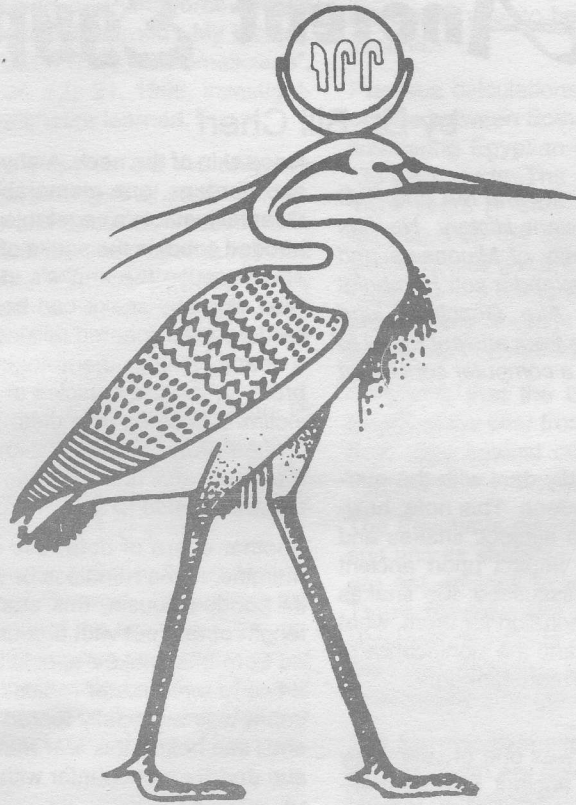


THE OSTRACON



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Snakes and Snake Sticks in Ancient Egypt

by Dr. Bill Cherf

About the Author

Dr. Bill Cherf has a BA from Indiana University and MA and PhD from Loyola University of Chicago in Ancient History. He has taught at regional branches of the University of Minnesota and Michigan. During 1986-1987, he was an Alexander von Humboldt research fellow at the Kommission für Alte Geschichte und Epigraphik in Munich. His publications range from ancient Egypt to Late Roman frontier history. Presently he is a computer consultant for Whittman-Hart.

Introduction

Topics that appear in this publication typically deal with the marvelous, the exceptional, and rarely the mundane. This note, however, shares some musings on a mundane subject: snakes and snake sticks. In order to appreciate their impact upon ancient Egyptian civilization, the following will be discussed: the snakes indigenous to the Nile Valley, the Egyptian solution for them, what role snakes played in the Egyptian afterlife, and the significance of the snake sticks found in the tomb of King Tutankhamen.

Snakes of the Nile Valley

The flourishing ancient Nile Valley ecology was one of seemingly infinite floral and faunal diversity and the ancient Egyptian language reflects this, especially regarding birds. Yet that same tongue differentiated no less than thirty different types of snakes whose habitats encompassed every ecological niche of the Nile Valley. Snakes were present in bushes and trees, in caves and holes, along river banks, in the river itself, in the irrigation canals, the cultivated fields of temples, and private gardens. Snakes were present throughout the surrounding desert margins. In addition, they burrowed into all types of soil - even the soft mud brick of domestic architecture. This last situation led to magical spells for "freeing a house from the poison of any snake, male or female."

Imagine that you are a common Egyptian farmer. In the pre-dawn light you toddle off along a dusty path to a typical day's work in the fields. You are bare foot, naked from the waist up, wearing a light kilt, perhaps a sweat band, and some sort of head covering from the day's high sun. You are carrying a water container, a short agricultural hoeing tool or sickle, and maybe a mid-morning snack. During your day's weeding, repair of the irrigation channels, or harvesting in the hip-deep wheat, you work the day long bent over with your head close to the ground. What sorts of snakes might you encounter literally eye-to-eye? Or, more to the point, which ones *don't* you want to run into?

Cobras

Twenty-two species of cobra are native to the Nile Valley and thirteen are poisonous - three are downright deadly. Perhaps the most revered of this family was the hooded cobra (*Naja haje*). This snake gave rise to the royal uraeus - an enraged hooded cobra, that appears on every Egyptian crown as the totem symbol of Lower Egypt. These snakes, usually a uniform golden brown in color with a black collar and head, can reach eight feet long with a central girth of six inches. The snake's well-known hood is formed by the swinging out of long, movable, anterior ribs that stretch the

loose skin of the neck. A shy but frequent visitor of cultivated fields and gardens, one memorable specimen 'protected' for years the Oriental Institute's vegetable garden in Luxor. As is well known, the hooded cobra is the snake of choice of North African snake charmers, because the snake's strike is relatively slow and avoidable. Also, this shy snake can be made relatively docile through over-feeding and repeated milking of its venom sacks. Cobra venom is a nearly painless, neurotoxin that attacks the nervous system and brain. When the muscles of the diaphragm cease to function, the victim suffocates and dies. All members of the cobra family are termed proteroglyphs, meaning that their venom-delivering fangs are fixed and non-movable. When cobras strike, they bite and chew from side to side in order to envenom their victims.

Another cobra of note, this one native to the Nile Valley's desert margins, is the hoodless or spitting cobra (*Naja nigricollis*). Unlike its hooded cousin, this snake is sandy-colored and grows to a length of ten feet with a central girth of eight inches. Venom ejected from this snake's specially evolved fangs can blind prey within a two to three meter radius. A very aggressive snake, the spitting cobra was especially feared by the ancient Egyptians, and as we shall see below, this fear was memorialized in the mythology of the sun god Re's encounter with the snake demon Apophis.

Vipers

Two members of the viper family are native to the Nile Valley. The sand viper (*Cerastes vipera*) is common to the desert margins and may be the dreaded "mottled-snake" (*s_b.f*) so often mentioned in Egyptian magical texts. But its the horned viper (*Cerastes comutus*) that is perhaps the best known. A sandy yellow snake with brown spots and two distinctive protruberences above its eyes, the horned viper, while relatively small at three feet long, is easy to accidentally step on. Its bite like its desert cousin is drop-dead deadly. The horned viper's image is a familiar one, for it was chosen by the Egyptians to be the glyph for the consonant 'F'. By the by, viper venom is hematoxic and consequently is a tissue destroying agent, in essence disintegrating your body's cells on contact. Once bitten, viper venom produces an excruciating burning pain and inflammation in the area or limb affected. As it passes through the blood stream, the venom's toxin eventually affects the cardiac tissue producing fatal arrhythmia. All members of the viper family are called solenoglyphs, meaning that they have movable front fangs that fold back into the mouth until they are needed. Movable fangs make vipers extremely dangerous, because they can open their mouths almost to a full 180 degrees, extend their fangs, and literally stab their victim with them.

As to which snake Queen Cleopatra VII chose to commit suicide with in 31 B.C., she chose the hooded cobra. Why? First, it was the sacred snake of Lower Egypt. Second, the hooded cobra by Hellenistic times was considered the magical familiar of the sun god, whose bite conferred not only immortality, but also divinity. In essence, Cleopatra chose a royal road to death and the company of gods. And third, her choice of the hooded cobra was dictated by expediency: the snake was a highly poisonous, relatively painless, neurotoxic vector.

The Egyptian Solution

The long-lived Egyptian civilization was an agrarian one. The myriad complexes of temples, palaces, granaries, and administrative buildings could hardly be called 'cities' in the modern sense. Farmer's fields were everywhere and they were the home of several grain-eating fauna: insects, birds, and above all rodents, which are a favorite food of snakes, whether poisonous or not. But how would a farmer know when he ventured hip-deep into his fields? How would he protect himself? He needed a practical tool.

Above all, the ancient Egyptians were a practical people. When faced with the challenge of how to easily and swiftly dispatch a dangerous snake a tool was devised that was as ingenious as it was simple: a five to six foot wooden stick with a forked end. The snake stick was born and it is known in the literature by several names: cbw.t- (var. cbb.t), ci33.t-, wdy-, mcnh.t- (var. mnh.t-), mhhw-, ms.t-, mdw- (var.md) , smc-, shm-, sgmh-, dmy-staves and mtc-lance).

The snake stick worked as follows. The theory was first to pin a dangerous snake to the ground, while holding the stick in your left hand. Then, with your free right hand, you would dispatch the snake with a club, hatchet, or large machete-like, three-foot-long knife that the Egyptians were especially fond of. Simply said. But in actual fact, snake hunting was a practiced skill, an art-form, that required experience, quickness, and excellent right and left hand dexterity. Otherwise, you could find yourself quickly out of a job. Imagine again for a moment: stab and pin the snake down with the left, bend down and quickly chop or hack with the right. That was the technique.

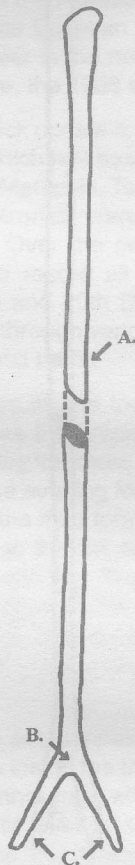


Figure 1. The parts of the Egyptian forked cbw.t-staff: A. Shaft; B. Prong junction; C. Prongs. Scale 1:5

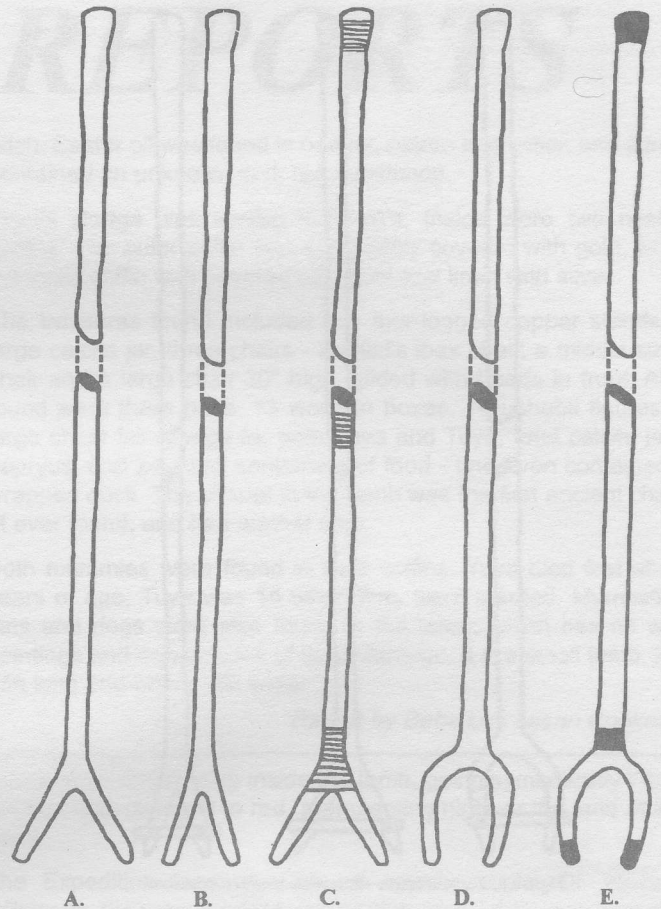


Figure 2. Varieties of the forked snake stick (after G. Jéquier, *Les Frises d'Objects des Sarcophages du Moyen Empire*, 1966). Scale 1:5

Occasionally, however, one does read in the ancient sources about crushing a snake's head with the sole of a foot. This writer suspects that such a play with a writhing, ten-foot, spitting cobra would be rather dicey. Clearly using the sole of one's foot suggests arrogant showmanship, if not outright stupidity.

