ESSEX EGYPTOLOGY GROUP

Newsletter 105 December 2016 / January 2017

DATES FOR YOUR DIARY

4th December	**From here to eternity – walking from Deir el-Medina to the Valley of the Kings: Stephen Cross**
8th January	**Christmas Lunch**
5th February	**Jewellery: Carol Andrews**
5th March	**New texts from ancient Egypt: revisiting the Egyptian alabaster quarries at Hatnub: Dr Roland Enmarch**
2nd April	**Mighty in Waking and Great in Sleeping: the history of beds in ancient Egypt: Manon Y Schutz**

In December we welcome Stephen Cross; Stephen is a member of the Egypt Exploration Society, the Geologist's Association (UK), The Merseyside Archaeology Society and the Liverpool Geologists Society. He writes and lectures on Ancient Egypt specialising in the Valley of the Kings and the village of Deir el-Medina. He has been filmed for several TV documentaries. He was an advisor to the Supreme Council of Antiquities excavations in the Valley for the 2007/8/9 year seasons. In this talk he will be taking us on a walk over the Theban Mountain from the village of Deir el-Medina to the Valley of the Kings, and all that you can see and find on the way; tombs, fossils, lithics, seats, staircases etc.

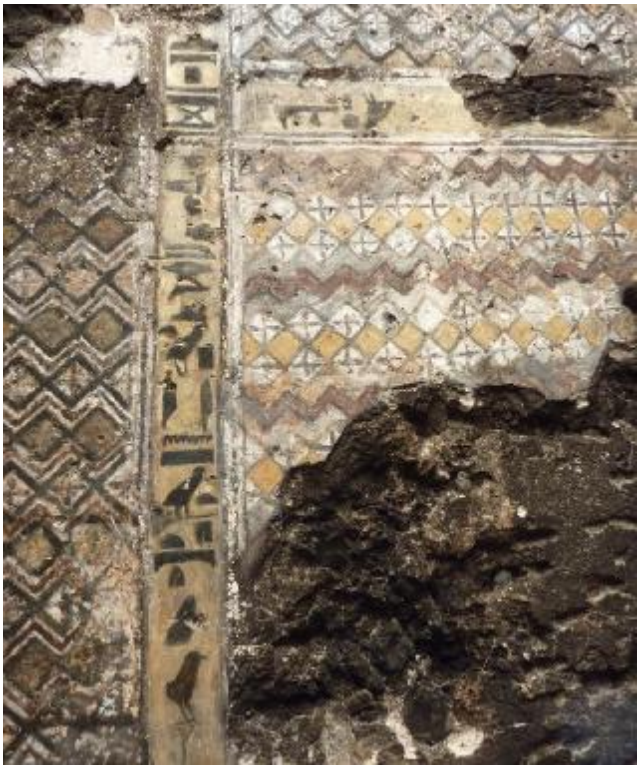
ANN CLARK R.I.P.

It is with deep sadness we tell you of the sudden death, in September, of Ann Clark. Ann, together with her husband Len, was a member of the group for some years regularly attending meetings and enjoying our post-Christmas lunch. Our condolences go to Len, their family and friends.

Chairman's Corner: Osirisnet

There are a large number of online resources available to the Egyptologist and enthusiast. One of the most interesting, and continually expanding is 'Osirisnet' http://www.osirisnet.net/. The aim of the Osirisnet project is to provide an ongoing record of the decoration of as many Egyptian tombs as possible. It is intended as a web-based pictorial counterpart to the famous *Topographical Bibliography* of Bertha Porter and Rosalind Moss (which is also available online in a searchable form at http://topbib.griffith.ox.ac.uk//index.html); an easily accessible colour extension of the typically expensive and largely black and white tomb publications that line Egyptological library shelves. It also provides a place where photos of poorly preserved tomb

decoration (such as the photos accompanying this column) can be published, even though their damaged state means they almost certainly wouldn't feature in any published excavation report or epigraphic volume.



Smoke damaged ceiling of an unnumbered Theban Tomb from Dra Abu el-Naga, exposed after the SCA demolition of modern housing on the site (Author photograph).

Osirisnet has something for everyone, whether you're planning a holiday and want to decide which monuments to visit, are back from a holiday and want to explore some places you weren't able to get to, or are undertaking some personal research into Egyptian tombs and tomb decoration. If you're really enthusiastic there's an email newsletter to get the latest information on accessing Egyptian tombs online and in person. What's more, if you have a lot a photographs of Egyptian tombs, particularly ones where photography is no longer permitted, then please consider providing them to the Osirisnet site and enabling others to enjoy and research these tombs. You can contact the webmaster by email from http://www.osirisnet.net/e_why.htm.

