

CyberScribe 176 – April 2010

We have been treated to a large number of items on ancient Egypt these month, some of the controversial, some of them pleasant surprises, and of course, some of them a little goofy. Let's start out with controversy.

As might have been expected, quite a number of sources have come forward almost immediately after Zahi Hawass announced his lab's recent DNA work on the royal families of the 18th and 19th Dynasties. Reported last month in this column, the Egyptian's have claimed to have identified a number of important individuals, plus realigned the genealogies of these kings.

Those coming forward are either claiming that the data are incorrect, or that the results have been misinterpreted. In fairness, the CyberScribe gave Hawass and his team broad coverage last month, so this month it seems only proper to offer one of the more sound challenges to their claims.

Here is a scholarly, but readable, alternative view (shortened for space reasons). Written by Kate Phizackerley (<http://tiny.cc/qgby9>) in her site "News from the Valley of the Kings". (NOTE: This long paper has much detail. Those seriously interested should consult the full text. Only the main points and conclusions are offered here.)

"The paper Ancestry and Pathology in King Tutankhamun's Family by Hawass et al. (Journal of American Medicine, 2010 - JAMA. 2010;303(7):638-647), states that the mummy in KV55 is "probably" Akhenaten – hereafter "the JAMA paper". I believe, however, that the correct focus of dissent to the attribution should be the STR analysis which shows that the KV55 mummy is highly unlikely to be Akhenaten and that an alternative family tree is a better fit to the genetic findings of the Hawass study.

"In the JAMA paper, Hawass et al. outline what they see as the most likely 5-generational family tree including the identification of the KV55 mummy and KV35YL as full siblings. I accept the family tree with the exception of the sibling identification which I believe should be questioned and the identification of Akhenaten.

"History records only a single wife for Tutankhamun – Ankhesenamun – whose image and name is prominent on a number of items found in KV62, Tutankhamun's tomb in the Valley of the Kings. It is tempting to indentify the two fetuses from that tomb as Ankhesenamun's daughters. History is clear that Ankhesenamun was the [third] daughter of Akhenaten and Nefertiti. If the KV55 mummy is Akhenaten then as well as being the

paternal grandfather of the fetuses (via Tutankhamun), then he must also be the maternal grandfather (via Ankhesenamun). However, this contradicts the genetic data.

“Since one of each pair of alleles is inherited from the father and one from the mother, her father (Akhenaten) must have presented either 6 or 13. The KV55 mummy presents neither of these and is instead the diploid 15,15. The KV55 mummy cannot be the maternal grandfather of these mummies, i.e. it cannot be Akhenaten if Ankhesenamun is the mother of the fetuses.

“In Table 1 below I have repeated the STR findings for 6 loci reported in the JAMA paper: D13S317, D7S820, D2S1338, D21S11, D16S539 and D18S51. I have omitted the final two loci tested as the findings are materially incomplete in the latest generations so they add little to this discourse. I have added my deduced assessment of the genetics of Akhenaten and Nefertiti (both mummies unknown) as I will explain later.

	D13S317	D7S820	D2S1338	D21S11	D16S539	D18S51
Thuya (KV46)	9,12	10,13	19,26	26,35	11,13	8,19
Yuya (KV46)	11,13	6,15	22,27	29,34	6,10	12,22
Tiye (KV35EL)	11,12	10,15	22,26	26,29	6,11	19,22
Amenhotep III (KV35)	10,16	6,15	16,27	25,34	8,13	16,22
Akhenaten (N/K)	12,16	6, {10,15}	16,26	25, {26,29}	8,11	16, {19,22}
Nefertiti (N/K)	10, {9,11, 12,13}	13, {6,10}	17,26	29,35	11,13	10,19
Smenkhare? (KV55)	10,12	15,15	16,26	29,34	11,13	16,19
Younger Lady (KV35YL)	10,12	6,10	16,26	25,29	8,11	16,19
Tutankhamun (KV62)	10,12	10,15	16,26	29,34	8,13	19,19
Ankhesenamun? (KV21A)	10,16	-	,26	,35	8,	10
? (KV21B)	10	-	17,26	-	11,13	-
Foetus 1 (KV62)	12,16	10,13	16,	29,	8,	,19
Foetus 2 (KV62)	10,	6,15	,26	29,35	8,13	10,19

