Material Relating to Gebel Moya

Publication/Creation

1912-1916

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List of Documents, etc., relating to Anatomical Matters from Gebel Moya.

A.5. Dr. Derry's Report 1910-11.

C.3. Ray and Buxton 1912-13. Anthropological and anatomical Reports.

U.10 (Part of) Ray and Buxton 1912-13. Anthropological, anatomical and Archaeological Reports.
Anatomical Reports by Dr. Oldham 1913-14.
Correspondence and notes relating to the paper by Ray and Buxton: "Some pathological conditions observed among the human remains excavated in a prehistoric Ethiopian Cemetery in the Southern Sudan, Africa." Read at the International Congress 1913, London.
Derry's "Some physical characters of a prehistoric Sudanese Race."
42 anatomical cards of various Taish workmen at Gebel Moya.

C.10. Inside this parcel is a MS. typed copy notes on human remains at Gebel Moya, 1912-13, by Buxton; and folder "Characteristics of Skeletons" and typed grave cards Nos. 996-1020 also by Buxton.

C.12. 3 Japanned boxes containing Tomb Cards from No.1 - No.2883.

D.16. Tomb cards, mixed numbers taken from the foregoing.

C.13. (8) Notes made at the International Congress of Anthropology, Geneva, 1912, September.

D.13. Nine Japanned steel cases. MSS. and typed anatomical cards from all sites. Inside case 710-975 "Ethnological Notes" transcribed from Field Book by Buxton. G. Moya 1912.

D.11. A blue envelope containing graphic description of measurements taken on bodies. Aloa Site 1913/14, by Crawford.

D.12. Report on human remains from Gebel Moya and Aloa 1913-14, by Buxton.

K.6. Folder XIV (b) notes by Reisner and Oldham on bones, March 1914.

Ref.30. Notes extracted from Dr. Oldham's reports for exhibits at Wigmore Street, June 14, 1929.

The Sudan in Antiquity.

Identification of Gebel Moya and Arthet.

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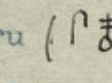
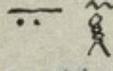
Sudan in Antiquity.

There is ample evidence that the Egyptians, in early historic, and even prehistoric times, were in close intercourse in the regions far to the south of the Wady Halfa, the lands of Nubia, and the Sudan, and even with districts well en route to the great lakes and the scources of the Nile.

The discovery of many objects of ivory and ebony in the early dynastic tombs at Abydos, show that there must have been a trade connection with the regions to the south of Khartum, for neither the elephant, or the ebony producing trees are found to the north of the Sudanese capital. That they had penetrated to, or been in touch with nations far to the south is shown by the discovery in the great royal tomb at Nagada, the supposed tomb of Mena, but more probably of his queen Mer-Neit explored by M. de Morgan, of a piece of carved rhinocroses horn, which must have come from the regions near to the great lakes. Another indication of a trade with the regions of the Heart of Africa, is found in the discovery of the tombs and skeletons of pigmies at Abydos in tombs of the Early Kings prior to the time of Mena.

The intercourse with the southern regions began no doubt with the slave trade and from the earliest times

raids for slaves were made from time to time penetrating into the regions now known as the provinces of Hordafan - Darfur and Sennar. The earliest historical and documentary evidence of such raiding of the Sudan is furnished by the entry of the result of one of those expeditions under the reign of Senefru () in the inscription on the famous Palermo stone. This inscription contains a short summary of early Egyptian history from the time of the first dynasty until the sixth (B.C. 5000.3300) under each reign the chief event of importance and the height of the Nile are entered. In the reign of Senefru about B.C.3800 we have the entry 'the Hacking up of the land of the Negroes  Ta Nehsi and the bringing back of 7000 living captives and 200,000 large and small cattle, such a raid like the Modern slave zazzia now stopped would mean the burning and destruction of hundreds of native villages and the carrying off of thousands of the men and women as slaves and the captives of large herds of cattle. For thousands of years, and indeed until the last twenty years, these raids for the black slaves has been the fate of the Sudan. Of these slave raids into the Heart of Africa we possess but little written record but fortunately the primitive artists have recorded in picture the incidents which no scribe has committed to writing.

State tablets. On the state tablets found at Hieraconpolis and dating from the time of the King Narmer the immediate predecessor of

Mena or Menes, and therefore dating about B.C. 5000 we have scenes of fighting against a foreign race. The foes of the Egyptians have faces with distinctly negro features, snub noses, thick lips and curly hair, a marked negro feature. Moreover they are represented as circumcised, a custom which existed among most African nations or people from a very early period and continued in use among the Nubian until long after the introduction of Christianity into that country and was practised side by side with Baptism, as a ceremony of initiation.
The Negroes are armed with bows and arrows short spears and curved sticks, which resemble boomerangs or throwing sticks. Their throwing sticks are called by the Niam Niam people one of the oldest negro tribes by the name of trumbrust.
They were originally made of hard woods, but later when these tribes learned to work iron, they were made of iron and resembled small hatchets with curved and twisted blades, and were capable of inflicting serious wounds. Dr. Schweinfurt who spent many months among the Niam-Niam tribes gives drawings of these weapons in the Heart of Africa, and they are very formidable weapons. In the inscription of Her-khuf who went slave hunting in the negro lands, in the reign of Mer-en-Ra (Pepe II) and pemetrated to the land of Amam which we shall see is to be identified with the region of the Niam Niam tribes he states that the objects he brought back from these lands as spoil were ivory, ebony, and 'throwing sticks'

Throwing sticks.

Another important memorial of these slave raids is certainly of the pre-dynastic or prehistoric period and is found on a red ware hand-made vase taken from a prehistoric grave at Geblen near Abydos. This vase is now in the collection of Mr. Henry S. Wellcome. On the vase are three scenes which illustrate a prehistoric razzia or slave raid. On the upper tier are two Nile boats of the style used under the earliest empires and which are figured on many of the prehistoric vases. The next tier shows a native village of domed huts similar to those in use among the Dinkas and the Niam Niam tribes. The inhabitants have been cleared out of their village and evidence of the method employed is afforded by two or three headless figures lying outside of the huts on the bare ground, those who had perished in defending their homes. The scene exactly depicts a village in the southern Sudan of to-day after a slave trader's raid.

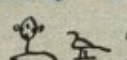
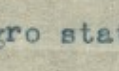
The third tier is more important as it enables us to ascertain with some considerable degree of certainty the region in which the raid had taken place. We have a hunting scene in a forest of palm groves. Here a hunter armed with a throwing stick, is shown who has lassoed a giraffe, he has two dogs with him. The dogs who have run on in front have arroused a Khuddu, a long-horned antelope who has two young kids with her and the creature is represented in a characteristic attitude, with the fore paw raised as if to strike the approaching dogs.

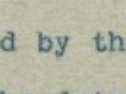
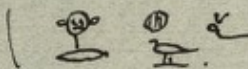
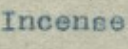
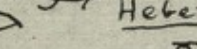
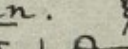
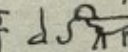
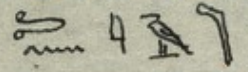
Giraffe and Khuddu.

For a piece of artistic work of so remote an age probably at least some six thousand years ago, the truth to nature is wonderful.

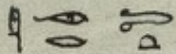
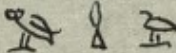
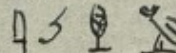
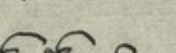
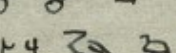
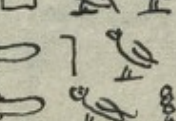
Now the region in which the giraffe and Khuddu are found could certainly not have been to the north of Khartum, and was more probably in the provinces of the Gizireh or island between the Blue and White Nile or in Kordofan where the Khuddu is till sometimes shot, one recently being killed by Lord Kichener.

Taken together the evidence of the slate tablets and this valuable vase afford ample proof of a trade, chiefly slave trade, connection between the inhabitants of the land of Egypt and the Negro States of the Sudan, and of the passage of caravans far to the south.

Una's Raid. It is not until the time of the Sixth Dynasty about B.C. 3300 that one gets definite momental evidence as to Egyptian raids into the Negro lands of the Sudan. The first inscription of importance is that of an offical named Una  . who was in charge of the frontier at El-Kab, the ancient Nekheb the earliest capital of Upper Egypt. This autobiographic inscription of Una is now in the Louvre, and has been published several times. The most important campaign for our subject is thus described. "His Majesty caused me to make war against the Heru-Sha  . "Dwellers on the Sand." the Bedouin in the Deserts to the east of the Nile. He then passed southwards by the road of Elephantine. ( Abu). Abu) to the Negro states ( ta-nehsi.) It must

have been a formidable expedition as he tells us that he raised (for) his Majesty an army of tens of thousands (777.) in the south. He gives us the names of a number of Negro States he raided and these names are most valuable. Each of these names is proceeded by the word Neshi  Negro and has affixed to it the determination  a figure wearing a feather head-dress. Before we examine these names we may note the objects which formed the booty which Una, and Herkuf brought back with them and they are distinctly 'Heart of Africa' products. The expedition of Her-Khuf  was a few years later in the reign of Mer-en-Ra or Pipi II, but he visited the same regions as Una. The spoil consisted of Incense  Neba-setā ebony  Heben.  Hekau. grain a kind of Durra, and  Ab Ivory also  Tenāā 'throwing sticks' in which we may see the "Trumbrushes" of the Niam-Niam.

The names of these Negro Tribes are:-

1.  Ar-thet.
2.  Ma-za-u.
3.  Am-am.
4.  Ua-aat.
5.  Ka-a u
6.  Temeh.

In all the inscriptions of the time of the Sixth Dynasty the weiters lay great stress on the importance of the land of Am-am.  in fact so much is this the case that it appears almost to be a general name for these negro States.

According to Her Khuf, Am-am was a powerful state and able to make war on the other states. Thus on Herkhuf's third expedition to Amam he says "I went forth by the Elephantine road and I found the chief of Amam  hik Amam) going to the land of Temeh to smite Temeh as far as the limit of the western heaven". "I went for" he says, "after him to the land of Temeh and pacified him so that he praised all the gods for the King's sake."
The method of pacification was no doubt a forcible one for the troops of Amam seemed to have joined Herkhuf who now says. Now the chiefs of Arthet, Sether and Naat saw how numerous were the troops of Amam who descended (returned) with me and the soldiers who had been sent with me. The chief brought to me both and small cattle and conducted me through the roads of Arthet. It is clear that a part of Herkhuf's mission consisted in obtaining Sudanese fighting men to be formed into troops for the Egyptian army. Herkuf gives us some interesting information as to the time occupied in these compaigns. The first raid occupied seven

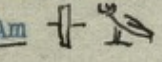
months, the second eight, so it is evident that he must have gone as far south as Darfur on the While Nile or the regions behind Sennar on the Blue Nile.

The most consistent explorer of these mid-Sudan regions is certainly Dr. Schweinfurt who spent months in the Niam-Niam and Manbattu countries and his description of these people is of the utmost value.

The Niam-Niam people occupy the largest territory of any of the Negro kingdoms or states. They are tall and well built and very warlike. They even in his time were always anxious to become soldiers in the Egyptian army. Their weapons are shields curiously like those figured in the State Tablets of the most ancient Egyptian, and a long spear and the trumbursh or throwing stick, now made of iron but formerly of hard wood. Elephants were very plentiful in their forests, but the heavy tolliput upon them and the method of killing them in droves by firing the forest has almost destroyed them out of existence.

The land also produces the gum tree called Liban by the Arabs which is no doubt the incense tree of the inscriptions.

The namesof Niam, Niam people according to Schweinfurt and Piaggi the name is of Dinka orgin and means 'The Eaters' or 'Great Eaters' which has given these

people the reputation of being cannibals. Schweinfurt could never get any reliable proof of their being eaters of human flesh, but their neighbours the Manbattu, are most notorious of all Central African tribes for their cannibalism. The name however, seems to be much older than Dinka times and really a survival of their old Egyptian name of Amam, According to travellers the name Niam-Niam is pronounces Yam-Yam or rather gynam-gnam, with a slight inherent guttural g. This seems certainly to be a survival of the old Egyptian name of Amam which like the present name is a reduplication of the root Am  'to eat.' It is more than probable that the old Egyptian name had a similar signification as the modern one, and carried with it the stigma of cannibalism.

The land of Amam or Niam, Niam lies between the 6° and 7° parallel of north latitude and is bounded in the north by Darfur and in the south by the Manbutto country.

It is probably that the Amam of the time of the Sixth Dynasty B.C. 3300 embraced a wider area than now, and may have extended eastward to the White Nile, and stray emebers of the Yam-Yam tribe still find their way into the province of Sennar.

The other Negro States are less easy to identify but we may hazard a theory as to two of them at least.

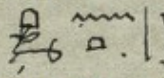
The land  "Arthet" was on a route through which the caravans to Egypt passed as Herkhuf speaks of the 'roads' of Arthet. On the Blue Nile on the right bank about 12 miles from Khartum stood the Nubian city of Soba or Subu, the site of the capital of the Nubian Christian State of Alwa or Aliya the old Meroetic 'Alut'. This name is written in the Ethiopic inscriptions  Alut.

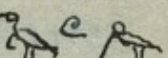
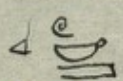
Alut Arthet.

The sign of the couchant lion has the double value of L or R., so the old name may have been Arut which was possibly the Arthet of the inscription of Una and Herkhuf. If this identification holds good and it seems very feasible the route to Amam would have crossed the blue Nile at Soba or Alut. Arut and passed by Meroe to the north. If this is the case we may take it that the settlement at Gebel Moya was one of the chief villages or towns of Arthet.

An other identification which we may suggest is that of the land of Temeh  . Temeh which both Una and Herkhuf mention. The latter describes it as far to the West of Amam or Niam Niam country, it would then lie to the west of Darfur and may be the Teyma or Temya which Barth mentions in his travels as on the caravan route between Darfur and Timbuctoo.

Temeh. Teyma.

In most of the Egyptian inscriptions we find the above Negro States associated with the land of Punt.  Punt is a very general town and is generally taken as the land producing the incense and the Holy Land.  beloved of the gods. In the inscription of Herkhuf in the letter sent to him after his return from his fifth journey to Amam. The key says "Thou hast said in thy letter", letter sent to Pipi, "that thou hast brought a dancing dwarf (tenk pigmy) from the "land of Spirits" like the dwarf which the treasure of the god Burded brought from Punt in the time of Assa (a king of the Fourth Dynasty). Schweinfurt found pigmies in the Manbutto country to the south of Niam_Niam land: and he brought one with him to Khartum. This would seem to imply that Punt was in Central Africa. This however is a very general use of the name Punt.

"Bukam" A little help is afforded us as to the locality of Punt from the Egyptian Inscriptions of a later date. The Egyptian gave to the eastern desert the land lying to the east of Elkab, or Nen kheb the name of   Baukem or Baukem. It was the land south of a line drawn from El kab to Bernice on the Red Sea, and extending as far south as the Blue Nile, and bounded on the east by Somaliland and Northern Abyssinia. This land is said to have been

adjacent to, or adjoining Punt which would place Punt in Somaliland and Abyssinia, a location which suits very well the Punt of the later inscriptions of the Eighteenth Dynasty when Punt is reached by the Red Sea. If this location is accurate the land of Arthet and Amam on its eastern limit would be adjacent to Punt, that is the Abyssinia portion.

General conclusions.

Taking all the above matter gained from the inscriptions and monuments it would seem that Sennar and Gebel Moya where in the Negro kingdom or tribal districts of Arthet embraced in the wider area of Amam or Yam-Yam and that it represents a negro village. None of these names on the inscriptions have the determination of town or city probably none of these existed only large villages, so no very solid remains can be looked for, and indeed until quite recent times Sennar, the capital of the province was little more than a large village.

Notes on:

EXCAVATIONS IN THE SUDAN.

1. Examination of Sudan Minerals.
2. "Primitive Culture of the Sudan."
3. "Ornaments Affixed to Pottery," by Mr. Casson.
4. The Find of Silver Coins Near Gebel Moyar, Jan. 1915.

RESULT OF ANALYSIS OF SAMPLES AS PER INSTRUCTIONS.

Examination of Samples of Minerals from the Soudan.

By Frank Tutin.

1. "Sample from Case 78."

This appeared to consist of a sample of dried soil. It contained 5·6 per cent of organic matter. On ignition it gave a brick-red residue which consisted, for the most part, of small flint stones and sand, together with some red clay (iron and aluminium silicates.) It also contained small amounts of ferric oxide and aldminium oxide, and a trace of lime, but practically no alkali metals.

2. Duplicate of No 1.

This sample contained 5·4 per cent. of organic matter, and was similar in all respects to sample No.1.

3. "Sample from Case 94".

This sample was very similar to the two preceeding ones. It contained, however, rather more calium (as carbonate) with which was associated a small amount of magnesium carbonate, and the flint stones contained in it were smaller, and somewhat fewer, than those present in Nos 1 and 2. It contained small amounts of alkali metals, and 5·6 per cent of organic matter. Iron and aldminium were present, both as oxides and silicates, as in the preceeding samples.

4. Duplicate of No 3.

This was similar to Nos 1,2, and 3, in its general characters. The fragments of flint and sand present, however, were in considerably smaller particles. Alkali metals were present to a greater extent, and it contained a trace of chloride, whilst magnesium was absent and calium present only in small amounts. It contained 7·7 per cent of organic matter.

5. " Sand for analysis".

This sample consisted of an ordinary, coarse sand, and presented no exceptional characters. Apart from seeds and fragments of plants it consisted essentially of silica. The amount supplied was insufficient for a full examination of the traces of the other substances present.

6. "Yellow Pigment for analysis from Case 67".

This consisted of a fragment of "yellow ochre". It contained 82 per cent of aliminium silicate, 9 per cent of ferric oxide, 8·8 per cent of combined moisture, and traces of aliminium oxide and alkali metals. On ignition it became bright orange.

7. "Red Pigment from Case 67, large sack."

The four fragments in this sample differed very considerably, One was certainly not a natural mineral, and appeared to be a fragment of old pottery: another was almost black, internally,

being colour

7. contd. being coloured somewhat reddish on the surface: the third possessed a dirty orange colour: whilst the fourth was a fairly deep red colour, although not quite uniform. The last two fragments both consisted of natural ochres, differing from the last described sample (No 6) in that they contained more ferric oxide, the greatest proportion of iron being present in the fragment of red colour.

8. Duplicate of No 7. Case 67

The two fragments of which this sample consisted were both typical samples of "red ochre". One was darker in colour than the other, but both consisted of aluminium silicate impregnated with hydrated ferric oxide.

9. Crimson Pigment for analysis from Box A.

The two fragments of which this sample consisted differed considerably. One was a "red ochre" intermediate in colour between the two fragments of the last described sample: the other, however, was not an ochre. The last mentioned fragment was crimson-coloured on the surface and along the natural cleavage planes only: internally it was dark brown-coloured. It was much harder than the samples of ochre, and had the following compositions:-

Silica	83·0 per cent.
Carbon, or coal-like material	2·5 " "
Combined moisture	2·1 " "
Ferric oxide	11·1 " "
Aluminium oxide	small amount.
Aluminium silicate	small amount.

10. "Rock from site of the berashar.

This consisted of a conglomeratic iron-stone, a surface iron ore commonly known as "Laterite". This mineral is abundant throughout the greater part of the Tropics, and very large amounts of it are known to occur in the Soudan, where it is occasionally smelted by certain of the Natives. It had the following composition:--

Ferric oxide	61·9 per cent.
Silica	18·6 per cent.
Combined moisture	13·5 per cent.

The remainder of the material (6·9 per cent) consisted of small amounts of alkali metals, magnesium, aluminium and manganese. Titanium oxide was also doubtless present in small amount, as it is invariably a constituent of Laterite, but it was not specially tested for in this sample.

10 contd. No gold was present, although this metal is not infrequently present in Laterite.

11. "Rock from South end, E. G. Trench".

This consisted of a fragment of the mineral known as "Travertine", a secondary product formed by the weathering of older calcareous rocks. It contained 19·0 per cent. of a mixture of silica and small fragments of mica, the remainder of the material (81·0 per cent.) consisting of calcium and magnesium carbonates, together with traces of iron and aluminium oxides.

12. "Portion of stone to be tested, Gebel Moya."

This was a typical sample of an ordinary grit. It consisted essentially of silica, containing the usual traces of combined iron, aluminium and calcium oxide.

RESULT OF ANALYSIS OF SAMPLES AS PER INSTRUCTIONS.

Examination of Samples of Minerals from the Soudan.

By Frank Tutin.

1. "Sample from Case 76."

This appeared to consist of a sample of dried soil. It contained 5·6 per cent of organic matter. On ignition it gave a brick-red residue which consisted, for the most part, of small flint stones and sand, together with some red clay (iron and aluminium silicates.) It also contained small amounts of ferric oxide and aluminium oxide, and a trace of lime, but practically no alkali metals.

2. Duplicate of No 1.

This sample contained 5·4 per cent. of organic matter, and was similar in all respects to sample No.1.

3. "Sample from Case 94".

This sample was very similar to the two preceeding ones. It contained, however, rather more calcium (as carbonate) with which was associated a small amount of magnesium carbonate, and the flint stones contained in it were smaller, and somewhat fewer, than those present in Nos 1 and 2. It contained small amounts of alkali metals, and 5·6 per cent of organic matter. Iron and aluminium were present, both as oxides and silicates, as in the preceeding samples.

4. Duplicate of No 3.

This was similar to Nos 1,2, and 3, in its general characters. The fragments of flint and sand present, however, were in considerably smaller particles. Alkali metals were present to a greater extent, and it contained a trace of chloride, whilst magnesium was absent and calium present only in small amounts. It contained 7·7 per cent of organic matter.

5. " Sand for analysis".

This sample consisted of an ordinary, coarse sand, and presented no exceptional characters. Apart from seeds and fragments of plants it consisted essentially of silica. The amount supplied was insufficient for a full examination of the traces of ~~the~~ other substances present.

6. "Yellow Pigment for analysis from Case 67".

This consisted of a fragment of "yellow ochre". It contained 82 per cent of aliminium silicate, 9 per cent of ferric oxide, 8.8 per cent of combined moisture, and traces of aluminium oxide and alkali metals. On ignition it became bright orange.