Happy digital exploring.
Hannah Pethen

In addition to photographs of each tomb, Osirisnet provides a thorough description of the tomb's decoration, a description of its underground parts (including burial chambers, passages and associated features), tomb plans, the history of the tomb and its excavation, commentary on significant or important features, links relevant to each tomb and a thorough bibliography. For some tombs you can also take a 3D tour. A vast number of tombs are available on the website, from tombs in the Valley of the Kings to the tombs of those who built them, and geographically from the Old Kingdom tombs at Giza to those at Aswan.

Osirisnet also covers monuments and sites, including both famous and largely forgotten places. There's a section of articles and exhibitions, and a useful section on Egyptian gods and religion. It's a fascinating site to visit, and is regularly updated with additional tombs. As it that weren't enough the Osirisnet 'ringmaster' curates a page of Egyptological links, that are guaranteed to be of good quality and free of UFOs, aliens and lizard people.

Damaged but beautiful barrel-vaulted ceiling of the chapel inside the mud-brick pyramid of TT35 at Dra Abu el-Naga (Author photograph).

MANCHESTER VISIT

16 members trekked north to Manchester for a visit to the Manchester University Museum, Dr Campbell Price, the curator, gave an overview of the Egyptian Galleries before the Museum opened to the public and we then divided into two groups; one to continue with the Galleries and the other to be taken into the (very) small stores (then vice-versa). Those present raised £160 which was donated to Dr Price, who has used it to buy books for the Egyptian Department's Library. A wonderful visit; thanks to Tilly Burton for organising it with Dr Price.

Pyramid Evolution and Construction in Ancient Egypt
Stuart Baldwin September 2016

The talk at the September meeting was given by one of our members - Stuart Baldwin. He's interested in the development of the Egyptian pyramids over time, and in how the Egyptians managed to build such monumental structures with such early technology. His talk presented what he's learnt about the subject, as well as several entertaining asides.

Baldwin started by giving us a bit of an overview of Egypt from a geological perspective - the country sits on the north-eastern corner of the African plate, near the boundaries with the Indo-Australian plate and the Eurasian plate. The northern part of Egypt around Cairo is blessed with many of the rocks and other things that the Egyptians used. To the west of the Nile near Giza are deposits of limestone, natron and gypsum. Out to the east, near the Red Sea coast, are deposits of copper. Of course granite is not nearby, and needed to be quarried and transported from the south of the country near Aswan. As well as this the Nile river brings fertility to the region, before the Aswan dams were built each flood brought 400 million tons of water through Egypt which spread across the land depositing mud and creating fertile soil.

The Egyptians are famous for being dead, and for taking their stuff with them when they died. One of their key beliefs is that the Ka, the life force or personality of the person, needed the person's body to survive and needed to be fed with offerings of food and drink. In the pre-dynastic era people were at first buried in the sand where they were naturally mummified. But bodies buried like this were easily disturbed by animals and so tombs got deeper, and eventually were even built into the bedrock under the sand. Pharaohs and nobles had structures built above their tombs which we call mastabas as they look like a sort of bench called a mastaba. These were built in cemeteries at both Abydos and Saqqara, and often a Pharaoh had a tomb in each place (one of which was symbolic). Mastabas are generally built out of mudbricks - which are quite large, Baldwin showed us a mockup of a brick which was much larger than a modern house brick, perhaps about the size of a breeze block.

True pyramids evolved from mastaba tombs. Baldwin explained that the pyramid shape was symbolic to the ancient Egyptians. The primeval mound that rose from the waters in one of the Egyptians' creation myths was shaped like a pyramid, and was called the benben. This name was also later given to the pyramid shape at the top of obelisks, and to the capstone (pyramidion) of pyramids. The benben stones were also thought to be shaped like the rays of the sun. It's important to remember that the tombs of these Pharaohs weren't just places to put their bodies, they were also statements of power and full of symbolism.