Table 1 – Extended STR analysis interpolated to add Akhenaten and Nefertiti

XX alleles demonstrating KV55 mummy cannot be maternal grandfather of foetuses

XX alleles which have "jumped" generations in the Hawass theory

{ } set of possible alleles deduced

Source: [News from the Valley of the Kings](#), © Kate Phizackerley, 2009

“For now, I would draw your attention again to the 13-characteristic in the D7S820 locus. This is present in the 1st generation (Thuya) and the 5th

generation (Fetus 1). I have examined a number of papers to assess the frequency of the 13-allele: The possibility that the 13-allele has re-appeared spontaneously in the 5th generation (actually in the 4th generation as the mother [Ankhesenamun] must also have presented this allele) is therefore of the order of 1.3% - 2%.

“In combination, the chance of both alleles being reintroduced from the general population is therefore of the order of 0.02%. Given the consanguinity of the royal family, it would be inappropriate to regard this as precise; however, it does give some sense that the re-introduction of both alleles from outside the royal family is extremely unlikely. (The incidence of these alleles within the ancient Egyptian nobility is unknown.) Put another way, there is a very high probability (about 99.98% ignoring the effects of consanguinity and the difficulty of relying on modern population statistics) of a secondary ancestral line from Thuya to the KV21A mummy.

“It is worth recapping at this point that if Ankhesenamun cannot be the mother of the LV62 fetuses if KV55 is her father. However, in order to resolve the secondary royal lineage we find ourselves drawing on historical evidence of Nefertiti and her daughters in explanation. The genetic evidence also favors a son of Amenhotep III as the fetuses' maternal grandfather. Taken together, the two lines of evidence make it exceedingly difficult to continue to attribute KV55 as Akhenaten as it directly contradicts the DNA evidence.

Reconstructing the Amarnan Family Tree

We are therefore faced with 3 features not explained by the Hawass family tree:

- * KV55 cannot be Akhenaten if Ankhesenamun (or one of her sisters) is the mother of the two fetuses found in tomb KV62.

- * There is a very strong probability that Thuya is the ancestress of the fetuses (and KV21A) other than via Amenhotep III.

- * There is a strong probability that Amenhotep III is the great-grandfather of the fetuses (and grandfather of KV21A) not via Tutankhamun.

“It should be noted again that we are working with limited data on only 8 alleles, two of which have revealed little information about the fetuses and their mother(s). To some degree any family tree must be tentative; however, I do not believe that the putative family tree presented in the

JAMA paper is a good fit for the findings, and certainly not the best fit. Moreover, I propose that a classic chronology does fit the data and we could envisage a family tree as follows in Figure 1.



Figure 1: Hypothetical Family Tree

“Table 1, above, shows that it is possible to build a family tree with all these constraints and predict the DNA of Akhenaten and Nefertiti. In the JAMA paper, the Younger Lady is shown as a daughter of Amenhotep III and Queen Tiye. Table 1 shows that it is equally possible for her to be a daughter of Akhenaten i.e. a niece of Amenhotep III. The JAMA paper ignored how consanguinity can change the probability of relationships and could wrongly conclude that a particular relationship was proven, when other relationships were possible.

“Conclusions

* Combining the DNA data with known historical facts shows that Akhenaten is probably not the KV55 mummy.

* It is tempting to consider the KV55 mummy (Tutankhamun’s father) alternatively as Smenkhare although this can be no more than conjecture on the basis of the available data.

* There is a very strong probability of a second line of descent from Yuya and Thuya to the KV62 fetuses.

* This secondary line of descent is consistent with the historical Nefertiti.

* There is a strong probability of second line of descent from Amenhotep III to the fetuses not via the KV55 mummy.

* This second line of descent is consistent with the historical Akhenaten.

