekiye's personal description only begins after 7 phrases of kinship and consists of but 3 phrases, whereas usually some of a man's own titles precede all his relationships except his parentage. Clearly Wayekiye was in the position of a younger brother or poor relation. This corresponds exactly with the conditions indicated by the demotic graffito (c) of Wayekiye. He bears only 3 or 4 titles, all astronomical, while his relations in their graffiti parade their territorial and administrative ranks in addition to their more scholarly qualifications. Moreover Wayekiye has a remarkable petition:

"Hear my cry, my great mistress Isis, and give me strength and readiness before my elder brothers, and give me favour and love and respect before the majesty of the kings."

We might perhaps be in doubt whether he was quarrelling with his powerful relations ("brothers" is of course a vague term) and needed the favour of Isis and of the Ethiopian court to support him, or merely wished humbly to serve them all in a capable way. But evidently they were a great consideration with him. Another point of agreement is that his titles, which with other people are put forth along with their names at the beginning of a graffito, are here added as a kind of afterthought at the end, precisely as on the Meroitic tombstone.

The second noticeable feature in the Meroitic is the absence of the usual parentage. The word *tze-mze-tê* which I have translated "of the loving family" occurs in *Far.* 20 where the father's name is given as usual but not the mother's, an unparalleled state of things unless we suppose that the phrase with the rare expression *tze-mzes-lo* is a substitute of some kind for the maternal relationship and means something like "of the loving family of Yilêlitê." Accordingly the short obscure and broken text *Kar.* 80

seems to be "Tabalab...; of the loving family of the *peshaté*; *shaz[emazes.....]*." I therefore suppose that Shipeshiye and Qêresmaye were the mother and father of Wayekiye, either real or titular by adoption. I now proceed to comment in detail on names and words in order as they appear in the text.

Wayekiye is evidently the name which is written *Wygy* in demotic. As so often happens in Meroitic there is a form also with *n*, viz. "*Wyngy*, strategus of the water" in another graffito¹, and this suggests that the Nubian word for "star," in Old Nubian *wiñji*², in Mahass *winji*, was furnished with the common ending *ye* to make a name in this astronomical family. The word *waye(n)ki*, meaning therefore something like "star," occurs again in the form *waye(n)kite* in Far. 21.

From the many points of agreement between the Meroitic tombstone of Waye(n)kiye and the demotic graffito (*c*) it seems exceedingly probable that they belong to one individual. The only difficulty is in the parentage. The demotic gives Harentyotf as father, Tshepshewêre "the great Dame" as mother. In the Meroitic Shipeshi-ye must be Tshepshi "the Dame" omitting the epithet *wêre* "great," unless the very common name-ending *ye* actually means "great," though confined in use to names: instead of the Egyptian name Harentyotf the father seems to be designated as Qêresma-ye, a similar formation from the title *qêre-sm* "royal consort" or perhaps "royal friend." Designations of people by the plain title instead of naming them directly are frequent in the inscriptions, and we seem to see an exact parallel to the present case in the Philae graffiti *Inscr.* 95, 96, 121, 123, where the only designation is Apête-ye (from *apête* "envoy"), presumably replacing a more personal name.

"Chalême the strategus" and "Maqêl-temaze the strategus" are associated together on another stela at Medîk (*Inscr.* 88), and are evidently the same as on ours, though the former is written with *h* instead of *h* and the ending of the latter name is apparently varied, as does sometimes happen. These names were wrongly read in *Inscr.* II, p. 18, and an inspection of the originals would be desirable to settle the readings. Khalême (pron. Khalome?) is perhaps a Meroitic version of Pakhnûm or the like. Bezewi is probably the equivalent of Tacompso, on the frontier of Dodecaschoenus close to Medîk³. Pakhême (very likely to be pronounced Pakhome⁴) is evidently the Egyptian name Pakhom "the eagle," Παχουμης, which is common in the Egyptian graffiti of Philae; it occurs also in Far. 44. Beke seems to be the Egyptian *Bk*, Bêč "Hawk" occurring at Philae⁵; it is common elsewhere as Pbêk, Πβηκς, and perhaps "Pbêk son of Paësi, the *qêreñ* of Isis, the Agent of Isis" in demotic at Dakka⁶ is the person in question.

