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Death on the Horizon: Osteoethnography of the People of Akhetaten

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Death on the Horizon: Osteoethnography of the People of Akhetaten

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Anthropology

by

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Abstract

The purpose of this dissertation is to define and implement osteoethnography. Osteoethnography is the analysis and description of an ancient culture through the bioarchaeological and archaeological evidence, utilizing cultural anthropological theories and techniques. An osteoethnographic narrative is presented in this dissertation, which describes the embodied lives of the people of the 18th Dynasty Egyptian city of Akhetaten, now known as Amarna, founded in 1355 B.C.E. by the Pharaoh Akhenaten. Osteoethnography looks at how people are shaped by and shape their environment, how culture impacts health, and how culture informs the lives of its practitioners. Osteoethnography employs life course theory, and the concepts of embodiment and agency. To present a recreation of a culture from the past I utilized skeletal and archaeological data, primary sources from the culture being studied, and secondary sources from scholars who have studied the culture in-depth. Osteoethnography's purpose is to show the connections between cultures and people, the importance of culture in humanity's development, and the necessity to respect and preserve the stories of our past to better understand ourselves.

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Chapter One: Introduction

In this dissertation I will create, define, and apply the concept of osteoethnography. Osteoethnography is meant to act as a tool for bioarchaeologists to employ the information collected from skeletons, in conjunction with primary and secondary cultural sources, to observe, portray, and hypothesize about life in past cultures. The people and the culture of the ancient Egyptian city of Akhetaten will be considered in order to produce an example of an osteoethnography as a way to explore a unique site and elucidate the life-ways of those who constructed and inhabited the city.

Social bioarchaeology is a branch of anthropology that is focused on learning how to decipher the way human culture has been inscribed on the skeleton over the course of a person's life. The human body is a genetically designed tabula rasa that is sculpted by culture, ecology, and the individual's unique life experience. The main goal of bioarchaeologists' work is to demonstrate that "biology and culture... are dialectically intertwined" (Zuckerman and Armelagoes, 2011: 20). Humans change and are changed by their environment, culture can imprint itself upon the skeleton, and social interactions can be recorded in the bones making the human skeleton an invaluable resource for understanding the past. Each human being who has ever existed, no matter how long or short their life, has a story that matters and deserves to be remembered and respected. It can often be difficult to capture the essence of those stories, to appreciate the scope and complexity of an embodied existence, with current methods of academic and scientific writing. Bioarchaeologists and archaeologists have begun experimenting with presentation, looking for a style of writing that will resonate with both academic and nonacademic readers while engaging the audience's empathy, creating dialogs, and exploring

how the past can inform our present and future. Osteoethnography evolved from the term osteobiography, which was defined by:

“Saul in 1989...[he wanted] the interpretation of human skeletons to illuminate a wide gamut of life conditions and events... the emphasis... upon illustrating the composite lives of the general population... a more humanistic, perhaps experiential study of skeletal remains, augmenting the clinical and social scientific traditions which have dominated osteology...[Osteobiography is the] study through human skeletons of the biography as a cultural narrative” (Robb, 2002: 160).

Saul’s version of osteobiography was a new methodological approach that, by today’s standards, would be considered more of a bioarchaeological overview of population rates of sex, age, paleopathology and trauma, and biological distance; a combination of population statistics punctuated with information on some individual skeletons that stood as examples of the information he was disseminating. During the rise of the ‘new archaeology/physical anthropology’ movement, osteological analysis was redirected to explaining or describing “major biocultural trends in human adaptation... as the contribution to understanding big questions about the evolution of our species, such as the impact of agriculture” (Stoddard & Palkovich, 2012: 2). In the process, individuals, particularly ones with data that caused them to be ‘outliers’, were being overlooked or omitted from reports, to avoid skewing the results. In response, some bioarchaeologists adapted the concept of osteobiography to create a way to engage in comprehensive examinations and accounts of specific individuals: “with rare, severe, [or] progressive medical disorder[s]” or unusual burial treatment, or to discuss specific areas of interest such as a culture’s burial treatment for a particular sex (Robb, 2002). Osteobiography developed from the bioarchaeological overview of individuals and the data they could provide, to being case studies that present “an individual beginning with the skeleton and then expanding the analytical and interpretive scale from the grave outward to understand this person’s context in

life and death” (Stodder & Palkovich, 2012: 1). Alexis Boutin adapted Saul’s work into what she called osteobiographical narratives to “articulate a bioarchaeology of personhood” (Boutin, 2011), utilizing literary techniques to present her archaeological analyses of sites she’d excavated, but again focusing on one or only a few individuals. Similarly, Egyptologist Kasia Szpakowska’s Daily Life in Ancient Egypt: Recreating Lahun begins each chapter with a paragraph recounting the milestones, from birth to death, of a fictional female character named Hedjerit portrayed as one of the townspeople of the Late Middle Kingdom (1850-1750 BCE) site of Lahun. The author explains that this approach is possible because “material evidence has survived that can be combined with a judicious reading of the texts [from the period] to formulate a sketch of daily life” (Szpakowska, 2008: 1). She, not unlike Hudson, creates characters who are narrative devices to show the life-ways and agency of past peoples. Boutin uses the skeletal remains to similarly create narratives that augment her interpretations as she uses the physical data from a person who was a real and active agent in the culture. These are therefore not fantasies stemming solely from the author’s imagination, but are informed suppositional reconstructions rooted in archaeological and osteological evidence as well as primary and secondary sources of cultural practices and beliefs. This approach has been used, in recent years, by archaeologists, historians, and cultural anthropologists. Osteoethnography is an experiment in style that expands the scope of osteobiography and archaeological analyses and pushes for greater interdisciplinarity while also drawing upon cultural anthropological and literary narrative styles. This format of presenting a social bioarchaeological examination of embodied lives within their cultures may not be applicable to every culture of the past, but in some instances it may be a way for bioarchaeologists to portray their vision of how people lived in the past while applying the data collected from the examination of human remains.