* It is possible to construct a family tree along these lines which fully fits the STR analysis published in the JAMA paper and which assumes Nefertiti is a granddaughter of Yuya and Thuya.

* It is possible, but not essential, to accommodate the Younger Lady and KV21B mummies in this revised family tree as further daughters of Akhenaten and Nefertiti.

“Although I disagree with one or two detailed findings of the JAMA paper, the true legacy of Dr Hawass and his colleagues shouldn't be seen as the specific conclusions drawn but that they have opened an entirely new window on Egyptology through the assessment of mummy DNA. I have disagreed with one minor aspect of their paper, which in the paper itself rates only a "probably" in the paper itself, and would like to pay testimony to the standard of their work and thank them for a considerable advancement in our knowledge of the late 18th Dynasty.”

Another controversial event taking place in Egypt regards the exposure of the avenues of sphinxes between Luxor and Karnak temple in Luxor. Having recently seen this program in progress, the CyberScribe has mixed feelings. Much good may be happening, but the project has spoiled much of what made Luxor so much fun for tourists. Further, citizens of Luxor have been displaced and abused. Will the project ultimately be a boon or a disaster? Time will tell.

Here, in a 'Times On Line' item (<http://tiny.cc/0dl44>), is a rather good and balanced overview (shorted somewhat):



“Built more than 3,000 years ago, the so-called Avenue of Sphinxes linked two giant temples and was used once a year for a religious procession. It was gradually buried by silt and built over after falling out of use in the 5th century AD. Now it is being uncovered and the first part is expected to open within weeks.

““It is the longest processional avenue in the world,” said Jihane Zaki, a government Egyptologist. Its restoration, he said, would return “dignity and glory” to Luxor, in what was once the ancient city of Thebes. Controversy has surrounded the project, not least because of the speed of the excavation in which bulldozers have cut a 100-yard trench through some of the densely populated districts of Luxor.

“The dispute has drawn in Unesco, which has responsibility for world heritage sites such as the Luxor and Karnak temples at each end of the avenue. It accused Egypt of bulldozing potentially significant ruins in a rush to get the job done. “It is inconceivable that such an enormous expanse of the avenue was thoroughly excavated and recorded in such a short period of time,” Unesco has complained. “Heavy machinery was obviously used, as betrayed by the leveling of the soil and the marks on some of the stone blocks.”

“The work is part of an ambitious reorganization of Luxor that involves turning it, in the words of Samir Farag, the governor, into a “living museum” with “tourist villages”. There has even been talk of a tourist monorail in place by 2030 and critics have attacked what they refer to as a “pharaonic park” that could ruin the atmosphere at the temples of Luxor and Karnak.

“Amenhotep III, who ruled about 3,400 years ago, built the avenue to connect the temples. Sphinxes were carved on either side of the road next to chapels stocked with offerings for the gods. Workers have so far found 650 of the sphinxes.”

In another direction, let's look at the recent discovery of a Queen's burial chamber (<http://tiny.cc/nn66p>).

“A French archaeological team digging at Saqqara has discovered the burial chamber of 6th Dynasty Queen Behenu, wife of either Pepi I or Pepi II. The burial chamber was revealed while the team was cleaning the sand from Behenu's pyramid in the area of el-Shawaf in South Saqqara, west of the pyramid of King Pepi I.



The burial chamber uncovered by the French mission is badly damaged, apart from two inner walls which contain engraved Pyramid Texts. Those texts were widely used in royal tombs – carved on walls as well as sarcophagi - during the 5th and 6th Dynasties (circa 2465-2150BC).



Queen Behenu's sarcophagus and lid are clearly visible. The west wall is destroyed.

“Pyramid Texts are religious texts composed of spells primarily concerned with protecting the king's remains, reanimating his body after death, and helping him ascend to the heavens. The spells delineate all of the ways the king could travel through the afterlife, including ramps, stairs, ladders, and most importantly, flight.

“Dr. Philippe Collombert, who heads the mission, said that further excavation inside the burial chamber led the team to the queen's sarcophagus. He adds that although the sarcophagus is in good condition, it still stays unclear if this queen was the wife of Pepi I or Pepi II: "It is a well-preserved granite sarcophagus engraved with the queen's different titles, but says nothing about the identity of her husband".