7. "Red Pigment from Case 67, large sack."

The four fragments in this sample differed very considerably, One was certainly not a natural mineral, and appeared to be a fragment of old pottery: another was almost black, internally,

[illegible] colour

7. contd. being coloured somewhat reddish on the surface: the third possessed a dirty orange colour: whilst the fourth was a fairly deep red colour, although not quite uniform. The last two fragments both consisted of natural ochres, differing from the last described sample (No 6) in that they contained more ferric oxide, the greatest proportion of iron being present in the fragment of red colour.

8. Duplicate of No 7.

The two fragments of which this sample consisted were both typical samples of "red ochre". One was darker in colour than the other, but both consisted of aluminium silicate impregnated with hydrated ferric oxide.

9. Crimson Pigment for analysis from Box A.

The two fragments of which this sample consisted differed considerably. One was a "red ochre" intermediate in colour between the two fragments of the last described sample: the other, however, was not an ochre. The last mentioned fragment was crimson-coloured on the surface and along the natural cleavage planes only: internally it was dark brown-coloured. It was much harder than the samples of ochre, and had the following compositions:-

Silica	83·0 per cent.
Carbon, or coal-like material	2·5 " "
Combined moisture	2·1 " "
Ferric oxide	11·1 " "
Aluminium oxide	small amount.
Aluminium silicate	small amount.

10. "Rock from site of the berashar.

This consisted of a conglomeratic iron-stone, a surface iron ore commonly known as "Laterite". This mineral is abundant throughout the greater part of the Tropics, and very large amounts of it are known to occur in the Soudan, where it is occasionally smelted by certain of the Natives. It had the following composition:--

Ferric oxide	61·0 per cent.
Silica	18·6 per cent.
Combined moisture	13·5 per cent.

The remainder of the material (6·9 per cent) consisted of small amounts of alkali metals, magnesium, aluminium and manganese. Titanium oxide was also doubtless present in small amount, as it is invariably a constituent of Laterite, but it was not specially tested for in this sample.

10 contd. No gold was present, although this metal is not infrequently present in Laterite.

11. "Rock from South end, E. G. Trench".

This consisted of a fragment of the mineral known as "Travertine", a secondary product formed by the weathering of older calcareous rocks. It contained 19·0 per cent. of a mixture of silica and small fragments of mica, the remainder of the material (81·0 per cent.) consisting of calcium and magnesium carbonates, together with traces of iron and aluminium oxides.

12. "Portion of stone to be tested, Gebel Moya."

This was a typical sample of an ordinary grit. It consisted essentially of silica, containing the usual traces of combined iron, aluminium and calcium oxide.

EXAMINATION OF SOUDAN MINERALS. (Continued.)

13. "Yellow Pigment for analysis from Case 67."

This was a good sample of Yellow Ochre. It was easily reduced to a soft powder, which became pinl on ignition. It consisted chiefly of aluminium silicate, but contained some hydrated ferric oxide (to which its colour is due,) and a trace of aluminium oxide.

14. "White Pigment for analysis from Case 67."

This sample was precisely similar to the latter, with the exception that the ferric oxide was almost entirely absent.

15. "Crimson Pigment for analysis from Case 67".

Thsi appeared to differ somewhat from any of the others (13, 14, 16, 17,) When powdered it gave a brown product, and cannot correctly be descibed as a crimson pigment. On analysis it was found to contain much more ferric oxide than other samples, whilst the material insoluble in hydrochloric acid consisted of a mixture of minute fragments of mica, and aluninium silicate, together with a trace of black, coal-like matter. It also contained traces of aluminium oxide and alkali metals.

16. "Pink Pigment for analysis from case 67".

This was not homogeneous in colour, but could be readily be reduced to a fine, pink powder. The latter was precisely similar in colour and composition to the product obtained by the ignition of No 18. This pink pigment therefore appeared to differ from the yellow pigment (No 13) only inasmuch as the ferric oxide contained in it, was anhydrous instead of hydrated.

17. "Terra Cotta Pigment for analysis from Case 67".

This was a good specimen of an ochre, and differed from No 18 only in containing rather more ferric oxide. The greater portion of the fragment was of a somewhat dark yellow colour and not terra cotta.

EXAMINATION OF SOUDAN MINERALS.(Continued.)

13. "Yellow Pigment for analysis from Case 67."

This was a good sample of Yellow Ochre. It was easily reduced to a soft powder, which became pink on ignition. It consisted chiefly of aluminium silicate, but contained some hydrated ferric oxide (to which its colour is due,) and a trace of aluminium oxide.

14. "White Pigment for analysis from Case 67."

This sample was precisely similar to the latter, with the exception that the ferric oxide was almost entirely absent.

15. "Crimson Pigment for analysis from Case 67.

This appeared to differ somewhat from any of the others (13, 14, 16, 17.) When powdered it gave a brown product, and cannot correctly be described as a crimson pigment. On analysis it was found to contain much more ferric oxide than the other samples, whilst the material insoluble in hydrochloric acid consisted of a mixture of minute fragments of mica, and aluminium silicate, together with a trace of black, coal-like matter. It also contained traces of aluminium oxide and alkali metals.

16. "Pink Pigment for analysis from case 67".

This was not homogeneous in colour, but could be readily be reduced to a fine, pink powder. The latter was precisely similar in colour and composition to the product obtained by the ignition of No 13. This pink pigment therefore appeared to differ from the yellow pigment (No 13) only inasmuch as the ferric oxide contained in it, was anhydrous instead of hydrated.

17. "Terra Cotta Pigment for analysis from Case 67".

This was a good specimen of an ochre, and differed from No 13 only in containing rather more ferric oxide. The greater portion of the fragment was of a somewhat dark yellow colour and not terra cotta.

Examination of Samples of Minerals from the Sweden.

By Frank Foster.

1. "Sample from Case 76."

This appeared to consist of a semple of dried soil. It contained 5·6 per cent of organic matter. On ignition it gave a brick-red residue which consisted, for the most part, of small flint stones and sand, together with some red clay (iron and aluminium silicates). It also contained small amounts of ferric oxide and aluminium oxide, and a trace of lime, but practically no alkali metals.

2. Duplicate of No. 1.

This sample contained 5·4 per cent. of organic matter, and was similar in all respects to sample No. 1.

3. "Sample from Case 94."

This sample was very similar to the two preceding ones. It contained, however, rather more calcium (as carbonate) with which was associated a small amount of magnesium carbonate, and the flint stones contained in it were smaller, and somewhat fewer, than those present in Nos. 1. and 2. It contained small amounts of alkali metals, and 5·6 per cent of organic matter. Iron and aluminium were present, both as oxides and silicates, as in the preceding samples.

4. Duplicate of No. 3.

This was similar to Nos. 1, 2, and 3. in its general characters. The fragments of flint and sand present, however, were in considerably smaller particles. Alkali metals were present to a greater extent, and it contained a trace of chloride, whilst magnesium was absent and calcium present only in small amount. It contained 7·7 per cent of organic matter.

5. "Sand for analysis."

This sample consisted of an ordinary, course sand, and presented no exceptional characters. Apart from seeds and fragments of plants it consisted essentially of silica. The amount supplied was insufficient for a full examination of the traces of other substances present.

6. "Yellow Pigment for analysis from Case 68."

This consisted of a fragment of "yellow ochre." It contained 82 per cent of aluminium silicate, 9 per-cent of ferric oxide, 6·8 per cent of combined moisture, and traces of aluminium oxide and alkali metals. On ignition it became bright orange.

7. "Red Pigment from Case 68, large sack."

The four fragments in this sample differed very considerably. One was certainly not a natural mineral, and appeared to be a fragment of old pottery; another was almost black, internally, being coloured somewhat reddish on the surface; the third possessed a dirty orange-colour; whilst the fourth was a fairly deep red colour, although not quite uniform. The last two fragments both consisted of natural ochres, differing from the last-described sample (No. 6.) in that they contained more ferric oxide, the greatest proportion of iron being present in the fragment of red colour.

8. Duplicate of No 7.

The two fragments of which this sample consisted were both typical samples of "red ochre". One was darker in colour than the other, but both consisted of aluminium silicate impregnated with hydrated ferric oxide.

9. "Crimson Pigment for analysis from Box [A.]"

The two fragments of which this sample consisted differed considerably. One was a "red ochre" intermediate in colour between the two fragments of the last-described sample; the other, however, was not an ochre. The last-mentioned fragment was crimson-coloured on the surface and along the natural cleavage planes only: internally it was dark brown-coloured. It was much harder than the samples of ochre, and had the following composition:-

Silica	83·0	per cent.
Carbon, or coal-like material	2·5	" "
Combined moisture	2·1	" "
Ferric oxide	11·1	" "
Aluminium oxide.	Small amount.	
Aluminium silicate.	Small amount.	

10. "Rock from site of the berashar."

This consisted of a conglomeratic iron-stone - a surface iron ore commonly known as "Laterite". This mineral is abundant throughout the greater part of the Tropics, and very large amounts of it are known to occur in the Soudan, where it is occasionally smelted by certain of the Natives. It had the following composition:-

Ferric oxide.	61·0 per cent.
Silica.	18·6 per cent.
Combined moisture	13·5 per cent.

The remainder of the material (6·9 per cent) consisted of small amounts of alkali metals, magnesium, aluminium and manganese. Titanium oxide was also doubtless present in small amount, as it is ~~one~~ invariably a constituent of Laterite, but it was not specially tested for in this sample. No gold was present, although this metal is not infrequently present in Laterite.

11. "Rock from South end, E. G. French"
This consisted of a fragment of the mineral known as "Travertine",- a secondary product formed by the weathering of older calcareous rocks. It contained 19·0 per cent. of a mixture of silica and small fragments of mica, the remainder of the material (81·0 per cent.) consisting of calcium and magnesium carbonates, together with traces of iron and aluminium oxides.

12. "Portion of stone to be tested, Gebel Moya."
This was a typical sample of an ordinary grit. It consisted essentially of silica, containing the usual traces of combined iron, aluminium and calcium oxide.

Examination of Soudan Minerals (Continued).

(13) "Yellow Pigment for analysis, from Case 67."
This was a good sample of Yellow Ochre. It was easily reduced to a soft powder, which became pink on ignition. It consisted chiefly of aluminium silicate, but contained some hydrated ferric oxide (to which its colour is due), and a trace of aluminium oxide.

(14) "White Pigment for analysis, from Case 67."
This sample was precisely similar to the latter, with the exception that the ferric oxide was almost entirely absent.

(15) "Crimson Pigment for analysis, from Case 67."
This appeared to differ somewhat from any of the others (13, 14, 16, 17). When powdered it gave a ~~dark~~ brown product, and cannot correctly be described as a crimson pigment. On analysis it was found to contain much more ferric oxide than the other samples, whilst the material insoluble in hydrochloric acid consisted of a mixture of minute ~~fragments~~ fragments of mica, and aluminium silicate, together with a trace of black, coal-like matter. It also contained traces of aluminium oxide and alkali metals.

(16) "Pink Pigment for analysis, from Case 67."
This was not homogeneous in colour, but could readily be reduced to a fine, pink powder. The latter was precisely similar in colour and composition to the product obtained by the ignition of No. 13. This pink pigment therefore appeared to differ from the yellow pigment (No. 13.) only inasmuch as the ferric oxide contained in it was anhydrous, instead of hydrated.

(17) "Terra Cotta Pigment, for analysis from Case 67."

This was a good specimen of an Ochre, and differed from No 13 only in containing rather more ferric oxide. The greater portion of the fragment was of a somewhat dark yellow colour, and not terra cotta.

NOTE ON THE PRIMITIVE CULTURE OF THE SUDAN AND ITS EXTERNAL CONNECTIONS.

Palaeolithic age in Egypt.

The first definite traces of human occupation in the Nile valley can almost certainly be assigned to the Palaeolithic age. The high desert floor on each side of the Nile has yielded implements of a marked palaeolithic character. Similar traces have been found in Nubia and Somaliland. But our evidencesof the Palaeolithic age in these districts is at present so very scanty that the only conclusion at which we can arrive concerning it, is that it was a different form of culture from the European, and that on the Egyptian desert Palaeolithic man was not disturbed as in Europe by climatic changes involving a Glacial period.

Natural conditions of the Nile valley.

The nature of the Nile valley, however, is such as to favour a continuous culture of some sort or another, and although the evidence of archaeology seems to point to a break between the palaeolithic and neolithic ages, yet geographical and climatic conditions are definitely opposed to it: but even if this particular problem must at present remain sub-judice, there is ample evidence to prove the continuous existence of an energetic Neolithic culture: moreover the same conditions which favoured the growth of such culture have also led firstly to the creation

and

secondly to the preservation of many objects which would otherwise never have been made nor preserved. As Professor Myres has pointed out the treeless character of Egypt and the Nile Valley, led to the use of clay for manufacturing objects for which we should use wood: and the dry sandy nature of the soil has preserved such objects (often of unbaked or badly baked clay) which in a damper climate and soil would long ago have perished.

Origin of pottery making.

When the art of pottery making actually arose, and whence it derived its initial inspirations, it seems impossible to say: it appears rather suddenly in Upper Egypt "at a high level of technical skill and with evidence of a wide though not necessarily very long experience behind it", and its early focus seems to have been in the district between Thebes and Abydos, near Koptos, Wagada, and Dendera. But though the Neolithic culture of the Nile valley attained to a development which was reached in no other case, yet a closer investigation of its remains seems to show that it was in no sense a purely indigenous culture and that it was open to influences from every side (except perhaps on the west where the Libyan desert offefed few attractions to trade or migration).

External influences upon Nile valley cultures.

On the South.

Thus recent discoveries have shown that the so-called 'Pan Grave' people of Hu originated in Nubia or even further south, while the black incised pottery so peculiarly neolithic in character, which will be dealt with below, occurs in large quantities in Nubia.

On the East.

Similarly there is direct connection between the Red Sea coast and the semicircular bend of the Nile between Thebes and Abydos by way of the Wady Hammamat, a route by which the Aegean influence seen by Petrie in the black incised ware of Abydos may have come (via Arabia) and the evidence for which is seen in the Egyptian legend which tells how Horus the God of Sun and Sky, and Hathor, the goddess of pasture came from a 'holy land' on the Red coast towards the south. This same Red Sea route seems thus to account for the very early influence from Arabia and even beyond. Further up the Nile valley the modern Province of Sennaar is connected directly with the Red Sea by the Blue Nile, which runs in an eastward curve to the Chakka Mountains from which the Hawash 'valley' leads to the Gulf of Tujurrah and the Gulf of Aden.

On the North.

So too the route up the Nile itself and the parallel sea route up the Red Sea may both account for the European influences which will be discussed in greater

detail below.

Black incised ware.

The black or grey neolithic incised ware presents more problems and leads to more suggestions of external influence than, perhaps, any other class of neolithic remains. As mentioned above, Petrie was the first to notice the similarity between the black incised ware of Abydos and the similar ware of Crete and other Mediterranean sites. The same kind of ware and the same method of decoration were shown to pervail in Spain, Bosnia, Hissarlik and Knossos, and he argued from that evidence to the conclusion that the Abydos ware was an importation from Crete: but, as Mr. Hogarth has pointed out, the clay of which the Abydos ware is made is local and not Cretan clay. But though the actual pottery vessels may not have been imported, they obviously owe their inspiration to Mediterranean culture. In regard to the fragments of the pottery now in the Ashmolean museum, the Summary catalogue remarks that "similar pottery is found in neolithic tombs along the northern shores of the Mediterranean and in large quantities in Nubia." The general characteristics of this ware are that it is peculiar for its decoration of geometrical patterns consisting of dots and lines filled with white gypsum

evidently imitating basket-work and it is made of a fat black clay.

The evidence of the Abydos ware together with the identification of the 'alphabetiform' signs of pre-historic Egypt with a prehistoric Mediterranean Script system points therefore to a very definite connection between the central and lower districts of the Nile valley, and the Mediterranean, (whether by way of Arabia and Palestine, or the Nile itself.)

The derivation of the incised patterns from basket-work seems obvious enough, but in detail several conventional designs were evolved which gradually drew away from the original motif amongst these the triangle design is one of the most striking and affords most evidence of external influence. It is found on the pottery of many of the Neolithic sites of Hungary, in the lake habitations of Italy, and elsewhere but in particular it seems to have been a favourite design among the makers of the black incised ware of Sakje-Geuzi. How far an inference from a striking similarity in design such as this, to a cultural connection is valid, it seems impossible to say, but Professor Garstang on similar basis, relates pottery of Sakje-Geuzi

to ~~that~~ Hissarlik and to Susa, respectively and thus connect Troy to Elam. May it not therefore be possible also to relate the Sudan pottery series to both Troy and Elam through the mediation of Sakje-Geuzi ---- by the overland route from Arabia or the Head of the Red Sea?.

Besides the triangle pattern, however, there are other similarities of design: thus the herring-bone and zig-zag patterns occur both in the Egyptian and in the Mediterranean and Asiatic wares: but the Sakje-Geuzi ware is of grey clay with a black slip whereas in the Sudanese pottery a black slip is rare.

Connection between Nile valley and Troad.

The connection with the north and north-east shown by this black incised ware one naturally expects to find in a more pronounced form in the later phases of Neolithic culture, and evidence is forthcoming to prove such an assumption. This evidence, however, comes from Asia Minor, and not from Egypt, and proves connection between Troad and the Nile: it takes the form of a small pottery figurine of a Hippopotamus found by Schliemann twenty-three feet below the surface. It is of bright red pottery and seems to be of local fabric. The depth of 23 feet seems enough to place it in the Neolithic

s

stratum, but it is a pity that we do not know anything of the pottery with which it must have been axsociated. But the important point is that it represents beyond any doubt a hippopptamus, and Egypt could be the only possible place whence the subject could have derived, as Schliemann says " At all events Troy must have been commercially connected with Egypt: but even so it is still an enigma how the animal was so well known here as to have been made of clay in a form quite faithful to nature." But nowadays the hippopotamus is not found below the rivers of the interior of Africa and one is therefore tempted to trace this Nile-Troad line of communication well into Nubia: but we have sufficient evidence that the hippopotamus existed in Upper Egypt in ancient times: thus Herodotus states that they were worshipped as sacred animals at Papremis and small clay or stone figures of Hippopotami has been found in almost all the excavations----at Hierakonpolis, Abydos, Diospolis and Gebelein----of a predynastic date. It seems remarkable, however, that the hippopotamus should have ceased to inhabit even the Upper Nile valley more especially since he was protected by his sanctity. The elephant once ranged far enough north to enable the

Egyptians to export ivory to the Troad and to Sicily during the Early Minoan periods of those cultures, but it had probably migrated South at the beginning of historical times, for Ethiopia provided ivory for Egypt in the time of Herodotus.

Further evidence as to the connection between Asia Minor and Egypt, or rather North East Africa afforded by a passage in Herodotus where mention is made of certain Libyans who φάσιν εἶναι τῶν ἐκ Τροίης ἀνδρῶν.

The nature of the Sudan culture.

The nature of the Sudan is such as to favour the growth and continuous existence of indigenous culture which at the same time the numerous lines of communication with other places hint at other more desirable lands which are open to invasion and capture. Thus the history of Ethiopia and the district now known as the Sudan has shown a combination of two opposite tendencies: the recent excavations at Meroe have given us ample evidence of this, for the Meroitic culture, while it indulged in the most complex and intensive culture of its own which lasted for centuries without being subdued by other races, yet showed itself to be subject to the

influence of Lower Egypp from the earliest times down to the Roman era and though the forces of Petronius never reached Meroe, yet everything else seems to have do done so. Throughout Egyptian history, too, the Sudan was always a problem in Egyptian Statesmanship: thus, as Professor Myres says, it " was able more than once to cause anxiety even north of Egypt's rock-threshold at Assuan: and once at least under able leadership it dominated the whole valley.

But deppite their warlike tendercies at later times in prehistoric times, the men of the Sudan seem to have been not only peacable but pastoral. Herodotus calls the Ethiopians νόμαδες in one place and αὐτόχθονες in another and we are justified in inferring that they were pastoral nomads who ranged in a limited area (as their autochthoneity implies.) Moreover they eat the same corn, says Herodoths, as the Callantian Indians.....the unfluence from which is that this particular kind of corn food attracted the notice of Herodotus mainly because it was their staple diet.

How easily influence could reach the Sudan is shown by the connection in historical times between

Greece and Ethiopia. Thus there is the well-known instance in Homer, where the Gods go to a festival each year in the land of the Ethiopians, and Professor Sayce identifies this festival with that of the "table of the Sun", described by Herodotus as being held at Meroe: so too a bas relief on the Sun temple at Meroe seems to represent a figure wearing a Greek helmet. Meroitic pottery too largely exhibits Mycenean influence.

The grouping of deities on votive altars from Meroe recalls the Mycenean heraldic arrangement of the Lion Gate or the gold rings of the Shaft Graves. Further a copper coin of Kos of the 2nd. Century B.C. was found at Khartum, and in Helleinstic times, books were written about Ethiopia by Dalion, Simonides the younger, (who lived 5 years at Meroe) and other writers.

If then such abundant evidence is forthcoming of easy access to and from the Sudan in historical times: at least we can assume corresponding facilities in prehistoric times, and however indigenous the Sudanese culture may have been it seems to have been subjected from the earliest times to considerable external influence.

Ornaments affixed to the Pottery.

In the evolution of art designs which attain to a high pitch of development are in nearly every case originally derived from some object, the purpose of which was at first purely utilitarian. Thus textile fabrics become painted or incised designs on pottery and the appearance of plaited baskets is faithfully reproduced in the same way. This is due, according to Professor Haddon to the habit of 'Expectancy' in the primitive mind, according to which ' if a particular form or marking was natural to a manufactured object, the same form and analogous marking would be given to a similar object made in a different manner, and which was not conditional by the limitations of the former.'

The gradual transformation of the old style of hafting on bronze palstaves into a mere decorative design owing to a change in the mode of hafting is an illustration of the growth of the skeuomorph, or ' ornament demonstrably due to structure.'

In the case of the Gebel Moya pottery there is a definite skeuomorph in the form of s certain ornament affixed to the sides of vessels. These ornaments are in no way necessary to the vessels, they are not even necessary to their decoration; in some cases they act rather as a disturbing element: in others they are practically ignored by the design, which passes over them.