The root of osteoethnography is ethnography, which “is a qualitative design in which the researcher describes and interprets the shared and learned patterns of values, behaviors, beliefs, and language of a culture group,” (Creswell, 2013: 90). Ethnography is a writing technique employed by cultural anthropologists for “comparison, contextualization of a life world, and an exposition of the relationships involved” (Blasco and Wardle, 2007: 5) in living cultures in order to better comprehend the commonalities and differences that have evolved for humans to cope or interact with the world they inhabit. In certain instances archaeologists and historians have drawn on similar methods in order to expound on past cultures and generate theories to decipher the archaeological record. Applying this form of writing to bioarchaeological data could bridge the gap between disciplines and act as a hermeneutic method drawing upon multiple lines of scientific evidence to create an exploratory narrative.

Osteoethnographies will act as informed suppositional constructs of past cultures in action, based on archaeological evidence and research rather than living with and observing firsthand a specific culture as a cultural anthropologist would. Human remains are considered informants and subjected to an “interview” process where the data collected from the osteological examination is interpreted to position an individual within their culture. Primary sources (the art, texts, and/or archaeological evidence of life-ways of the culture the deceased individuals participated in) will be used to establish the perspective of the people being studied. Secondary sources that include the interpretations of archaeologists and other specialists, as well as related sites and periods will provide comparative and contextual investigation to assist in a more comprehensive cultural depiction. Methods and theories from cultural anthropology and archaeology are used to integrate various data sets and serve as a platform from which to devise depictions of extinct cultures and discuss and critique interpretations and conclusions.

Employing these strategies will aid in devising a depiction of the extinct culture in a way that integrates the various data sets and makes them more accessible. It is important to engage in the practice of reflexivity and deliberate on how writing osteoethnographies must take into account the distance, both temporally and culturally, of the observations made and try to counteract projecting modern principles onto ancient cultures. Osteoethnography will act as a hermeneutic method drawing upon scientific evidence to create an exploratory narrative.

History of Akhetaten

The osteoethnography that is undertaken for this dissertation concerns the people of the ancient Egyptian city of Akhetaten. Ancient Egyptian culture was formed around a complex polytheistic religion (Pinch, 2002: 1-48). It had evolved from the amalgamation of several different religious cults where gods and goddesses were brought together through intricate mythologies that came to permeate almost every aspect of life (Assman, 2003: 17-52). The deities decided one's fate, controlled nature, provided sustenance, and gave meaning to life and death. Idols and temples were constructed as vessels for these powerful beings to dwell in and were tended, worshipped, and controlled by a highly organized priesthood that rivaled the divinely appointed Pharaoh in power (Reeves, 2001: 33). The religion evolved and adapted over the course of approximately three thousand years to meet cultural needs without challenge until the reign of the Pharaoh Akhenaten. Akhenaten questioned the supremacy, the very existence, of gods and goddesses that required human manufactured idols in order to interact with humanity (Kemp, 2012: 25-29). He chose to worship a single god whom he believed had always existed and had created all life on the earth: the Aten (Aldred, 1988: 237-248). He told his people that the sun represented his god

because it brought light and life to all. He believed that he and his lineage were the god's earthly representatives and high priests (Reeves, 2001: 146-147). The Pharaoh was inspired to construct a religious center in an area of Egypt that had no prior affiliations with deities or rulers in the past, so in a barren stretch of desert surrounded by escarpments he founded a new capital city (Kemp, 2012: 24-25). Akhenaten decided that the new capital would be built on this virgin soil, prompting his court and followers to move with him, bringing with them the people who served them.

The Pharaoh's new version of Aten worship was founded on the concept of *ma'at*, a long held philosophy that espoused living in truth and justice while following the societal dictates of "good" or "proper" behavior. He also wanted to change the understanding of the afterlife, or Duat, based largely on the Osirian mythology that informed most of his peoples' understanding of what happened to a person after death (Kemp, 2012: 254-255). His own tomb has none of the traditional depictions of the afterlife, "evidence that he had rejected mythical narrative as a way of exploring what could be thought about but not seen" (Kemp, 2012: 255). The people following him, including a priest of the new cult and one of his successors, didn't completely turn from these beliefs; rather they attempted to graft new dogmas onto the old (Kemp & Stevens, 2010). There is also evidence that though the non-elites worked to build their Pharaoh's vision and made some changes to honor his wishes, they largely continued to practice the old religion, though not as overtly as before (Stevens, 2003: 167).

To build the city, Akhenaten moved a large number of his citizens, from courtiers to slaves, and set them to work constructing the city (Aldred, 1988: 269-273). From 1350 to 1330 BCE the city of Akhetaten, the Horizon of the Sun, was constructed and occupied in the desert to be the new capital, roughly 400 km from the previous administrative capital city of Thebes

(Kemp, 2012: 16-45). It was revolutionary in architecture, art, and religion. People from all over Egypt, the rich and poor, young and old, came or were brought to make the Pharaoh's vision a reality. The Amarna Project currently led by Prof. Barry Kemp, seeks to answer the questions scholars have about the enigmatical Pharaoh and his spiritual revolution to convert his culture to a new belief system through excavation of the city and cemeteries (Kemp, 2012). When Akhenaten and his immediate successor Smenkhkare died, without his charismatic fanaticism to sustain his new world, the city was deserted after only existing for eighteen to twenty years (Reeves, 2001: 193). His religion was supplanted by the old faith, and his name struck from the King's list by King Tutankhamen or his advisors (Dodson, 2009: 62-88). The only mention of the period by those who ruled after him was that it was a time of chaos and suffering (Kemp, 2012: 302). When his nascent city was abandoned, over time it was obscured by the desert sands. Akhenaten and his dream would go millennia before being rediscovered. Because of its air of mystery it captured the imaginations of western scholars for the last four centuries. On the city's outskirts, there are five cemeteries that hold the remains of the people who lived and died for this religious movement and each skeleton buried there has a story to tell about life in this mysterious metropolis (Kemp *et al.*, 2013). The South Tombs Cemetery was the first to be excavated, and may contain as many as five thousand people with each skeleton offering exceptional insight into life at Akhetaten.