Shanapatete seems to be connected with Shanapateli in *Inscr.* 133, and with "Sanapata high priest of Thoth" in demotic at Dakka⁷; for *krêr* (*kôrô*?) appended to a name cf. Παλακκαρουρ (*Inscr.* I, p. 73) and perhaps Πετεσις κρουρ at Dakka⁸ besides Meroitic and demotic references in *Inscr.* etc. Matewawi is dealt with in *Inscr.*, *ad loc.* As Manitawawi, apparently the same person, is entitled "strategus of the water" at Philae⁹ I suggest the meaning "ships" here for *azb*.

¹ See *Inscr.* II, p. 38 and p. 46, no. 21.

² For Old Nubian words see Index I in my *Nubian Texts of the Christian period*.

³ See Far. 21.

⁴ A discussion of the vowels in Meroitic will appear later.

⁵ L. D. VI dem. nos. 43, 57, 87.

⁶ *Inscr.* p. 25.

⁷ *Ib.*

⁸ L. D. VI, Gr. 469, cf. 411.

⁹ *Inscr.* 97, 105, II, p. 37.

We have now finished with Waye(n)kiye's high relations and arrive at his titles or personal descriptions. There would be little clue to their meaning without the evidence of the Egyptian texts. It is very unfortunate that although the latter are in triple version their reading and interpretation are still obscure in some details.

plšn is clearly the Egyptian title of the high priest, in demotic *p-mr-šn* (= ἀρχιερεὺς), pronounced *p-leshoni* and in Greek transcribed λεσωνις. The next word is the genitive of *Qbñ*, a word not found elsewhere, but an attractive comparison can be made with the Nubian plural *gumenki* which according to Almqvist is used in the Dongola dialect for "stars¹" and would imply a singular *gumen*. *yeteke-lo* occurs in *Inscr.* 129/6 in an obscure and complicated phrase.

In the Egyptian graffiti we find in (a) and (c) "prophet of Sothis....., priest of the 5 Live Stars," in (b) simply "who reckon the risings of the 5 Live Stars" without mention of Sothis. (c) is our best authority and I am inclined to take *Qbñ* as the name for Sothis, the most worshipful of the stars, regulator of the inundation and identified with Isis.

The next phrase in the Meroitic contains the word *qére* "king," and *šér* (*šor*) which precedes it is extraordinarily like the Nubian K. D. *sor*, Mah. *šo*, Old Nubian *šo(l)* "book," apparently derived from Egyptian *šꜥ*, though whence the *r* was obtained is at present a mystery. The demotic contains the word for "king" *n-sw* in connexion with writing, and (c) seems actually to give "sheikh of the royal book of Cush," while (a), (b) appear to make two phrases of nearly the same words, speaking of "royal scribes." Another graffito with a similar title, imperfect "...royal book of Cush" or "...royal scribe of Cush²," is equally indecisive.

The third and last phrase in the Meroitic is marked by a numeral which ought to read 34, accompanied by groups reminiscent of those in the first phrase.

First phrase penn : 5-ni : yeteke-lê :

Third phrase penn : 34-ñkw : htke-lê :

Here *ni* is equivalent to *ñ* as elsewhere, and *yeteke* is doubtless related to *htke*. Moreover from the phrase in *Kar.* 47 with the 5-number, *kzi : akw : 5-nw : htekke šzestel : mte-té* : we can select as parallel to the above the words *akw 5-nw htekke* and guess the meaning of the whole of that phrase to be "belonging to the family(?) of the woman in Shazesh learned in the courses of the five planets." *Kar.* 47 is the tombstone of an important person named Chawitarêr, who was *pesaté*-prince of Aniba, and the phrase just quoted is amongst the last of the eighteen or nineteen phrases in which his titles, rank and connexions are enumerated. Shazesh is perhaps the same as Shazês, the name of a place lying southward beyond the Second Cataract³; or we might read "the woman Shazestel" instead of "the woman in Shazesh."

The figure 34 is not so easy as 5 to explain in connexion with the calendar and astronomy. 36 decans or 24 hours would be obvious enough, but it is impossible to read a 6 here, and the form of the first figure is not probable for 20.

d. *Ethiopian astronomy.*

Mr J. K. Fotheringham of Magdalen College has most kindly examined the question of these astronomical titles for possible interpretations, and is of opinion that

¹ ALMQVIST, *Nubische Studien* (ed. Zetterstéen) p. 212.

² L. D. VI dem. no. 20, BRUGSCH, *Thes.* 1030.