The ornaments in question consist of protuberances on the sides

of bowls which project in every case above the sides for about a third of their length. They fall into two classes, the first are flat shield-shaped pieces of clay fixed on to the bowls in nearly every case after the bowl were made. They are seldom raised more than half an inch above the level of the surface. In the second class the ornaments consist of somewhat pronounced oval or egg-shaped bosses similarly placed on the bowl after it is finished.

I. The first class can be subdivided into three kinds. In the first of these subdivisions they are plain ornaments on plain ware, both equally devoid of decoration. In the second, the ornaments are plain but the vessels are decorated, thus there is an interruption of the scheme of design which has to conform itself to this intruding element. In the third subdivision both the vessels and the skeuomorphs are decorated. They are decorated either with the same design, or else the skeuomorph has a peculiar decoration of its own. Where they both have the same decoration the skeuomorph is for all practical purposes ignored, the design passing right across it, as if it were not there: this is particularly evident in the case of vessels of No 19 ware, but on the whole it is rare and it is far more usual to find the skeuomorph decorated with a motif adapted from the decoration of the rest of the vessel and specially stranged so as to fill up the surface of the skeuomorph, and be a complete design in itself.

II. The second class cannot be definitely subdivided at all. The skeuomorphs are still more intrusive than in the previous class

upon the style and decoration of the vessels they adorn. In no cases are they themselves decorated, but, if anything, they compel the design more than in the previous class to conform itself to them.

What was the purpose of either of these projections in the first instance is not at all clear for they are both types of an advanced skeuomorph which has long forgotten its original use. Which of the two classes is previous in order of development to the other is also not at all clear, nor is it at all evident whether they are both variants of the same original or whether each refers to a separate origin.

But in each case they are affixed to wide open bowls of the basin type and they seem reminiscent more than anything else of the handles on the sides of wooden bowls or even of such vessels as the modern wooden milk pail. There seems evidence, too, that, whatever they were, they were fixed on to both the originals and on to the clay vessels and were in no sense structural parts of them. In Class I they all have this non-structural appearance. In Class II, however it is not so evident and they might in some cases possibly be parts of the vessels to which they are attached. But this does not seem to have been the idea of those who made them for in some instances they are deliberately shown as non-structural objects and a sort of socket is modelled into which the oval or bean-shaped protuberance is fitted.

They might therefore be derived either from wooden or from leather originals, in any case, basket ware or wickerwork seems definitely

ruled out as there is no resemblance whatever to such fabrics.

There is, however, a collateral development which considerably obscures the issue. In a few rare instances the protuberance is moulded into a shape which is biomorphic. The sockets mentioned above, which hold the egg-shaped portion are removed from the main body of the vessel and appear as lozenges or flattened pellets on the sides of the protuberance. By a very slight transition these become two eyes and the projection appears as a face. It does not, of course, resemble any known living animal but it seems, if anything, to be a deliberate attempt at the grotesque by the primitive craftsman.

In each case the actual purpose served by these ' handles ' cannot be seen, even a subsidiary or incidental use such as may develop subsequently in the history of a skeuomorph cannot be found. The solution is rendered all the more difficult by the absence of any intermediate ware which would show the skeuomorph in transition from its original.

In one or two cases, it is true, the projection is pierced as though for suspension, but this is not done in every case, so that no general conclusion can be arrived at.

Ornaments affixed to the Pottery.

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The ornaments in question consist of protuberances on the sides

of bowls which project in every case above the sides for about a third of their length. They fall into two classes, the first are flat shield shaped pieces of clay fixed on to the bowls in nearly every case after the bowl were made. They are seldom raised more than half an inch above the level of the surface. In the second class the ornaments consist of somewhat pronounced oval or egg-shaped bosses similarly placed on the bowl after it is finished.

I. The first class can be subdivided into three kinds. In the first of these subdivisions they are plain ornaments on plain ware, both equally devoid of decoration. In the second, the ornaments are plain but the vessels are decorated: thus there is an interruption of the scheme of design which has to conform itself to this intruding element. In the third subdivision both the vessels and the skeuomorphs are decorated. They are decorated either with the same design or else the skeuomorph has a peculiar decoration of its own. Where they both have the same decoration the skeuomorph is for all practical purposes ignored, the design passing right across it, as if it were not there: this is particularly evident in the case of vessels of No 19 ware, but on the whole it is rare and it is far more usual to find the skeuomorph decorated with a motif adapted from the decoration of the rest of the vessel and specially arranged so as to fill up the surface of the skeuomorph, and be a complete design in itself.

II. The second class cannot be definitely subdivided at all. The skeuomorphs are still more intrusive than in the previous class

upon the style and decoration of the vessels they adorn. In no case are they themselves decorated but, if anything, they compel the design more than in the previous class to conform itself to them.

What was the purpose of either of these projections in the first instance is not at all clear for they are both types of an advanced skeuomorph which has long forgotten its original use. Which of the two classes is previous in order of development to the other is also not at all clear nor is it at all evident whether they are both variants of the same original or whether each refers to a separate origin.

But in each case they are affixed to wide open bowls of the basin type and they seem reminiscent more than anything else of the handles on the sides of wooden bowls or even of such vessels as the modern wooden milk pail. There seems evidence, too, that, whatever they were, they were fixed on to both the originals and on to the clay vessels and were in no sense structural parts of them. In class I they all have this non-structural appearance. In class II, however it is not so evident and they might in some cases possibly be parts of the vessels to which they are attached. But this does not seem to have been the idea of those who made them for in some instances they are deliberately shown as non structural objects and a sort of socket is modelled into which the oval or bean-shaped protuberance is fitted.

They might therefore be derived either from wooden or from leather originals: in any case basket ware or wickerwork seems definitely

ruled out as there is no resemblance whatever to such fabrics.

There is, however, a collateral development which considerably obscures the issue. In a few rare instances the protuberance is moulded into a shape which is biomorphic. The sockets mentioned above, which hold the egg-shaped portion are removed from the main body of the vessel and appear as lozenges or flattened pellets on the sides of the protuberance. By a very slight transition these become two eyes and the projection appears as a face. It does not, of course, resemble any known living animal but it seems, if anything, to be a deliberate attempt at the grotesque by the primitive craftsman.

In each case the actual purpose served by these 'handles' cannot be seen: even a subsidiary or incidental use such as may develop subsequently in the history of a skeuomorph cannot be found. The solution is rendered all the more difficult by the absence of any intermediate ware which would show the skeuomorph in transition from its original.

In one or two cases, it is true, the projection is pierced as though for suspension. but this is not done in every case, so that no general conclusion can be arrived at.

Ornaments affixed to the Pottery.

~~Pot Handles.~~

In the evolution of art designs which attain to a high pitch of development are in nearly every case originally derived from some object ~~whose~~ the purpose of which was at first purely utilitarian. Thus textile fabrics ~~lead to~~ become painted & incised designs on pottery and the appearance of plaited baskets is faithfully reproduced ~~in plaited pottery~~ in the same way. This is due, according to Professor Haddon to the habit of 'Expectancy' in the primitive mind, according to which 'if a particular form or marking was natural to a manufactured object the same form and analogous marking would be given to a similar object made in a different manner, & which was not conditioned by the limitations of the former'.

The gradual transformation of the skeuomorph, or 'ornament demonstrably due to structure'.

In the case of the hybel Mega pottery there is a definite skeuomorph in the form of certain ornaments affixed to the sides of vessels. These ornaments are in no way necessary to the vessels: ~~on the other hand~~ they are not even necessary to their decoration: ~~of the vessel~~ in some cases they act rather as a disturbing element: in others they are practically ignored by the design, which passes over them.

The ornaments in question consist of protuberances on the sides of bowls. ~~They are shaped like small flat shields~~ and are ~~for~~ they project in every case above the sides for about a third of their length.

they ~~consist of~~ fall into two classes, the first are flat shield shaped pieces of clay fixed on to the bowls in nearly every case after the bowls were made. They are seldom raised more than half an inch above the level of the surface. In the second class the ornaments consist of somewhat pronounced oval or egg shaped bosses similarly placed on the bowl after it is finished.

I. The first class can be subdivided into three
a. kinds, In the first of these subdivisions they are plain ornaments both equally devoid of decoration (on plain ware).
b. In the second the ornaments are plain but the vessels decorated: thus there is an interruption of the scheme of design which has to conform itself to this intruding element. In the
c. third subdivision both the vessels and the skeuomorphs are decorated. They are decorated either with the same design or else the skeuomorph has a peculiar decoration of its own. Where they both have the same decoration the skeuomorph is for all practical purposes ignored, the design passing right across it as if it were not there: this is particularly evident in the case of vessels of no. 19 ware, but on the whole it is rare and it is far more usual to find the skeuomorph decorated with a motif adapted from the decoration of the rest of the vessel and specially arranged so as to fill up the surface of the skeuomorph and be a complete design in itself.

II. The second class cannot be definitely subdivided at all. The skeuomorphs are

still more intrusive than in the previous class upon the style & decoration of the vessels they adorn. In no case are they themselves decorated but if anything they compel the design more than in the previous class to conform itself to them.

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But in each case they are affixed to wide open bowls of the Basin type and they seem reminiscent more than anything else of the handles on the sides of wooden bowls or even of such vessels as the modern wooden milk pail. There seems evidence that, whatever they were or to be fixed on to they were both the originals and on the clay vessels and were in no sense structural parts of them. In Class I. they in all have this non-structural appearance. In Class II, however it is not so evident and they might in some cases possibly be parts of the vessels to which they are attached. But this does not seem to have been the idea of those who made them for in some instances they are deliberately shown as non structural objects and a sort of socket

is modelled into which the oval or bean-shaped protuberance is fitted.

~~In Class~~ They might therefore be derived either from wooden or from leather originals: in any case ~~the~~ basket ware or wickerwork seems definitely ruled out as there is no resemblance whatever to such fabrics.

There is, however, a collateral development which considerably obscures the issue. In a few rare instances the protuberance is moulded into a shape which is biomorphic. The sockets mentioned above, which hold the egg-shaped portion are ~~[illegible]~~ removed from the main body of the vessel and appear as lozenges or flattened pellets on the sides of the protuberance. By a very slight transition these become two eyes and the projection appears as a face. It does not, of course, resemble any known living animal but it seems, if anything, to be a deliberate attempt at the grotesque by the primitive craftsman.

In each case the actual purpose served by these 'handles' ~~was~~ cannot be seen: even a subsidiary or incidental use such as may develop subsequently in the history of a skeuomorph cannot be found. The solution is rendered all the more difficult by the absence of any intermediate ware which would show the skeuomorph in transition from its original.

In one or two cases it is true, the projection is pierced, as though for suspension. But this is not done in every case so that no general conclusion can be arrived at.

(2)

The find of Silver coins near Gebel Mya.

January 19th - 1915.

On January 19th 1915 El Faki Balla Ali brought to me 61 old silver coins which he said had been found by a friend of his who wanted to sell them and who thought he would do better by selling them to us than to a native silversmith

Faki Balla stated, after much pressing, that the coins were found out in the "kitla" to the north of Gebel Mya at a spot which was between the small gebel Alaka & the Roman road. (as a matter of fact the place is some two and a half miles north of the gebel).

After much talk I ascertained that there were still more coins and that the find had been made by a boy who was a relation of Faki Balla's

the boy had been watching sheep & amusing himself by digging and discovered the coins in the bend of a dried up khor. the coins had been in a pot but this was broken & two fragments of it were produced & afterwards discovered -

later I went with Faki Balla to visit the site of the find - some 3½ to 4 miles due north of Gebel Mya village just outside the area of cleared land and close to some fields owned by Faki Balla there are two large khors quite dry & overgrown with tree. Faki Balla had some difficulty in finding the place & it was not until he had climbed several trees & looked round that he found the place -

the soil in the usual black cotton soil of the district and the banks of the khors are very high & steep larger than any other khors I know round Gebel Mya.

the total number of the coins is
and their weight -

I have indicated the spot on the Ordnance map
No. 55K

Edward King

76th Hy Art.
Weybridge. Vt.
Sept 6 - 1911

THE FIND OF SILVER COINS NEAR GEBEL MOYA.

January, 1915.

On January 13th., 1915 El Faki Balla Ali brought to me 61 old silver coins which he said had been found by a friend of his who wanted to sell them and who thought he would do better by selling them to us than to a native silversmith.

Faki Balla stated, after much pressing, that the coins were found out in the "kitta" to the north of Gebel Moya, at a spot which was between the small Gebel Alaka and the Luma road. (As a matter of fact the place is some two and a half miles north of this Gebel).

After much talk I ascertained that there were still more coins and that the find had been made by a boy who was a relation of Faki Balla's. The boy had been minding sheep and amusing himself by digging and discovered the coins in the bank of a disused hafia. The coins had been in a pot but this was broken and no fragments of it were produced or afterwards discovered.

Later I went with Faki Balla to visit the site of the find - some $3\frac{1}{2}$ to 4 miles due north of Gebel Moya village just outside the area of cleared land and close to some fields owned by Faki Balla there are two large hafias, quite dry and overgrown with trees. Faki Balla had some difficulty in finding the place and it was not until he had climbed several trees to look round that he found the place.

The soil is the usual black cotton soil of the district and the banks of the hafias are very high and steep, larger than any other hafia I knew round Gebel Moya.

The total number of the coins is

and their weight

I have indicated the spot on the Ordnance Map No. 55 k.

(Signed) Frank King.

76 High Street,

Marylebone, W.

Sept., 6- 1915.

List of Arabian and Egyptian MSS. and books brought from Egypt and the Sudan, in box marked "C". in library.

Manuscripts and Printed Books without covers.

1. Manuscript – { 11 complete leaves – 9 x 6¾-inches.
   151 leaves and fragments.
2. do: – 129 leaves and fragments
3. do: – 160 leaves – good condition (Dervish MS.)
4. do: – 179 leaves – mostly good condition.
5. { Manuscript – 292 leaves – mostly good condition (from Sheik of Tieb) (Astrological.
   Printed Matter – 4 half leaves.
6. Printed Matter – 27 leaves and fragments.
7. Manuscript – 39 fragments.
8. Manuscript – { 4 scrolls, Astrological – 19 leaves 6½ x 4½-in:
   do: – { 7 leaves 9 x 6-in:
9. { Manuscript – 171 leaves and fragments.
   Printed Matter – 2 leaves and 1 fragment.
10. Manuscript – 146 leaves and fragments.
11. do: – 20 leaves.
12. do: – 15 leaves.
13. do: – 92 leaves, mostly fragments.
14. do: – 249 leaves and fragments.
15. do: – 8 leaves – Astrological.
16. { Manuscript – 234 leaves and fragments – Astrological
    Printed Matter – 3 leaves.

17. Manuscript - 135 leaves and 11 fragments - Dervish.

18. do: - 82 leaves and 1 fragment, by the same hand.
do: - 45 leaves - 13 fragments, in portion of card cover.

19. Printed Matter - 6 quarto leaves - bad condition.

20. Manuscript - 186 leaves, 15 fragments, and 1 fragment printed matter.

21. do: - 285 leaves, margins burnt, and 21 fragments.
do: - 20 letters or despatches - ?

22. do: - 197 leaves and 1 letter.

23. Printed Matter - 8 leaves and 17 fragments.

24. Manuscript - Alkoran - three scripts - Fakeel Lamu - 62 leaves
1 fragment

25. Manuscript - 284 leaves damaged by fire,
31 fragments,
1 leaf printed matter.

26. Manuscript - 29½ leaves, and 1 letter in red ink enclosed in dilapidated paper cover.

27. Printed Matter - 45 leaves - fair condition.

28. Manuscript - 55 leaves, tied round with piece of red printed calico.

29. do: - 75 leaves, many mutilated, and
15 fragments.

30. do: - 223 leaves.

31. do: - 252 leaves, and
7 fragments.

32. do: - 37 leaves in vellum, Koptic characters.

33. do: - 2 fragments - leaves pasted together.

39. do: - 43 leaves and 1 fragment, and small MS. of 42 leaves, stitched.

40. Printed matter - portion of a book printed on buff paper, with gilt edged leaves and gold borders. Chapter headings decorated, and many leaves - two illustrations - bad condition - ? Turkish.

41. Manuscript - 86 leaves - mostly half torn, and 62 fragments - some illuminated.

42. do: - 128 leaves - 1 fragment.

43. do: - 137 leaves and 4 fragments (astrological diagram) in dilapidated cardboard case.

44. do: - 61 leaves tied with a strip of cotton and wrapped in a piece of calico, also another MS. 75 leaves and two leaves of accounts.

45. do: - 6 leaves in dilapidated card cover, also 37 leaves and two fragments and 1 leaf tabulated matter in red and black - imperfect. 5 loose red leather covers, and one of cardboard enclosed in canvas bag.

46. do: - 96 leaves and 1 fragment.

47. Printed Matter - 132 leaves, and 2 fragments; 3 leaves of MS. and 11 fragments MS.

48. Printed Matter - 39 leaves in bad condition; 1 illustration; 23 fragments of printed matter; 6 fragments of MS. and 2 letters.

Books in covers.

51. 1 Stick and Scroll.

52. Book in leather cover, containing 129 leaves and fragments, printed, with pocket containing 4 fragments of printed matter and 2 fragments of MS.

53. 76 loose leaves printed matter, including 2 illustrations; in hide cover.

54. 64 loose leaves and fragments, and 8 fragments MS; in loose hide cover.

55. Manuscript - 133 leaves, stitched, in loose cardboard cover, from Wady Halfa.

56. 113 leaves and fragments, MS. (astrological), with tables; in ornamental stamped leather pouch.

57. Manuscript - 73 loose leaves, between two pieces of hide.

in old leather pouch.

58. do: - 9 loose leaves, torn; in loose cover, half leather.

59. do: - 45 loose leaves, in ornamental red leather case.

60. do: - 219 loose leaves (few fragments) astrological - with tables; in rough hide cover.

61. do: - 195 loose leaves - astrological - many tables; in hide cover and strap.

62. do: - 200 loose leaves - astrological; in old stamped leather cover with flap.

63. do: - 95 loose leaves - illuminated; in red cloth covers, ornamented with gold, and enclosed in case with flap. Endorsed - "Presented to H.S.W. by Colonel Mason, Mudir, Berber, 25 March 1901."

64. do: - 14 leaves, bound, on vellum, in Koptic characters - parchment covers.

65. 30 leaves (loose) printed; in card cover, half leather, with flap.

66. 475 loose leaves Manuscript - astrological tables, between two pieces of hide, enclosed in hide case, with string attached.

67. Manuscript - Koptic - on vellum; double columns, 74 leaves bound in wood boards and half leather, enclosed in hide case with strap and flap.

68. Dervish Koran, from Sheik of Gebel of Three Sheik's Tombs, Sudan; consisting of 106 leaves printed matter, 18 leaves and fragments of MS. in red stamped leather covers with flap, enclosed in a stamped leather wallet with cords.

69. Manuscript - 121 loose leaves and 4 leaves printed matter, enclosed in torn old leather wallet, 7 x 9-in:

70. do:. - 36 leaves and 6 fragments, enclosed in a single red leather book cover folded.

71. Printed matter - 143 leaves, large 8vo. printed book, in good condition, apparently complete.

72. Manuscript - 176 leaves and 2 fragments, enclosed in broken leather cover.

73. do: - 159 leaves with some tabulated matter, 2 letters and 2 fragments; enclosed in leather and cardboard covers.

74. do: - 122 leaves and 14 leaves - printedmatter, in leather cover with flap.

75. do; - 252 leaves, 28 fragments, 1 letter and 3 fragments of letter; 37 leaves printed matter and 9 fragments enclosed in single leather cover wrapped round with cotton cloth; also; MS. 272 leaves enclosed in tattered cardboard cover.

76. Manuscript - 153 leaves enclosed in stamped leather loose cover with flap.

77. do: - 131 leaves, 27 fragments, with tabulated matter, one fragment printed matter, enclosed in stamped leather cover with flap.

78. do: - 101 leaves, enclosed in leather cover with flap.

79. do: - 94 leaves enclosed in red decorated leather cover with flap.

80. Ornamented leather wallet - empty.

81. Manuscript - 210 leaves - 4 illuminated - 2 fragments - enclosed in leather cover with flap.

82. do: - 162 leaves, many illuminated, 29 fragments, enclosed in leather case with flap

83. do: - 89 leaves - mo size; 40 large 8vo. leaves; 6 fragments 1 printed sheet.

84. do: - 236 leaves 8vo; 2 fragments MS. 11 leaves MS. mo; 83 leaves printed matter, 5 fragments, enclosed in dilapidated leather cover.

85. do: - 263 leaves in brown leather cover with flap.

86. do: - 149 leaves, 1 fragment, between two boards tied with cord.

87. Printed matter - 143 leaves in tattered red leather cover.

88. Leather binding ornamented, and fastened with leather loops.

89. Dilapidated leather cover with flap.

90. Leather pouch ornamented border, containing 1 leaf MS. and leather cord for carrying.

91. Dilapidated card covers, covered with blue paper.

92. Pouch or case of rough hide, containing 15 leaves MS.

93. Manuscript - 106 leaves, 4 fragments, 3 leaves printed matter, endorsed "from Kiteab" by Mr W. enclosed in leather pouch with leather thongs attached, for suspending or carrying

94. Manuscript. 19 leaves stitched, written in Arabic, with red borders, + two fragments M.S from Sheik of Gebel of Three Sheiks tombs. Sudan.

Duckett

REMAINS OF PRIMITIVE ETHIOPIAN RACES DISCOVERED IN SOUTHERN SOUDAN

by Henry S. Wellcome.

During an expedition to the Anglo-Egyptian Sudan in the winter of 1900, soon after Lord Kitchener's re-conquest, I discovered various neolithic objects. The limited time then at my disposal rendered it impossible for me to make more than hasty and superficial observations of these traces of an early primitive race, but I determined to conduct further investigations as soon as possible.

It was not however, until 1910 that I could spare the time necessary to pursue the subject in a thorough and comprehensive manner. Then, encouraged by H.E. the Governor General, Sir Reginald Wingate, with whom I had discussed my earlier discoveries and impressions, I undertook to resume the researches.