The earliest evidence for such forked snake sticks date from the Predynastic Period, or about 3000 B.C., and they persist in the archaeological record until the end of the New Kingdom some two thousand years later. As you might expect, over the course of some 2000 years of use, the basic design of the wooden snake stick as illustrated in Figure 1 evolved in three areas: the shaft - letter A, the prong junction - letter B, and the fork itself - letter C. This evolution would revolve around two simple goals: reliability, and then later, destructive power.

Typical reliability issues of the wooden snake stick were stress cracks or fractures that would caused splintering along its shaft (A) and prong junction (B). We know this because of ancient repairs that were made to Middle Kingdom examples which are on display at the Metropolitan Museum in New York. One design response, as illustrated in Figure 2, was first to choose a narrower fork that would inhibit splitting along the prong junction as in Example B. Another strategy is illustrated in Example C, where a leather or cord binding was added to strengthen the shaft and prong junction. In example D, the fork itself was strengthened by warping it through either soaking, heat, or pressure into a U-shape. And finally in example E, metal bands were added to the shaft pommel, prong junction, and fork tips in an effort to prevent both splitting and wear.

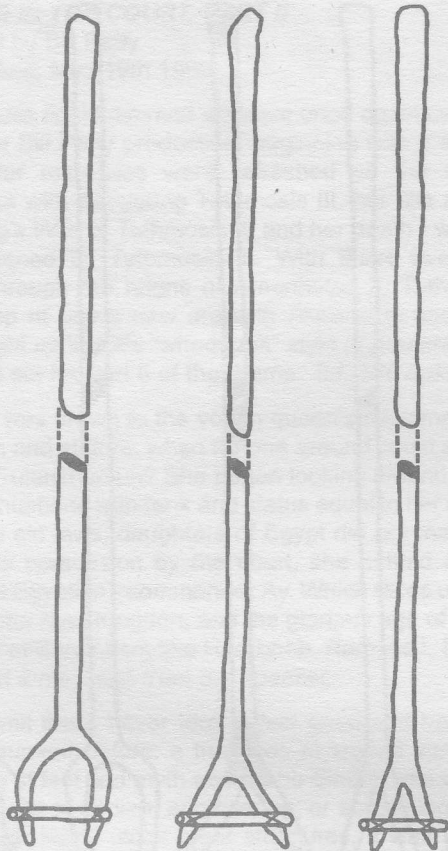


Figure 3. Forked snake stick with wooden crossbar.

Scale 1:5

But what about improving the staff's destructive power? See Figure 3, where crossbars were attached to the fork's prongs, to better pinch or even dislocate a snake's vertebra. If a snake could be so injured, then the tricky coordination of the left hand stab and pin motion with the right hand chop and hack could be eliminated.

As with all things useful, the Egyptian snake stick subsequently underwent a development during the 19th and 20th Dynasties as seen in Figure 4: from a simple wooden implement to a composite tool of wood and metal, and finally to a one-piece bronzet fork that was attached to the end of a wooden shaft much like a spearhead.

In example A, pointed prong tips were added to prevent wear. In example C, a thin bronze sheathing was beaten around and then tacked on to the wooden shaft. But it is example B, where true progress was made, for the crossbar linking the fork's two metallic prongs possessed a sharpened, chisel-like edge. The snake stick had finally become a weapon - literally a snake guillotine.

As best as can be ascertained, the final development of the Egyptian snake stick as a practical, utilitarian tool ended with the development of a cast, one-piece, bronze fork that was then attached to a simple wooden shaft. Once cast in bronze, prong wear and splitting became a thing of the past. In addition, these castings provide the developmental design link of the Egyptian snake stick into a truly magical weapon of the underworld - a device of considerable magical power. In fact, they, along with their associated magical inscriptions, became the ancient Egyptians' primary defense against the many snake demons of the underworld. To the ancient Egyptian, this process is a logical one, for it was reckoned that the journey to the afterlife must be as infested with poisonous snakes as any day among the living. This pervasive fear of snakes - or ophidiophobia, so clearly apparent in the ancient Egyptians' daily life, then, logically, came to permeate his religious beliefs.

Snakes and the Egyptian Afterlife

Snakes have long played a significant role in the religious psyche of the ancient Egyptian. There were good snakes, such as Neb-heb-kau. One presented one's soul to him for judgement. But by the Eighteenth Dynasty and thereafter, snake demons play a steadily increasing role in the Book of the Dead, the Book of Gates, and other late Egyptian, funerary texts. Chief among them is the demon-snake Apophis, who challenged daily the sun god's progress through the underworld. This malignant serpent demon is no less than a forty-cubi long, fire spitting cobra, armored with scales of flint. Apophis is described as: "spitting fiery venom" at the sun god on his passing. As you might have already surmised, Apophis is no less than the mythological, supernatural manifestation of the dreaded spitting cobra. Another example is the numerous depictions of snakes both good and evil, this time depicted in the hieratic texts on the walls of the burial chamber of Thutmose III in the Valley of the Kings. Here, in this slide, good black snakes are shown cavorting, center. Here, in this example, good snakes are shown slithering, right of the doorway. All those snakes considered harmful are depicted with long, machete-like knives, sticking out of their bodies, as they are to the right of the doorway. And let us not forget the many papyrus editions of the Book of the Dead, wherein snake demons of the underworld are depicted having their heads severed by the knife-welding, tabby cat-goddess Mafdet, herself an ally of Re. And so given such serpentine dangers in the underworld, the ancient Egyptians developed elaborate, magically empowered, snake-sticks that were then buried with the deceased, placed strategically within their coffins on the left side, and thus within easy reach.

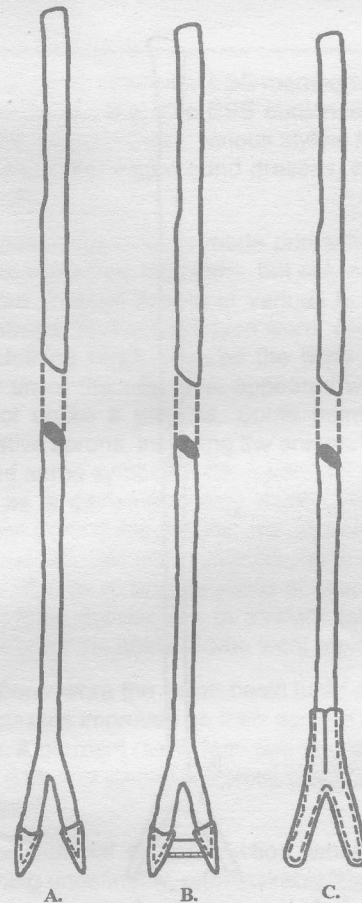


Figure 4. Bronze fittings of the composite forked snake stick (after W.M.F. Petrie, Tanis, Part II. Nebesheh (Am) and Defenneh). Scale 1:5

Such a powerfully magical anti-snake device was the forked bronze butt. Technologically, it is a bronze casting attached to a wooden shaft. Ceremonially, it is an elaborate magical device that protected its owner by seeking out and destroying the snake demons of the underworld. Such magical devices possessed much sympathetic, magical symbolism. For example, in some examples the crossbar is made up of three elements - two horizontal bars decorated with snake skin scaling and between them the squiggle of a writhing, headless snake. In others the fork casting conservatively preserves lashing or binding at the prong junction as a guarantee of magical reliability. In other such castings the head and horns of the protective goddess Hathor appear. On another, the image of the protective sprite Bes - a favorite of parents to protect their young children from the bites of snakes. Under no circumstances could such bronze forked castings be understood as meaningless ornamental spear decorations as Sir Flinders Petrie and Trude Dothan thought they were.

The Snake Sticks of the Tomb of Tutankhamen

Among the dead boy-king's grave goods on open display in the Cairo Museum are many fine wooden staves that have been interpreted by Howard Carter as a royal staff collection. I suspect however that the collection represents much more: memories, trophies, diplomatic gifts to be sure, but practical and magical tools as well for five snake sticks were found in his tomb. It is crucial to note that they were found in two locations: in the king's Antechamber and within the First Golden Shrine of the burial chamber itself. Noteworthy also is that the snake sticks found within the First Golden Shrine were recovered *in situ*, in other words where they were originally placed, whereas those found within the Antechamber may have been disturbed by a premodern break-in into the tomb.

Imagine the clutter of the Antechamber as Howard Carter originally had found it. And as with all of the other funerary paraphernalia found within Tutankhamen's Antechamber (bread, linens, toiletries, weaponry, chariots, etc.), the presence of two snake sticks and a short forked baton imply their practical use during his lifetime. Carter's own field notes record that two snake-sticks were found "against [the] wall to [the] left of [the Antechamber's] entrance: behind chariot wheels 133, 134 & 136. Stacked carelessly together. Original position?" One of these snake sticks even carried the following incised inscription in blue paint (Figure 5): "King of Upper and Lower Egypt, Kheper-neb-Ra, granted life." There can be no question, therefore, as to who used and owned this snake stick. It was Tutankhamen himself.

All the Antechamber's snake sticks exhibit the telltale signs of use and have structural fatigue cracks, splits, and wear. In one example, there is clear evidence of splitting at the prong junction that could have only occurred if this so-called 'walking-stick' had been used with its forked end pressured against the ground.

The location of the short forked baton is not clear and does not appear anywhere in Carter's field notes. Its length, at a mere 1.1 meters, is short for a walking stick, but as a snake baton - much like those used by professional snake-handlers, its presence strongly suggests that its royal owner had acquired a skill at handling snakes at a very close range.