After years of excavation, the architectural structure of the city is well understood and it serves to inform about the likely daily life and interactions of its inhabitants (Kemp, 2012). The environment of the new capital was close to the river and the arable land of its banks. A long road ran north to south connecting most of the sections that made up the city. It began at the small North Riverside palace and northern suburbs and moved south through the larger Central

City. The Central City was made up of the Great Palace, Great Aten Temple, Small Aten Temple, as well as the administration buildings, barracks, stockyards, and bakeries that were for the court and temple staff. The road ended in the Main City, south of the Central City. It was divided into north and south neighborhoods, with the Southern Suburbs at the end. Out in the desert to the east, (the river was to the west), were the cliffs that held the elite tombs and the Workman's Village and Stone Village, which likely housed the laborers and artisans responsible for cutting and decorating the twenty-five elite tombs that included the royal family's tomb. A network of roads in a crude web-like array linked the various sections (Kemp, 2012: 153).

Society in Egypt during this period was one centered on patronage, an elite or rich personage, usually with a position in the court, military, or priesthood, would occupy a large estate. Small village-like neighborhoods made up of the more modest homes of those dependent upon the patron would surround these mansions, making up the neighborhoods of the city (Kemp, 2012: 44). Certain households of these patrons and their attendant villages have been excavated, mapped, and the artifacts recovered recorded and are critical for understanding the full range of living conditions in the city. The households of Panhesy, an Aten priest, Ranefer, a chariot officer, Thutmose, the sculptor, the palaces and barracks of the Central City, as well as the Workman's and Stone villages are well studied and will be discussed extensively in the proposed osteoethnography (Kemp & Stevens, 2010). Excavations of "around 1,150 {buildings with} an average of 50.7 houses per 200-metre square" (Kemp, 2012: 271) have revealed information about common occupations, home construction and decoration, use of space, dietary and sleep practices, religious ritual in the home, and more (Kemp & Stevens, 2010).

From this data, a recreation of both the physical and social landscape for a scientifically grounded narrative can be constructed. The narrative will describe activities the people who

occupied these areas most likely would have undertaken such as food preparation, glass work, metallurgy, weaving, farming, cleaning, water bearing, and more. There is an exposition on what is known of family structures, social dynamics, and domestic behaviors within the different types of households. Documents from Akhetaten and other sites from around the same period of time, such as a census document and more from Deir el Medina, tomb paintings depicting families, legal documents, and private correspondence were used to inform the theoretical family units, examine occupations within households, describe enacted daily chores, and to explicate on the interactions between family members, friends, neighbors, and people of superior, equal, and inferior social status.

A timeline of the construction of the city and important events that occurred during its inhabitation was assembled and linked to the development of the South Tombs Cemetery. This was used to illustrate how the Egyptians understood and marked the passage of time. For those who followed the polytheistic religion, seasonal and celestial patterns were significant elements that influenced ritual behaviors and celebrations. Calendars have been found that informed adherents of auspicious and inauspicious days and the holidays that marked special occasions such as the inundation of the Nile or harvest times (Pinch, 2002: 29-30).

All these factors will assist in examining how life was lived at Akhetaten, how disrupted the ancient beliefs were by Akhenaten's philosophy and religion, and the type and amounts of stress being experienced by the people. This example of osteoethnography is used to demonstrate the usefulness and possibilities inherent in this new technique for taking human remains and imbuing them with the agency they possessed in life so that the impact that the environment, culture, and their everyday lives, had on their skeletons can be more fully assessed and appreciated. This osteoethnography can be a template from which the practice can be further

developed into a useful tool for bioarchaeologists to present the contextualized stories of the people of the past.

Akhetaten is a moment in time preserved by the actions of those who sought to destroy it and suppress the memory of one man's heresy. It has left Egyptologists hypothesizing about why this religious movement failed and why the Kings who came after worked so assiduously to obliterate Akhenaten's existence. Many of these questions and theories could be addressed by constructing an osteoethnography of the people of Akhetaten.

Akhenaten and his courtiers had their tombs cut into the cliffs that surrounded the city, but the non-elite citizens that made up the majority of the population were buried in the five cemeteries in the hinterlands near the cliffs (Kemp *et al.*, 2013: 67). Helen Fenwick discovered the cemeteries in 2001 and because the South Tombs Cemetery was determined to be the best preserved from modern grave robbers, it was selected for and underwent excavation from 2005 to 2013 (Kemp *et al.*, 2013: 65-67). Approximately five thousand people were buried at the South Tombs Cemetery alone; this was estimated after excavations based on the extent of the boundaries and how many bodies were recovered. The cemetery represented people from all over Egypt who came to contribute to the construction of the new capital city as evidenced in Gretchen Dabbs and Sonia Zakrzewski's craniometric studies (2011), which determined the diversity of the population. It provides a unique opportunity, a glimpse of the population dynamics of a country made up of many cities, towns, villages, and colonies established in conquered cultures, as well as trade and intermarriage with neighboring foreign nations. Each skeleton offers insight into biological, cultural, and environmental influences in ancient Egypt during the end of the 18th Dynasty.

The cemetery is located in a wadi, or dry riverbed valley approximately three miles from the Main section of the city. It was excavated in sections: the Wadi Mouth, Lower, Middle, Upper, and Wadi End Sites with a few additional test squares to determine the boundaries of the cemetery (Kemp *et al.*, 2013: 67). Four hundred and seventeen individuals were excavated, given individual numbers for identification, and taken to an onsite laboratory to be studied. Extensive osteological analysis was conducted and all pertinent information was recorded and stored in files with the archaeological reports for each grave in a database. From these files, a sample of one hundred individuals was selected based on the results of osteological analyses and cemetery context in order to ensure that the most complete information was available to create profiles for each person and to ensure that the sample was representative of the cemetery as a whole. The one hundred people will be employed as proxies of the population, portrayed as living individuals performing the actions common to their age, sex, and social position based on what is known through archaeological and textual evidence.