Chartering a dahabeah at Khartoum, I cruised up the Blue Nile so far as navigable water permitted, and explored both the eastern and western banks for some distance inland, finding several sites of antient settlements.

On my return to Sennar, I trekked westward to a range of granite hills, known as Gebel Moya, lying about twenty-five kilometres distant from the Blue Nile. These rugged hills are of considerable height, and rise abruptly from the plain. They consist mainly of gigantic boulders and ledges, to which cling a few scattered trees of acacia, baobab and ebony. Several wells within the recesses ~~yielded~~ were found to yield a meagre supply of brackish water: when this supply failed, most of the natives migrated with their flocks to the Blue Nile, until the next rainy season. Years of severe drought and famine ~~have~~ caused much suffering.

A native village of thatched bee-hive huts stood in the plain, at the northern extremity of the Gebel, and contained on my arrival about eight hundred inhabitants, while in the vicinity several Nomad tribes were encamped with their herds.

I sought, amongst other things, for caves which might prove to be antient dwelling-places. This quest excited the gravest suspicion of the native Omdeh, for from time immemorial, as I afterwards learned, the caves of Gebel Moya had been the refuge of outlaws from far and near. These hunted criminals, who were harboured and fed, paid exorbitantly to avoid being handed over to justice, and it was feared my invest-

igations might endanger this substantial revenue. Hence, determined efforts were made, from the first, to prevent me from exploring the hills, and to render my work, or even my stay, impossible. I was informed that no caves existed, and at first no one dared to assist me. I resorted to stratagems and made progress. On exploration, I found not only interesting caves, but also a large basin within the upper hills. This basin, of about two hundred thousand square metres, was encompassed by lofty rugged walls of rock, ~~thus~~ forming a strong natural fortress, which could be defended by few against greatly superior attacking forces. The only approaches were through steep rocky gorges obstructed by large boulders.

Research in this basin, the surface of which was covered and to a considerable extent heaped with loose rocks, revealed unmistakeable proofs of long-continued human habitation and industrial activities, at a very early period.

Having satisfied myself as to the real importance of this site, I applied to the Sudan Government for official authority to carry out excavations. This was granted.

The season was then well advanced, and to accomplish any useful work it was imperative to act quickly. I foresaw that the nature of the Gebel and of the remains would necessitate a very large expenditure of labour, preparatory to excavating, and further, that the unique conditions on every hand presented many problems.

The work was started with all enthusiasm, but I found myself seriously handicapped by the difficulties of obtaining labour. The Gebel Moyans, notorious for their turbulence, expended their energies in hideous all-night drunken orgies. Abject poverty prevailed. These wretched people, clad in mere tatters, presented a picture of pitiful misery and degradation. Habits of industry were almost unknown, and no one really desired employment. The Omdeh, whilst promising every assistance, tried secretly to thwart me at every turn. The natives feared him, and very few had the courage to risk his displeasure; but finally, by seductive measures, I secured a dozen men and boys. These were carefully trained to qualify them to teach others, and their number was gradually increased. I personally guided the excavations, made frequent demonstrations as to methods and objects to be sought for, and instituted a system of prizes for discoveries and excellence of work. At first all were suspicious, and demanded payment of their wages at the end of each day, but, as the work progressed, their interest and confidence grew, in spite of strong adverse influences.

With greater numbers the difficulty of supervision increased. The control and direction of these men, unaccustomed to discipline and habituated to unbridled licence and acts of violence, taxed me to the utmost. Crimes were frequent and sometimes disturbances occurred which required swift and decisive action to prevent the wrecking of the whole undertaking. Many ofmy men came from disloyal villages recently punished and disarmed by the Government: some were fanatical dervishes from the army of the Khalifa, others from wild pagan tribes. It was the custom of all the natives to carry weapons, and they often came to the camp intoxicated and in a riotous mood, threatening the persons and even the lives of their raises, their comrades, and sometimes of myself. Encounters were frequent and sometimes ferocious, but acting promptly, I would single out the ringleaders, and in a fearless way disarm them before they realised it. This invariably secured the submission of their followers. The carrying of weapons I prohibited so soon as I had gained sufficient footing to do so effectually, and made it a condition of contract that all arms brought to the camp without permission would be forfeited, and the bearers made liable to fines. I had not even a policeman to guard my camp, and was solely dependent upon my own resources for protection of life and property.

Practical instruction in craftsmanship was given in every section of the works, and I taught them as best I could the benefits of Christian civilisation, whilst holding them to the observance of the moral laws of their Prophet, Mohamet. The results justified my endeavours.

Having in time by just and firm methods gained the confidence and respect of the natives, I was enabled to influence them to modify their habits of life. They trusted me to adjust their differences, heal their feuds, and save their wages. Gradually drunkenness and conflicts were lessened. By the end of my first season, order reigned, bloodshed and other crimes became rare, and profligacy gave way to self-control, industry and thrift. I induced most of my workmen to invest their earnings in animals and agriculture.

Until the latter part of the first season I was single-handed. Then Professor Garstang, on closing down his work at Meroe, kindly lent me the services of Mr. Schliephack, and some of his trained Egyptian excavators. The Government lent me a member of the Survey Department Staff.

Having gone prepared for exploration only, I was without implements for excavation, so that during the early stages of the work, I was obliged to make all the excavating tools from wood with native hatchets.

For my camel transport, it was necessary to cut a road up through a steep gorge leading to the site, and the construction of this road involved an immense amount of labour.

Temperatures ranged from 40° to 120° F. in the shade, and dust storms were frequent.

As a preliminary to my operations, the surface of the site was cleared of rocks, and experimental pits were sunk throughout the area. I then excavated a series of trenches, in all cases reserving causeways for future control.

The work steadily progressed, and the force of workmen increased to about five hundred, many coming from far away across the desert.

In the course of the excavations at Gebel Moya, the objects discovered included the following:-

An extensive series of stone implements, including axes, adzes, chisels, planes and hammers, in nearly every stage of evolution, from the most primitive natural forms, to perfectly worked and highly finished examples; also many other tools used in industries, composed of various materials.

Pottery in great variety - ranging from crude primitive types to highly finished and elaborately decorated examples of extraordinary quality and grace, mostly in fragments, but some entire. The quantities of this pottery are so great, that up to the present, it has been impossible completely to sort and examine it.

A considerable number of potters' implements, and a variety of pigments and pinches of potters' clay indicating the probable location of potteries.

Fragments of walls and floors of buildings

Rock pictographs

Numerous primitive figurines of clay representing human and animal forms.

An extensive variety of beads, amulets and other ornaments, varying from those of primitive types up to highly-finished stones of a more precious nature.

Some unique objects, including lip, ear, and other ornaments in infinite variety. Many of these, found in situ, proved conclusively their purposes.

Remains of workshops containing various implements, beads, and other ornaments, in all stages of manufacture indicating an industrial settlement.

Very few objects of copper, bronze and iron, these mainly from near the surface.

Scarabs and small plaques bearing Ethiopian and Egyptian cartouches ranging from about 700 B.C., and numerous other Ethiopian and Egyptian objects still under investigation.

No objects from this site have been identified as of a date later than the Ptolemaic period. Thus far, everything identified as of a dateable nature has been found within about fifty centimetres of the surface. The stone implements and other primitive objects were mainly found below fifty centimetres.

Realising how very meagre are the existing evidences of prehistoric races, I adopted, from the first, stringent precautions to ensure that every object, however minute, showing the handiwork of man, should be collected unimpaired and conserved for study.

I discovered several other sites in this region which I have reserved for future investigation.

During the second season, more than six hundred natives were employed, and I successfully instituted a savings bank for them. Drought, famine, and cattle plague seriously hampered my operations. Dhura, the staple native food, rose to five times its normal value. I dug many new wells, and yet much of the water had to be brought from the Blue Nile. However, the excavations were facilitated by more complete equipment and by an increased staff, which included Major Meldon, Mr. King, and Mr. Bates; also, by the courtesy of the Council of University College, London, I had the assistance of Dr. Douglas Derry as medical officer and to carry out anatomical and anthropometrical studies. Dr. Reisner kindly lent me the services of a force of his Egyptian excavators who were specially trained in dealing with human remains.

During the first season, the graves found were more or less scattered, suggesting burial in or near the habitations.

The work of the second season was concentrated on the excavation of two cemeteries, a large number of graves being opened. The human remains were found in various series of significant postures, and with them many objects of interest were obtained in situ. Some animal burials, including those of cows, were also discovered in these cemeteries.

I am reserving all conclusions until the excavations are sufficiently complete to permit of comprehensive study, and to warrant the assumption that they are fully representative of the site.

I desire to acknowledge my indebtedness to the Sudan Government for many helpful courtesies; especially I must mention the kindness of H.E. the Governor-General, the Chiefs and Staffs of Departments, the Governors and other officials of the Provinces in which I have carried out my researches.

ADDRESS BY H.S.W. DELIVERED AT THE INTERNATIONAL MEDICAL CONGRESS.

Prehistoric Discoveries in Southern Sudan

by

Henry S. Wellcome

That the soil of Egypt and Ethiopia has been the burial place of extremely antient civilisations is a fact familiar to every student. It has been suggested that here also we should seek the veritable birthplace of human civilisation itself. Do the sands of this land of enigmas still hide within their depths an answer to the eternal enigma of man's beginnings and a record of his first steps upon the pathway of knowledge?

Such questions have for many years aroused my keen interest, and that interest was quickened, when I made some discoveries of neolithic objects during my expedition to the Anglo-Egyptian Sudan in the winter of 1900, soon after Lord Kitchener's re-conquest. The limited time then at my disposal rendered it impossible for me to do more than make hasty and superficial observations of these traces of an early primitive race, but I determined to conduct further researches so soon as practicable.

It was not until 1910, however, that I could spare the time necessary to pursue in a thorough and comprehensive manner, the investigations which I contemplated. Then, encouraged by H.E. the Governor General, Sir Reginald Wingate, with whom I had discussed my earlier discoveries and impressions, I undertook to resume the researches.

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Several wells within the recesses of the hills, yielded a meagre supply of brackish water. On the failure of this supply most of the natives

were obliged to migrate with their flocks to the Blue Nile, until the next rainy season. Years of severe drought and famine have caused much suffering.

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Amongst other things, I sought for caves which might prove to be antient dwelling places. This quest excited the gravest suspicion of the native Omdeh, for from time immemorial, as I afterwards learned, the caves at Gebel Moya had been the refuge of outlaws from far and near. These hunted criminals, who were harboured and fed, paid exorbitantly to avoid being handed over to justice, and it was feared my investigations might endanger this substantial revenue. Hence, determined efforts were made from the first, to prevent me from exploring the hills, and to render my work, or even my stay, impossible. I was informed that no caves existed and at first no one dared to assist me. I resorted to stratagems and made progress. On exploration, I found not only interesting caves but also a large basin within the upper hills. This basin, of about two hundred thousand square metres was encompassed by lofty rugged walls of rock, forming a strong natural fortress, which could be defended by few against greatly superior attacking forces. The only approaches were through steep rocky gorges obstructed by large boulders. Research in this basin, the surface of which was covered and to a considerable extent heaped, with loose rocks, revealed unmistakable proofs of very early and long continued human habitation and industrial activities.

Having satisfied myself as to the real importance of this site, I applied to the Sudan Government for official authority to carry out excavations. This was granted.

The season was then well advanced, and to accomplish any useful work it was imperative to act quickly. I foresaw that the nature of the Gebel and of the archaeological remains would necessitate a very large

expenditure of labour preparatory to excavating; and further, that the unique conditions on every hand presented many problems.

The work was started with all enthusiasm, but I found myself seriously handicapped by the difficulties of obtaining labour. The Gebel Moyans, notorious for their turbulence, expended their energies in hideous, all-night drunken orgies. Abject poverty prevailed and these wretched people, clad in mere tatters, presented a picture of pitiful misery and degradation. Habits of industry were almost unknown and no one really desired employment. The Omdeh, whilst promising every assistance tried secretly to thwart me at every turn. The natives feared him and very few had the courage to risk his displeasure, but finally, by seductive measures, I secured the services of a dozen men and boys. These workers were carefully trained to qualify them to teach others, and their number was gradually increased. I personally guided the excavations, made frequent demonstrations as to methods and objects to be sought for, and instituted a system of prizes for discoveries and excellence of work. At first all were suspicious and demanded payment of their wages at the end of each day, but, as the work progressed, their interest and confidence grew in spite of strong adverse influences.

With greater numbers the difficulty of supervision increased. The control and direction of these men, unaccustomed to discipline and habituated to unbridled licence and acts of violence, taxed me to the utmost. Crimes were prevalent, and sometimes disturbances occurred which required swift and decisive action to prevent the wrecking of the whole undertaking. Many of my men came from disloyal villages recently punished and disarmed by the government; some were fanatical dervishes from the army of the Khalifa, others from wild pagan tribes. It was the custom of all the natives to carry weapons and they often came to the camp intoxicated and in a riotous mood, threatening the persons and even the lives of their comrades, their raises, and sometimes of myself. Encounters were frequent and at times ferocious, but acting promptly, I would single out the ringleaders,

and in a fearless way disarm them before they realised it. This invariably secured the submission of their followers. The carrying of weapons I prohibited so soon as I had gained sufficient footing to do so effectually, and made it a condition of contract that all arms brought to the camp without permission should be forfeited and the bearers made liable to fines. I had not even a policeman to guard the camp and was solely dependent upon my own resources for protection of life and property.

Practical instruction in craftsmanship was given in every section of the works, ~~and~~ English field sports were introduced, and I taught them as best I could the benefits of Christian civilisation, whilst holding them to the observance of the moral laws of their Prophet, Mohamet. The results justified my endeavours.

Having in time by just and firm methods gained the confidence and respect of the natives, I was enabled to influence them to modify their habits of life. They trusted me to adjust their differences, heal their feuds, and save their wages. Gradually drunkenness and conflicts were lessened. By the end of my first season order reigned, bloodshed and other crimes became rare, and profligacy gave way to self-control, industry and thrift. I induced most of my workmen to invest their earnings in animals and agriculture.

Until the latter part of the first season I was single handed. Then Professor Garstang, on closing down his work at Moroe, kindly lent me the services of Mr. Schliephack, and some of his trained Egyptian excavators. The government also lent me a Member of the Survey Department Staff.

Having gone prepared for exploration only, I was without implements for excavation, so that during the early stages of the work, I was obliged to make all the excavating tools from wood with native hatchets. For my camel transport it was necessary to cut a road up through a steep gorge leading to the site, and the construction of this road involved an immense amount of labour.

The temperature ranged from 40° to 120°F. in the shade and dust storms were frequent.

As a preliminary to my operations, the surface of the site was cleared of rocks and experimental pits were sunk throughout the area. I then excavated a series of trenches, in all cases reserving causeways of unexcavated earth for future examination and control.

The work steadily progressed and the force of workmen increased to about five hundred, many coming from far away across the desert and from the distant forest regions.

Very little is really known of the prehistoric races of Ethiopia. Our knowledge of their influence upon Egyptian and other civilisations is meagre, and although the region of my operations is said to have been the source of certain religious cults adopted by Egypt, we know not the origin of these beliefs, nor the part the Ethiopians took in their formation.

With the hope that something might be found which would help to form links in the broken chain of evidence of the Great Past, and throw light on these problems, I adopted from the first, stringent precautions to ensure that every object found, however minute, showing the use or handiwork of man, should be collected unimpaired and conserved for study.

In the course of the excavations at Gebel Moya the objects discovered included the following:-

An extensive series of stone implements, including axes, adzes, chisels, planes and hammers, in nearly every stage of evolution from the most primitive natural forms to perfectly worked and highly finished examples; also many other tools of various materials, used in industries.

Flaked arrow-heads of various stones.

Pottery in great variety - all hand made - ranging from crude primitive types to highly finished and elaborately decorated examples of extraordinary quality and grace, mostly in fragments, but some entire. The decoration is almost entirely incised. Very few examples of painted ware have been found. The quantities of this pottery are so great, that up to the present, it has been impossible completely to sort and examine it.

A considerable number of potters' implements, and a variety of pigments and pinches of potters' clay, indicating the probable location of potteries.

Fragments of walls and floors of buildings.

Rock pictographs.

Numerous primitive figurines of clay representing human and animal forms.

An extensive variety of beads, amulets and other ornaments, varying from those of primitive types up to highly-finished stones of a more precious nature.

Some unique objects, including lip, ear, and other ornaments in infinite variety many of these being found in situ, conclusively proved their purposes.

Remains of workshops containing various implements, beads, and other ornaments, in all stages of manufacture, indicating an industrial settlement.

A very few objects of copper, bronze and iron, mainly from near the surface.

Scarabs and small plaques bearing Ethiopian and Egyptian cartouches ranging from about 700 B.C., and numerous other Ethiopian and Egyptian objects, which are still under investigation.

No objects from this site have been identified as of a date later than the Ptolemaic period. Thus far, everything identified as of a datable nature has been found within about fifty centimetres of the surface. The stone implements and other primitive objects were mainly found below fifty centimetres.

Most of the graves found during the first season were more or less scattered, suggesting burial in or near the habitations. Several cemeteries were located, but not excavated. I discovered several other archaeological sites in this region which I have reserved for future investigation.

During the second season, more than six hundred natives were employed, and I successfully instituted a savings bank for them. My operations were seriously hampered by drought, famine, and cattle plague. Dhura, the staple native food, rose to five times its normal value.

I dug many new wells, and yet much of the water had to be brought from the Blue Nile. However, the excavations were facilitated by more complete equipment and by an increased staff, which included Major Meldon, Mr. King and Mr. Bates; also by the courtesy of the Council of University College, London, I had the assistance of Dr. Douglas Derry as medical officer, and to carry out anatomical and anthropometrical studies. Dr. Reisner kindly lent me the services of a force of his Egyptian excavators who were specially trained in dealing with human remains.

The work of the second season was concentrated on the excavation of two cemeteries, more than seven hundred graves being opened. The human remains were of several types and many of them indicated a race or races of large stature. They were found buried in various series of significant postures, and with them, many objects of interest were obtained in situ. Some animal burials, including those of cows, were also discovered in these cemeteries.

I am reserving all conclusions until the excavations are sufficiently complete to permit of comprehensive study, and to warrant the assumption that they are fully representative of the site.

I desire to acknowledge my indebtedness to the Sudan Government for many helpful courtesies; especially I must mention the kindness of H.E. the Governor General, the Chiefs and Staffs of Departments, and the Governors and other officials of the Provinces in which I have carried out my researches.

PREHISTORIC DISCOVERIES IN SOUTHERN SUDAN.

~~By Henry S. Wellcome.~~

~~Mr. President~~ Ladies & Gentlemen

In the absence of Mr. Wellcome I have been requested to read his paper on Prehistoric discoveries in the Southern Sudan

That the soil of Egypt and Ethiopia has been the burial place of extremely antient civilisations is a fact familiar to every student. It has been suggested that here also we should seek the veritable birthplace of human civilisation itself. ~~Do the sands of this land of enigmas still hide within their depths an answer to the eternal enigma of man's~~ beginning ~~and a record of his first steps upon the pathway of knowledge?~~

~~Such questions have~~ This problem has for many years aroused my keen interest, and that interest was quickened, when I made some discoveries of neolithic objects during my expedition to the Anglo-Egyptian Sudan in the winter of 1900, soon after Lord Kitchener's re-conquest. The limited time then at my disposal rendered it impossible for me to do more than make hasty and superficial observations of these traces of an early primitive race, but I determined to conduct further researches as soon as practicable.

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Mr. Casson a member of the staff will shortly
Some Lantern Slides will now be thrown on the
screen showing the site excavated & also types
of the human & animal remains discovered.

M. L. J. Symes,

3 Rue des Beaux-Arts,

Paris.

Découverts préhistoriques au Sud-Soudan

~~Les traces des races primitives et préhistoriques au Sud Soudan.~~

par Henry S. Wellcome.

Monsieur le président et Messieurs du Congrès archéologiques.

Pendant une expédition au Soudan anglo-égyptien en l'hiver de l'an dix-neuf cents, pas long temps après que Lord Kitchener avait reconquis ce pays, je découvris des objets différents et néolithiques. La durée courte que j'avais alors à ma disposition me le fit impossible de faire plus que des observations précipitées et superficielles de ces signes d'une race primitive, mais je me suis décidé à poursuivre (mes recherches) aussitôt que possible.

Ce n'était pas, cependant, jusqu'à l'an dix-neuf cents que je n'avais le temps à ma disposition à continuer le sujet d'une manière complète et compréhensive. Puis encouragé par Son Eminence, Sir Reginald Wingate, le gouverneur général avec qui j'avais déjà discuté mes premières découvertes et impressions, je me suis engagé à reprendre mes recherches.

Laissant un "dahabeah" à Khartoum, je me suis promené sur le Nil Bleu aussi loin que l'eau navigable me permit et encore une fois j'explorai pour quelque distance à l'intérieur les bords à l'est et à l'ouest, en découvrant plusieurs sites et établissements anciens.

En revenant à Sennar, je suis allé ça et là

vers l'ouest à une chaîne de collines de granit, nommée Gebel Moya et située à onze-cinq kilomètres environ du Nil Bleu. Ces rudes collines sont d'une hauteur considérable et s'élèvent à pic de la plaine. Elles consistent pour la plupart, en grosses pierres et en chaînes de rochers gigantesques, auxquels s'attachent parsemés çà et là, un peu d'arbres d'acacia de baobab et d'ébonie. On découvrit plusieurs puits dans ces recoins qui faisaient une pauvre provision d'eau saumâtre. Lorsque cette provision s'était épuisée, la plupart des indigènes étaient forcés d'émigrer avec leurs troupeaux au Nil Bleu, jusqu'à la prochaine saison de pluie. Les années de sécheresse et de famine sévissaient beaucoup de misère.

Un village indigène de huttes, couvertes de chaume et formées comme une ruche, était situé sur la plaine à l'extrémité du nord du Gebel, et à mon arrivée il avait une population de huit cents habitants environ, tandis qu'au voisinage plusieurs tribus nomades s'étaient campés avec leurs troupeaux.