Within the First Golden Shrine, itself only the outer-most of four such shrines that protected the rose granite sarcophagus of the young king, were found behind the left-hand door of the shrine two specially prepared snake sticks were placed bundled and stacked against the inner, left-hand panel.

n-sw-bit
Hpr-nb-R' di 'nh



Carter's field notes record their *in situ* location as: "between [the] outermost and second shrines: standing on [the] left (south) side of [the] doors...tied together with linen strip[s]." These sticks were sturdily hafted, coated with plaster gesso, and entirely gilt in gold foil. Their prong tips are freshly blunt-cut, show little or no wear, and their varied prong tip lengths indicate their functional specializations in either soft or stony soil conditions. These snake sticks, unlike their cousins in the Antechamber, clearly have never seen use. Instead, they were purposely preserved in plaster gesso and gold foil in a conscious effort to prevent wood rot, desiccation, and insect infestation. Once so prepared, they were then placed within the king's burial chamber ready for use in the afterlife. These two golden snake sticks within the First Golden Shrine had a specific magical purpose: to ward off the snake demons of the underworld. But why were they found bound, stacked, and purposefully placed in the shrine's southeastern corner? Because on the shrine's interior left panel, where the golden snake sticks were stacked, was inscribed a powerful anti-snake spell from the Book of the Divine Cow. The spell is quite explicit. The god Thoth, speaking for Tutankhamen, says to the earth god Geb the following:

Take heed of your serpents which are in you. Behold, they fear me in my form, but you know their utility. Go then to the place in which the Father of the Abyss is and tell him he should keep guard over the serpents in the earth and in the water. Write it down as well, and take yourself to every spot where the serpents are, and say:

Beware lest you spoil anything!

Traditional Egyptian magical practice dictated that magical inscriptions should be inscribed on or near the objects that they were meant to empower. Proximity, in other words, was the critical factor. This important symbiotic relationship between magical text and its empowered weaponry is worth noting, for the above anti-snake spell, the only one of its kind in the entire funerary deposit, was associated with these two golden snake sticks.

Some Conclusions

Four observations can be made regarding the impact of snakes and snake sticks on ancient Egypt.

First, given the ecological conditions of the Nile Valley, its ancient inhabitants responded to those challenges in practical and creative ways - only one of which was the invention and gradual technological improvement of the wooden snake stick into its composite wood/metallic variety, and finally, a one-piece, cast bronze fork. Once established as a practical anti-snake tool, the ceremonial forked bronze castings, as identified by Trude Dothan, were employed as magical anti-snake devices used to protect their owners in the underworld.

Second, the next time that you happen across an Egyptian tomb wall scene of an individual with a staff standing knee-deep in a field of grain, while others are harvesting, think twice about the misleading caption that usually reads: "Overseer during harvest." More likely is the fact that the individual with the staff is a snake lookout or the local snake exterminator.

Third, in regards to the staff collection of the young Tutankhamen, it seems to represent far more than just an amateurish collection of walking sticks as Howard Carter had originally supposed. Instead, on the basis of their location within the burial, the former use and clearly intended future function of the king's snake sticks can be precisely outlined. In life, Tutankhamen used, and was found enough of, three forked implements to have them placed in his Antechamber along with his other mementoes of life, which offer at the very least a glimpse of the ecological hazards of everyday Egyptian life. But in death, the young king was armed with two stout snake sticks that were carefully prepared for eternity, and placed within the First Golden Shrine in close proximity to a powerful anti-snake text. As in life, so also in death, the king was expected to use these implements.

Fourth and finally, on the basis of the archaeological and epigraphical evidence, it is highly likely that Tutankhamen was a practiced snake handler. It may very well be that skill in snake handling was a cultivated and necessary pharaonic attribute for cultic reasons, if not a preparation for personal death. After all, the dead king had to defend himself from snake demons in the underworld in order to preserve the balance of the Universe, and to defeat the dark powers of the snake demon Apophis and his familiars. Although snake-handling throughout the Middle East is a commonplace, physical and epigraphic evidence for such a practice by an Egyptian pharaoh has, until now, been a neglected topic.

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Royal Mummies

Before and After

by Marianne Luban

About the Author

Marianne Luban is a life-long student of ancient Egypt who specializes in the royal mummies of the New Kingdom and in Egyptian language. She is also a writer living in Minnesota, whose short fiction collection, "The Samaritan Treasure" is described in "500 Great Books By Women" (Viking/Penguin), and the moderator of an Internet discussion list called "ScribeList", devoted to ancient Egyptian topics.

In their book, *An X-Ray Atlas of the Royal Mummies*, Edward F. Wente and James E. Harris presented a number of hypotheses and viewpoints on the royal mummies of Egypt based upon radiological evidence and computer imaging, taking into consideration cranio-facial morphology and dentition. They dealt with family genealogies, age at death and physical problems, presenting their findings in a remarkably organized and comprehensible fashion. Without a doubt the work of Wente and Harris is the most scientific publication to date addressing the problems that are recognized in the identification of the mummies. These difficulties are summarized in an article by Edward Wente, "Who Was Who Among the Royal Mummies", which appeared in *The Oriental Institute News and Notes*, No. 144, Winter 1995, and is available on the Internet.

My own work with the royal mummies of the 18th and 19th Dynasties cannot be considered a scientific endeavor. I base my conclusions on the evidence of my own eyes (and the perceptions of certain artists of ancient Egypt). I did "computer imaging", but my brain was the computer. Wente and Harris were concerned with how things looked behind the royal faces. I was concerned with the faces themselves, as preserved by the art of mummification as practiced by the ancient embalmers. Yet, ultimately, my observations differed little from Wente, Harris, and the others who contributed to their book. Sometimes things can be revealed to us without the aid of technology, if we just look hard enough.

I believe it is quite safe to say that nothing in Egyptology fascinates us more than the remains of the pharaohs and their ladies. They, like the mummies of Egyptian commoners, are the land of Kemet's noblest and most poignant legacy to us. To all the many questions we have regarding ancient Egypt, these mummies once knew the answers, but now they are forever silent.

Still, many things about the mummies speak eloquently about what types of people they were, what they may have died of and how old they were at death. Nevertheless, the royal mummies certainly have presented more puzzles than provided answers. Some of the mysteries connected with them may possibly be cleared up by doing DNA testing on the royal remains. Apparently samples have been taken for such an analysis, but the results or findings have yet to be disclosed.

I have been enamored of the idea of ancient Egypt most of my life and, when mummies ceased to be objects of horror for me, they became part of my fascination as well. I have been on a first-name-basis with the royal mummies for quite some time but, recently, my interest in them has taken a new form.

It all started when I came across a large photo of the mummy of the "Elder Lady," found in Amenhotep the Second's tomb, in a

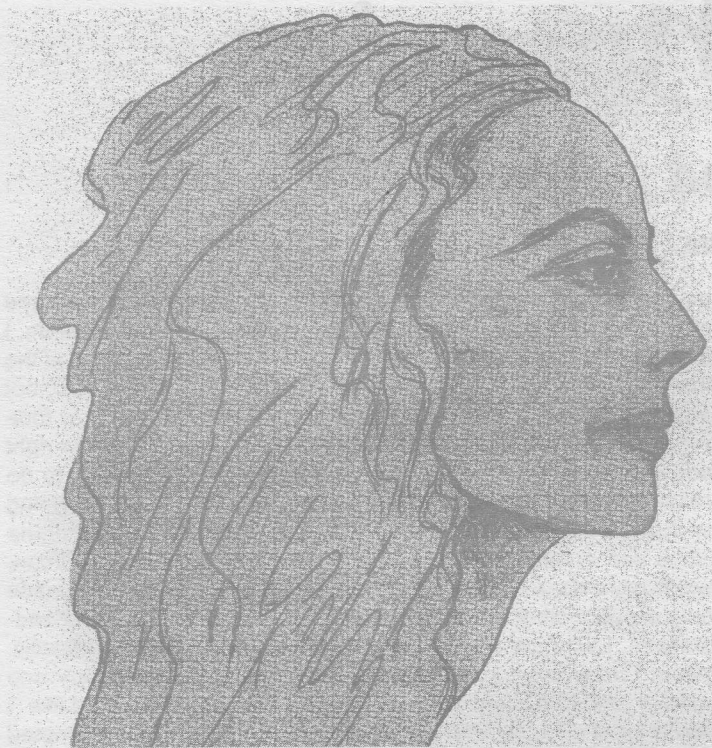
magazine ad. I was struck once again by the delicacy of her bone structure, the aristocratic beauty defying death itself. On a whim, I took a piece of fairly transparent paper and traced the profile of the mummy with the aim of trying some regression. I am a writer, not an artist, and have rarely drawn anything, but the result of my fooling around with the pencil surprised me. It looked somehow right and even vibrant! I began to develop a method by which to do other pharaonic portraits. I freely admit that my artwork is nothing spectacular. It is very different from the lovely little paintings of the kings and queens of Egypt by that fine artist, Winifred Brunton, which were done over fifty years ago. Unlike Brunton, I have made only a perfunctory attempt to render clothing, jewelry, and head-dresses. I was concerned with the living faces of the pharaohs. When I drew a crown or a head-cloth, it was a rudimentary one without embellishment. After all we know what those looked like. I had a lot of difficulty with the uraeus, the cobra, and was tempted to show it like the ancients did, out of perspective!

It is no exaggeration to say that, for about a year, I lived and breathed mummies, studied statues, paintings and reliefs - all with a view to conjuring up, if only in my mind, the living faces of Amenhotep, Thutmose, and Ramses. Sometimes my conclusions agreed with Winifred Brunton, more often they did not. Brunton's Egyptian portraits are beautiful and colorful but, with a few exceptions, they seem to me to express a certain denial that the pharaohs and queens might have appeared any different from the average Briton. Somehow, the ultra-exotic Tutankhamun is seen by Brunton as a rosy-cheeked English choirboy.

I wanted to stick to drawing only the personages of whom we have the mummified remains and well-preserved remains at that, but, in the end, I had to draw a couple of famous queens by the popular demand of my Egyptophile friends. Truly, I wanted to use my imagination as little as possible, but found that even with the best-looking examples of mummification, there is always something gone sadly out of whack. Knowing family traits is helpful in dealing with these inevitable distortions and most helpful are the ancient artists, some of whom did a wonderful job in conveying the individual characteristics of their subjects within the stylistic limitations.