An examination of the culture of 18th Dynasty Egypt through primary sources such as art, literature, tomb autobiographies, personal and political correspondence, court documents, religious treatises, and medical texts was undertaken and, in conjunction with the profiles, has been used to hypothesize how each person was situated within their culture. The work accomplished by archaeologists on the city and the graveyard aided in generating a scientifically informed reconstruction of the city as it would have been for the eighteen to twenty years of occupation and provides a stage for a theoretical perspective of these people's life-ways to be enacted.

Organization of the Dissertation

This dissertation is comprised of five chapters, six appendices labeled A-F, and a bibliography. The first chapter is an introduction to the research, the archaeological site of Akhetaten, known in modern times as Amarna, a description of the sample, how the dissertation is organized, and a statement about the goal of this dissertation.

Chapter Two discusses the theoretical perspectives and literature reviewed in order to create the concept and to write the osteoethnography of Akhetaten. It reviews the work of cultural anthropologists, bioarchaeologists, archaeologists, and Egyptologists that have been experimenting and developing ways of presenting anthropological observations, hypotheses, and theories.

Chapter Three is the methodology used to create the sample and write the osteoethnography. It details the steps and research that made the construction of the osteoethnographical narrative possible. It describes the osteological examinations the skeletons underwent and the data that was used in order to choose the one hundred individuals. It will also detail how that information contributed to establishing osteobiographical profiles (Appendix C) that were essential to grounding the narrative in the lived reality that impacted the skeletons of the people who comprise the sample.

Chapter Four is the osteoethnography written in a narrative style from the perspectives of eight individuals, this allows for differing viewpoints of life in the first month of the city's founding and construction. Notes for each of the eight sections, referring to the sources for the information used, is present along with a list of the names and individual numbers that were assigned to each skeleton presented in the narrative are to be found at the end of the narrative.

Chapter Five is the conclusion and discussion of the project, reflecting on the efficacy of the osteoethnography and the purpose it is meant to serve. There is a section in which reflective analysis of the osteoethnography is undertaken. There is also a deliberation on the limitations and future uses of the technique. It also suggests future research possibilities.

The Appendices that follow the dissertation contain Appendix A: a list of the individuals selected for this dissertation, with their numbers assigned at excavation, their estimated ages and sexes, and the ancient Egyptian names given to them for the project. Appendix B: a description of the family groups assigned to each individual and how they were portrayed as being related. Appendix C: the osteobiographical profiles, describing the osteological information, burial descriptions, and research into ancient Egypt that tie to the osteological and archaeological data. Appendix D: the individuals with linear enamel hypoplasias which were measured and input into mathematical formulae used to determine the age an individual was when they experienced childhood physical or psychological stress that disrupted the formation of dental enamel. Appendix E: a list of the individuals with their physical descriptions of how they would have appeared in life based on skeletal data. Appendix F: a timeline of known events during the eighteen years of occupation at Akhetaten from 1350 to 1330 BCE. All of this information was crucial in constructing the osteoethnography.

Broader Impact Statement:

Osteoethnography, as described above, is a way to express how each human life contributes to the greater story of humanity and how human remains provide valuable insight about ancient life-ways. Osteoethnography will be an innovative technique for generating theories, discussions, and narratives about how lives lived leave traces on the skeleton. Creating a methodology and guidelines for this new presentation style and testing its efficacy could supply

bioarchaeologists with a vehicle for transmitting their findings and theories to a larger audience and increasing awareness of the contributions bioarchaeology can make to understanding archaeological sites. The accessible narrative approach can be easily shared and understood by members of the public who may not otherwise be familiar with the discipline of biological anthropology. Other projects with similar aims, such as the “Written in the Bone” exhibit at the Smithsonian National Museum of Natural History, have attracted millions of non-practitioners to explore the intersection of history and archaeology. The osteoethnography is also an opportunity to create an interdisciplinary dialogue, allowing for new contributions and theories about archaeological sites where this approach can be utilized to enhance the understanding of ancient cultures.

This particular osteoethnography seeks to examine in depth a pivotal moment in ancient Egyptian history at a site that has led to a great deal of speculation amongst archaeologists and Egyptologists about the violent reaction to Akhenaten’s religious revolution. It is also a chance to increase awareness and interest in an important archaeological site and aid in conservation efforts. This technique is also meant to show the extent of the impact individuals have on shaping the world around them while in turn the culture they are a part of shapes their lives and health.¹

¹ The Osteological and Archaeological data utilized in this dissertation will be available to the public through amarnaproject.com once the databases under construction are completed.

Chapter Two: Theoretical Premises

Crafting an osteoethnography draws on cultural anthropology, archaeology, and bioarchaeology to present an interpretation of what is known about the people who participated in ancient cultures. It is a way of situating active agents back into the environment and society that shaped their experiences as well as their bodies, in a way that engages readers to imagine and empathize with people who lived in a world that no longer exists.

Cultural anthropology is the source of many theories and practices that have permeated the entire field of anthropology. Cultural anthropologists work to explain how and why humans developed culture to a complexity that, as far as we know, surpasses any other animal on the planet. Culture played a key role in humanity's ability to adapt and thrive in almost every environment. Early anthropologists originally believed that all cultures evolved along the same path but at varying speeds, this was largely fueled by ethnocentrism and the majority of early anthropologists were products of the system of Imperialism, which they sought to justify and support through their studies. Now most cultural anthropologists are concerned with understanding the ways cultures form and the impact environment, social interactions, power relations and more effect culture. One of the first major shifts in cultural anthropology came from Franz Boas who "advocated for an approach called historical particularism... that cultures arise from different causes, not uniform processes... According to Boas anthropologists... must study the particular history of each culture to see how it developed" (Guest, 2018: 42). One of Boas' students, Margaret Mead, focused on how individuals experience enculturation and how that shapes both personality and position within culture (Schwartz, 1980: X). Boas, Mead, and another of his students Ruth Benedict, as well as British structural functionalists such as

Malinowski, Turner, and Evans-Pritchard popularized what is now considered one of the main tools for describing and analyzing culture: ethnography.