The Pharaoh Djoser took the first step in the evolution of the pyramid around 2630 BCE. His tomb is the Step Pyramid at Saqqara, which is effectively 6 mastabas placed one on top of the

other. This was the first massive stone monument in the world. As well as a burial chamber in the rock underneath there are also 3 miles of tunnels and 400 rooms. The stone blocks used were much bigger than mud bricks, Baldwin had brought in a mockup of one to show us the size and it looked to be about as big as a small person. The pyramid didn't stand alone in the desert, as with all later pyramids it was part of a large complex including several temples - the outer perimeter was 1 mile in length. Baldwin next took a slight detour to tell us about the architect of this pyramid complex: Imhotep. Later in Ancient Egyptian history Imhotep would be deified. His skills were many and varied, he wasn't just an architect he was also regarded as the founder of medicine, Baldwin referred to him as the Leonardo da Vinci of the Ancient Egyptian world. It wasn't just posthumously that he was respected - during his lifetime he held many titles, including the splendid sounding "Supervisor of Everything in the Entire Land".

Sneferu was the greatest pyramid builder - he built three different pyramids during his lifetime. The first of these was at Meidum, and it collapsed. The next one is the Bent Pyramid at Dahshur, which changes angle part way up. The third and final one was the first true pyramid, the Red Pyramid (also at Dahshur). The one at Meidum was actually started by Sneferu's father, and the original design was a step pyramid with an above ground burial chamber and a corbelled roof. The change of angle in the Bent Pyramid has attracted many theories over the years - had the pyramid at Meidum already collapsed so they were worried about the Bent Pyramid? Was the king ill so they finished it off briskly (then he recovered)? Or was it planned all along? Baldwin explained that there's evidence that the last of these is actually the case. Partly for architectural reasons (it redistributed the forces to make the pyramid more stable) and partly for symbolic reasons - the shape is that of a benben stone sitting on top of the primeval mound. The Red Pyramid was built at the same angle as the upper part of the Bent Pyramid and its burial chambers and antechambers are all above ground. If you compare the three pyramids the building techniques change over time. The blocks get larger and more regular. They are also placed in a different orientation, the later one is stronger. And the burial chambers rise within the pyramid as well.

After Sneferu, came his son Khufu, who built the Great Pyramid at Giza. This is the largest monument of its kind ever built, it's also the most measured and surveyed building on the planet. The entrance we use today was made in the 9th Century CE. The inner core of the pyramid is made of rough cut blocks, and the outer core uses bigger more regular stones. And the outermost layer is a casing of Tura limestone which is very white, and Baldwin also pointed out that you find a lot of Foraminifera fossils in this limestone (and thus all over the Giza plateau). The Great Pyramid has several chambers - the first built was an underground chamber that was never used. Nothing was found in any of the chambers except the large granite sarcophagus. Baldwin estimated that with the tools and techniques available it would have taken 2 men 5 years to make it. There are no antechambers (where the burial goods were stored) that have been discovered – a French architect, Houdin, has proposed that they are joined to the main burial chamber with a connecting tunnel sealed with a block that doesn't fit quite as well as all the others in the chamber. However there's no concrete evidence for them.

After our break for coffee and cake Baldwin discussed what's known (or not known) about how the Great Pyramid was built. One important point is that the workers were not slaves, in fact they were the general population and probably the best workers from the villages. They were divided into teams, which were then grouped together into larger units and so on up the organisation chart. From our perspective they didn't really have much in the way of tools, which makes it all the more incredible that they managed to construct such a large and precisely built monument. They had set squares and a knowledge of geometry that let them measure out the angles and straight surfaces correctly. They also knew how to find true north using the rising and setting of stars, which let them orient the pyramid. Much of the stone was quarried near the pyramids - this was the limestone that was used. The granite came from further afield, from quarries at Aswan, and was cut into blocks using only copper tools and the extra friction that you can generate using sand in conjunction with these tools. This is particularly impressive as copper is not very hard - Baldwin explained it is a 3.75 on the hardness scale where talc is at 1 and diamond is at 10.

The big granite blocks from Aswan were moved by boat during the flood season only. These (and the other blocks) were also moved on wooden sledges for the land portion of the journey, using oil and water on the sand to make them move more easily. Getting them to the site was the easy bit, relatively speaking, getting them up to the right place on the pyramid was a lot more difficult. There are many theories as to how that was done, but none have incontrovertible evidence to support them. Ramps must have been an important part of the solution, however. Baldwin spent some time describing one theory in particular, that of Brier and Houdin (the same Houdin mentioned earlier). They have proposed that the limestone casing of the pyramid came first, and the blocks were raised using a spiral pattern of internal ramps. They have some data in the form of microgravity studies of the Great Pyramid that showed appropriate anomalies, but nothing completely definitive. Even with ramps actually moving the blocks would be difficult. Wooden "rockers" have been discovered, and Baldwin speculates that they were not just used to rock the blocks back and forth up the ramps but instead bound on all four sides of the block to form a sort of wheel which would be easier to manoeuvre.