It must be stressed, from the outset, that the current identifications of the royal mummies found in the Deir el Bahari Cache and KV35, the tomb of Amenhotep II, are based upon docketts written by the priests of the 21st Dynasty on their re-wrapped remains or re-furbished coffins. Many of these coffins belonged to other individuals and bear the names of their original owners. It is my opinion, however, based partly upon my work, that the priests of the necropolis, the Valley of the Kings, used extreme caution in their docketing and were, for the most part, correct.

Why do some of us study these long-dead Egyptians so closely and yearn to know as much as possible about them, going so far as to try to make them look still alive in artistic renderings? Even in the horror films, the mummies always get up, often committing mayhem, sometimes searching for lost loves. It is as if these people came from such a magical, glittering, mysterious place that we can't bear for them to be well and truly dead.



This is the "Elder Lady" from KV35. I faithfully traced the lady's basic profile from hairline to throat from an enlarged photo of the face of the mummy, but restored the tilt of the nose to what it must have been before the pressure of the bandages flattened it somewhat (not much in this instance). I have closed the mouth, given it a slight smile. Also, I gave the poor lady a lovely eye, which there is no reason to doubt she possessed in life, and some eyebrows and lashes to match her abundant dark hair. I sensed this emaciated and desiccated corpse had once been a fair woman, but now I believe the "Elder Lady," known to be royal from the position of her arms, must have been one of the most beautiful queens of Egypt ever. I envision her as looking somewhat like Vivien Leigh as she appeared in *Caesar and Cleopatra*. In fact, in this film Leigh wears a replica of one of Queen Tiye's circlet crowns, thereby unwittingly becoming a reasonable facsimile, not of Cleopatra, but of Queen Tiye, herself. Following my reconstruction of the face of the "Elder Lady", I now recognize her in several of the nameless images from Amarna and the reign of Tutankhamun. These images either represent the "Elder Lady" or other females who looked very much like her. Nowadays, the petite-featured "Elder Lady" is pronounced to be Queen Tiye, wife of Amenhotep III and mother to Akhenaten, because a lock of hair in a little case bearing Tiye's name that was discovered in Tutankhamun's tomb matches the hair of the "Elder Lady." This was rather a shock to all of us who had always associated Queen Tiye with that stern little wooden head attributed to her where she looks like everyone's idea of the mother-in-law from hell. While compelling evidence, the hair is inconclusive proof because it cannot be stated with 100% certainty that it is really Queen Tiye's hair in that case, even though it clearly bears the name and titles of this lady. Yet it is difficult to imagine this box, which states in writing that Tiye was already deceased, could have been fashioned for any other purpose than to hold the twist of hair. Guarding the shrine of King Tut were a group of achingly lovely golden goddesses, their faces all modelled on a cast of features such as are seen on the "Elder Lady." Archaeologists have long wanted to believe that the svelte goddesses grouped around the shrine of King Tut were meant to look like Ankhesenamun, Tutankhamun's little queen. Perhaps the hair

belongs to the widow, herself. I could confuse future generations in my own family by simply placing a lock of my mother's hair in a box with my name on it, or vice versa, and Ankhesenamun, possibly using a piece of her grandmother's funerary equipment, never expected the memento would ever be gazed upon again.

Yet the "Elder Lady" does resemble many portraits of Queen Tiye because the latter is almost always shown as a little woman with a turned-up nose and a resolute chin like those of the mummy from KV35. Some Egyptologists used to lean toward Hatshepsut as the "Elder Lady's" true identity. Hatshepsut, you see, was very often portrayed as a little man with a turned-up nose and a resolute chin - only hers had a false beard attached to it! The "Elder Lady" certainly resembles neither parents (Yuya and Thuya) nor what we know of the faces of the progeny of Tiye. If the "Elder Lady" resembles anyone it is the young prince, aged between eleven and thirteen, found lying beside her in KV35. I can't understand why nobody has commented on it, it seems so obvious to me that this must be her son. One thing we do know for certain about the "Elder Lady" is that she wasn't very old when she died, at that, as her wavy long hair is without gray.

I have worked from the skulls of two individuals thought to be Smenkhare and Amenhotep III and found that, while "Smenkhare" has the typical flat-bridged nose and massive bite (indicating large lips to close over it) of all of the male heirs of Amenhotep III, the skull of one who is probably Amenhotep, himself, is of a much different sort, closely resembling his forebears, Amenhotep II and Thutmose IV. In fact, the mummy may not be that of Amenhotep at all!

Smenkhare and Tutankhamun, surely brothers, have heads that conform to an odd but nearly identical shape. Perhaps the younger generation of this family had their little noggins bound in childhood to create this cephalic condition. It makes them look rather like extraterrestrials, especially in the cases of two pre-teen princesses, depicted nude and seated on cushions, their elongated skulls and fingers causing them to look like characters in a science-fiction movie.

The tomb of Queen Tiye yielded some perplexing works of art (but not her mummy), including a finely-wrought coffin with the golden face adzed off. The coffin, thought to be originally intended for the burial of a woman, proved to contain the remains of a man, the one tentatively identified as Smenkhare. Also, in this tomb were four canopic jars, their lids being a remarkable bust of ambiguous sex, formerly considered a portrait of the same shadowy young man but now thought to be that of Kiya, a consort of Akhenaten. Yet these sculptures certainly correspond to the so-called skull of Smenkhare, who succeeded (or was co-regnant with) Akhenaten for a time but died suddenly and was followed by Tutankhamun. Kiya was possibly the mother of Smenkhare and Tutankhamun, as Nefertiti bore only female children.

Judging from his portraits the true appearance of Amenhotep III is difficult to pin down. In many, perhaps the majority, of his images the king has what I will call, in default of a better descriptive word, a "Nubian" look. Also, when shown looking like this, his features are always very youthful-appearing. On the other hand, once in awhile, Amenhotep is portrayed as someone very different - an aged, corpulent monarch with a Levantine face. Examples of this alternative "look" of Amenhotep can be seen, for instance, on a stele where a slumping, world weary king sits beside Queen Tiye, a carnelian inset of a bracelet, and possibly on a small, golden statuette from the tomb of Tutankhamun that is thought to be of Amenhotep III. The snub nose of the "youthful" Amenhotep suddenly becomes the longish, curved feature that the Egyptians liked to draw on their Asiatic prisoners, for example.

Something obviously is at odds here and it is not Amenhotep III doing a Lon Chaney - like metamorphosis from time to time. Actually, the phenomenon begins in the reign of his sire, Thutmose IV. For some reason, perhaps political, some artists of the 18th Dynasty took it upon themselves or were instructed to make the pharaohs appear more "southern" with less of the "foreign" (i.e. Asiatic) look so prevalent in the Delta or Lower Egypt where the Hyksos had ruled for so many years. Not to put too fine a point on it, to make them come across as more ethnically Egyptian than perhaps they actually were. My reconstruction of the face of Amenhotep III also very much resembles the features of another pharaoh, Thutmose I, as seen in a wall-painting where it is obvious the artist was attempting portraiture of this king and his consort, Queen Ahmes. However, my reconstruction definitely does not look like the mummy called Thutmose I. Since this mummy has been supposed too young at death to actually be Thutmose I, there exists the possibility that this king has been misidentified, in any case.

Unlike that of his son, Amenhotep III, the face of Thutmose IV is very well-preserved and one is able now to see almost exactly how he looked in life. After I had done my drawing of him, I found confirmation of its accuracy in a picture of an ostrakon in the Luxor Museum where the pharaoh is shown in a wig and diadem much like that found on the head of Tutankhamun's mummy. How different, however, Thutmose IV looks on the walls of his tomb with his large lips, snub nose and chubby cheeks - all the opposite of what the king's actual features are.

The same thing happens in the tomb of Amenhotep III. It even seems to be the same artist at work. This curious phenomenon comes to a halt with the reign of Akhenaten and the "realistic" school of art that flourished at that time.