Parmi autres choses je cherchai des caves qui pourraient se montrer des anciens habitations. Cette recherche éveilla le soupçon le plus grave de l'indigène Omdeh, car, de temps immémorial, comme j'ai entendu après, les caves de Gebel Moya avaient été la cachette des brigands. Ces criminels, qu'on logeait et ~~nourrissait~~ nourrissait, payaient une somme exorbitante pour éviter qu'on

ne les livrât aux mains de la justice et j'avais pour que mes nombreuses ne missent en danger ce revenu substantiel. Aussi d'abord on faisait bien de son mieux pour m'empêcher d'explorer les collines et pour faire mon travail et encore mon séjour impossible. On m'a dit qu'il n'y avait pas de caves et d'abord personne n'osait m'aider. J'avais recours à des ruses et je fis des progrès. Pendant que j'explorais je trouvai non seulement des caves intéressantes, mais aussi un gros bassin dans les collines hautes. Ce bassin, carré de deux cent mille mètres environ, était entouré par des murs de roc bien hauts et raides, qui fit une grande forteresse naturelle, qui un peu de sens pouvait seulement défendre en cas d'attaque contre des forces bien supérieures. Les seules approches étaient à travers des gorges raides et pleines de rochers et barrées par de gros fragments de roc grosses pierres.

Dans ce bassin, la surface duquel était couverte et en grande partie entassée de rochers détachés, je trouvai des preuves certaines d'une habitation humaine, qui avait été évidemment en existence pendant bien des siècles, et des activités industrielles.

Aussitôt que je fus convaincu que ce site était d'une véritable importance, je me suis adressé au Gouvernement du Soudan pour faire officiellement mes excavations. Cette permission me fut accordée.

La Saison était alors bien avancée, et pour réussir à faire quelque travail utile, il fallait m'y mettre dans le plus bref délai. Je prévis que le naturel des Gebel et des restes feraient employer bien des ouvriers, avant de faire des excavations et encore, que les conditions uniques de tous les côtés offraient bien des problèmes.

Je commençai l'exploitation avec beaucoup d'enthousiasme, mais je trouvai que les difficultés de mettre en exploitation les caves étaient presque insurmontables, car il manquait des ouvriers. Les Gebel Moyens, bien connus pour leur turbulence dissipaient leur énergie aux orgies viles et hideuses qui duraient toute la nuit. La misère sale prévalait. Ces misérables, habillés en Simples haillons, présentaient une scène de chagrin et d'avilissement pitoyable. Le travail était presque inconnu, et personne n'avait un véritable désir de travailler. L'Onadel, tandis qu'il promettait d'aider de son possible essayait en secret de m'empêcher à tout propos. Les indigènes le craignaient et bien peu avaient le courage de courir le risque de lui déplaire : mais, enfin par des moyens séduisants je me suis entouré d'une douzaine d'hommes et de garçons. Ceux-ci étaient soigneusement élevés pour apprendre des autres et peu à peu leur nombre s'augmentait. Moi, je conduisais personnellement la ~~Sur~~ Surveillance des excavations, je faisais continuellement des démonstrations quant aux méthodes et aux objets à chercher, et je

fondai un Système de prix pour quelques découvertes et pour quelque travail excellent. D'abord tous étaient suspects et demandaient leurs gages à la fin de chaque jour. mais, comme l'exploitation faisait des progrès leur intérêt et leur confiance grandissaient malgré des influences fortes et contraires.

La difficulté de la surveillance s'augmenta comme le nombre devint plus grand. Il fallait faire usage de tous les moyens en mon pouvoir, pour me faire obéir et diriger ces hommes inaccoutumés à la discipline et habitués à la licence sans frein et aux coups de violences. Les crimes étaient fréquents et quelquefois il se faisait des troubles qu'il fallait supprimer immédiatement pour empêcher toute l'entreprise de n'être ruinée. Bien de mes ouvriers venaient des villages infidèles, punis et désarmés récemment par le Gouvernement: les uns étaient des derviches fanatiques de l'armée du Khalifa, les autres des tribus féroces et païens. Tous les indigènes s'accoutumaient de porter les armes et ils venaient souvent au camp frisés et inclinés à faire des excès, menaçants la personne et même la vie de leurs "raïs" c'est-à-dire de leurs camarades et quelquefois de moi-même. Les luttes étaient fréquentes et souvent féroces, mais agissant promptement je choisissais les chefs de bande et d'une manière sans crainte je les désarmais avant qu'ils pussent le réaliser. Ceci faisait invariablement la soumission de leurs partisans. Je défendis qu'on

portât des armes, dès que je fus suffisamment au fait de la paix efficacement et je stipulai que toutes les armes amenées sans permission au camp seraient confisquées et ceux qui les portaient seraient mis à l'amende. Je n'avais pas même un gendarme pour protéger mon camp. Il fallait me fier entièrement à mes propres ressources pour la protection de la vie et de mes biens.

On leur donna partout dans les ateliers de l'enseignement pratique, pour qu'ils apprissent et se perfectionnent dans leur métier, et je leur appris de mon mieux les bienfaits de la civilisation chrétienne, tandis que je leur fis garder les lois morales de leur prophète Mahomet. La foi couronna mon œuvre.

Ayant gagné à temps, par des moyens honnêtes et justes, la confiance et le respect des indigènes, je trouvais les porter à modifier leurs ~~coutumes~~ genres de vie. Ils se confiaient à moi pour arranger leurs différends, décider leurs querelles et épargner leurs sages. L'ivresse et les battes diminuèrent graduellement. Au bout de la première saison l'ordre régnait, le meurtre et les autres crimes devenaient rares et le libertinage cédait à l'empire sur soi-même, à l'industrie et à l'économie. Je réussis à persuader la plupart de mes ouvriers de placer leurs épargnes sur les animaux et l'agriculture.

Jusqu'à la dernière moitié de la première saison je travaillais tout seul. Puis, le Professeur Gastang, après avoir fini son

travail à Karnak, était assez bon de m'offrir les services de Monsieur Schlichhaek et quelques de ses excavateurs égyptiens élus. Le Gouvernement aussi me prêta un associé du "Survey Department Staff". Comme j'étais parti seulement pour explorer, j'étais sans outils pour l'excavation: en conséquence, pendant les premiers commencements de mon travail j'étais obligé de faire pour l'excavation tous les outils en bois avec des haches indigènes.

Pour prendre mon chameau il fallait couper un sentier à travers la forêt vaste conduisant au Site. Pour ceci, beaucoup de travail dur était nécessaire.

La température ranged depuis quarante degrés jusqu'à cent vingt degrés Fahrenheit à l'ombre et les orages des poussière étaient fréquents.

Avant de me mettre à l'ouvrage les rochers sur la surface du Site étaient déblayés et par l'espace découvert des fosses cavités étaient creusées. Puis, je fis l'excavation d'une suite de fosses, dans tous les cas tenant de près, pour le futur les chambres. Le travail s'avança avec fermeté et le nombre des ouvriers s'augmentèrent à cinq cents environ. Beaucoup vinrent de loin au travers du désert.

En excavant à Gebel Moya, les objets découverts comprirent, parmi des autres, ainsi qu'il suit:
une série extensive d'outils de pierre, y compris, haches hermétiques, ciseaux, râbots, et marteaux, appartenant à presque toutes les périodes d'évolution, depuis les simples

formes les plus primitives jusqu'aux modèles parfaitement façonnés et bien ouvragés: aussi bien des autres outils employés à l'industrie et faits de matériaux de toute espèce.

La poterie de presque toute sorte - d'un type grossier et primitif aux modèles d'une qualité extraordinaire et élégante, bien ouvragés et soigneusement décorés et pour la plupart en fragments: mais quelques-uns tout entiers. De si grandes quantités de cette poterie ont été découvertes que, jusqu'à ici, on n'a pas pu complètement la classer et l'examiner.

Un nombre considérable d'outils de potier et une variété de couleurs et de pinceaux de terre à poterie marquèrent le site probable de la poterie.

Des fragments de murs et des planchers des bâtiments.

Des pictographes de roc.

Bien des figurines primitives d'argile, représentant des formes des hommes et des animaux.

Une grande variété de perles, d'amulettes, et d'autres ornements, changeant de ceux d'un type primitif jusqu'à des pierres bien façonnées d'une espèce plus précieuse.

Des objets uniques, y compris, la lèvre, l'oreille, et d'autres décorations d'une variété infinie. Beaucoup de ceux-ci découverts 'sur place' ont définitivement prouvé leur but.

Des débris des ateliers renfermant des outils divers, des perles et d'autres ornements en tous les degrés de travail, indiquant une

Colonie industrielle.

Beaucoup d'objets de cuivre et de fer et de bronze. Ceux-ci étaient principalement tout près de la surface.

Des scarabées et de petites plaques ayant des cartouches égyptiennes et éthiopiennes du sept-centième siècle avant Jésus-Christ, et beaucoup d'autres objets éthiopiens et égyptiens encore sous investigation.

Pendant la première saison, des tombes se trouvèrent plus ou moins éparses, suggérant l'enterrement dans des habitations, ou bien tout près.

Les objets découverts sur ce site ne sont point de tout plus tard que le siècle de Ptolémée.

Jusqu'ici, toutes les choses auxquelles on a pu assigner une date ont été trouvées à cinquante centimètres de la surface. Les outils de pierre et les autres objets primitifs ont été découverts pour la plupart au-dessous de cinquante centimètres.

Aussitôt que j'eus bien compris comment les dispositions qui existent des rares préhistoriques sont bien limitées, je pris d'abord des précautions sévères pour voir que tout objet, quelque petit et qui portait l'importance du travail manuel ~~de l'homme~~, serait recueilli tout entier et serait conservé dans le but de l'étudier.

Je découvris plus que mes autres sites à cette région que j'ai réservés pour l'investigation à l'avenir.

Pendant la seconde saison on employa plus de six cents indigènes et j'ai réussi à

fonder pour eux une caisse d'épargne. La
sécheresse, la famine et les bestiaux infectés
de la peste retardèrent mes recherches. D'hura'
la nourriture principale monta à cinq fois
le prix ordinaire. Je creusai beaucoup de
nouveaux puits et encore il fallait conduire
beaucoup de l'eau du Nil Bleu. Cependant,
un équipement plus complet et un personnel
augmenté rendirent plus facile mes recherches.
Le personnel comprit le Major Maddon, Monsieur
Craig et Monsieur Bates: aussi, par la courtoisie
du Conseil de 'University College' à Londres
j'avais la collaboration de ~~Monsieur le~~ Docteur
Douglas, comme médecin, qui fit des études
anatomiques et anthropométriques. ~~Le~~ Docteur
Reisner était assez bon pour me offrir les
services d'une ~~four~~ 4 corps de ses excavateurs
égyptiens, qui s'étaient élevés surtout à
avoir des rapports avec les restes morbels.
Pendant la Seconde Saison, on s'occupa surtout-
-ment de l'excavation de deux cimetières
et on ouvrit bien des tombes. On trouva les
restes morbels en séries différentes de
positions significatives et avec eux bien
des objets intéressants étaient découverts sur
place.
Les os se trouvaient chez des sens de petite
taille. On trouva aussi dans ces cimetières
des enterrements d'animaux, y compris
ceux de vaches.
Je retiens toutes conclusions jusqu'à ce que
les excavations soient suffisamment complètes
pour permettre qu'on les étudie longuement
et pour garantir la supposition qu'elles

Représentations Gouvernement Soudan.

Je voudrais bien remercier le Gouvernement du Soudan pour m'avoir aidé d'une manière si courtoise : particulièrement il me faut faire mention de la bonté de Son Excellence le Gouverneur-Général les Chefs et le personnel des Départements, les Gouverneurs et les autres fonctionnaires des Provinces où j'ai fait mes recherches.

Résumé

Découverte préhistoriques au Sud-Soudan

par Henry S. Wellcome.

Pendant une expédition au Soudan au début de l'an dix-neuf cents, je découvris des objets néolithiques de différentes espèces. En l'an dix-neuf cent dix je continuai mes recherches, et après une longue exploration, je découvris le site d'une ancienne colonie à Gebel Moya, au Département de Sennar. Des excavations ont été faites malgré des difficultés sans nombre, car le labeur était rare et il était bien difficile de tenir en échec les indigènes agités et déréglés. Cependant, par des mesures justes et intrépides, je réussis, enfin, à gagner leur confiance et ainsi je pouvais leur persuader de changer leur genre de vie. Ils se confièrent à moi pour arranger leurs différends, décider leurs querelles, et épargner leurs gages. Peu à peu l'ivrognerie et l'homicide étaient tant diminués qu'au bout de ma première saison, l'ordre régnait, les luttes et les crimes devenaient rares et le libertinage cédait à l'emploi sur soi-même, à l'industrie et à l'économie. D'abord pendant ma première saison j'employai cinq cents ouvriers environ et pendant la seconde saison plus de six cents.

Le site est situé dans un bassin, creusé de deux cent mille mètres environ, sur des

colonnes bien hautes, et dans une forteresse naturelle et bien forte.

Pendant les excavations bien des objets étaient découverts, qui comprirent, parmi des autres, ceux ci-dessous: -

Une série extensive d'outils de pierre, y compris, haches, herminettes, ciseaux, rabots, et marteaux, appartenant à presque toutes les périodes d'evolution, depuis les simples formes les plus primitives jusqu'aux modèles parfaitement façonnés et bien ouvragés: aussi, bien des outils employés à l'industrie, et faits de matériaux de toute espèce.

La poterie de presque toute sorte - d'un type grossier et primitif aux modèles d'une qualité extraordinaire et élégante, bien ouvragés et soigneusement décorés, et pour la plupart en fragments, mais quelques-uns tout entiers.

(De si grandes quantités de cette poterie ont été découvertes que, jusqu'ici, on n'a pas pu complètement la classer et l'examiner).

Un nombre considérable d'outils de potier, et une variété de couleurs et de pâtes de terre à poterie (marquant le site probable de la poterie)

Des fragments de murs et des planchers de bâtiments.

Des pictographes de roc.

Bien des figurines en d'argile, représentant des formes des hommes et des animaux.

Une grande variété de perles, d'amulettes et d'autres ornements, changeant de ceux d'un type bien primitif jusqu'à des pièces bien façonnés d'une espèce plus précieuse.

Des objets uniques y compris la tête, l'oreille et d'autres découverts d'une variété infinie. Beaucoup de ceux-ci, découverts "sur place" ont définitivement prouvé leur but.

Des débris des ateliers, renfermant des outils divers, des perles, et d'autres ornements en tous les degrés de travail, (marquant une colonie industrielle.)

Des scarabées et de petites plaques ayant des cartouches égyptiens et éthiopiens du 8ème-centième siècle avant Jésus-Christ.

Bien des objets éthiopiens et égyptiens encore sous investigation.

Pendant la seconde saison deux cimetières étaient creusés, et ~~beaucoup~~ beaucoup de tombes ouvertes, des restes mortels trouvés en positions différentes, et bien des objets découverts sur place; aussi, des ornements d'animaux, y compris ceux des vaches.

Les objets découverts sur ce site ne sont point du tout plus tard que le siècle de Ptolémée. Jusqu'ici, toutes les choses auxquelles on a pu assigner une date ont été trouvées à cinquante centimètres de la surface.

Des précautions sévères étaient prises pour voir que tout objet, quelque ~~minute~~ petit, et qui portait l'importance du travail manuel serait recueilli tout entier et serait conservé dans le but de l'étudier.

Je retiens toutes conclusions jusqu'à ce que les excavations soient suffisamment complètes, pour permettre qu'on les étudie largement et pour garantir la superposition qu'elles représentent probablement le site.

LIST

OF MR. KING'S PAPERS ETC.

AT

76, HIGH STREET, MARLEBONE.

Sept., 23rd. 1915.

List of Mr. King's Papers etc.

76, High Street, Marylebone. — Sept. 22nd, 1915.

	Season.
Workmen's Record Cards (two boxes) Numbers from 1 upwards.	1913-14 1914-15.
Savings account cards. (1 box)	1913-14
Ditto Aloa. "	" "
Wages Sheets (brown paper parcel)	1912-13.
Ditto "	1913-14
Wages receipts	1913-14
Box 52. (Air-tight tin case.)	
Book. Register of Staff (Workmen) Gebel Moya.	1913-14.
Gebel Moya Visitor's Book (in case)	
Native Visitors Book.	
Letters to and from Aloa Camp	1913-14
Original Egyptian Contract for Egyptian Workmen (With comments by Mr, Dixon.)	1912-13
Notes on Lantern Slides. Ref. S.M. 10(1.11.12)	1912-13
Telegram from the Omida Shawall	
Odd agreements	1910-11
List of articles lost in the big fire in Camp	1912-13
Xmas Menu Cards (4.)	
Applications for employment	1912-13
Ditto ditto	1913-14
Notes as to men engaged	1913-14
Correspondence with Bombay Re. Dhura	
List of men sworn off on the Koran	1912-13 1913-14
Paper Re. Ahmed Helew	
Test certificates of chains. Notes Re. Kite photography	
Notes on archaeological systems.	1913-14
Notes and Correspondence with the Staff at Gebel Moya	
Letters to Mr. Wellcome	1913-14
Papers Re. Mahomed Osman Bahri	
Original and translation of Camelmen's Contract.	1911
Reports on Cases at Gebel Moya.	
Engineering and building papers	
Lists of workmen 1913-14	1913-14
Camp Orders	1912-13 1913-14
Sketches of proposed buildings at Gebel Moya and new sieves	1913-14
Notes and papers Re. camp organisation	
Lists of Cases stored at Gebel Moya.	
Various stock Lists	
Notes about native workmen translated from Arabic	
Dhura Papers (2 Files)	
Correspondence with Mr. Wellcome	1913-14

List of Mr. King's Papers etc. (cont.)

	Season
Rules regarding the issue of Dhura	1913-14
Applications for Dhura on loan .	
Correspondence form Mr. Uribe	1914-15
Correspondence and Cables from Mamour Sennar	
Correspondence Re. shot for Well-boring	1914-15
Letters re. the Motor-launch	1914-15
Correspondence with the Sudan Government Rly. re. Water tax.	
Correspondence with the Sudan Government re. land	
List 1911-12	1911-12
Letter Book	1913-14
Catalogue of Tests	
Arabic Letter Book	1911-12
Mr. King's Diary	1913-14
Ditto "	1914-15
Letters	1912-13
Letters	1913-14

(All above are in Box 52. (K))

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Box marked 'R' (tin air-tight case)

Loose leaf binders holding London invoices for) 1	1912-1913
goods shipped to Gebel Moya)	1913-1914 (2)
Canteen Book, large	1913-14
" " small	1913-14
Prize Money book	1913-14
Savings bank withdrawals book	1913-14
Rough Cash Book	1913-14
Two wages cash books	1913-14
Provision Store Book	1913-14
Copy letter book chiefly used by Mr. Uribe	1913-14
Two copy letter books used by Mr. Logue	1913-14
Two bundles of defaulters reports	1913-14
Small stamp book	1913-14
Stores requisiton book	1913-14
Paid cash book - chickens, eggs etc.	1913-14
Folder of Papers - Mr. Wellcome's private Store	1912-13
2 Stolenberg folders - London correspondence	1913-14
2 Folders containing Cash Book receipts.	1913-14
Folder containing accountants rough trial balances etc.	1913-14
Folder containing accounts instructions	
" " Aloa camp sundry correspondence with Gebel Moya.	1913-14
" containing National Bank of Egypt monthly statements	1913-14
" " rough notes re. personal equipment stock etc.	1913-14
3. folders containing telegrams received and sent	1913-14
One favourite file containing invoices and other accounts and documents.	1913-14
One folder containing vouchers Aloa cash account	1913-14
" " " London debit notes & analyses	1913-14

List of Mr. King's Papers etc. (cont.)

	Season
One folder containing notes from Camp Commandant	1913-14
" " " Gellatly Hankey accounts	1913-14
" " " vouchers - Gebel Moya cash	1913-14
" " " Railway policies	1913-14
" " " Sudan railway accounts	1913-14
" " " private notes re. personal accounts of members of expedition etc.	1913-14
Analysis Book	1913-14
An envelope containing notes as to surplus cash from Post-Master Gebel Moya	1913-14
One packet savings account cards with unclaimed balances	1911-1912
" " " " " " " "	1912-1913
" " " " " " " "	1913-1914

(All above are in box marked 'R'.)

****

Large Tin Trunk marked 'Office Stationery'

	Season
1 Ledger	1911-12
1 Cash Book	1911-12
1 Cash Account Book July to October	1912
1 Journal	1912-13
1 Cash Book	1912-13
1 Ledger	1912-13
1 Prize Book	1912-13
1	
1 Folder containing vouchers & Accounts	1912-13
1 Arabic Copy Letter Book	
1 Local Requisitions Book	
1 London requisitions Book	1912-13 & 1913-14
1 Local Requisitions Book	1913-14
2 Folders for Telegrams received and Despatched	1912-13
1 Folder London Correspondence	1912-13
1 " " "	1911-12
1 Local Requisitions Book	1912-13
1 Favourite File containing Accounts Correspondence etc.	1912-13
1 Packet of Cheque Stubs (9)	
1 Packet Identity Cards 1913 - Gebel Sagadi	
5 Railway Warrant Books (Used)	
1 Folder containing various Notes & Particulars of Goods shipped to Port Sudan	1912-13
1 Folder Correspondence	1911-12
1 Packet of Cash Vouchers	1912-13
1 Envelope containing Rough Notes etc. Mr. King.	
1 Unused Duplicate Telegraph Form Book	
1 Bundle of Notes from Camp Commandant	
1 Lieber's Standard Telegraphic Code	
Contracts	1912-13
"	1913-14

List of Mr. King's Papers etc.

(Contents of Case marked 'Office Stationary' contd,)

	Season
1. List of People paying Government Taxes	1913
1 Prize Paper 1911-12 1912-13	1911-12 12-13
Copy of Craftsmen's contract. Revised 1913-14	1913-14
One used Passenger Warrant Book 63700-63799	

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Wood Box marked No 4
(This box is really the outer case of case 'R'.)