This was a very entertaining overview of the pyramids of Ancient Egypt - my write-up doesn't do the talk justice, because I've skipped over the many humorous moments that Baldwin inserted into his presentation.

Margaret Patterson

Textiles and Laundry
Rosalind Janssen October 2016

Rosalind was as pleased to be back in Essex as we were to see her again. She remembered with fondness our recreation of the Ancient Egyptian market and, commenting that the EEG was noted for its enthusiasm for practical learning, mapped out a session which would increase our skills at linen pleating, recognising textiles in an excavation and evaluating the ancient Egyptian laundry service.

A quick review of the garments held in various museums established some basic facts. We have a lot of garments from the First Intermediate period to the Middle Kingdom which show horizontal pleating. The Tarkhan dress in the Petrie museum is even older and recent carbon dating places it in pre-dynastic times. The abundance of textiles found in tombs (for example, there were 500 garments in Tutankhamun's tomb) meant they were often ignored by nineteenth century archaeologists such as Petrie which has proved to be beneficial since conservation techniques have only recently become equal to the task of looking after them. Linen production was highly sophisticated and five grades of linen were available ranging from the finest royal linen through to much rougher fabric which would be more robust for labourers. Linen was re-used as mummy wrappings but garments were also included in tombs for use in the after-life. Rosalind discovered that many of these garments were placed in the tomb inside out, perhaps in recognition of death being the opposite of life. 'Fake' garments have also been discovered in tombs: just the front of the garment or part of it was included.

Paintings and descriptions of Egyptian laundries give us a lot of information. Paintings from the Middle Kingdom tomb of Khnumhotep at Beni Hassan show men by the river (and it was only men who did the washing in ancient Egypt) beating clothes with mallets, wringing out the water by twisting the cloth round a stick, laying out the cloth to dry and bleach and then bundling up the clean linen ready to be returned to its owners. Laundry was a professional service rather than a home based activity. Later New Kingdom pictures show the washing being done in cauldrons with the suggestion that the water was being heated. The cleaning agent was probably natron which would have got rid of the dirt and had a bleaching effect. Written sources show different attitudes to the work: the Satire of the Trades describes it as dirty and demeaning while a later ostracon has erotic overtones as it praises the way laundry work allows a man to fondle his beloved's garments.

Rosalind explored the hints given by 'laundry lists' about the way the laundry was organised. Written lists exist which given exact details of dates and the number of items, often adding details about the quality of items. Pictorial 'lists' exist with outlines of garments on ostraca containing dots to indicate how many of each item had been sent to the laundry. Such detail suggests the care with which the laundry system was organised and the degree of 'bureaucracy' needed to ensure everyone got the right garments back. These outlines also confirm details about the clothing: sleeves were separate from the body of shirts and dresses and had to be sewn on for colder weather while some loin cloths were cut on the bias and had seams which made the fit much more comfortable. Some linen shows evidence of laundry marks.

After this outline we moved onto the practical session using ridged pleating boards to pleat linen. Rosalind had copies of different boards and we experimented. Using the boards proved difficult and most groups resorted to pleating the dampened linen by hand and then putting it under a weight while it dried. This led to a discussion of whether the boards, which had been identified as pleating boards in the nineteenth century, were in fact used for pleating. There were plenty of inventive ideas about what they could be if they were not pleating boards: model gangplanks from model boats? Ways of measuring whether pleating done by hand was accurate? Musical instruments?

The meeting finished with slides showing the kind of linen which was often found during excavations: piles of torn scraps. However these scraps can yield much information such as detailed inscriptions – and the odd toe bone!

Alison Woollard

Pronunciation of ancient Egyptian names

The major difficulty with the pronunciation of ancient Egyptian names is that we have to depend largely on guesswork. This issue exists because the hieroglyphic writing system (and the same applies to the two forms of writing derived from it, Hieratic and Demotic) is exclusively consonantal. It means the hieroglyphic signs have only a consonantal and no vowel value.

The word "God" for instance is transliterated from hieroglyphs as Nṯr/Ntr, without vowels. Given the lack of vowels and diacritical marks, Egyptologists have established certain conventional rules that allow hieroglyphic transliterations to be read by inserting an "e" between the consonants.