“The French mission has been working within the necropolis of Pepi I at Saqqara, where they discovered the 25 meter long pyramid of Behenu and Pyramid Text fragments, since 2007. They have located a total of seven 'queen pyramids' dating to the reigns of Pepi I and Pepi II – rulers of the 6th Dynasty - since the beginning of their project in 1989. The pyramids have been attributed to Queens Inenek, Nubunet, Meretites II, Ankhespepy III, Miha, and a yet unidentified queen.

And another 'missing' pyramid may have been located. Also at Saqqara, a long sought, but elusive site has apparently at last been located...the pyramid of a little known king, Userkare. Otherwise practically unknown, the new find may offer much new information on him and his reign. The report comes from 'Discovery.com' (<http://tiny.cc/7p9y5>)



A photograph taken from the area immediately south of the Unas pyramid, visible in the foreground. Giulio Magli

“Known only from the king lists, Userkare was the second pharaoh of the 6th Dynasty and ruled briefly between Teti and Teti's son Pepi I. He took power after Teti was murdered, perhaps in a conspiracy he himself had maneuvered.

““When Pepi I took control a few years later, Userkare disappeared from history. Finding his tomb might help understand those obscure years. The walls in his burial might also contain intact copies of the Pyramid Texts,” Magli said, referring to the oldest known religious texts in the world that were carved on the walls and sarcophagi of the pyramids at Saqqara during the 5th and 6th Dynasties of the Old Kingdom.

“Magli's hunt for the lost pharaoh evolved around previous studies on the pyramids of the Old Kingdom. Indeed, from the Step Pyramid of Djoser (second king of the 3rd Dynasty) to the now-collapsed pyramid of Unas (the last king of the 5th Dynasty), all these monuments appear to be connected by a pattern of diagonal invisible lines.

“According to this pattern, the pyramid top of Pepi I (third king of the 6th Dynasty) aligned with that of Userkaf (first king of the 5th Dynasty), while the pyramid apex of Merenre (fourth king of the 6th Dynasty) aligned with that of Unas (last king of the 5th Dynasty).

“According to Egyptologist Vassil Dobrev, at the French Institute of Archaeology in Cairo, the suggestion makes sense on the satellite map, but is difficult to see on the field. Dobrev believes Userkare's tomb lie on a different, north-south diagonal in South Saqqara which would chronologically link the 6th Dynasty kings.”

Yet one more rather interesting find popped up recently...the false door of a vizier working under Hatshepsut. A “Yahoo.com” item (<http://tiny.cc/sji1k>) complete with a fine photo, gave the details (shortened a bit here):

“Archaeologists have unearthed a 3,500-year-old door to the afterlife from the tomb of a high-ranking Egyptian official near Karnak temple in Luxor. The nearly six-foot- tall (1.75 meters) slab of pink granite was covered with religious texts.



“The door came from the tomb of User, the chief minister of Queen Hatshepsut, a powerful, long ruling 15th century B.C. queen from the New Kingdom with a famous mortuary temple near Luxor in southern Egypt.

“User held the position of vizier for 20 years, also acquiring the titles of prince and mayor of the city, according to the inscriptions. He may have inherited his position from his father. Viziers in ancient Egypt were powerful officials tasked with the day-to-day running of the kingdom's complex bureaucracy.

“As a testament to his importance, User had his own tomb on the west bank of the Nile in Luxor, where royal kings and queens were also buried. A chapel dedicated to him has also been discovered further south in the hills near Aswan.

“The stone itself was long way from its tomb and had apparently been removed from the grave and then incorporated into the wall of a Roman-era building, more than a thousand years later.”