Structural functionalism posited “that each element of society serves a particular function to keep the entire system in a state of equilibrium” (Guest, 2018: 43). Unlike Boas, they had little interest in historical context but rather were concerned with the different parts they thought of as making up culture like political and economic systems, religion, or kinship groups- and what contributions they made to a specific culture’s formation. Malinowski held that it was the needs of the people that drove how culture formed (Blasco and Wardle, 2007: 199).

The work of Marx and Engels heavily influenced anthropological theory and thought during the 20th century. Marx was mainly concerned with capitalism, economics, workers, production, and the power structures put in place by cultures to maintain their control. Marx believed “no point in time could be understood without looking at the social forces which led up to that point... [He thought] people learnt about the world through working with it... [That] labor not only transforms the world and make[s] useful things for people to live on, it is a two way process which shapes people through their productive action” (Gosden, 1999: 105-106). While this may seem to apply mainly to cultures since the industrialized revolution, certain cultures, like ancient Egypt, maximized what they were able to create through a highly controlled workforce. This makes the theory applicable to such cultures in order to better assess the bearing labor and production had on influencing the lives of the workers.

In response or even in reaction to Marxist theory, Marvin Harris developed the theory of Cultural Materialism. Harris was concerned with the costs and benefits of behaviors and how they become habitual, even revered. He examined the stories that arise to explain behaviors, and the way those behaviors are shaped by the environment and the people using them. The

principles of cultural materialism are comprised of several components: infrastructure, structure, and superstructure. “Infrastructure includes the means of production and reproduction... the structure and superstructural components refer to social behavior involved in domestic (intragroup) economies and political (intergroup) economies and to the institutional features such as religion, recreation, and the arts” (Lloyd, 1985: 282-283). Harris thought that explanations for cultural behavior by its practitioners developed after the behaviors they explained had been established. For example he used the religious taboo against eating pigs found in several Middle Eastern religions. Cows, goats, and sheep have multiple benefits such as meat, milk, wool, and oxen and cattle’s use as draft animals that made their cost to maintain acceptable. Whereas pigs are difficult to herd and require a great deal of water, which is costly in the largely arid environment, and the pigs only had the benefit of being a source of meat, this makes it practical not to keep or eat pigs and so in time religious views reinforced a behavior that was already common (Lloyd, 1985: 284-285).

Harris also explored ideas now conventional in ethnographic practice- the emic and etic perspectives. The emic perspective is when a person from a specific culture discusses that culture, knowing and having lived by its rules and customs. The etic perspective is when an outsider describes and analyzes a culture of which they are not a member, which, though it creates distance for the investigator can allow for the observation of the culture from a unique viewpoint that reveals what otherwise might be hidden by familiarity.

Another theory developed around the same time was the concept of Habitus by Mauss, whose theory of practice saw, among other things, the body as being produced through culture. He studied the ways people used their bodies, for example the differences that exist between cultures for things like posture, ways of walking, running, or swimming, and how these

differences are generated through enculturation (Gosden, 1999: 124). Bourdieu, an anthropologist who abandoned structuralism, added that human actions “give rise to thought and feeling, but conscious appreciation of the world also affects the way [humans] act... [That] there is an important and complex relationship between thought and action” (Gosden, 1999: 125) building on Maus’ theory.

Another theory that is in some ways tied to Habitus is Phenomenology. Developed and expanded upon by anthropologists and philosophers such as Husserl, Merleau-Ponty, Heidegger and more, Phenomenology is concerned with lived experience. What the body is subject to and how the mind perceives the world, and how the body is predicated on the idea that “there is a world that exists independently of our experience of it” (Desjarlais and Throop, 2011: 88). It is a complex theory that has been applied to studies ranging from documenting physiological reactions such as pain and illness to exploring processes of morality or creativity. Embodiment, which is one of the most significant aspects of Phenomenology, is the idea that it is through the body that humans experience life and the world.

Clifford Geertz adopted the theories of Phenomenology and Embodiment to study how people use signs and symbols, how symbols affect the way people communicate with others, and even interpret their own lives. These symbols “operate as vehicles of culture” (Ortner, 1984: 129). Geertz maintained that culture wasn’t just something that people carried in their minds, but was present in the actions and symbols people utilized to act out and/or transmit their experiences and knowledge. Geertz thought anthropologists should employ what he called thick descriptions, borrowed from Gilbert Ryle, as a style of writing for anthropologists. It was meant to help the reader better understand the events or cultural actions of a specific group in a way that

evoked the “volatile and evanescent acts of living” (Langness, 1978: 18) within a particular culture.

Feminist theory was also highly influenced by Phenomenology and utilized Embodiment in particular. Both theoretical perspectives are mainly concerned with understanding how the self is constructed, the ways that culture/society dictates, and in a sense projects, a social identity onto an individual from birth. There was a reaction by Feminists against the ways certain theorists took aspects of identity- mainly sex and gender- and overlooked or took for granted the consequences of the act of identity formation. Feminists also had an interest in the differences among individuals of what is expected and how social identities are always undergoing a process of formation and reformation over the course of an individual’s life (Butler, 1988: 519-520). Feminist theory also rethought “ethnographic writing. [Debating] the historical, political construction of identities and self/other relations, [probing] the gendered positions that make all accounts of, or by, other people inescapably partial” (Clifford, 1986: 19). A debate which continues to impact how and why ethnographies are written, questions what purpose they are meant to serve, and who ethnographies are meant to represent.

Edward W. Said advocated for Humanism, a theory “centered upon the agency of human individuality and subjective intuition [that is] the final resistance... against the inhuman practices and injustices that disfigure human history” (Said, 2003: XXIX). Humanistic anthropology isn’t a distancing from the scientific as some have suggested, but is rather a call for a more holistic approach that focuses on the meanings humans create and how we comprehend the world that draws on both the scientific and the creative.