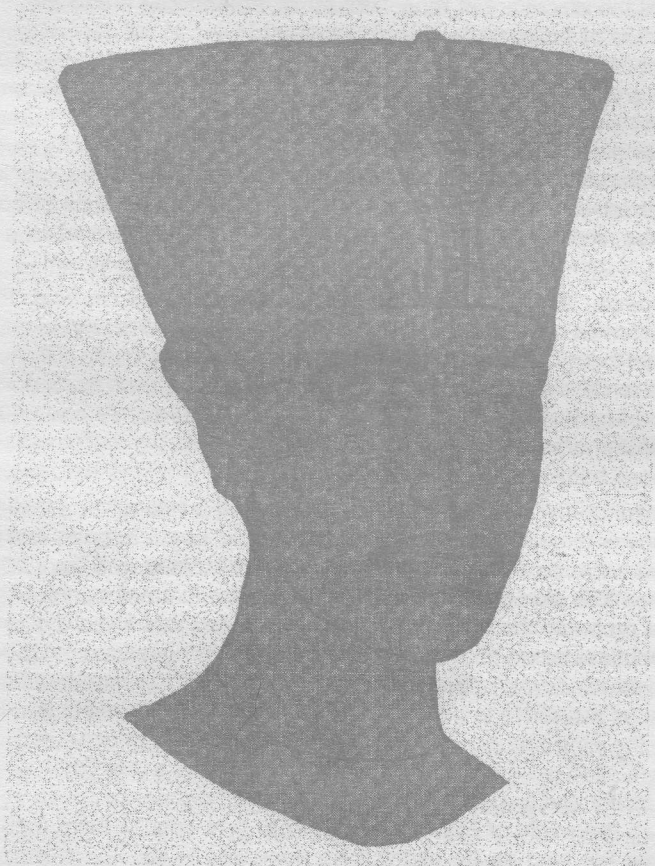


Amenhotep III

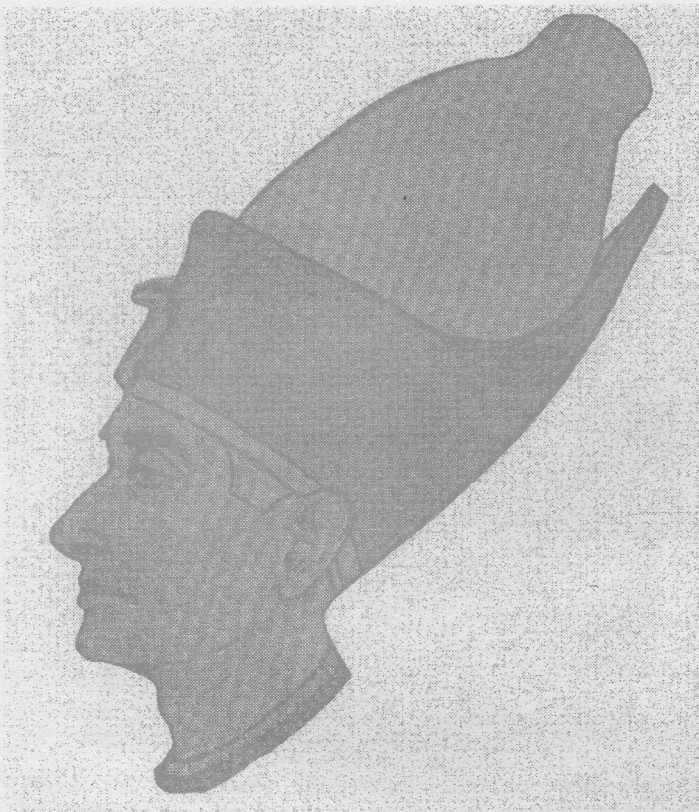
But there are limits even to realism. The master goldsmith who made the funerary mask seems to have made a few changes that differ from what one can gather from the face of the king's mummy. He possibly made the nose smaller and more up-turned and very likely enlarged the lips to cover the king's immense incisors. A pharaoh, after all, cannot be shown with buck teeth. I did not have the heart to do this myself. The nose, now very much compressed, looks as if it was not all that small in life. Nevertheless, I take my reconstruction of the face of Tutankhamun, in part, from the goldsmith, as his art is too marvelous, his eye too keen, for me to deign to contradict him too much. I believe that, even if he made a few minor adjustments to the young king's looks, we can trust this ancient craftsman to capture the real essence of Tutankhamun. Tutankhamun may have been only a minor ruler, but his chief goldsmith was a Michelangelo. This man preserved what time, nature, and modern man have stolen from his master.

I drew Tutankhamun wearing a hat that is seen on what may be a dresser's dummy found in his tomb. It is a simplified version of the red crown (deshret) of Lower Egypt and perhaps the forerunner of the much later oriental tarboosh, the red hat with the tassel. Whether Tut ever actually wore this headgear is problematic. Another head covering belonging to the young pharaoh that I admire was found on his mummy, a once-splendid skullcap, with its terrific bead-work cobras, covering the shaved head.

The young pharaoh's remains have suffered quite badly since he was first unwrapped, as shown by early photographs compared with later ones - not that the body was ever in great condition. It is shocking to contemplate the neglect that has left him with crumbling ears (partly destroyed by the removal of a golden temple-band) and fallen-in eye sockets. Aside from a compressed nose, his face looked fairly good at his first exposure to the modern age, but it is rapidly disintegrating and his mummy is entirely disarticulated. But the greatest indignity is the loss of his penis, stolen by some impious character and probably resting in a private collection of oddities today.



Tutankhamun



Thutmose III

In his great old volume, *Royal Mummies*, Grafton Elliot Smith, recalling a fine statue of Amenhotep's sire, Thutmose III, with its outsize, majestic nose, couldn't reconcile it with the smallish, delicate nose of Amenhotep II and, concluding it must have shrunk terrifically, drew a diagram showing it as having been much larger originally. However, when Smith examined Amenhotep's son, Thutmose IV, and saw this mummy's similarly beautiful nose, he realized he had made an error and said so in the book. Curiously, the diagram was not withdrawn before *Royal Mummies* went to press. Still, this book (when we can get hold of it) gives us the best and clearest look at the faces of the pharaohs possible today unless we can go to Cairo to see them first-hand. A down-sized version of the same photographs can be seen in Robert Partridge's *Faces of Pharaohs*, which is, of course, easily purchased today - unlike the rare *Royal Mummies*.

Dr. Smith also had to admit that the nose of Thutmose III, the great warrior pharaoh, had been exaggerated by his famous statue as well. Smith wrote: "...the badly damaged nose was narrow, high-bridged and prominent but not large." Certainly, this pharaoh's nose is the most jutting of all those to be seen on the mummies of Egypt's kings, but it is not quite the stupendous organ of the statue in size or shape. It must be stated that, while most of the pharaonic noses are aquiline and curved, they are really not too large compared to the rest of the face and therefore do not detract in any way from the individual's appearance. It is my personal belief that these noses had the opposite effect and were their chief asset as regards aristocratic handsomeness. However, it remains true that a sort of "plastic surgery" was very often performed on these noble noses by the sculptors - if not actually on the living pharaohs - and we seldom get to see their actual profiles. That is why the statue of Thutmose III mentioned is so unusual. It is almost Amarnesque in its exaggerated realism.

I can just imagine the amazement of Thutmose III that anyone would want to write about his most outstanding feature. He was far from a foppish character and probably didn't take much stock in

looks. Action was the only thing this king was interested in, one senses. Whether or not he was actually handsome, it is impossible to say now. Thutmose had a large, flat head but that was easily taken care of by the very attractive royal head-gear in the various forms. He had good lips, nice teeth (with the usual overbite common to all Egyptian royalty until the 19th Dynasty) and a soft little dimpled chin. While his mummy's nose is all smashed now, it is not too hard to figure out its former shape, easier actually than it was to reconstruct some of the Ramessid noses.

Styled the Napoleon of Egypt for his military exploits as well as his short stature, it should be clarified that Thutmose III measures short only because his feet are missing. They were no doubt hacked off in order to steal his golden sandals and toe stalls more easily. In fact, Thutmose's limbs were all chopped off by robbers to facilitate the theft of his jewelry. He was reassembled by the pious priests with wooden splints and whatnot - everything but chewing gum. Yet the feet are long gone. Robert Partridge, in his remarkable book, *Faces of Pharaohs*, says it is now thought that the living Thutmose was actually about 1.71 metres - around six feet. With his driven (and also vindictive in the case of his aunt, Hatshepsut) personality and intimidating stature, I think it is safe to assume that no one dared steal so much as a grape out of the pharaoh's bowl while he lived, but now there is nothing left of what must have been a particularly sumptuous burial given the enormous power of Thutmose III.

However, a trio of Thutmose's Asiatic wives managed to hold on to a little golden hoard of their lovely head-dresses and personal items until 1916 when their tomb was discovered. It is rather a shame these foreign girls, possibly homesick and unwilling consorts, can never know how much they came out ahead of their autocratic master.

Until the discovery of King Tut's tomb, Amenhotep II had the distinction of being the only pharaoh found lying in his own original tomb, although his grave goods had long since been plundered. At some point, probably during the 21st Dynasty, Amenhotep's tomb was resealed, but not before he was given some company - fifteen other individuals including his own grandson, Amenhotep III, some Ramessid pharaohs who had also lost the wondrous articles interred with them, and also various anonymous persons of both sexes, some of whom might have been relations of Amenhotep II.

This king, although resembling his son, Thutmose IV, in many respects, has a much more forceful countenance. Indeed, this gentleman was no one to trifle with, as we shall see presently. Even though the facial features of his mummy are badly distorted, one is still aware that this, too, was a handsome man and tall into the bargain. At over six feet, Amenhotep II was surely one of the tallest pharaohs of Egypt, although not quite as big as Ramses II, whose body measures 1.733 metres.

Amenhotep II had curly brown hair, graying a little at the temples. He was already balding at the crown of his head. Experts feel he died between the ages of 45 and fifty, but he may well have been older. The skin of the mummy is covered with small nodules that are probably the manifestation of the illness that killed the king. Doubtless some disease, which even the strongest could not battle, struck down Amenhotep II, yet, when alive, the man had been just as merciless to his enemies. We know from a stele or two left by the king that he had captured seven foreign princes and did them all to death in a grisly fashion. One of these was taken south to Nubia and hung from the walls of a fort "in order to cause to be seen the might of His Majesty for ever and ever." I have tried to draw the king as he might have appeared to those seven men before their execution.

Amenhotep was a physical person who excelled at sports. He had

boasted that no one but him could pull his bow. This great bow was found with him when his tomb was discovered by Victor Loret in 1898 and was foolishly left in the sarcophagus, only to be stolen by the descendants of the ancient tomb-robbers who had taken the rest of Amenhotep's funerary objects and personal treasures.

Thutmose IV is a pharaoh who looks positively gentle. He is very well-preserved facially, even his lips have kept their shape, which is a rare thing, indeed, with mummies. Talk about refined features! Thutmose IV has a better bone structure than Katharine Hepburn, and while alive, was possibly prettier. Right now, at least, his mummy gives the impression of an effeminate young man who died around or before the age of thirty (although some say more like fifty). It could be that, when fleshed-out, Thutmose IV seemed a little more virile.

The mediocre paintings in his tomb present him as a chubby-cheeked boy-king, rather like Tutankhamun, which he was not. Thutmose was already slightly bald at the time of his death and, even as a mummy, he is the essence of aristocracy, something the artist of the tomb evidently couldn't see. After I had drawn him, I saw a photo of an ostrakon portrait of this pharaoh in the Luxor Museum which, thankfully, looks exactly like my portrait of the king.

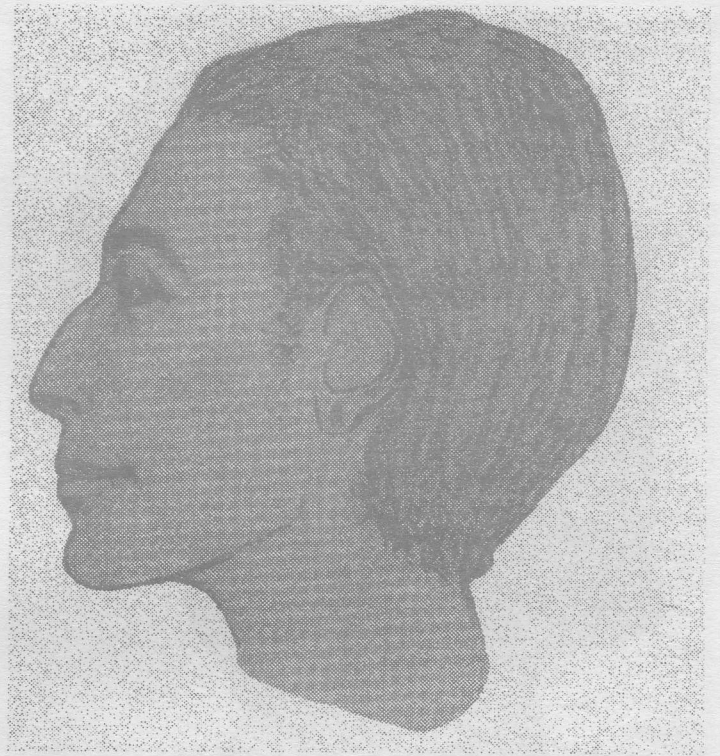
The rabbis used to say that the princes of Judah were comely because they had beautiful mothers. By this same logic, why shouldn't the kings of Egypt, who surely had access to the finest consorts, have propagated themselves in a chain of striking specimens, which they certainly seem to be.