If rendered the way they appear, many of the now-familiar names of pharaohs, nobles and commoners would sound alien, if not plain bizarre, to our ears. Our knowledge of archaic Egyptian names relies on Greek texts and contemporary ancient near eastern languages. Sifting through all of these factors has made the process complex.

Egyptological researcher Leslie D. Black, who has been interested in the ancient culture for over four decades, explains: "The order in which the hieroglyphs are written inside cartouches lead to variations; meaning, it is generally the same, but people read them in different ways. For instance, the solar disc hieroglyph is transliterated as r' and is usually written at the top, but pronounced last. Further, it can either be 're' or 'ra' depending on one's choice of vowel. The pharaoh's pre-nomen would have been used by visiting foreign dignitaries. A classic example being User-maat-re for Ramesses II, while Ozymandias is the Greek corruption of the name. Additionally, various Egyptologists insert different vowels to help them understand the text better."

The translation process requires two steps—from hieroglyphs into Egyptian, and then from Egyptian to something we can pronounce. So glyphs = wsr-m3't-r' = user-maat-re (inserted vowels) into English (The Justice of Re is Strong). "We have some clues as to pronunciation (which vowels to insert) from certain Coptic texts that are still in use. However, one is not sure

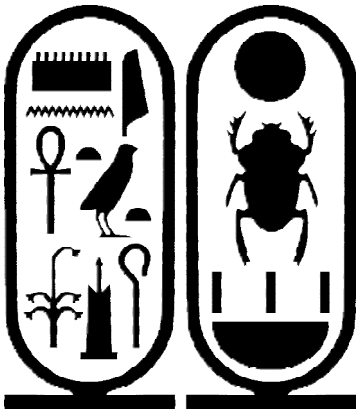
that it is very comprehensive though. The process therefore remains guess work," Leslie explains.

Moreover, the Egyptians were somewhat accustomed to an "r" being an "l"— as that is what normally happened to an /r/ [the usual one] in the accent of the Fayyum. In the north of Egypt, the "kh" was vocalized as "sh". That's why a man of the Delta could barely understand someone who lived as far south as Elephantine.

One of the most popular names from ancient Egypt is highly interesting. 'Nefer Neferu Aten, Nefertiti' – "Beautiful is the Beauty of Aten, the Beautiful Woman has Come".
The Amarna queen's name contains many of the elements of the hieroglyphic system:

- **Phonetic signs that are pronounced: Uniliterals (one consonant) – 'i','t','n' and 'y', Biliterals (two consonants): 'ii' and 'ti', and Triliterals (three consonants): 'nfr'.**
- **The letter 'e' is often slotted in between the consonants to make them easier to pronounce, so 'nfr' becomes 'nefer'.**
- **Determinatives: signs that provide meaning but aren't sounded.**
- **Female ending: adding a 't' means 'nefer' ('beautiful') becomes 'nefert' ('beautiful woman')**
- **Plurals: three 'nefer' signs together become the plural 'neferu'**
- **Honorific Transposition, where a sign representing a god or king is placed out of natural order out of reverence. Here the glyphs for 'Aten' are placed first, even though they are grammatically last in the first group of signs.**
- **Graphic Transposition, where signs are placed out of order for a 'tidier' look. Here the two strokes representing 'ii' should be placed after the other sign for 'ii' (the reed with legs) to reinforce its sound, however it has been placed first for a more compact fit.**

We know that Zaphnath-Paaneah is the name stated in the Bible (Genesis, 41:45) as the one given by Pharaoh to Joseph. Though it seems to be an Egyptian name, its etymology is in doubt. Anyway, if Hatshepsut was actually Hatasu - you would never imagine the (supposed) actual pronunciation of the most famous name of them all - Tutankhamun.



Gerhard Fecht, the German vocalisation expert in the ancient Egyptian language believed that Tutankhamun's name was probably pronounced Twaati-anna-khamana.

Twaati-anna-khamana Hekaiunushema (Living Image of Amun, ruler of Upper Heliopolis) of the golden mask fame.

Does that dull the aura surrounding the boy-king? I suppose the Bard would strongly disagree!

[Anand Balaji is an independent researcher from Bangalore, India. He holds degrees in World History and Journalism; and is especially interested in Egypt's Amarna era.]

Thanks go to Margaret Patterson, Alison Woollard and Anand Balaji

The Committee wish everyone a

The Essex Egyptology Group Committee

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