Starting around the same time as Geertz and “the culturalist perspective... partly overlapping with the Marxist/political economy approach, new critiques were taking shape that

also insisted on the importance of taking questions of power, inequality, domination, and exploitation into account” (Ortner, 2016: 49), this coincided with the rise of Post-colonialism and Feminism. Ortner refers to this approach as ‘dark anthropology’ because it “emphasizes the harsh and brutal dimensions of human experience, and the structural and historical conditions that produce them” (Ortner, 2016: 49). In contrast, Ortner also presents the recent reactions to the dark anthropology movement in what she terms the ‘anthropologies of the good’ in which some anthropologists argue for a positive focused anthropology studying well-being, happiness, and ways to create positive change. A subfield of this approach is the “work on morality and ethics” by Michael Lambeck (Ortner, 2016: 59) that examines “the caring and ethical dimensions of human life” (Ortner, 2016: 60). This position also stresses the importance of empathy in generating connections and appreciation between individuals and cultures.

The theories I have outlined above are not necessarily contradicting or being in opposition to each other; rather they provide the layered and ever evolving interpretations that make up cultural anthropology. The fluid nature of the development of cultural anthropology has been reflected in the elaborations and stylistic transformations found in ethnography.

There have been many definitions of ethnography- what it is and what it is meant to accomplish- but I use the term as defined by Wolcott: “The purpose of ethnographic research is to describe and interpret cultural behavior” (Wolcott, 1987: 5). This requires an understanding not of one particular person, but of different members of the culture offering varied perspectives, such as what it means to be a woman, a man, young, old, differently-abled, of a particular social status, and more. Ethnography “is a qualitative design in which the researcher describes and interprets the shared and learned patterns of values, behaviors, beliefs, and language of a culture sharing group” (Creswell, 2013: 90). Cultural anthropologists who practice ethnography seek out

cultures they feel can be better construed by examining them through the lens of a theoretical approach or approaches, that they can offer valuable insights into how cultures work and are produced. Ethnography can also bring awareness to other cultures in order to help others better appreciate them. The ethnographer looks for patterns to elucidate the way a culture is transmitted, how it shapes the thoughts, feelings, and behaviors of the people who participate in that culture (Creswell, 2013: 92). Through description and analysis the ethnographer is presenting their knowledge of the culture to readers.

This makes ethnography contested ground however, determining accuracy and whether descriptions and interpretations truly project the culture. This has been intensely debated among cultural anthropologists. First there is the issue of what informants and interviewed people say to the ethnographer and the contradictions between how they believe they should behave versus how they actually navigate their own culture. This is just one of the reasons ethnographers take in multiple perspectives and also observe closely to find these inconsistencies, informants can purposely lie if they don't trust or have a rapport with the ethnographer or try to tell the ethnographer what they think the scientist wants to hear. Another problem stems not from the culture being observed, but the observer, as Malinowski's published personal diaries show, the ethnographer carries with them beliefs and biases shaped by their own culture that can affect the way they interpret others. Having a theory or theories can help keep the ethnographer focused on answering their research question, but a reflexive assessment of themselves is also warranted to fully comprehend the motivations and biases that could detract from the fairness or veracity of their cultural portrait.

Reflexivity "refers to what is otherwise known as the author's or the discipline's self-consciousness... a focus on the narrator's proverbial self: self-examination, self-strategies, self-

discovery, self-intuition, self-critique, self-determination, selfhood” (Nazaruk, 2011: 74). When an anthropologist conducts a study, collects and deciphers data, asks research questions, or focuses on a subject of study, their personality and thought processes have already influenced the work they are doing. Reflexivity is meant to make the anthropologist confront this truth, explore their motivations and experiences and present them to the readers so that the audience can discern who the anthropologist is and how that impacted their work. When an anthropologist is relating what they witnessed or presents interviews, there can be questions about whose story is being told, the culture’s or the anthropologist’s. The reality seems to reside somewhere in the middle, ethnographic accounts are the depictions of real cultures but from an individual’s perspective.

However, though it’s importance is acknowledged by most, some believe reflexivity can be taken too far. In a critique by Philip Carl Salzman, he points out that people don’t need to be “like others to understand them... reflexivity seems to doubt the human capability of empathy, sympathy and imagination... To live in society, and even in our families, means that we all, to some degree, learn to understand people different from ourselves” (Salzman, 2002: 808).

Salzman believes that collaboration and the “perspectives and insights” (2002: 812) of others combined with our own will also work to ground ethnography and protect it from becoming completely subjective or subject to bias and allow for a fair exploration of culture.

Some people think that reflexivity isn’t enough, that anthropologists should go even further in ensuring an ethnography serves its purpose. Ethnography isn’t just about presenting one person’s experience of a culture or of the world, but in Stephen Linstead’s opinion, is more about our ways of understanding the world. He believes that over reliance on science and the attempt to create an artificial distance between the data and the researcher has had a dehumanizing effect in

anthropology (Linstead, 1994: 1336). Linstead advocates strategies or modes of presentation that: “move beyond normal social science (without necessarily abandoning it) to increase the ‘play’ of our modes of investigation and understanding, to blur the boundaries of our disciplines and move between intellectual genres” (Linstead, 1994: 1341-1342). There are a growing number of anthropologists who believe one of the ways to blur those boundaries is to experiment with the form of ethnography itself.

One of these experimental forms is the ethnographic novel. Writing ethnography is about describing a culture, sharing a reality that other people experience, how they view that reality, the concepts and values that shape who they are and the meaning that life has for them. Several anthropologists have remarked on the abilities of fiction writers, particularly novelists, to convey similar information, drawing readers into the realms of other cultures by capturing their empathy and imagination. It has even been pointed out that:

“there is a possibility of portraying a complexity of lived experience in fiction that might not always come across in theoretical explication, even one that is concerned with elucidating the complexity of power relations and human interactions... fiction can... be used to broaden the researcher’s audience... involves the reader in a sensory manner, and can be more enjoyable to read than academic writing” (Frank, 2000: 483).