While surely the son of Amenhotep II, it is doubtful that Thutmose IV ascended the throne of Egypt in his rightful turn. A stele erected by Thutmose between the paws of the Great Sphinx hints, indirectly, that there may have been a problem. The stele says that this Thutmose went hunting, got tired, and sought some shade beneath the looming sphinx. Asleep there, he dreamt the sphinx foretold that, were Thutmose to clear away the desert sands that had half-buried this monument, he would become Neb Tawi, the Lord of the Two Lands, the ruler of Egypt.

Stele or no stele, Thutmose (pronounced Tehutimes) IV's calm features strongly proclaim that he is certainly an offspring of the previous pharaoh, Amenhotep II, if possibly not the eldest or first in line of succession. Therefore, it would be difficult to accept that Thutmose IV's own son, Amenhotep III, possessing such genes, could ever have had the coarse, heavy mien so many of his statues display.

I keep reading that Thutmose was supposed to have suffered from some "wasting" disease that made him look emaciated, but to me he seems no more or less scrawny than any other mummy.

There's something I have noticed and wonder about: A gorgeous golden mask was found on the mummified body of King Psusennes I at Tanis. I have the oddest suspicion he "appropriated" it from an earlier era when making those masks was a high art, a time when portraiture strove to be accurate instead of idealized. In fact, I think the Tanis kings took quite a number of things from the Valley when they were "restoring" the tombs of the Theban kings and rescuing their remains. Is it possible the original owner of the mask had been Thutmose IV? It bears his features exactly. Psusennes' sarcophagus had been used 170 years earlier for the burial of Merenptah and his black granite coffin had belonged to a 19th Dynasty noble. Inside was another anthropoid coffin of solid silver, its face a copy of the golden mask. The mask in question is the finest ever uncovered after that of Tutankhamun. To be fair to King Psusennes, however, I must say that I have read nothing that would support my hunch, nor do I know of any inscriptions on the mask or silver coffin, original or altered. I have searched, without success, for Pierre Montet's published account of these items. Yet,



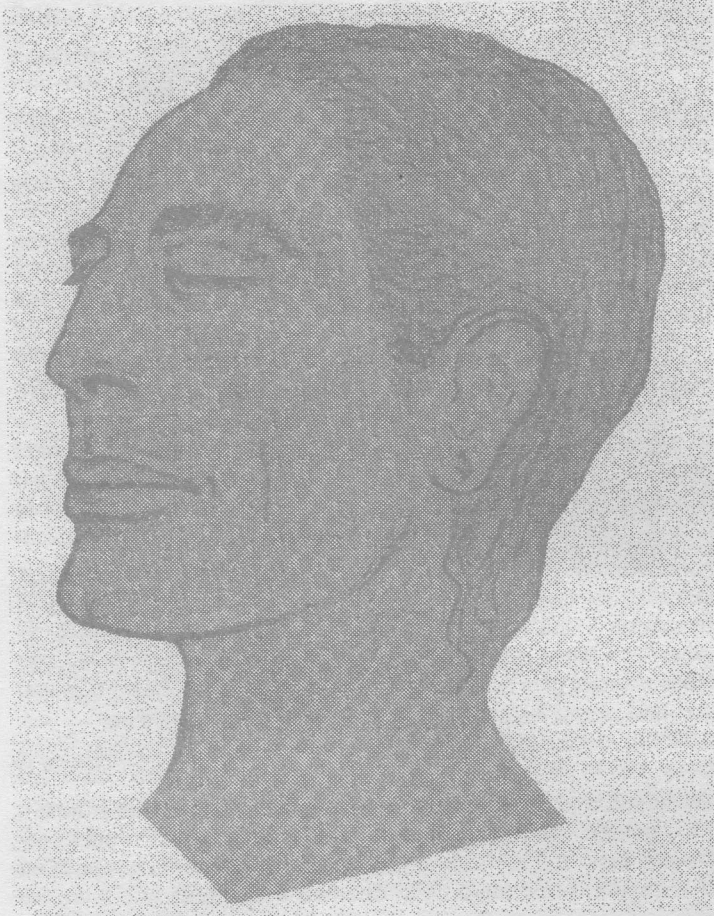
Thutmose IV

another clue to the mask and coffins being from an earlier time is the golden funerary mask of Psusennes's successor, Amenemope. It is of such an inferior artistry that it is not possible to believe it would have been deemed acceptable had there still been a school of goldsmiths capable of turning out works like the mask and coffins of the previous ruler.

It is written that, when Thutmose IV travelled on the Nile, the red and green sails of the royal craft billowing, the populace turned out to get a glimpse of his beauty. Perhaps his clothes were decorated with fine, colored embroidery, rare examples of which were found in his tomb. (Thutmose, himself, was discovered in the tomb of his father, Amenhotep II, where he had been placed for safe-keeping.) We know, surely, that gold blazed from his every limb, but was perhaps outshone by something very evident about this king: He had a killer smile. Splendid teeth, perfect, gently-curved features, and an air of peaceful repose make Thutmose IV's royal mummy one of the few whose good looks could not be vanquished by death and time.

Seti I's portraits all look like him, the artists not having forgotten the bump on the bridge of the regal nose of this splendid man. Seti's tomb (again sans mummy) is quite a dazzling display of colors and images, more like a carnival than a final resting place. The Egyptian zodiac is painted on the ceiling with such tongue-in-cheek whimsy that we get the picture in more ways than one: King Seti I was probably the sort of fellow a painter could take a few liberties with and maybe one could even tell him a joke or two when he dropped by to inspect the tomb's progress.

The persons who carved the reliefs of Seti I on his temple walls (surely the hardest job in all of Egyptian artistry) could scarcely know that they were recording a standard of masculine beauty that was to last until the present day. At the beginning of the 19th Dynasty, Egypt was hardly an isolated society. People visited this fabled land even then, most particularly the envoys of other nations, who must have spread the word that the visage of Egypt's king was not the least of the wonders to be encountered there. A pharaoh as far removed from Seti I as Ramses IX (about 200



Seti I

years) is shown on the walls of Karnak as having Seti's same film-star profile, and he is not the only one. Whether this late Ramessid actually resembled Seti or wished to emulate his effigies is difficult to say unless we can get a look at his mummy.

By Ptolemaic times, Egypt was already a tourist attraction as it is now and many travelers, especially Greeks, had the chance to admire Seti at Abydos and Karnak, although no one was to see this king in the flesh again until 1886 when Maspero unwrapped him. Seti's mummy was discovered, by happy chance, in the Deir El Bahari Cache in 1881, stacked like so much firewood along with the other great rulers of the 18th and 19th Dynasties. They had been placed in this secluded spot for safekeeping a couple of generations down the line by the priests of the necropolis, the Valley of the Kings, when their individual tombs were disturbed by robbers. Some think the priests were ordered to do this by later pharaohs who wanted the gold of their predecessors to replenish their treasuries.

However it occurred, the vast hoard of glittering objects that were surely buried with a mighty sovereign like Seti I is all now absolutely vanished. Even his sarcophagus lies in London in the Sir John Soanes House Museum, far from home. But the "look" perpetuated by those who carved out Seti's images holds sway in our very era. It was an ideal that made Rudolph Valentino and John Barrymore matinee idols - thin, narrow nose, slightly aquiline, jutting chin, sensual mouth with lips not too full, however, and large, compelling eyes regardless of color. It is amazing how most Hollywood leading men of all decades were some variation on this type - except down-to-earth-looking actors like Dustin Hoffman (who is a Thutmosid if ever there was one). Even the kings and princes in the Grimm's Fairy Tales I read as a child were, to a man,

a cross between Seti I and his heir, Ramses II, another striking male.

It all began with a soldier named Ramessu who succeeded his comrade-in-arms, King Horemheb. We don't have very many portraits of Ramses I and his mummy is missing,* but it is quite clear that this pharaoh contributed a nasal shape to Egyptian monarchy that did not die out for generations to come. His grandson, Ramses II, sported this very same nose and his is perhaps the only Ramessid mummy on which we are able to see the family proscis in a decent condition.

Seti I, who was in between these two hawk-nosed gentlemen, had a prominent nose, too, but it was smaller and different due to the fact that Seti resembled his mother, Sitre. Whenever Seti I** is depicted as worshipping various goddesses, they bear the face of the king's mother, who is the image of him.

Dorothy Eady, an eccentric but extremely knowledgeable Egyptophile, lived for many years at Abydos in order to be near the spirit of the love of her life, our perennially handsome friend, Seti. Born and raised in England, this lady always claimed Egypt was her true home. She had been there in another life, she was sure.

Dorothy (or Omm Sety, as she was called by everyone) told many people that the pharaoh visited her often, looking about fifty and perfectly fit, which is how she had left him in a previous incarnation. Omm Sety was certainly a well-known character and one of the attractions at Abydos in her own right. It was she who made the observations about King Seti and his mother. The story of Dorothy Eady's life, including her conversations with the deceased, make fascinating reading in Jonathan Cott's *The Search For Omm Sety*.

Seti, at least when first unwrapped, had such a remarkably-preserved face that he seemed only to be asleep. That is why I drew him in this attitude. Photographs taken of him and his son, Ramses the Great, by a Signor Beato of Luxor make these mummies seem like men who had expired only hours before. I think of Seti as the pharaoh who was so handsome that his beauty refused to die with him. Maspero, who unwrapped the mummy, commented: "*It was a masterpiece of the art of the embalmer, and the expression of the face was that of one who had only a few hours previously breathed his last. Death had slightly drawn the nostrils and contracted the lips, the pressure of the bandages had flattened the nose a little, and the skin was darkened by the pitch; but a calm and gentle smile still played over the mouth, and the half-opened eyelids allowed a glimpse to be seen from under their lashes of an apparently moist and glistening line, the reflection from the white porcelain eyes let in to the orbit at the time of burial.*"

As I have mentioned, Seti has an aquiline, very sharp nose with practically no wings to the nostrils (quite like the wing-less "Elder Lady"), which is rather the key to his beauty and, I suspect, the mark of blue-bloodedness at that time. The Egyptians called this elevated status *sheps*, which I think is a perfectly droll word and I wouldn't be surprised if this wasn't their slangy term for a noble-appearing or dishy guy as well.