	Season
1 File Letters	1913-14
" " "	1914-15
Blank Contracts -Camel-men, Crafts men & Effendis	
Used Craftsmen's Contracts	1914-15
More Letters	1914-15
Letters to the Mamour Sennar	
Letters to and from London	1914-15
Gebel Moya Cash book	1914-15
Photographic Notes, Stationery	1914-15
Sifting machines and Screens	1914-15
Invoices	
Lists of contents of Cases shipped to London from Gebel Moya spring.	1914
Ransom, Simms & Jeffries Catalogue of Ploughs	
Well-boring daily reports	1913-14 1914-15
Lists of requirements for next expedition to Gebel Moya.	
List of provisions for next expedition	
Correspondence with Mr. May	
Applications	1914-15
Order for requisitions	1914-15
Quotations not accepted	1914-15
Workmen's Index (black tin box)	
Stock Cards	1913-14 1914-15
Sample children's Books for Mr. Wellcome	

(All these are in Box No. 4.)

****

Tool Cabinet for Gebel Moya from Spears and Jackson sent from S.H. 22 Feb. 1915.

Small Wooden Box

Papers brought home by Mr. Uribe.

Box of Workmen's record cards	
Savings account Cards	1914-15
Cash Vouchers	1914-15
Workmen's Time Cards	1914-15
Wages Sheets	1914-15

List of Mr. King's Papers etc.

1 Case containing:-
1 Hyena Skin
2 Leopard skins
2 Gazelle skins
& 1 Pair Gazelle Horns.

1 Case containing:-
1 skin of a Heron
2 skins of Hydrax
1 Hyena skull
2 mongoose skulls

****

Season

NNote.

All the other cases containing photographic contain negatives of Season 1911-12. They were brought to 76, High Street from Shoolbreds. Mr. Lane has lists at Snow Hill. The Cinema film that was with them was sent to Dartford. 1911-12

2 Things to go to Gebel Moya with the next expedition.
Small lifting Jack and Handles.
Wire stretcher from the Bonnaccord Engineering Co.

****

2 Wooden boxes. Duplicate prints of Mr. Barrett's Negatives

Wooden Box (New lid being made.)

Season

Catalogues and quotations
General Quotations
Quotations for Light Railway
" " Lathes
" fine Buildings
" for belting
" " motor boats
" Electric Lighting plants
" " Road Scrapers
Patterns of straps, webbing etc., wanted for Camel Saddlery
One electric torch belonging to Sheikh Mahomed Idris (to be repaired)

1913-14

List of Mr. King's Papers etc.

(From Desk)

2 Imperial Crown rubber stamps
1 Large numbering machine
Box 4. 1 rubber circular Gebel Moya Stamp
1 Triumph Dater
New Moya)
Egyptian &) Rubber stamps for marking pottery.
Sagadi New)

1 Office Reminder
3 New Account Books
2 Labels Wellcome, Gebel Moya, Sennar
Linen Tags. Wellcome, Gebel Moya, Sennar.

List of Papers etc. Mr. King's cont.

Odd Papers in dun coloured Linen Folder. Season 1913-14

2 more boxes of Workmen's Index Cards (continuous dating)

Drawing Instruments:

Box of Metre scales and 6 off-set scales.

(In draw in Mr. King's Desk) Small metre steel tape,

1 scale metres and feet, small compass, set square, clothes brush

and a tin containing Sudanese stamps.

T. Square to be hung on the wall.

List of contents of all cases shipped from Gebel Moya to London, Season 1913-14. (Left in charge of Mr. Sinel.)

Keys

(In drawer of Mr. King's Desk)

Key of Strong Room,
Keys of 2 wooden boxes (Maps and Photographs)
Key of Tin trunk 52
" " Box marked 'J.S. Uribe'
" " Boxes containing Workmen's time cards and Case No. 4.
6 Keys of Drawing Cabinet
Keys of 2 Rooms on Second Floor, 76 High Street.
Key of an empty box which is in the basement.
Key of the old night latch of the Front-door (in an envelope).

Re Sudan Equipment.

NOV 10 1914

The undernoted cases have this day been forwarded to 76, High Street.

Case marked A.

11 doz. Empire Pads No.1.	Messrs. W.Straker Ltd., S 98707-
6 doz. " " No.3.	
6 doz. " " No.4.	
4.6/12 doz. Empire Pads.No.7.	
2 doz. Books No.1017.	
2 doz. " No.1026.	
2 doz. " No.1003.	
2 doz. " No.1004.	
2 doz. " No.1027.	
1 doz. Sectional Books No.2218.	
2 doz. Account Memo Books faint.	

Case marked B.

1 ream White Blotting Paper.	Messrs. Burroughs Wellcome & Co., F 80273-
4.2/12 doz. Plain Envelopes 12" x 9"	
16.8/12 doz. Plain " Foolscap Size.	
4.2/12 doz. " " 7½" x 5"	
3/12 doz. Large Requisition Books.	
2.2/12 doz. Sheets Carbon Paper Foolscap Size.	
4.2/12 doz. " " " Octo "	
25 doz. " " " Qto "	

5,000 Staples for McGills Staple Press.) Messrs.Valters Jackson, S 98712-

1 doz. Shorthand Note Books.) Messrs. Burroughs Wellcome & Co.,
4 doz. Manilla Folders, qto.) FO 87132-

5/12 doz. Document Wallets 3 pockets. 15" x 11½") Messrs. Walker & Co., S 98716-

10,000 No.35.Specimen Tabs,with string.) Messrs.Potter & Son. S 98717-

1 only, Set of Alphabetical Index Reference Cards, 8" x 5" Grey.) Messrs.Rockwell Wabash Co.S 99366-

20 Patent Files Foolscap Size.) Messrs.Stolzenberg Patent File Co., S 98714-

Case marked B. continued.

30 Patent Files 9½" x 12½") Messrs. Stolzenberg
40 " " S.S. Quality Blue, foolscap) Patent File Co.,
size, 14" x 9½") S 98714-

10/12 doz. Duplicate Letter Books) Messrs. Dawson & Sons,
100 pages Qto size.) S 99439-

2,000 Sheets Loan Letter Paper)
die stamped.)Messrs. Finden Brown & Co.Ltd.,
2,000 Protected Envelopes.)S 98773-
200 Sheets hand made letter paper)
die stamped.)

6/12 doz. Ribbons for Underwood Typewriter.)
5 doz. Veluto Rubbers.)
1 doz. Circular Erasers.)
2 doz. Reels Adhesive Tape.)
24 doz. No.2. Drawing Pins.)
24 doz. No.3. " ")Messrs. Burroughs
2 lbs. Gem Clips.)Wellcome & Co.,
1 lb. Ordinary Pins.)F 80181-
5 doz. Penholders.)
12 doz. Favourite Pens.)
12 doz. Renown ")
36 doz. Assorted ")

100 cards 5x 3 ruled) Messrs. Kenrick & Jefferson Ltd.,
not punched.) S 926-

12 sets of Numbers 1 to 0.) Messrs. Wm.Potter & Son.
6 Frames for Same.) S 99497-

Case marked C.

2/12 doz. Bent Steel Cash Boxes.) Messrs. Fordham & Son.
No.6.) S 98711-

2,000 Gummed Labels No.28.)
2,000 " " No. 2.)
2,000 " " No. 7.)
24 Blue Crayons, large.)
24 Red " ") Messrs. W.Straker Ltd.,
72 Blue Pencils.) S 98704-
72 Red ")
276 Black Lead Pencils.)
72 Copying ")
24 Kohinor Pencils 2.H.)

Case marked C. continued.

24 Kohinor Pencils. 4.H.)
24 " " 6.H.)
1 lb. red Sealing Wax.)
2,000 Tags with String. No.1.)
2,000 " " " No.2.)
12 non spilling Ink Wells.)
12 Bull Dog Clips. 2") Messrs. W.Straker Ltd.,
12 " " " 3") S 98704-
4 Desk Knives.)
1 box White Chalk Sticks.)
1,000 Envelopes Cream Laid Court Shape))
2,000 Sheets Paper to match.)
1 lb. Gum Arabic.)
24 Pieces Red Tape.)
100 Sheets Zanetic Carbon.)

1 gross Red Chalks.) Messrs. E.Hallewell & Co., S 99088-

4 Springback holders 22" x 13") Messrs. Morland & Impey,
4 " " No.7.) S 98710-

4 Large Requisition Books.) Messrs. Manifoldia Ltd., S 98772-

100 Charts for Jordan's Sunshine Recorder) Messrs.Negretti &
1 Meteorological register & note book.) Zambra. S 98708-

4/12 doz. Red Rubber Stamp Pads.)
6/12 doz. Green " " ") Messrs. Dennis & Ludlam,
4/12 doz. Violet " " ") S 98706-
6/12 doz. Black " " ")
3/12 doz. Rubber Stamps (Paid Off).)

5 Tin Trays.)
11 Metal Spoons.)
2 Wooden Pop Guns.) Mr. Smith. Value 1/8d.
2 Tin Toys.)

Case marked D.

5 doz. bottles Higgins Black Waterproof drawing Ink.) Messrs.Reeves
1 doz. " " Blue " " ") & Sons.
) S 98715-

10/12 doz. Pint Stone Jars Black Writing Ink.)
4/12 doz. " " " Red " ") Mr.H.C.Stephens.
1/12 doz. " " " Green " ") S 98718-

Case marked D. continued.

3/12 doz.	2 oz.	bottles	Red	Rubber	Stamp	Ink.)	
3/12 doz.	"	"	Green	"	"	")	
3/12 doz.	"	"	Violet	"	"	")	
3/12 doz.	"	"	Black	"	"	")	Messrs. Dennis &
6/12 doz.	"	"	Black	Metal	"	")	Ludlam.
6/12 doz.	"	"	Red	"	"	")	S 98706-
6/12 doz.	"	"	Violet	"	"	")	

1/12 doz. small bottle Thermograph Ink.) Messrs. Negretti &
) Zambra, S 98708-

10th November/1914

EGMD.

duplicate

2nd Floor 76 High St. Marylebone W.

LIST OF CLAY MODELS

Sudan 1911/12

Sets Nos 1 and 4

540 Bafaalla Tuhami, Musab Tribe, about nine years of age, Deim El Mashayekh village, Sennar Province.

Paid 10 and 5 P.T.

Set No 2.

200 Mohamed Abdalla Ahmed, boy about eight years of age, Gaalin Tribe, Amara village, Sennar Province.

Paid 5 P.T.

Set No 3.

415 Abdalla Nourein, boy about ten years of age, Amarna Tribe, Gebel Moya village, Sennar Province.

Paid 5 P.T.

Set No 5.

365 Idris El Mardi, about twelve years of age, Amarna Tribe, Gebel Moya village, Sennar Province.

P.T.½

Set No 6.

414 Amer Fadlalla, about twelve years of age, Amarna Tribe, Gebel Moya village, Sennar Province.

P.T. 3.

(Continued)

Set No 7.

415 Abdalla Nourein, about ten years of age, Amarna Tribe, Gebel Moya village, Sennar Province.

P.T. 1

Set No 8.

184 El Roda Ali, about eleven years of age, Amarna Tribe, Gebel Moya village, Sennar Province.

P.T. I.

Set No 9.

540 Dafalla Tuhami, about nine years of age, Musab Tribe, Deim El Mashayekh village, Sennar Province.

Sets Nos 10, 11 and 12.

21 Yacoub El Noor, about twenty years of age, Taaisha Tribe, Rammash village, Sennar Province.

P.T. 10

Sets Nos 13, 14 and 15.

35 Osman Mughein, about twenty-five years of age, Taaisha Tribe, Rammash village, Sennar Province.

P.T. 10

Set No 16.

Mafattish Adam Ibrahim, about twenty-three years of age, Taaisha Tribe, Rammash village, Sennar Province.

P.T. 2

Sets Nos 17, 18, 19 and 20.

302 El Nor Adam, about twenty-five years of age, Kauzi Tribe, El Wohayet village, White Nile Province.

P.T. 15

(Continued)

Sets Nos 21 and 30.

44 Ahmed Kagayeg, about eighteen years of age, Taaisha Tribe, Rammash village, Sennar Province.

P.T. 4

Set No 22.

463 Abdel Rasoul Deifalla, Taaisha Tribe, about thirty-three years of age, Rammash village, Sennar Province.

Set No 23.

359 Abdel Kadir Mohamed, Amarna Tribe, boy about twelve years of age, Gebel Moya village, Sennar Province.

Set No 24.

457 Ebeid Edris, boy about ten years of age, Amarna Tribe, Gebel Moya village, Sennar Province.

P.T. ½

Set No 25.

138 El Beshir Mohamed, boy about sixteen years of age, Taaisha Tribe, Rammash village, Sennar Province.

Set No 26.

393 Mahd Ibrahim Mitzammil, about twenty-five years of age, Taaisha Tribe, Rammash village, Sennar Province.

P.T.3

CASE No 1

10 11 12 13 14 15

CASE No 2

2 4 51 90 105 5

CASE No 3

1 3

CASE No 4

17 18 19 20 24 35 36 37 38 39 49 93 97

CASE No 5

91 41 47 102 74 34 73 92 46

CASE No 6

96 80 67 77 107 99

CASE No 7

86 104 95 109

CASE No 8

75 57 26 81

(Continued)

CASE No 9

44 98 42 59 66 85 78

CASE No 10

21 76 94 69 40 58

CASE No 11

31 62 89

CASE No 12

27 9 22 70 65 63

CASE No 13

50 55 25 48 29 53 54

CASE No 14

103 43 100 101 30 52 68 55A 64

CASE No 15

106 60 83 23 61 33 28

CASE No 16

108 56 8 71 79

(Continued)

CASE No 17

7 84 108A

CASE No 18

87 72 109

CASE No 19

6 82

List of Stones received from Mr. Bullbrook, on the 20th, August 1913

1	Tin Sand		87	
1	Tin of Sand	No.	88	
1	" " "	"	1.	
1	Parcel containig 2. little stones		, No. 51. No. 57.	
1	Stone	"	5	
1	"	2	16	
1	"	"	40	
1	"	2	50	
1	"	"	~~40~~ 14.	
1	"	"	16	
1	"	"	30	
1	"	"	2	
1	"	"	25	
1	"	"	63	
1	"	"	24	
1	"	2	29	broun
1	"	"	29	red white
1	"	"	10	& fragments
1	"	"	69	
1	"	"	14	
1	Parcel, two stones & fragmt.		11	
1	Stone	"	27	
1	Parcel yellow paper containing two stones rapped in paper, no No.			
1	Stone		62	
1	"		22	
1	"		17	
1	"	no Number		
1	"		6	
1	"		3	
1	"		26	

1 Parcel No. 84 inside containing 3. papers; each paper containnig:-
One of them different ornament stones
One " " two red little stones
One " " 1.cbntalning sand (bottle)

1 Parcel of two stones No. 64, 79.

1	Stone & fragments of it	No.	77
1	"		42
1	"		51
1	Parcel of 3. red sandstones no No.		
1	Stone		12
1	"		76
1	"		53
1	"		54
1	"		2
1	"		23
1	"		34
1	"		8
1	"		68
1	"		30
1	"		1
1	"		40
1	"		4
1	"		18
1	"		25
1	"		67
1	Red sand stone no No.		
1	Parcel of two stones no No		21
1	Stone		28
1	"		66
1	Parcel of 7. stones no No.		

Mr Frank King,
76 High St,
Marylebone, W.

Enclosed is a list of papers, books, cards, etc, contained in two parcels and four boxes which I am sending to you for safe custody at 76 High St.

These papers, etc, have been with Mr Moore, but they should now be kept in the office on the first floor of No 76.

20th July 1915

Rec'd July 20. 1915.

S.M.

JUL 20 1915

List of papers, books, cards etc. relating to Sudan Expedition

sent from Snow Hill to 76 High Street, Marylebone for safe custody.

	Season.
One bundle of wages receipts.....	1913-1914.
One package of wages sheets.....	1912-1913.
" " " " "	1913-1914.
2 boxes of savings account cards.....	" "

1 large tin trunk 30" x 11" x 18" approx. containing papers etc. as per separate list.

1 large tin trunk 13" x 16" x 24" approx. containing papers as per separate list.

Books, papers etc. in large tin trunk, 30" x 11" x 18" approx.

R

Loose leaf binders holding London invoices for goods shipped to Gebel Moya.	1912-1913. 1913-1914 (2).
Canteen Book, large	Season 1913-1914.
" " small	" " "
Prize money book	" " "
Savings bank withdrawals book	" " "
Rough cash book	" " "
Two wages cash books	" " "
Provision Store Book	" " "
Copy letter book chiefly used by Mr. Uribe	" " "
Two copy letter books used by Mr. Logue	" " "
Two bundles of defaulters reports	" " "
Small stamp book	" " "
Stores requisition book	" " "
Paid cash book - chickens, eggs etc	" " "
Folder of papers - Mr. Wellcome's private store	" 1912-1913.
2 Stolzenberg folders - London correspondence	" 1913-1914.
2 Folders containing cash book receipts	" " "
Folder containing accountants rough trial balances etc..	" " "
Folder containing accounts instructions.	
" " Aloa camp sundry correspondence with Gebel Moya	" " "

contd.-

		Season.
Folder containing	National Bank of Egypt monthly statements.....	1913-1914.
" "	rough notes re personal equipment stock etc.....	" "
3 folders "	telegrams received and sent.....	" "
One favourite file containing	invoices and other accounts and documents.....	" "
One folder containing	vouchers Aloa cash account.....	" "
" " "	London debit notes & analyses.....	" "
" " "	notes from Camp Commandant.....	" "
" " "	Gellatly Hankey accounts.....	" "
" " "	vouchers - Gebel Moya cash.....	" "
" " "	Railway policies.....	" "
" " "	Sudan railway accounts.....	" "
"n " "	private notes re personal accounts of members of expedition etc....	" "
Analysis Book.....		" "
One envelope containing	notes as to surplus cash from Postmaster Gebel Moya.....	" "
One packet savings account cards with unclaimed balances.....		1911-1912.
" " " " " " " "	.....	1912-1913.
" " " " " " " "	.....	1913-1914.

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marked 'Office Stationary'

JUL 20 1915

BOOKS PAPERS etc. in LARGE TIN TRUNK 13 x 16 x 24 APPROXIMATELY.

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1 Ledger Season 1911/12

1 Cash Book Season 1911/12

1 Cash Account Book July to October 1912

1 Journal Season 1912/13

1 Cash Book Season 1912/13

1 Ledger Season 1912/13

1 Prize Book Season 1912/13

1 Probition Store Issues Book Season 1912/13

1 Folder containing Vouchers & Accounts Season 1912/13

1 Arabic Copy Letter Book

1 Local Requisitions Book

1 London Requisitions Book Season 1912/13 & 1913/14

1 Local Requisitions Book Season 1913/14

2 Folders for Telegrams Received & Despatched Season 1912/13

1 Folder London Correspondence Season 1912/13

1 Folder London Correspondence Season 1911/12

1 Local Requisitions Book Season 1912/13

1 Favourite File containing Accounts Correspondence etc. Season 1912 to 1913

1 Packet of Cheque Stubs (9)

1 Packet Identity Cards 1913 - Gebel Sagadi

5 Railway Warrant Books (Used)

1 Folder containing various Notes & Particulars of Goods Shipped to Port Sudan 1912/13

1 Folder Correspondence Season 1911/12

1 Packet of Cash Vouchers Season 1912/13

1 Envelope containing Rough Notes etc. - Mr.King.

JUL 20 1915

cont.

BOOKS PAPERS etc. in LARGE TIN TRUNK 13 x 16 x 24 APPROXIMATELY.

---

1 Unused Duplicate Telegraph Form Book.

1 Bundle of Notes from Camp Commandent.

Liebe's Standard Telegraphic Code.

Contracts 1912-13

" 1913-14

List of people passing thro. Lager 1913.

Prize papers 11-12-12-13.

Copy of Craftsmen contract Issued 1913-14

Unused passages warrant book. 63700 - 63799.

CONTENTS OF TRAYS AT 76, HIGH STREET.

Part I.

(All quartz when not otherwise stated.)

1.	Scrapers	angular.	
2.	"	elongated.	
3.	Polishing stones	"	
4.	Scrapers		
5.	"	angular.	
6.	"	"	
7.	"	" large.	
8.	"	" small.	
9.	"	elongated "	
10.	"	various sizes.	
11.	"	angular	
12.	"	"	
13.	"	"	
14.	"	elongated, small.	
15.	"	angular, "	
16.	"	elongated,	
17.	"	angular, "	
18.	"		
19.	"		
20.	"	long	
21.	"	small	
22.	Celts	small.	
23.	Scrapers and drills		Basalt.
24.	"		
25.	"	long	
26.	"	"	
27.	"	"	
28.	Celts		Coarse -grained quartz.
29.	Scrapers	small	
30.	"	angular	
31.	"		
32.	"		
33.	"		
34.	"		
35.	"	assorted	
36.	"	small	Chalcedony.
37.	"	angular	
38.	"	small	
39.	"	assorted	
40.	"	small	
41.	"	crudely fractured.	
42.	"	medium size, well shaped.	
43.	"	angular	
44.	"	medium size.	
45.	"	small	
46.	"	angular	
47.	"	medium size, well shaped.	