However, this goes beyond merely an accessible style for broader audiences, anthropologists take in a great deal of information, they absorb the details of many lives to find and record the stories about other people, examine and interpret artifacts and meanings, comb through primary and secondary sources for supporting evidence, and learn about aspects of a culture and the people who practice it from birth to death, from home to grave. It can be difficult and reductive to take one or a few aspects and remove them from the context of lived experiences to better comprehend those lives. The ethnographic novel:

“may prove a better medium than the standard or topical ethnography. If we acknowledge our creative abilities rather than pretend they do not exist, if we allow ourselves to read perceptively, and if we are honest about our intent and limitations in presenting ethnographic materials, there would seem to be no compelling reason that an ethnographic novel would not be as useful or as legitimate as the standard monograph... To accurately convey the lives of strangers, their systems of significant symbols, and the plots and counterplots of life would seem to demand a rich and flexible prose style” (Langness, 1978: 21).

The ethnographer is taking in all the data they are able to experience or study concerning a culture and then filtering it through their mind to present their understanding of that culture.

Anthropologists are struggling with these ideas, there is the use of reflexivity, but some question if reflexivity can cancel out the fact that ethnography is one or a few peoples' interpretation of a culture, not the culture itself. Ethnography can communicate the essence of a culture, but only from the ethnographer's point of view. Even when presenting the recordings made of informant's interviews, the informant is giving their single viewpoint while the ethnographer is in control of what questions are asked and which answers are recorded. Anthropologists rely on scientific discipline to guide and protect the Truth that is being imparted. The manner of transmission, whether novelistic and prose like or scientific and terse, doesn't destroy or harm that Truth.

Geertz points out that:

“to argue... that the writing of ethnography involves telling stories, making pictures, concocting symbolisms, and deploying tropes is commonly resisted, often fiercely, because confusion of the imagined with the imaginary, the fictional with the fake, making things out with making things up. The strange idea that reality has an idiom in which it prefers to be described, that its very nature demands we talk about it without fuss... on pain of illusion, trumpery, and self-bewitchment, leads to an even stranger idea that, if literalism is lost, so is fact” (Geertz, 1988: 140).

The anthropologists who employ fictional modes resist these ideas that there is only one way to present anthropological findings. Narrative formats are extremely suitable for ‘evoking’ everyday life, the way its lived by participants of a culture while embracing the subjectivity of each individual’s point of view. In his ethno-fictional novella Auge says:

“Truth is not a literal transcription (supposing such a thing were possible) of the elements of reality. Novelists know this, but they sometimes take as a starting point, before flying free from it, a theme, word or concept borrowed from anthropology. The anthropologist is doing the opposite: [they] are using the novelists mode of exposition to suggest the fleshly totality of emotion, uncertainty or anxiety concealed within the themes [they have] picked out, the words [they have] used and the concepts [they have] tried to develop... the character [or characters] round which an ethnofiction is built is, in any event, a witness to his or her times and, in the best cases, a symbol” (Auge, 2013: IX).

Writers of ethnofiction defend the veracity and purpose of their work. Regardless of style, the depictions they offer are just as valid as traditional ethnography. It is the purpose that should matter in anthropology, the motivations of most fiction writers is to create a world with their minds that entertains readers,

“whereas the social scientists interpret the [world] they study... the ethnographic imagination implies the power to make sense of the world that subjects create by relating it to larger structures and events. Indeed, this imagination shares certain traits with that of fiction writers, notably the attention to the significant details of life that render each individual singular, impenetrable, unpredictable... social scientists attempt, at best, to put together some of the pieces of the worlds they study, aware that these pieces had a previous life, which they tentatively recreate” (Fassin, 2014: 53).

It is to the ‘best’ that these ethnographic novelists set their sights, hoping to convey the complex realities of lived cultures so that others can better understand those cultures, can empathize with the participants, appreciate the mind of the ethnographer and the ethnographer’s cultural

influences, while reflecting as a reader on what they are inferring and projecting onto that culture. This is what ethnography, regardless of stylistic conventions, is meant to do. It is the purpose of all anthropology.

The other fields of anthropology have followed the evolving theories and styles of cultural anthropology, seeking ways to grow and enhance the studies and interpretations of what it means to be human and what purpose culture serves. Archaeologists and bioarchaeologists are concerned with how the cultures of the past can inform our understanding of the present world, and how learning and reflecting on the successes and failures of past cultures can guide humanity into the future.

Within archaeology during the 1980's there was a call for "a socially aware archaeology, which took account of individuals, agency, and human intentionality" (Meskell, 1999: 23). This came after the New Archaeology movement had "lost much of its ground to the interpretive, symbolic, and structural approaches" (Hodder and Hutson, 2003: 1). Hodder led the way in advocating for an archaeology grounded in agency theories, the meaningful construction of material culture, and the idea that archaeology had to acknowledge its close ties to history as a field of study (Hodder and Hutson, 2003: 1). From this new focus, other archaeologists began to discuss and incorporate cultural anthropological theories that could assist in new ways of analyzing and deciphering the past. Fowler, looking at ethnography, formed what he called an archaeology of personhood, that instead of trying to find universal laws of culture, tried to understand how personhood is produced in different cultures and what evidence could be found archaeologically to point to these formations. Archaeology of personhood "investigate[s] how past people were generated alongside their social worlds, through social technologies, and [looks] for the key metaphors and principles that structured daily lives" (Fowler, 2004: 4). It is a

theory that investigates the traces of relationships, transactions, and ways of participating within a culture, a way of humanizing the past (Fowler, 2004: 85-88). It is not the only theory drawing on agency and humanizing the past in archaeology.