The CyberScribe admits to a certain bias towards Pharaonic Egypt and has less interest in forces or people outside the region, however a story just appeared that ties the Roman Emperor Octavius with Egypt. ‘Heritage’ (<http://tiny.cc/ftfan>) gives a nice description of the find and the politics that accompanied its creation (shortened here):

“A new translation of a Roman victory stele, erected in April 29 BC, shows Octavian Augustus’s name inscribed in a cartouche– an honor normally reserved for an Egyptian pharaoh. Octavian’s forces defeated Cleopatra and Mark Antony at the Battle of Actium in 31 BC. His forces captured Alexandria soon afterwards and Cleopatra committed suicide in 30 BC, marking the end of Egyptian rule. Historians believe that although Octavian ruled Egypt after the death of Cleopatra, he was never actually crowned as an Egyptian pharaoh.

“The victory stele is written in three languages (like the Rosetta Stone) - Egyptian hieroglyphics, Latin and Greek. It was erected by priests at the Temple of Isis at Philae, which is near the first cataract, the traditional border between Egypt and Nubia. The stele was commissioned by Gaius Cornelius Gallus, a Roman who was appointed to run Egypt as a province by Octavian. It celebrates the end of the Ptolemaic kings and the defeat of the “king of the Ethiopians.”

“It has been known to scholars for about 100 years. However, the hieroglyphic writing is difficult to translate as the symbols are not clear on the stone. Previous work suggested that Gallus’s name had been written in a cartouche.

“Professor Minas-Nerpel said that there should be no mistake – on this victory monument Octavian was certainly given treatment reserved for a pharaoh. “The name of Octavian is written in a cartouche - he’s treated as any other Egyptian king,” she said.

“The translation certainly sounds like it’s for a pharaoh. Here’s a snippet:

Regnal year one, 4th month of the winter season day 20 (16 April 29 BC)
under the majesty the Horus, the perfect child, mighty arm ruler [of rulers]
chosen of Ptah Kaisaros (Octavian) living forever....

“So the question is why was Octavian named as pharaoh in this inscription? Historians don’t believe that he was ever crowned as the Pharaoh of Egypt.

“For 3,000 years there had been an Egyptian pharaoh, they could not simply do away with the position.

““They had to have an acting pharaoh – the only acting pharaoh (possible) under Octavian was Octavian,” she said. “The priests needed to see him as a pharaoh otherwise their understanding of the world would have collapsed.”

“This stele would not be the only time Roman rulers had their names written in a cartouche. Minas-Nerpel said that there are examples of Roman Emperors having their names written in that form as late as the 3rd century AD. She also said there is one other example of Octavian's name being written in a cartouche - a gateway on the island of Kalabsha in Southern Egypt - that also appears to date to on or shortly after 30 BC.

“The new translation of the victory stele shows that Gallus treated Octavian with respect, but that he wasn’t afraid to brag about his own accomplishments. One part of the stele reads that he was: First prefect of Alexandria of Egypt, vanquisher of the Theban insurrection with(in) fifteen days.

“This sort of bragging may have been his undoing in the long run. Minas-Nerpel said that Octavian would not have wanted it advertised that there were rebellions in Egypt that needed to be put down by Gallus.”

One of the great wishes for all sorts of archeologists has been to have the perfect tool for dating objects. The wait is not over yet, but 'Science Daily' (<http://tiny.cc/byz4f>) was one of several sites that offered descriptions of a new tool that allows dates to be determined with nearly no loss of the materials being examined. Radiocarbon dating, the commonest technique used, requires a fair bit of the original materials...and it destroys them in the processing. With unique objects this is simply not permissible, but the new tool makes this a minor consideration. Read on (condensed):

“Scientists have developed a new method to determine the age of ancient mummies, old artwork, and other relics without causing damage to these treasures of global cultural heritage. Reporting at the 239th National Meeting of the American Chemical Society (ACS), they said it could allow scientific analysis of hundreds of artifacts that until now were off limits because museums and private collectors did not want the objects damaged.



The "Venus of Brassempouy," a tiny ivory figurine, is among artifacts that scientists could analyze with a new method for determining the age of an object without damaging it. (Credit: Wikimedia Commons)

"This technique stands to revolutionize radiocarbon dating," said Marvin Rowe, Ph.D., who led the research team. "It expands the possibility for analyzing extensive museum collections that have previously been off limits because of their rarity or intrinsic value and the destructive nature of the current method of radiocarbon dating.