Not content to steal merely the pharaonic grave goods, the thieves had ventured into the Valley of the Kings looked for jewels beneath the bandages and even under the rib-cages, which is why so many royal mummies have gaping holes in their chests. The heart scarab, a valuable item, was looted in this fashion. That reminds me: The wealth of King Seti I hasn't entirely disappeared. When his body was x-rayed in the 1970s, it became clear that both robbers and archaeologists had missed one amulet hidden in his wrappings - the sacred eye of Horus. That's it - one little golden eye, the last talisman remaining to someone who had once been one of the world's richest men, if not the richest of all.

to be continued...

LECTURE REPORTS

YUYA AND TUYA

Presented by David Pepper
ESS Meeting, February 17th 1998

The first intact "royal" tomb ever found was in 1905 - that of King Tut's grandparents, Yuya and Tuya. Several hundred objects from this tomb can be seen today at the Egyptian Antiquities Museum in Cairo: jewelry, chariots, furniture, sarcophagi, nesting coffins, mummies and more.

The tomb was robbed three times: first shortly after the burial, and twice more when KV3 and KV4 were excavated. The debris from these excavations was dumped onto the opening of the tomb of Yuya and Tuya unknowingly.

Yuya's outer funerary sledge was covered with black pitch decorated with gold bands. Inside were three nested coffins: the outer coffin was coated with gold, the middle was silver-coated with gold bands, and the inner coffin was covered with gold leaf and decorated with gems and colored glass.

Yuya's canopic jars were in a square sledge covered with black

pitch. Castor oil was found in one jar, natron in another, and a third contained an unknown dark red substance.

Tuya's sledge was similar to Yuya's. Inside were two nested coffins. The outer coffin was completely covered with gold, while the inner coffin was covered with gold and lined with silver.

The treasures found included two four-legged copper stands, a large calcite jar, three chairs - a child's ibex chair, a middle-sized chair and a large chair 30" high, gilded with beads in front. Also found were three beds, 13 wooden boxes, 14 ushabti figures, a large chest full of wigs for both Yuya and Tuya, foud calcite jars, papyrus, and 24 small containers of food - one even contained a wrapped duck. The chariot in the tomb was the first ancient chariot ever found, and had leather tires.

Both mummies were found in their coffins. Yuya died first at 58 years of age; Tuya was 15 when they were married. Mummified cats and dogs were also found in the tomb, which has no wall paintings and no evidence of flood damage. It is a small tomb, 20-25ft long and about 15ft wide.

Report by Bette Lou Lesan Cookson.

A DIG IN THE KINGS' VALLEY

Presented by Dick Harwood
ESS Meeting, March 17, 1998

1998 marks our Chairman's third season as a field photographer with the University of Arizona Egyptian Expedition. An update on this season's work will appear in the next issue of *The Ostrakon*, but at the time of this lecture, the 1998 season lay in the future.

The lecture began with a quick update on the excavations at KV10, the tomb of Amenmesse, which has passed from the University of Arizona to the University of Memphis, Tennessee, before proceeding to the University of Arizona's current undertaking, the Motif Alignment Project or MAP. Over the next several years, among other things, the project to record all of the unpublished wall scenes in the Valley's 19th and 20th Dynasty Rameside tombs, before they are lost forever through various hazards, including the attrition associated with tourist traffic.

The alignment of the scenes on the tomb walls is symbolic and complex. For example, above the entrance to KV 8, the Tomb of Merenptah, is a motif showing the three manifestations of Re: the morning scarab form and the evening form as a man with a ram's head, both enclosed within the third form - the sun disk itself. This motif is flanked by the Isis on the left and Nephthys on the right. Isis is usually associated with the "South" (Upper Egypt), and Nephthys is usually associated with the "North" (or Lower Egypt). So looking West into the tomb, it is certainly proper that Isis would be on the left (South) side of the scene and Nephthys on the right (North) side.

The tombs don't follow any set compass alignment, but not only are the paintings and reliefs inside the tombs symbolic; the tombs themselves are laid out symbolically, with the entrances symbolically to the East - the land of sun and life - and the burial chambers symbolically to the West, the land of darkness and death. As a result, Isis is always on the left side of this scene, and Nephthys on the right - regardless of the physical alignment of the tomb. Also, the sun disk above each tomb entrance is always painted yellow, representing morning, or daylight, or the land of the living -

but as soon as you step inside the tomb, going symbolically West, the sun disk changes to red, representing night or the land of the dead.

The Expedition team consists of seven people: Dr. Richard Wilkinson, the team leader from the University of Arizona; two others from the University of Arizona - one a computer expert and one a graphics expert; two Egyptologists - and epigrapher and an iconographer - from the University of Toronto; a practicing attorney from Phoenix (who's also a past Trustee of ARCE, and acts as an assistant to the expedition); and Dick, the expedition's photographer. They were accompanied by an Egyptian Inspector, required by law to be present at all times in case something of importance is found.

Colored slides are the primary means of recording the scenes on the walls. These slides are then digitized onto CD-ROM disks; on the computer, they can be zoomed in on to show fairly minute details of the scenes. The Egyptologists write accompanying text that goes onto the CD-ROM disks, translating and interpreting the hieroglyphic writings and the scenes, and comparing them with similar scenes in the other Rameside tombs. The purpose of this is to be able to study the tombs in much greater detail than is possible on-site, and also to preserve the scenes for future generations of archaeologists to study and re-interpret, long after the scenes themselves have disappeared from the walls.

All this fascinating information was liberally sprinkled with anecdotes and insights into expedition life, ranging from the hotel's amenities to the summer climate, climate to the necessity for fitting the expedition's work around the needs of the Valley's tourists - including the challenge of splicing the expedition's lights into an existing system without turning the current off and plunging other (potentially tourist-inhabited) tombs into temporary darkness! A sneak peek at KV5 was a welcome side-excursion, as was a series of slides of KV17, the tomb of Seti I, which has been closed to the public for many years because of structural instability.

Report by Graeme Davis

INTRIGUE IN THE COURT, PART II

Presented by Bill Petty
ESS Meeting, May 19th 1998

As the house lights dimmed we were once again caught up in the magic of a Bill Petty production, beginning with a short review of Part I. Our memories were refreshed on the co-regency of Hatshepsut with the young Tuthmosis III, her title as Queen and Great King's Wife of Tuthmosis II, and her death - which was possibly hastened by Tuthmosis III. With these events, we were brought through the reigns of Amenhotep II, Tuthmosis IV, and Amenhotep III into a new era with Akhenaten and Nefertiti. We were caught up in Bill's "whodunnit" style of presentation, and the stage was set for Part II of the drama: *Tut, Tut, Ankhesenamun*.

Everyone was drawn to the young queen's dilemma: how to keep her wealth and stature, when no-one around could stack up to her lost love, Tutankhamun? She began looking around outside Egypt for a new husband with rank and status equal to her own - but alas, due to the old laws, daughters of Egypt did not marry foreigners. With some persuasion by the court, she settled down with the aging - but Egyptian - commander Ay. Which takes us right into the middle of the New Kingdom, and the glorious age of Egyptian conquest and military rulers like Horebheb, Ramses I, Seti I, Ramses II - but first a message from our speaker.

I must admit that I never took a real good and honest look at a great monument before: a true look at legend versus fact. Bill's interfacing of fact and myth about Abu Simbel was very enlightening. A miracle of ancient engineering, or something that just happened? Like many other great structures, it was built just right. Now, back to our program.

PHARAONIC PHASHIONS

Presented by Evan Mitchell and company
ESS Meeting, June 16th, 1998

Evan Mitchell began his presentation, *Pharaonic Phashions*, with a dizzying review of 1,000 years of European fashion, demonstrating the incredible changes in clothing through the ages. Ancient Egyptian fashion, in contrast, remained relatively unchanged - a by-product of the conservatism of the culture and the ancient Egyptian tendency to revere the past. No matter how many variations on the theme of ancient Egyptian clothing exist, it's not hard to identify a particular fashion as "Egyptian."

Academic interest in ancient Egyptian clothing is a recent phenomenon. But the question, "what did they actually wear?" is difficult to answer. Only a small number of garments has survived, probably "less than three garage sales' worth." This was probably due to tomb robbery, as fine fabric and clothing were valuable. Also, clothing was probably recycled until it was unrecognizable, from riches to rags. Funerary clothing, of which a few examples survive, were meant as grave goods and are not indicative of what people actually wore. Many of our ideas about what the ancient Egyptians wore is deduced from scenes in tomb paintings, but you can't always believe what you see in these paintings. After all, these depictions were idealizations and "wish-lists" for the deceased. We know that the fashions in tomb paintings don't necessarily reflect reality; for example, they never show people in warm clothing (we know it gets cold in Egypt), nor are side seams shown. (After all, these people are in Paradise where cold and seams are irrelevant.) And we know that those ankle-length sheath dresses worn by Isis and company would be about as comfortable to wear as sausage casings.

It is possible to conjure up some idea of what those ancients wore

With the death of Ramses II (who left a *great*-looking mummy) and the rule of Merenptah, we move on to the sons of Ramses III and the Harem Conspiracy. One of the big events of Ramses III's reign, this trial was presided over by 14 officials, with 29 chief conspirators and a cast of characters out of a Sherlock Holmes story.

The Harem Conspiracy was a devious plot to murder the king, planned by one of his minor queens, named Tiy, who hoped to leave her son Pentwere ruling Egypt. She had to recruit a few others for her plan: six more wives, two scribes, all the harem inspectors, a few standard bearers of the army, a captain of archers - and let's not forget the butlers. She was a busy lady, plotting with the majority of those officials who were personally close to the king, and co-ordinating a revolt outside the palace to coincide with the intended coup. With over 40 people implicated, the trial was divided into groups. Ramses passed judgement until he became a great god (that is, died), and then appointed officials took over. The commission could call for evidence when necessary, deliver and carry out a verdict and proceed with the death penalty.

As the house lights came up again, we found ourselves at the close of the 20th Dynasty and the decline of the New Kingdom, when priests at Thebes ruled along with kings, and Pharaonic power sputtered, then faded into the west with the setting sun.

Bill, I hope the screenplay for Part III has and started production, so we can all escape into an action-packed thriller next year. *Intrigue in the Court, Part II* gets ***** from this reviewer - one of the season's top presentations.