48.	Scrapers	angular.
49.	"	crudely fractured.
50.	Celts	majority well chipped.
51.	Scrapers	medium size.
52.	"	angular.
53.	"	some very nicely chipped.
54.	"	small, elongated.
55.	"	small.
56.	"	" angular.
57.	Polishing stones	
58.	Scrapers	angular
59.	"	"
60.	"	large, elongated, very fine.
61.	Knives	chalcedony, some extremely good.
62.	Scrapers	
63.	"	medium, elongated, very good.
64.	"	medium.
65.	"	angular.
66.	"	" fine.
67.	"	" large, crudely broken.
68.	"	" " " "
69.	"	medium.
70.	"	assorted.
71.	"	"
72.	"	very small.
73.	"	majority well made.
74.	"	elongated.
75.	"	rather broad.
76.	Celts	rough-grained quartz.
77.	"	small.quartz, carnelian and basalt. unique type.
78.	Knives	very small, beattifully made.
79.	Scrapers	medium, elongated.
80.	"	angular
81.	"	small. Basalt.
82.	"	medium "
83.	"	large, very fine.
84.	"	small, " "
85.	"	angular, small.
86.	"	" "
87.	"	elongated, very good.
88.	"	medium, some very good.
89.	"	long, very good.
90.	"	long, small, very good.
91.	"	Triangular, medium.
92.	"	small, basalt.
93.	"	large, very good.
94.	"	" " "
95.	"	" various substances.
96.	"	" crude.
97.	"	small, angular, good.
98.	Quartz and carnelian Scrapers	small;peculiar, unique type.
99.	Scrapers	medium, angular.
100.	"	" , "

101.	Scrapers	medium, angular.
102.	"	angular.
103.	"	long, good.
104.	"	angular.
105.	"	long, very good.
106.	"	Triangular.
107.	"	very large, various substances.
108.	"	small, angular.
109.	"	various substances.
110.	Drills	Basalt.
111.	Scrapers	Carnelian.
112.	"	medium.
113.	"	small, angular.
114.	Arrow-heads	beautifully made.
115.	Scrapers	large, angular.
116.	"	various.
117.	Celts	made from rough crystals.
118.	Polishing Stones	
119.	Scrapers	angular, large.
120.	"	" "
121.	"	" , small.
122.	"	" , medium.
123.	Grinding stones	small, sand-stone.
124.	Celts	type series, good.
125.	Scrapers	large.
126.	"	large, exceptionally fine.
127.	"	" " "
128.	"	medium, angular.
129.	"	large, exceptionally fine.
130.	"	medium, angular.
131.	"	large, exceptionally fine.
132.	" & drills	small, basalt.
133.	Drills.	" "
134.	Scrapers	Carnelian.
135.	"	Basalt.
136.	"	large, various substances.
137.	"	small.
138.	Grinding -stones	small, sand-stone.
139.	Scrapers	large, jade & granite.
140.	"	long, good.
141.	"	carnelian, very good.
142.	"	angular.
143.	"	mostly flat.
144.	"	very good.
145.	Celts	roughly made.
146.	Scrapers	
147.	"	flat.
148.	"	angular
149.	"	large, flat, very good.
150.	"	long, extremely good.
150 a.	Carded pigmy implements.	
151.	Scrapers	flat, very good.

152.	Scrapers	flat, large, extremely good.
153.	"	large, flat, extremely good.
154.	"	medium, " " "
155.	"	long, " " .
156.	"	medium " "
157.	"	long " "
158.	Drills	very large, basalt.
159.	Celts	" " Type series.

(Contents of trays at 76, High Street)

Implements etc.

Found in Gravel pit, Bushey.

1a Eoliths from Gravel pit, Bushey, in coarse rubble drift 15 to 18 ft. down 1914.
2a " " " " " " " " " " " " " " "
3a " " " " " " " " " " " "b " " "
4a " " " " " " " " " " " " " " "
5a " " " " " " " " " " " " " " "
6a " " " " " " " " " " " " " " "
7a " " " " " " " " " " " " " " "
8a " " " " " " " "b " " " " " " "
9a " " " " " " " " " " " " " " "
10a Fossil Echinoderms " "" " " " " " " " " " " "
11a Eoliths from Gravel pit " " " " " " "" " " " "
12a " " " " " " " " " " " " " " "
13a (" " " " " " " " " " " " " " "
13a (Lunate scrapers from various strata
14a Eoliths from Gravel pit, Bushey, in coarse rubble drift " " " " " "
15a " " " " " " " " " " " " " " "
16a " " " " " " " " " " " " " " "
17a " " " " " " " " " " " " " " "
18a " " " " " " " " " " " " " "" "
19a " " "" " " " " " " " " " " "
20a " " " " " " " " " " " " " " "
21a " " " " " " " " " " " " " " "
22 (Chips and a few "Eoliths" found in the "Neo-lithic" hearth in Gravel pit,
(Bushey, also one burnt nodule and several pieces of flint. 4ft. 6 in. down.
23a Eoliths. (mid-glacial type.) found in sand above neolithic hearth. 4 ft. down
24a Eoliths from Gravel pit, Bushey, in coarse rubble-drift, 15 to 18 ft. down.
25a " etc. found in sand above "hearth". 4 ft. down.
26a " and flakes in coarse rubble-drift. 15 to 18 ft. down.
27a " and a few "Neo-lithic" flakes, also fragments of burnt flint in sand above "Neo-lithic hearth", 4 ft. down.
28a Eoliths and Neolithic flakes from sand above the Neo-lithic hearth, 4 ft.
29a " " " " " " " " " " " "
30a " "" " " " " " " " " " "
31a A few Eoliths and Noe-lithic flakes found in the Neo-lithic hearth, 4ft. 6i 1914.
32a Eoliths from Gravel pit, in coarse rubble-drift 15 to 18 ft. 1914.

25 APR 1912

By H F Gault

Drawings in Pencil and water colour (number on each)

1	Ali el Faki
2	Gobart alla el Mardi
3	Mohamed Husein
4	Gabir Mohamed
5	Farag el Tom
6	Sheikh Adam Ibrahim
7	Mourgan Abu Nourein
8	Mirsal el Har
9	General view of Camp from S.
10	Looking N. from head of road Down
11	" N. E. over Valley of Village Wells
12	" W. from Top of Holy Man Hill
13	" W. from highest Hill in Gebel
14	" W. over Camp Valley twilight
15	The Citadel road Down
16	Study of trees on Hill to N. W. of Camp
17	Hill W. N. W. of Camp, full morning
18	Sunset to W. of Citadel Rock
19	Overlooking Valley of Wells
20	Looking S. W. over Temple Valley
21	The road and Palace of Comfort, Down
22	Looking E. from Top of Holy Man Hill Down
23	Sunset at Village
24	" " " from diff, point.
25	" from little Gebel to N. looking back towards Village
26	" " " " " " " " "
27	" " " " " " " " "
28	The Sagadi road, after Sunset

Now in strong room 76 High St. Marylebone

76 High Street,

To C.J.P. Thompson, Esq.

Dec. 6. 1916.

Dear Sir,

In accordance with your wishes, I hereby send you a report of work done by me, and also work to be done (Mr. Wellcome's instructions to me).

Work done

GEBEL MOYA	(	140	Trays of Scrapers & Knives
	(	3	" " Polishing Stones
	(	18	" " Celts
	(	3	" " Drills
	(	2	" " Grinding Stones
	(	15	" " Pigmy Knives and Scrapers
	(	76	" " Mullers and Rubbing Stones
		1 only	" Arrow-heads
From BUSHEY		33 Trays	" various
		291	

The average number in each tray is 72, therefore I have washed and numbered 20, 952 implements, all of which are fit for exhibition or any other purpose. In addition to the above, I have arranged in the case provided a facsimile of the stratum of the Bushey excavation. (scale $\frac{1}{3}$).

****

Yours faithfully,

(signed) J.W. Sinel.

To C. J. S. Thompson Esq.

76 High St:
Dec. 6. 1906

Dear Sir.

In accordance with your wishes, I hereby send you a report of work done by me, and also work to be done (Mr. Willcome's instructions done).

Work done.

Gebel Moya

140	trays of	Scrapers & knives.
3	"	" Polishing stones.
18	"	" Cells.
3	"	" drills.
2	"	" grinding stones.
15	"	" Rigny knives & scrapers.
76	"	" Mullers & rubbing stones.
1	only	" arrow-heads.

from Bushey — 33 trays. various.

total 291.

The average number in each tray is 72, therefore I have washed and numbered 20.952 implements all of which are fit for exhibition or any other purpose. In addition to the above, I have arranged in the case provided a fac-simile of the stratum of the Bushey excavation. (Scale 1/3).

Work to be done.

At a rough estimate I have as many trays to go through as I have already done, as well as several thousands of implements and other stones to be cleaned, which are in the cases in the office and the rooms above. In the basement there are queens and several boxes of stones to be examined & cleaned.

Dartford.

At the above there are several cases of the best implements about which Mr. Willcome was very keen. These also will have to be cleaned, numbered and classified.

Yours faithfully

J. W. Ewell.

To C.J.S. Thompson, Esq. 76 High Street,

Dec. 6. 1916.

Dear Sir,

In accordance with your wishes, I hereby send you a report of work done by me, and also work to be done (Mr. Wellcome's instructions to me).

Work done

GEBEL MOYA	(140	Trays	of Scrapers & Knives
	(3	"	" Polishing Stones
	(18	"	" Celts
	(3	"	" Drills
	(2	"	" Grinding Stones
	(15	"	" Pigmy Knives and Scrapers
	(76	"	" Mullers & Rubbing Stones
	(1	only	" Arrow -Heads
From Bushey	833	Trays	" various
Total	291		

The average number in each tray is 72, therefore I have washed and numbered 20, 952 implements, all of which are fit for exhibition or any other purpose. In addition to the above, I have arranged in the case provided a facsimile of the stratum of the Bushey excavation, (scale $\frac{1}{3}$).

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Dartford

At the above, there are several cases of the best implements about which Mr. Wellcome was very keen. These also will have to be cleaned, numbered and classified

Yours faithfully,

(signed) J.W. Sinel.

Smel
Report
on
Work
see 9/16

MR. WELLCOME'S ARCHAEOLOGICAL RESEARCHES

AT GEBEL MOYA AND OTHER SITES IN THE SUDAN.

Following his previous Sudan explorations Mr. Wellcome has carried out archaeological excavations in the Province of Sennar, for four consecutive seasons dating from 1910.

The main archaeological site is located within the recesses of the hills, known as Gebel Moya, several hundred feet above the plain, and is encompassed by lofty, rugged, natural walls of rock. At the time of Mr. Wellcome's discovery, the site itself was covered, and to a considerable extent heaped, with loose rocks. The clearance of thousands of tons of these rocks from the surface involved an immense amount of labour. The site was at that time very inaccessible, and could only be approached through steep rocky gorges obstructed by large boulders. Transport of supplies and equipment was impracticable, and even the passage of men was difficult. It was therefore found necessary to cut a graded zig-zag road up through one of these gorges from the foot of the hills to the level of the site. This remarkable feat of engineering was accomplished during the first season. In constructing this road, Mr. Wellcome was obliged to make cuttings through ledges of solid rock, to move huge granite boulders weighing many tons, also to fill up deep khors with rocks and debris, and to construct great retaining walls of boulders to support the outer banks of the roadway.

Since the first season, an overhead power transport cable-way from

the foot of the hills to a station in the camp has been erected, narrow gauge surface trolley lines have been laid throughout the camp and excavations and many other improvements have been carried out to facilitate the operations and to secure comfort and health to the staff and workmen.

Transport for communications and supplies for so large an expedition becomes a serious matter in a wild region like this. Camels surpass all other animals for desert trekking and general transport, but they are not hill climbers. Mules and donkeys are good climbers and well suited for short desert journeys. For Mr. Wellcome's requirements, he has found it necessary to procure all these means of transport, and he now possesses a large number of very fine riding and transport camels, mules and donkeys; also for certain heavy work he uses bullocks. These animals are under the charge of well-trained veteran camel corps men and syces, receive the best of care, and are sheltered near the camp in well-constructed zarebas.

The Gebel Moya encampment is extensive and picturesque. Mr. Wellcome and his European, Egyptian and Sudanese staff live under canvas. The principal tents are of the best Indian Army pattern, all others are Egyptian. The main camp is situated at the Northern extremity of the archaeological site and is laid out with regular streets, the borders of which are effectively lined with stones. A large open square in the centre is reserved for musters, inspections and drills.

The tents of Mr. Wellcome and of the chief members of his English staff are pitched on broad terraces, formed by excavating into the hill sides and supporting the outer bank with retaining walls of large granite boulders. These terraces command charming and extensive views over the plains.

Several buildings have been erected for use as offices, archaeological, anthropological and anatomical laboratories, workrooms, photographic dark rooms, workshops, stores, canteen, etc. Some of these are constructed of stone, others of corrugated iron.

The local native workmen live in their old dilapidated village near by, but for those who come from afar, Mr. Wellcome has laid out a model camp village at the foot of the Gebel. The tukls (grass houses) like all native dwellings are circular, made of wood and grass with roofs heavily thatched. The tukls of the model camp village are constructed by the most expert native builders and thatchers, and are in every way superior to the ordinary native huts. Great care is taken to ensure cleanliness, comfort and strict observance of recognised sanitary rules.

Young boys who are not with their parents or guardians are grouped in special tukls and placed under the care of trusty matrons who are made responsible for their protection and conduct, and for the proper cooking of their food, which is issued to them regularly as rations on a fixed scale.

The whole camp village is enclosed in a thick outer wall of thorn bush for protection against prowling wild beasts and is laid out in squares intersected by wide streets; each habitation has its own private compound

walled in with thorn bush. All who dwell here are under the control of a responsible sheik.

Mr. Wellcome's camps are alike remarkable for their cleanness, good order, discipline, and for the thoroughness and efficiency of the medical and sanitary systems enforced. An English Medical Officer acts also as Chief of the Sanitary Department. Prevention is the watchword, and the most stringent precautions are taken to avoid contamination of drinking water and to render it absolutely free from germs.

Large stone crematoria have been erected for burning camp refuse. Every tent, every structure, and every nook and corner of the camp is thoroughly and regularly inspected, and each European, Egyptian and native is required to observe rigorously the sanitary rules and regulations. All native workmen are medically examined before engagement and are constantly kept under observation.

As a result of these precautions, no infectious disease has ever been contracted within the camp, and an extraordinarily high standard of health is maintained, both amongst Europeans and natives. No man or boy is allowed to work if found to be unfit, while free medical attendance and medicines are given to native workmen and their families. A free hospital is likewise provided for cases requiring special attention. The success of these practical preventive measures supplies a valuable object lesson for all who dwell in the regions of dread tropical diseases, be it in Africa or elsewhere.

At the beginning of the Gebel Moya excavations Mr. Wellcome was greatly handicapped, for he was almost single-handed, had no suitable outfit, and was obliged to extemporise nearly every implement and appliance required. Now the expedition has a complete equipment of all manner of plant, implements and technical appliances requisite for the scientific excavations and research work so systematically carried out here. Many items of the plant, implements and appliances have been specially designed for the purposes of this expedition. Mr. Wellcome is now assisted by an efficient English administrative and technical staff.

As regards the archaeological excavations, I am only permitted to make a few brief notes, for Mr. Wellcome is still determined to reserve details and conclusions until after his researches are completed.

The main site at Gebel Moya has an area of about two hundred thousand square metres. The extensive excavations already made have revealed the remains of a series of prehistoric settlements dating back to very remote periods. Here are found not only relics illustrative of the arts, crafts and daily life of countless succeeding generations of the antient inhabitants, but also cemeteries representing corresponding periods and containing human remains of a series of types including a race of very large stature. In many cases, associated with the burials are found objects which will undoubtedly go far towards establishing the periods, dates, etc. These human remains are not only being measured, studied and recorded in situ, but the crania and in many cases the entire remains are being preserved by specially devised processes.

Amongst the immense variety of objects discovered here by Mr. Wellcome, I will only refer to the following:-

a. An extensive series of types of stone implements, including axes, adzes, chisels, planes, hammers, etc., in nearly every stage of evolution; also many other tools of bone, ivory and other materials.

b. Pottery in great variety - all hand-made - ranging from crude and primitive types to highly finished and elaborately decorated examples of extraordinary quality and grace.

c. Remains of workshops containing various tools and materials; also objects in all stages of manufacture indicating an industrial settlement.

d. Numerous ornaments and other objects in great variety.

In addition to Gebel Moya, Mr. Wellcome has been excavating three other sites which he discovered in the winter of 1910/11, namely Sagadi, Dar el Mek, and Aloa. Each of these sites has its own special and distinctive features but they all appear to be linked up with Gebel Moya and to represent interesting periods.

After the excavations at these sites are completed, the classification and study of all the vast amount and variety of archaeological, anthropological and anatomical material obtained, most of which is unique, will occupy several years. The results will be published by Mr. Wellcome in the form of a voluminous and fully illustrated official report.

Throughout these researches, Mr. Wellcome has been greatly encouraged and assisted by the advice of several eminent Egyptologists especially Dr. G.A.Reisner, whose thorough and precise scientific systems of archaeological excavation and of recording, are well known and widely

adopted by scientific archaeologists. These systems are employed and strictly carried out at Gebel Moya, and most exact written and photographic records are also made at each step. Every object, however fragmentary, if it show the handiwork of man, or is of archaeological, anatomical or anthropological interest, is carefully preserved for study.

Dr. Reisner has throughout taken very great interest in Mr. Wellcome's discoveries and excavations and has supported him in the most practical manner by loaning him each year from thirty to fifty specially trained Egyptian experts, some of whom have been in Dr. Reisner's service in Egypt and Nubia for twenty years. These highly trustworthy men have been of the utmost assistance to Mr. Wellcome, not only by their own skilful work, but also by teaching his Sudanese workmen.

In February 1914 Dr. Reisner at great sacrifice left his own archaeological work at Kerma and visited Mr. Wellcome's Sudan excavation camps for a fortnight. He studied the sites, tested the untouched control sections which Mr. Wellcome had left in each division of all his excavations, and also conducted personally special experimental researches. These investigations enabled Dr. Reisner to settle definitely certain difficult problems of great importance and to give invaluable advice on these sites generally.

The prehistoric periods of ancient Ethiopia are shrouded in profound mystery. Very little is known of the Ethiopian races and of their influence upon Egyptian and other civilisations. The region of Mr. Wellcome's operations is said to have been the source of certain religious cults adopted by Egypt; we know not the origin of these beliefs, nor the part Ethiopians

took in their formation.

Mr. Wellcome has entered an untouched field in African archaeology and one of great importance. He is conducting his researches with such thoroughness and scientific precision that it is anticipated when his work is completed, he will be able, not only to throw light upon the history of the Ethiopian races in the Great Past, but also to assist in solving some of the subtle problems of the primitive civilisations of the Dark Continent and the Mediterranean regions.

The publication of Mr. Wellcome's official reports is being anticipated with keen interest in scientific circles.

For a further article on Mr. Wellcome's excavations and his welfare work amongst the natives of the Sudan see pp.

MR. WELLCOME'S ARCHAEOLOGICAL EXCAVATIONS IN THE SUDAN

Welfare Work Amongst the Natives.

For over four long years there has been quietly proceeding in one of the desert places of the Sudan, as admirable and as humanising a piece of work as any that has been chronicled in the world's annals - a work estimable alike from a social and from a scientific point of view.

If little or nothing has hitherto been gleaned in the way of public information concerning the immense undertaking launched and personally conducted by Mr. Henry S. Wellcome since 1910, the reason must be sought, firstly, in the modesty of the man himself, and secondly, in his fixed determination to permit of no public pronouncement, however guarded or however noncommittal, until such time as he himself feels absolutely sure of his ground, and equally confident that his data are sufficiently complete to justify definite conclusions on the problems opened up by his archaeological researches in this remote region.

That any side-lights can at length be thrown upon the work proceeding at Gebel Moya, must be attributed more to the persistency and the pertinacity of the present chronicler than to any great conversion of Mr. Wellcome himself from his already expressed conviction that his research work - vast and comprehensive as it has been - is not yet sufficiently ripe to justify publicity.

With the expression of this opinion, I have ventured to disagree; and while I fear that I have failed to induce Mr. Wellcome to depart much from his original conclusions, I have, to some extent, shaken the battlements of his reserve, inasmuch as he consented to suspend in my favour, his inviolable rule against admitting to the charmed and charming circles of his surroundings, an author armed with the recording pencil, and to permit me to say something of his welfare work amongst the natives of the Sudan.

The several days which, through the influence of a personal introduction of His Excellency the Governor General, I was privileged to pass with Mr. Wellcome at Gebel Moya in the early days of this year, entirely convinced me I had been correct in believing, from information already obtained through responsible sources, that he came well within the category of thosewho "do great deeds". I hope to prove at least that he has assuredly ranked himself as a philosopher and a benefactor.

In the face of the worst kind of discouragement, disappointment, and disillusionment, he has persisted in carrying on an undertaking which will enormously enrich the spheres of archaeological and anthropological science, while it will serve to solve one of the most difficult and pressing problems of the day - how best to civilise and, at the same time, to elicit the most noble of the attributes of native races.

From early youth, Mr. Wellcome, in addition to his other activities, has been a keen student of prehistoric archaeology, and in the course of extensive travels in various parts of the world, he has been an alert seeker after relics of primitive man.

During his first expedition to the Sudan soon after Lord Kitchener's reconquest, he made some discoveries of neolithic remains of special interest, but was unable to resume these researches until 1910, when he explored extensive tracts of country in the Sudan and discovered several very antient sites. Mr. Wellcome was specially impressed by remains which he then found in a high range of wild rocky hills known as Gebel Moya, Sennar Province, to the N.W. of Abyssinia and lying between the Blue and White Niles. The local community, notoriously the most lawless and turbulent in the whole Sudan, consisted mainly of criminals and descendants of criminals. Men, women and children were alike filthy, indolent, drunken and depraved, clothed in mere tatters which were black with grime and grease.

Mr. Wellcome's explorations, and particularly his enquiries about cave dwellings, excited the suspicions of the chief robbers who feared the discovery of their crimes and secret haunts, and they tried to mislead him by denying the existence of any caves or antient remains. He persisted, however, and discovered numerous caves, also extensive remains of a very antient industrial settlement in a large basin high up in the Gebel surrounded by great natural walls like a fortress. The rock caves in the Gebel had not only served as habitations in prehistoric times, but also from time immemorial, were places of concealment for outlaws and their booty.

This site revealed evidences of such archaeological importance that Mr. Wellcome immediately obtained a Government licence to excavate.

To assist in his explorations, he had brought with him half a dozen native sailors from his dahabeah on which he had been cruising up the Nile. Having no excavating equipment, he was at first obliged to extemporise implements, hewing them out of wood with native hatchets. Workmen were needed for the excavations, and the Omda (the native head chief of the district) sweetly promised to supply hundreds, but behind the explorer's back, tried to thwart him at every turn, and secretly threatened any who dared to enter his service. With the view to stopping the excavations, the Omda even attempted to cut off food supplies. No one in this squalid little settlement really desired to work - all were habitually lazy and indolent. The villagers had never been known to undertake manual labour of any kind beyond the cultivation of an infinitesimally small portion of their lands, yielding barely sufficient for their own immediate wants, and "money for labour" appeared to possess absolutely no inducement. They would say, "We are not cattle, why should we work?"