"Rowe explained that the new method is a form of radiocarbon dating. Traditional carbon dating involves removing and burning small samples of the object. Although it sometimes requires taking minute samples of an object, even that damage may be unacceptable for some artifacts. The new method does not involve removing a sample of the object.

“Conventional carbon dating estimates the age of an artifact based on its content of carbon-14 (C-14), a naturally occurring, radioactive form of carbon. Comparing the C-14 levels in the object to levels of C-14 expected in the atmosphere for a particular historic period allows scientists to estimate the age of an artifact. Both the conventional and new carbon dating methods can determine the age of objects as far back as 45,000 to 50,000 years, Rowe said.

“In conventional dating methods, scientists remove a small sample from an object, such as a cloth or bone fragment. Then they treat the sample with a strong acid and a strong base and finally burn the sample in a small glass chamber to produce carbon dioxide gas to analyze its C-14 content.

“In the new method, scientists place an entire artifact in a special chamber with a plasma, an electrically charged gas similar to gases used in big-screen plasma television displays. The gas slowly and gently oxidizes the surface of the object to produce carbon dioxide for C-14 analysis without damaging the surface, he said.

“The scientists are currently refining the technique. Rowe hopes to use it, for instance, to analyze objects such as a small ivory figurine called the "Venus of Brassempouy," thought to be about 25,000 years old and one of the earliest known depictions of a human face. The figurine is small enough to fit into the chamber used for analysis.”

As usual, there are a few odd items to end a monthly column, and this month is no exception. Anyone remember Uri Geller...the fraudulent ‘mystic’ that became famous for ‘psychically’ bending spoons...that is before the investigators gave away all of his secrets? Well, he’s still out there trying to make a dishonest buck.

A site calling itself ‘This is Hull and East Riding’ (<http://tiny.cc/9gsvp>) found Geller up to his old tricks. Its not clear why Geller owns a tiny and uninhabited Scottish island, but one has to presume there is some plan to capitalize on that fact. Read on (condensed somewhat):

“An East Yorkshire adventurer has spent a night on an isolated Scottish island searching for Egyptian treasure with spoon-bending celebrity Uri Geller.

Andy Strangeway, 45, acted as a guide for the Czech illusionist who owns the small islet of Lamb in the Firth of Forth.

“Mr. Geller brandished dowsing rods in a bid to uncover the mystery of the uninhabited Scottish island. He was looking for treasure he believes was hidden by the exiled Egyptian princess Scota, whose boat is said to have anchored at Lamb. Andy helped land Mr. Geller and his brother-in-law Shipi before pitching the tent for a night's stay on Saturday.

“Sadly, no treasure was found on this occasion, although the pair enjoyed the search.

“Andy said: "It was a fantastic night and the weather was excellent. Luckily, the water was flat calm. "I first talked to Uri Geller last February when he bought the island. I'd already stayed on some of the nearby islands and asked permission to sleep on Lamb.

“It was Mr. Geller's first visit to the volcanic outcrop, which he bought last year for £30,000. Mr. Geller said he decided to buy the island after learning that its mysterious heritage dated back to the pharaohs.

“Andy said: "Uri carried out some dowsing in his search for Egyptian artifacts. "It was a great experience and we are already planning to return."

“On his website Mr. Geller reveled in his visit. He said: "Everything about Lamb is mesmerizing and mystical. "Being on Lamb at night was an incredible experience. It's something I will always treasure and I'm sure Andy and Shipi will too."”

The CyberScribe hopes that Geller hasn't spent all of his expected treasure yet. One has to suppose that a wandering, dispossessed Egyptian princess had fairly stiff expenses, and probably spent it all before getting to Geller's island. One can surely understand how a barren, storm-scoured, windy and desolate lava outcrop would have had quite an appeal to an Egyptian princess.

Purchases of scones, haggis and blood pudding must have added up rather quickly, even in those days of old.

That's enough for this Month.