³ *Kar.* p. 82.

the Waye(n)kiye family must have been in possession of a book of star-risings in which the number dealt with happened to be 34. They would doubtless have been originally calculated for Syene but could be adapted to any neighbouring place with little trouble. Such a book would certainly have made a great reputation for its possessor. Both Mr Fotheringham and Professor Turner thought of constellations to explain the number 34, but have failed to reach a result here. Mr Fotheringham has sent me the following note:

"I have searched in vain for any selection of 34 stars, and can only adhere to my suggestion that some unknown person had prepared a table for computing the risings of that number of stars.

"I think the risings are 'daily' not 'yearly' (1) because they include the Sun and Moon, (2) because daily risings are easily calculated from tables such as those given by Ptolemy, who did not prepare tables for computing yearly risings. The lists of yearly risings that have come down to us depend on observation, not on computation.

"I have no suggestion to explain the word 'net' but I think it may very conceivably refer to eclipses. Predictions of these would be expected, and it is possible that the eclipsed or partially eclipsed sun or moon might be regarded as caught in 'a net.'"

It might also be suggested that as "the time when the sun and moon take the net" in (b) is probably equivalent to "the time when the sun and moon rise" in (a), the former expression may be figurative or mythological for the blotting out of the stars, as if a net were cast over the waters of the heavens by the great luminaries and the stars drawn out. Neither Prof. Turner nor Mr Fotheringham consider it likely that "the net" can represent any practical device of ancient astronomy.

e. Meroitic datings.

The Ethiopian calendar is at present quite unknown. Within the Dodecaschoenus Egyptian graffiti of Ethiopians generally use Egyptian dating by Roman emperors. But a hieratic graffito in red ink (copied by Brugsch on the staircase of the First Pylon at Philae²) is dated in the reign of an Ethiopian king of the later Ptolemaic or Roman age, and clearly implies that the Egyptian months were not in use by the Meroites at the time. On the other hand a demotic graffito at Dakka dated in the reign of a Meroitic king with his mother employs the Egyptian calendar without comment³.

None of the great Meroitic inscriptions show dating in figures, and the Greek inscription of Silco has no dating at all. Yet dates in figures do almost certainly occur in short inscriptions. Each of two pyramids at Meroe, near to each other, of similar style, and remarkable, according to Lepsius, for being the only two of which the sides were smoothed, bore a cursive inscription engraved in bold early characters on the east face to the left of the roof of the shrine. These inscriptions (now in Berlin) appeared after very careful examination of originals, squeezes and copies to have been identical except in one figure⁴.

Pyr. A 39, *Inscr.* 70 Zmkte-qê: ḥlbi 3 [zi]me 4 ke-lw: qe-nšker-lê:

Pyr. A 31, *Inscr.* 64 Zmkte-qê: ḥlbi 3 zime 24 ke-lw: qe-nšker-lê:

¹ Above, p. 25, (b).

² BRUGSCH, *Thes.* 1004-5, cf. *Inscr.* II, p. 34. I could find no trace of it in 1910.

³ BRUGSCH, *Thes.* 1032, cf. *Inscr.* II, p. 25.

⁴ Cf. *L. D.*, *Text* v, pp. 314, 318.

The omission of the figure 20 in a short and carefully executed inscription, which was evidently no mere graffito but a record considered to be of importance, must be intentional. A 39 lies further back on the hill than A 31 and therefore was probably built before it. There seems no probable architectural explanation of the figures and we may well see in them the date of completion of the pyramid or some expression of time. We might suggest that A 39 was completed in 3 months and 4 days and A 31 in 3 months and 24 days, but as A 31 is smaller than A 39 this is not probable. It is much more likely that there was an interval of 20 years and that dates are expressed by the figures, e.g. "the third month of year 4," etc. The word *zime* (unless it be *zihe*) which precedes the supposed year-number agrees almost exactly with the Nubian word for year, Old Nub. *jem*, *gem*, Ken. Dong. *jen*, Mah. *gem* "year."

The translation therefore seems to be somewhat thus:

"The honourable Zamakte: having finished (or dedicated) this in season(?) 3 year 4 (24 on Pyr. A 31)."

The inscription found by Professor Breasted on the smoothed face of a column in the hypostyle court of the great temple at Gebel Barkal seems likewise to include a date:

Inscr. 76. Arekete : qêli : nšker : zîmel : ytekeš : tislke : 12

"Arekete: having finished (or dedicated) this in year 12 of *yatekeshti* (?)."

The inscriptions 82, 83 on a jamb-block from Sai show similar figures, but I do not find in them any points of coincidence with the above, such as the supposed word for "year."

It is worth noting that the three inscriptions which appear to contain dates are all written in the earlier style of Meroitic cursive.