The wages promised were more than double the normal local rate, and in addition to wages, liberal prizes were offered. The idea of prizes proved attractive and excited the native gambling spirit. After much delay and difficulty, a dozen venturesome men and boys risked the perils of the Omda's displeasure and were enticed to work under guarantee of protection. These were carefully trained to qualify them to become teachers of others. The payment of wages and prizes were made as publicly and conspicuously as possible; the clink and glitter of coins soon roused the

greed and jealousy of the unemployed, with the result that the numbers steadily increased until towards the end of the first season, more than five hundred were engaged on the works.

Mr. Wellcome's extensive experience with native races and his extraordinary tact and resourcefulness proved useful to him in meeting the wily intrigues and innumerable obstacles encountered at every step. To these primitive and suspicious natives, it seemed improbable that this white deus ex machina could continue long to part with so much money; he must, they argued, inevitably disappear from among them as speedily and as mysteriously as he had appeared.

At least they demanded from him a daily settlement of their earnings not being willing to grant even one week's credit to their employer, of whom, indeed, they continued for a time to entertain the most pronounced and inerradicable suspicions, suspicions fostered by the Omda who also appealed to their superstitions and made all manner of evil prophecies.

Mr. Wellcome aimed from the first and unceasingly to win and hold the confidence and trust of these wayward children of the wilds, and to convince them that he sought to improve their condition and not to make gain out of them. All manner of prejudices were strongly against him, however, and his every word and act liable to be misinterpreted. Many of the older workmen were fanatical Dervishes who had been fierce warriors of the Mahdi and Khalifa and were not yet quite reconciled to the new regime. Some came from disloyal villages which had recently caused trouble to the

Government. Most of the natives were Moslems, extremely fanatical, but grossly ignorant of the true teachings of Mohammed. They flagrantly violated many of the sacred precepts of their religion, consequently orthodox and ethical Mohammedans called the people of Gebel Moya "Devil worshippers". Any attempt to proselytise and convert these misguided lawless beings to Christianity, would have resulted in a furious and disastrous outbreak, for all would have united to drive out the "false teacher". Knowing well the teachings of Mohammed, Mr. Wellcome referred offenders to the Koran and held them to the strict observance of their own religion and to the laws of the Prophets, reminding them that a true Moslem must be a good man. At the same time he taught them the benefits of Christian civilisation and pointed out that the God of Moslems and the God of Christians was the one and same God, likewise that most of the Christian prophets were identically the same as the prophets of the Moslems. He constantly taught them, too, that British rule meant religious liberty and clean justice; that it was their duty to faithfully worship Allah and be loyal to the Government.

Problems innumerable crowded every day. Men and boys were equally incorrigible and attempted every trick in the calendar to rob, cheat and deceive; not a petty little meanness or method for shirking work but they practised it. Truth was not in them. They had no sense of honour, probity or loyalty, while their natural ferocity and savagery of disposition found

full vent amongst themselves on the slightest occasion. Crime was prevalent, inter-tribal, inter-village, and inter-family feuds were ruthlessly waged, some of these feuds being survivals of many generations past. Sometimes the most trivial causes would precipitate sudden outbreaks. A hasty word, a curse, would be followed by a blow from a club, a thrust of knife or spear; then frenzy reigned. Violent encounters took place, not only daily, but hourly; several times pitched battles occurred involving nearly the whole force. Every man and boy went armed with club, knife or spear. Drunkenness in almost every instance was the cause of the fighting and crime.

In the midst of all this disconcerting turmoil and uproar, Mr. Wellcome moved, if not entirely unaffected, at least undismayed and wholly undeterred from his task of reducing chaos to order. Unceasing vigilance, self-control, and swift, fearless action, invariably gained the day. He never used or displayed weapons; and it was only in very rare cases, and then solely in self-defence, when personally attacked, that he ever exercised counter-violence. In all such desperate cases, Mr. Wellcome snatched success by some stratagem and dexterous surprise, and landed his assailant in the dust before he could get in a thrust. Failure would have meantatragedy. Various plots and attempts to "eat up" the camp were made, but they were anticipated and nipped in the bud.

It was but a short time before this, that Moncrieff had been murdefed by natives in this region, and Government officials had warned Mr. Wellcome of the risks he was incurring.

Undoubtedly this plucky Englishman, used though he had been to the control of men of all sorts and conditions, carried his life in his hands when he undertook to deal, almost singly, with these desperate characters. He did not falter, but fearlessly and unflinchingly defied and gained ascendancy over them; then he gradually subdued their ferocity and won their respect and confidence. Soon his position became sufficiently strong to enable him to successfully prohibit the carrying of weapons. This shows conclusively that Mr. Wellcome understood the serious nature of his undertaking and was fully qualified for the task.

Indomitable human will, and a keen knowledge of human nature triumphed. In the course of time the "hopelessly intractable" became gradually amenable; the apparently irreconcilable evinced wholly unexpected traits of reasonableness and good nature.

Mr. Wellcome devoted a great deal of his time to welfare work amongst his workmen and with untiring sympathetic patience he sought to influence them to exercise self-control, to live clean lives, and furthermore, he endeavoured to inspire them with a desire to be respected by their fellow men. Constantly he pointed out the curse of drink, the misery caused by crime as terribly exemplified in their midst, appealed to the sense of shame and urged them to become real men instead of degraded beasts. Naturally, with such material upon which to work, beneficial influences were slow to manifest themselves and proved only partial in their success.

The first discouraging effect of distributing so much unaccustomed money amongst these natives was the inducement to still more drunkenness.

The piastres burned the hands of boys and men alike. Their nights were spent in beastial orgies, and before the coming dawn, each day's pay had been "blown" on merissa and prostitutes. Men women and children lived absolutely "Merissa lives" and were sustained by this debasing intoxicating stimulant, rarely taking natural solid food. Consequently they were unhealthy, bleary-eyed, and emaciated. Most of these as yet unreclaimed creatures remained under the influence of drink night and day for weeks together, some completely stupified, others partly inflamed, while many were extremely quarrelsome and dangerous.

For some little time, all efforts to persuade the workmen to save any part of their earnings were unavailing, even after Mr. Wellcome had gained their assent to weekly instead of daily payments. The weekly payments did, however, materially reduce drunkenness, though many could not resist the temptation to have a big "fling" with the week's wage, resulting in a debauch lasting several days. Fortnightly payments were finally adopted and proved more satisfactory. The very largeness of the amount of two weeks' wages impressed the minds of these poverty-stricken wretches who had never before possessed so much money, they began to think and to dream of riches, and the idea of the possibilities and responsibilities of wealth dawned upon them.

At last they began to listen to Mr. Wellcome's advice, to save and to invest a good share of their earnings. Many, however, for a time still yielded to the lures of Satan and gave way to even greater excesses, returning to camp after a big bout of furious drinking in ugly fighting mood - for much

merissa maketh men mad for battle.

Time, patience and perseverance have wrought wondrous changes. Men who were the worst criminals and worst drunkards are to-day some of the most efficient and reliable workers and hold responsible positions; they have become total abstainers, exercising self-restraint, and now use their influence on the side of peace and good order. But progress has been slow, and many backsliders have had to be reclaimed over and over again.

Although intoxicating liquors are strictly prohibited by Mohammed, merissa drinking had become such a deep-seated habit amongst these depraved Moslems, that it required a desperate struggle for them to give it up. When urged to become abstainers, they would say, "Merissa is like a wife to me, it is my greatest joy and consolation. No! I will never give it up." At first no moral plea would influence them. To move them it was necessary to rouse first the materialistic spirit, by persistently demonstrating that the abstainers became the best men, earned the most money, won all the best prizes, and would soon be able to buy the most beautiful wives, while the drunkards were but stupid asses, earned smaller wages, and only won a few of the lowest prizes. Jealousy and envy of others and greed for self helped materially towards attainment of the desired moral end. At first it had been extremely difficult to induce any amongst these people to moderate their drinking or to swear off even for a few days, but all who did so, soon became shining examples before their comrades. Gradually the numbers of abstainers increased, and many consented to swear off for a month, then to the end of the season, and some for life. The best holy men in the region appreciated

Mr. Wellcome's efforts and gladly assisted him by swearing these men on the sacred Koran with the most solemn oath. Progress continued steadily and constantly, increasing numbers becoming life abstainers. As drunkenness was lessened, so in proportion, crimes and disorders were reduced. By the end of the first season a spirit of industry, thrift and sobriety prevailed, while a large number had considerable savings which they were induced to invest mainly in cultivation of land, and in animals for breeding.

When Mr. Wellcome returned to Gebel Moya for his second season, he was informed that the herds and flocks of the district had been doubled as a result of the savings of the first season. He thus found that his efforts had not been wasted and that progress had continued in his absence. The modified habits of life were evidenced by marked improvement in conduct, and it was some weeks after his return to the Sudan before the first case of drunkenness occurred. Not only the villagers, but hundreds of natives from distant parts of the Sudan, who had heard of the benefactor, eagerly awaited his return.

A Savings Bank plan had been worked out by Mr. Wellcome during his absence, specially adapted to the needs of these natives and designed to assist in teaching them the art of saving money. Having devoted several weeks to systematic demonstrationsof his plans, and to making full explanations to all classes, Mr. Wellcome started the Savings Bank early in the second season; each workman then had his book showing his wages, drawings and savings. This Savings Bank system has proved a remarkable success, so much so indeed, that it has become one of the greatest attractions of the

work, and draws natives of many tribes, Moslem and pagan, from distant parts of the Sudan to seek employment at Gebel Moya. Fathers walk hundreds of miles across the desert to bring their young sons and place them in Mr. Wellcome's charge, begging him to teach them how to save their money, to lead clean lives and to become clever like Englishmen. No youth is engaged except with the approval of his father or some other person responsible for him. The steadily increasing numbers of natives employed by Mr. Wellcome at Gebel Moya and his other archaeological camps in the vicinity during the past four seasons are thus indicated -

Seasons	First	Second	Third	Fourth
Numbers more than	500	700	1200	3000

During the last three seasons, in addition to those actually engaged, many thousands of others applied for work, but not being required, they were turned away.

More than 90% of those employed in the third and fourth years were sworn on the Koran to become total abstainers for life, and so far as is known, not more than 5% of these have broken the pledge.

The young men of to-day who came to Mr. Wellcome as mere lads in the first years of his excavations, are now the most keen, efficient and reliable of all in the work, and these, together with the well-trained older men of long service exercise a highly beneficial influence upon the many new comers engaged. On the other hand, in some cases the influence is reversed, for some newly-engaged crafty men upset and lead astray those who have been long in service and who are well on the way to righteousness. A notable

example of this occurred during the season 1913/14, when a rather formidable band of ruffians carried out an extensive series of daring robberies, in some instances attended with savage assaults. For some time the culprits eluded detection and successfully escaped with their booty, but finally they concocted a bold plot for a night attack on the camp to seize the treasure chest. The plot failed, for the leader of the expedition surprised and foiled them in their attempt. When this precious gang was rounded up, it was discovered that amongst them was a large number of notorious bandits who had recently been engaged as workmen, because of their splendid physique and apparent fitness for heavy work, though they, evidently, had a much more adventurous purpose in view. One of them had a record of more than fifty convictions. These robbers had combined with the local criminals who were expert in concealing and spiriting away plunder, and then sought out a trusted rais of the expedition and a number of workmen whose long faithful service and exemplary conduct had placed them above suspicion, to betray their benefactor and to join the robbers in their enterprises, and, alas for human frailty! these reformed men of "honourable mention" recalled their joyous raids of other days and yielded to the irresistible temptation of "the enthralling excitement of crime".

The leader who has to cope with such conditions, must neither be unduly elated by successes, nor cast down by failures.

Before engagement, every candidate is examined by the camp medical officer and he is only accepted if passed as fit for work. Notwithstanding these restrictions, the great majority of new men accepted are soft, weak,

unaccustomed to any kind of hard continuous manual labour and quite unable to use effectually even a pickaxe or a spade. Each man is appointed to perform such duties as his capacity warrants; he is first taught methods of work and gradually thereafter advanced to tasks which will best develop his physical powers. The improvement in the physique, capacity and general health of these natives after a few weeks' training, is very striking. Some frail creatures become in time so robust and muscular as to rival the strongest of their comrades.

From the beginning of this remarkable undertaking, Mr. Wellcome realised that no man or boy could be expected to perform strenuous physical labour unless he was sustained by proper and sufficient nutritious food. Gradually he eliminated merissa as a staple of diet and soon proved to the people the greater efficiency, power of endurance, and earning capacity of those who gave up merissa and lived on good solid food properly prepared. During the first season his efforts were facilitated by the cheapness of dura, the staple native corn, for the copious summer rains that year had ensured abundant crops, and 25 to 30 piastres would buy an ardeb of 480 pounds. Unfortunately, during the second, third and fourth years, severe droughts caused food and water famines. Dura then became scarce, dear and difficult to obtain. Speculators had got hold of the crops from the growers at low prices and then combined and forced the prices up until they reached as high as 150 and even 300 piastres per ardeb.* Poor natives could not afford to eat dura at such extravagant cost. The pangs of hunger caused

* 100 piastres equals a little more than £1 sterling.

despair and desperation amongst the workmen at Gebel Moya. Finally a grave crisis was reached. Men could not work on empty bellies and a continuance of the excavations was jeopardised. Mr. Wellcome met the situation by purchasing quantities of dura at the high rates prevailing, even importing cargoes from India, and supplying it to his workmen and their families at very moderate prices, thus making heavy monetary sacrifices for their welfare.

The water famines likewise brought trying ordeals. When Mr. Wellcome first came to Gebel Moya, several shallow wells yielding very limited quantities of brackish water were the only sources of supply. To meet the requirements of the large and increasing human force employed, it became necessary to supplement these sources by obtaining large quantities of water from the Blue Nile, situated 35 kilometres distant. Furthermore, Mr. Wellcome deepened the old wells and dug many new ones, a very difficult undertaking in these rocky gebels. During the hottest months, when the temperature ranges from 100° to 120°F in the shade, toilers in the field exposed to the broiling rays of a tropical sun, must needs be liberally supplied with water to quench a raging thirst. At such times droughts and water famines cause much distress. Then the wells must be dug deeper and ever deeper, and more water must be brought from the Nile, or the people would fly to the river. Everything must give way to the emergencies of the water supply. On occasions of great stress, Mr. Wellcome had sometimes found it necessary to employ several hundred men on well digging alone. Failure of the water supply for such a large number of workmen would have created a

very desperate situation. Fortunately, Mr. Wellcome's forethought, perfect organisation and prompt strenuous action, had always averted disaster, though he must have passed through some periods of great anxiety.

In 1912, Mr. Wellcome, at great expense, took out to the Sudan a complete equipment of the best up-to-date power well-boring plant for the purpose of sinking artesian wells, hoping by this means to secure, not only adequate supplies for his own camp requirements, but also a permanent source of supply for the natives in this district.

An expert engineer is now in charge of this plant, and the operations are still progressing though slowly, for he is boring through a solid bed of the hardest granite, estimated to be of great depth, at the rate of about one foot per day. Success in this undertaking will bring a great boon to the people.

In the course of the development of his excavations, Mr. Wellcome has established fully equipped engineers' blacksmiths' and carpenters' workshops, where he carries out extensive construction and repair work. These workshops are under the direction of European experts, who not only perform their regular duties, but also act as instructors to men and boys who are being trained in the various crafts.

These workshops are veritable industrial schools. In like manner, men and boys are trained in all other departments of the extensive archaeological excavation works. More than 95% of the natives employed are raw and untrained when they enter service, but at the end of the season they draw substantial sums of money saved from their earnings, and go out

well-disciplined, "trained work-men" with improved habits and new ambitions, qualified to earn fair wages. These newly trained Sudanese are now generally becoming keen to add to their wealth by industry and profitable investments of their savings. Thus Mr. Wellcome is creating an entirely new industrial element out of crude waste native material, and the influence of his work is being widely felt. This new industrial element is much needed for the future development of the Sudan.

All men and boys are drilled and required to go through physical exercises every day. This is found to promote discipline, prompt obedience and good deportment.

The afternoon of every Friday (the Moslem Sabbath) is devoted to amusements. English field sports have been introduced and are taken up with zest by the natives, many of whom become proficient. These sports create keen rivalry between the various competing sections, and arouse much enthusiasm amongst all the workmen. Those who excel in sports are generally found to be the most efficient in their work. It has been the aim throughout to supply the men with healthy and attractive pastimes and to replace the degrading customs, which they have been induced to abandon.

One of the secrets of Mr. Wellcome's success is certainly his knack of always keeping his workmen happy and interested. There is no mistaking the fact that he has won and now holds their profound respect, and also their whole-hearted affection. They look up to him with absolute confidence, and trust him as their unfailing benefactor, guide and father.

Cadis, great holy Sheiks, Cherifs, Fakis, Omdas and other Sudanese notables travel long distances to visit Mr. Wellcome's camp, where some of their villagers have been employed in order to see for themselves the mysterious excavations, the workshops, the feats of engineering of which they have heard such wondrous tales from their people. But above all, they come to see what manner of man is this Englishman at Gebel Moya who has wrought such marvellous reformation in even the most hopeless vagabonds and outcasts of their villages. These visitors take keen and intelligent interest in the conditions of work, methods of training, organisation, discipline, savings bank system, provisions for health, food, water, etc., and they do not disguise their amazement and pleasure, when they find it quite true that this man, who has been "making good Moslems out of bad ones", is himself a Christian. In practically every case these are shrewd men capable of forming a sound judgment especially concerning the handling of their own people, and they have, without exception, expressed their entire satisfaction and have acknowledged with deep gratitude the benefits of this reformative work which has so greatly uplifted their people. Not one word of complaint, dissatisfaction or opposition has been received from these men; on the contrary, they have throughout given Mr. Wellcome their ardent support and practical assistance.

The greatest triumph of all, perhaps, in this remarkable record of reformation, has been the winning of the greater number of these natives - a few years ago no better than a herd of brute-beasts - from a state of

absolute indolence and almost continual drunkenness, to one of industry, thrift, and complete abstention from the use of intoxicating liquors - a triumph which I believe no other man in the Sudan has as yet succeeded in accomplishing.

It is astonishing to contemplate the fact that more than 90% of the 3000 men and boys employed this year (1914) have been led to swear upon their sacred Bible, the Koran, the most solemn Moslem oath to rigorously refrain for life from tasting intoxicating drinks of any kind, and that but a very small percentage among them have broken that pledge. Assuredly if Mr. Wellcome had done nothing else to merit the commendation of his fellow-creatures, here is recorded an accomplishment which, alone, proves his worth as a civilising and humanising instrument among our neglected black brethren.

For article on Mr. Wellcome's archaeological researches see pp.

C O P Y.

Khartum,

March 19, 1914.

Dear Mr. Currie,

In reply to your note of March 17th, requesting my opinion of the scope and value of Mr. Wellcome's archaeological work, I am very glad of an opportunity to record my present conclusions. For I am afraid I have been guilty of underestimating the importance of his results. Of course, I have never underestimated the importance of the problem which he has set for himself. That problem is nothing less than the unravelling of the history of the Gezireh, the delineation of the life from the neolithic period down, with all the accompanying questions of foreign occupation and mixture of races. Any material evidence on this problem means a distinct addition to human knowledge, of importance not merely to those interested in the Sudan but to all archaeologists and anthropologists.

Now I am in a position to say that Mr. Wellcome has secured an abundance of dated evidence on this problem. I have just spent fourteen days at Gebel Moya directing the excavations personally, examining the records and the objects found. I speak therefore with first hand knowledge of all the facts. My work there shows that Mr. Wellcome's excavations have yielded a clear idea of the physical character of the people, their dwellings, their crafts, their daily life and their burial customs during a period extending from about 800 B.C. into the past.

When the Gebel Moya basin was last inhabited, the village (built mainly of tukls plastered with mud inside) was on the west side and the cemetery was on the east side. In the rubbish accumulated on the floor of the village and in the graves of this last cemetery, Mr. Wellcome has found a series of small objects of Egyptian origin. These objects are to be dated to 900 B.C. ±100 years. Some of them bear the names of Ethiopic kings of Egypt of the 22nd dynasty. Most of the others have been examined by Professor Petrie, Professor Newberry and myself independently, each ignorant of the others' conclusion, and all of us agreed in assigning them to the same period.

Now the floors and the cemetery of this latest village cover and seal the whole site so that all the villages and all the cemeteries below must be more ancient than the village of the 22nd dynasty. Nowhere else in the whole of Africa has any negro site of this antiquity been discovered.

As for Mr. Wellcome's future work, it must first of all be said that he is at present the only person who has the interest and can afford to carry out such researches so barren in finds of intrinsic value. From an historical standpoint, it is extremely desirable that he should finish Gebel Moya in order to complete his present material and, if possible, to secure some evidence of the antiquity of the earliest villages on that site. It is also important that he should excavate other sites in order (1) to extend the geographical application of the Gebel Moya results (2) to recover the period after 800 B.C. It is not beyond the range of possibility that he might discover remains earlier than the first village of Gebel Moya. Mr. Wellcome's work at Abu Geili is a good illustration of what may be hoped for. My

examination of the pottery from the lowest stratum at Abu Geili showed that some of it was identical in form, in material and in technique with the latest pottery at Gebel Moya. It is clear that the earliest period at Abu Geili is nearly contemporaneous with the latest period at Gebel Moya.

There are many details of great interest:-

1. the wonderful stratified character of the site, with three meters of debris built up by the perishing of tukl villages;
2. the varying technique of the pottery in the different strata;
3. the corpus of negro art formed by the patterns on the decorated pots;
4. the range of domestic and other animals shown by the broken bones from the cooking pots;
5. the forms of lip studs and the consequent removal of the incisor teeth;
6. the curious mixture of races shown by the skeletons in the earliest graves; and
7. the gall, kidney and bladder stones found with skeletons and the healed fractures of bones;

but I feel that I have perhaps already said more than I ought even in strict confidence.

Believe me,

Yours sincerely,

(Signed) GEORGE A. REISNER.