Report by Alice Gemmell.

and Evan, with the help of several ESS members, showed us what some may have looked like. The ESS audience was treated to a wonderful fashion show of these various styles, from headdresses and kilts to cocoon-like wrap-around dresses, on the improvised Ricketson catwalk.

Garments in ancient Egypt were made primarily from linen. Both men and women wore linen loincloths, but only men wore them on the outside. Men dressed in kilts of various lengths, sometimes with shoulder straps. Tunics were also worn, over the kilt or vice-versa. Men's clothing rarely covered the body above the waist, though in later times the bag tunic appeared which covered the entire body, not unlike a gallabia. Some paintings depict men wearing decorative aprons, including the enigmatic pyramidal one. Did the stiffened apron symbolize the pyramidal shape of the *ben-ben* or serve as a portable writing desk? Other mysteries of Egyptian clothing persist: headcloths are depicted in art, but have never been found. Women wore wrap-around dresses with shawls and sashes. In addition to several styles of wrap-around dresses, women also clothed themselves in straight (sheath or tubular) dresses that reached the ankle. Some went topless.

Royalty and laborer wore the same basic tunic or dress style, but the privileged classes improved on their garments with fine fabrics and ornaments. A garment made from fine diaphanous linen, worn with jewelry of gold and precious stones, would have been a definite show-stopper!

No matter what material or construction, what style or pattern, there is something undefinably, unmistakably "Egyptian" about the clothing we were shown. As Evan concluded, ancient Egyptian dress styles are "all different, but look the same."

Report by Judy Greenfield

**EGYPTIAN MATHEMATICS:
A SEARCH FOR EARLY MATHEMATICIANS**

Presented by Jim Lowdermilk
ESS Meeting, July 21st 1998

Mathematics is a term said to be coined by Pythagoras himself around 500 B.C.E.. It means, "that which is learned". My lecture, titled: "Egyptian Mathematics: A Search for Early Mathematicians", given to the Egyptian Study Society on July 21, 1998, investigated when certain mathematical concepts were learned.

The Rhind Papyrus and the Moscow Papyrus are the only two examples of hieroglyphic mathematical writings that survive today. They tell us that the Egyptians used unit fractions, fractions with numerator of one, to perform their division. They used a method known as error reckoning to compute their math. They would select an answer that was close, run the answer through their computations, find out how far off they were, and add-in a new fraction that would bring them closer to the correct answer.

In the Rhind Papyrus the Egyptians used 3.16 to approximate Pi in the calculation of the volume of a cylindrical granary. Many people suggest that this was the best approximation to Pi the Egyptians had, but I think it is possible the Egyptians overestimated Pi to increase the amount of tax calculated on grains.

Many people have also suggested many outlandish conclusions regarding the dimensions of the Great Pyramid. They claim the dimensions incorporate the exact length of the solar year, the circumference of the earth, the distance to the sun, and the period of precession. It is very easy to fudge these calculations using bad mathematical techniques since the exterior of the Great Pyramid is missing and we do not know the exact dimensions of the pyramid.

What we can measure very exactly is the angle of the faces of the Egyptian pyramids. Also, in the Rhind Papyrus the author uses the equivalent of what we call the slope in algebra or the tangent in trigonometry, rise over run, to calculate the angles of pyramids. The measured angles in many pyramids correspond nearly exactly to simple rise over run expressions. For example, the Red Pyramid has slope = 20/21, the Meidum Pyramid has slope = 14/11, and at least five later pyramids have slope = 4/3. The slope of the Great Pyramid is such that its hips have a slope of 9/10 ($\arctan(9\sqrt{2}/10) = 51^\circ 50' 39''$). The slopes of the Great Pyramid and the Meidum Pyramid incorporate very good approximations for Pi into their pyramids.

A pyramid is a very mathematical entity. Calendars also exhibit very mathematical situations. It is said that the Egyptians based all three of their calendars on the Sothic rising. The Sothic rising occurs 365 days apart most years with another day added nearly

every fourth year, what we call leap year. However, every 39 years one has to wait only three years to add the extra day. Unit fractions are the perfect means to investigate this phenomenon and if the Egyptians noticed this occurrence, it is possible they devised unit fractions for exactly that purpose. Unit fractions give the length of the Sothic year to be $365 + 1/4 + 1/(4*39)$ days, accurate to one second.

Previous calculations of the Canicular or Sothic cycle, the length of time between Sothic risings occurring on New Year's Day of the wandering Egyptian civil calendar, did not take into account the "39 year" cycle. The correct calculation gives a canicular cycle of 1424 years [= $365.2564 / (365.2564 - 365)$]. The Sothic rising appeared on the Egyptian new year in 140 A.D.. Counting back Sothic cycles gives 1284 B.C., 2709 B.C., and 4134 B.C. as possible starting dates for the Egyptian civil calendar. The calendar was already in use in 1284 B.C. and 2709 B.C., leaving 4134 B.C. as the best candidate.

Assuming that the Egyptians were able to measure the exact length of the year from the Sothic rising, they would have checked their data against other stars as well. The Decan lists and the Ramisside star clocks provide very adequate means to do this.

The Egyptians may have also tried to check this data against the sun and its shadows. The megaliths recently excavated at Nabta are apt devices to acknowledge when certain shadows lineup. These shadows line up 365 days apart with a 4 year leap cycle. However, this Cycle does not break every 39 years as it does for the stars. Applying unit fractions to this situation gives an approximation of the length of the year as $365 + 1/4 - 1/(4*32)$.

The two approximations to the length of the year differ considerably, but both are correct. One is reckoned from the stars and the other is reckoned from the sun. If both are correct then that implies that the sun and the stars move differently through the sky. This is an effect of what we call precession and it is observable by collecting data on the stars and the sun over many years.

Therefore, it is possible for the Egyptians to have calculated the period of precession, the length of time it takes for the sun and the stars to lineup again or 25,791 years. The lack of mathematical text surviving today could suggest that the Egyptians were not interested in mathematics, or it could suggest that their mathematics was so sacred every text was closely accounted for and only two fell out of the hands of the priests. The Egyptians obvious aptitude for mathematics suggests the latter.

Note: In the course of writing this summary, I noticed an error in my calculations of the Sothic cycle. The value cited during the lecture was incorrect and has been corrected in this summary.

Report by Jim Lowdermilk

T.G.H. JAMES LECTURE

Astute readers will have noticed that this issue contains no report on the lecture given to the ESS on April 30th by Dr. T.G.H. James. We hope to include it in the next issue. If you attended the lecture and would be prepared to contribute a brief report, please contact any member of the publications committee.

Volunteers Wanted!

We need people to help with this section of the Ostrakon. The publications committee would love to hear from anyone who is interested in writing brief reports on ESS lectures and other activities. You don't have to commit yourself to covering every single lecture - once or twice a year would be fine. If you are interested, please contact any member of the publications committee.



House of Scrolls

Book Reviews



Ramses Volume 1: The Son of Light

by Christian Jaq
Warner Books, New York, 1997

This novel is a recent import from France, where it is said to have had phenomenal sales. But it is not really a novel. It is *presented* as a novel, but it's really a screenplay for a motion picture. At least, that is how it appears to me. A screen play for an action picture, with lavish sets and little time for thinking.

Christian Jaq is author of more than fifty books and a radio producer, with a doctorate in Egyptian studies from the Sorbonne. This book is the first of five volumes about Ramses, begun only two years ago. Five books in two years may explain some of the nature of the book.

More than that, the book is not particularly impressive. The chapters are very short, and each one is divided into several scenes. Assassin falls off cliff in the desert. The thirsty trek across the desert. Attacked by a cobra, in the desert. Knife fight, in the desert. Passionate lovemaking in a hut, in the desert. There is plenty of action and dialogue, but little description of place or mood, little character development, and mostly only cartoon-like personalities. There is a faithful dog and a pet lion. There is a scheming, greedy, overweight older brother. But we learn almost nothing about what the key figures look like.

Ramses is - predictably - a paragon of all manly virtues. He charms wild beasts by staring at them. He surpasses masons at stonework, fishermen at fishing, and sailors at sailing. He is loved by the most beautiful and passionate playgirl of Memphis, but also attracts the solitary and introspective musician who yearns for the female priesthood. He speaks fluent Greek. His innocence, luck and heroic qualities thwart the evil schemes of those against him. A combination of Superman, the Phantom, and Davy Crockett.

I can't resist mentioning one scene near the end: Ramses' marriage. It was a small, private affair in the country, for only a few friends - including Moses, Homer, and Helen of Troy. No kidding. The only things Jaq has left out are shooting the rapids, black magic in a temple at night, and being sealed in a tomb with rescuers brought by the dog. Well, there are four books to go, and Ramses isn't even king yet. The scope for blood, thunder and passion is only beginning.

The absolutely astonishing thing about this book is that it has sold over one million copies in France. "I thought the French were sophisticated" was Dr. Don Hughes' reaction!

Review by Stuart Wier

The DMNH Library

Even though it traces its existence to the beginning of the Denver Museum of Natural History itself in 1900, the museum library doesn't seem to be as well known.

In earlier years, each department of the museum supplied its own needs, ordering all materials necessary for its work. The library was cared for by museum staff members, and eventually acquired its first professional librarian in 1975.

Museum members have borrowing privileges. The library contains over 2,400 items, with an emphasis on anthropology, archaeology, astronomy, geology, museum studies, paleontology and zoology. It takes part in inter-library loans, and makes use of the Carl system, ACLIN, and commercial database producers to obtain material. Its collections are classified using the Library of Congress system. Questions can be answered by telephone, mail, or by just walking in - Kathy Gully, the librarian, always provides help and information.



ESS members will find over 285 books and audio tapes on just about any aspect of Egypt, from mummies and pyramids to textiles and weed flora. It offers a diverse collection of authors, including T.G.H. James, Emily Teeter, John Romer, James Henry Breasted and Howard Carter. There are also ARCE Journals, several volumes of the Epigraphic Survey from the University of Chicago Oriental Institute, and a number of children's books. Audio tapes of almost all of the ESS lectures and symposia are available as well, so if you missed a lecture - or just want to hear it again - this is the place to go.

Located behind the purple doors on the third floor, northwest, the library is open Monday-Friday from 10:00 am to 4:30 pm, and on Saturday from 1:00 pm to 4:30 pm.

Delores Eckrich, former Keeper of the Scrolls

The Electric Papyrus will return in the next issue.

Ostrakon back issues are still available at \$1.52 each!
See Frank Pettee or call 777-5494

Denver Museum of Natural History, 2001 Colorado Blvd., Denver, CO 80205