Feminism was growing as a movement within archaeology as well and it was closely related to the archaeology of personhood. The main foci of feminism grew to be embodiment and the individual. For Meskell, embodiment in archaeology:

“is made up of a number of related experiences. First, there is the materiality of the body... Secondly, there are the elements of construction, the social setting and the constitution of the body, depending largely on cultural context... Thirdly, there are the operations of sex and/or gender upon the body, plus all the other identity markers of sexuality, age, ‘race’, ethnicity, disability, *et cetera*... And lastly there is the individual dimension: what is uniquely our experience of living in and through our own specific body” (Meskell, 1999: 37).

Feminist archaeologists were also concerned with the way body impacts how culture is experienced, the way sex/gender and other roles are constructed, and how archaeologists should search for evidence of cultural behaviors. Janet Spector, in her 2009 book What this Axl Means: Feminist Archaeology at Wahpeton Dakota Village, talks about how her work and her experience within the field of archaeology made her want to “communicate in an easily accessible way what we had learned about the Wahpeton community... to highlight women’s activities and the relations between men and women... [and] to incorporate Dakota voices, visions, and perspectives into [the narrative]” (Spector, 2009: 24). There was a concern for how, for a long time, women and children seemed to be almost invisible from the archaeological record; the activities of what was believed to be the feminine domain were not as well studied at sites. Western, largely Victorian, ideas about what it meant to be a male or female, how that informed behavior, still impacted some archaeological interpretations of sites, graves, and

artifacts. Just as with archaeology of personhood, the most important goal of Feminist archaeology is humanizing the past. One of the ways feminists and a growing number of other archaeologists are doing this lies not just in the questions they're asking or the evidence they're interpreting, but also in the presentations of their analysis. Spector's book, for example, utilizes a fictive narrative "rather than a typical 'objective' report... [to] both humanize the people she studied and relinquish her own authority as a neutral scientist- a writing practice that is increasingly common in historical archaeology" (Voss, 2006: 111). The trend to experiment with narrative versus 'typical' report writing has grown beyond Feminist archaeology, and is increasing in popularity in many different archaeological approaches due to the desire to better convey the way archaeological imagination informs interpretations.

All archaeologists, regardless of theoretical backgrounds or methodological preferences are inspired in their work by the archaeological imagination. Archaeological imagination

"recreate[s] the world behind the ruin in the land... reanimates the people behind the sherd of antique pottery, a fragment of the past: this is the work of the archaeological imagination, a creative impulse at the heart of archaeology, but also embedded in many cultural depositions, discourses and institutions commonly associated with modernity. The archaeological imagination is rooted in a sensibility, a pervasive set of attitudes towards traces and remains, towards memory, time and temporality, the fabric of history" (Shanks, 2012: 26).

Shanks thinks there are different types of archaeological imagination influencing modern culture in everything from Renaissance Fairs to video games with detailed reconstructions of ancient times; to more scholarly reconstructions like museum displays and academic books (Shanks, 2012: 26). A major component of archaeological imagination is the act of world building, taking all the evidence recovered and presenting versions of worlds lost to time. According to Shanks: "at the heart of archaeological imagination is *creative* practice that cuts across science and the

humanities... to look beyond the academic discipline of archaeology through memory practices, tradition and innovation to a (modern) human condition... to find ways... [to] enhance and enrich human experience now and for the future” (Shanks, 2012: 154). Finding ways to employ this imagination for such a lofty goal has been a driving force for many archaeologists, influencing their experiments with writing and how they interpret archaeological sites and cultures of the past.

In Languages of Archaeologies, Rosemary Joyce believes that “the process of creating narratives permeates archaeology from the initial moments of investigations of sites through to the production of texts” (2002: 1). Joyce considers many of the reports and articles written about sites as dialogues- between archaeologists, between writer and reader, and between the writer and the past. They can also be dialogues with the makers of artifacts or buildings, a discussion between the archaeologist and the peoples of past cultures who created the traces being studied. Interpretation through writing is a way to discover a glimpse of the thoughts, words, and uses that the people of the past attached to an artifact. Joyce points to the growing trend in experimentation with the literature of archaeology. For example she presents a narrative she created based on the find of several women’s graves at the site of Tlatilco, she sees herself as an archaeologist and a writer enacting: “the reality that we have only fragments of past dialogues and that these fragments may be... better thought of as like memories or dreams of the past than as daylight visions seen from the all-knowing perspective of a viewer hovering in the sky. This narrative... tells a compelling story about the past. It is not through any one way of telling stories, but the cumulative effect of multiple narratives that the richness of past experiences can possibly be hinted at in a responsible fashion” (Joyce, 2002: 146). Joyce thinks that while scientific writing is useful, it can’t always contain or best exhibit the insights archaeologists

come to through the stories, their understanding of the site, and their archaeological imaginations. She thinks it can be just as useful to craft “compelling stories” (Joyce, 2002: 122) that draw in the reader and show them the way an archaeologist views the past.

James Deetz takes this idea further, outright stating: “simply put, archaeologists *are* storytellers. It is our responsibility to communicate to as wide an audience as possible the results and significance of our findings... [We must admit] any account of the past, whether based on excavated materials or documents, is a construction... Narrative style... succeeds in drawing out the emotional content of the material as well as the intellectual” (Deetz, 1998: 94-95). Guiding the reader, with emotion and description, into the past, helps the audience invest in past cultures. This is just as important for Deetz as conveying the information about the site. In his book about the Virginian plantation Flowerdew Hundred, Deetz discusses how:

“the artifacts, house foundations, abandoned well, and all the other things unearthed by the... archaeologist provide us with a rich basis on which to construct varied aspects of the past, often detailing that which otherwise might remain less visible in a very literal sense... they provide access to new perspectives on history and, in many instances, permit us to make statements that would have been impossible in the absence of archaeology” (Deetz, 1993: 170).

Deetz begins and ends his book with first a fictive vignette about a woman, listed as a real inhabitant of Flowerdew Hundred in 1626, who breaks her pipe, a real artifact recovered from the site, and ends with a narrative about the female archaeologist who recovered the pipe in 1983. Deetz describes this moment as, in a way, the two women meeting each other and that the “circle is closed” between the past and the present through the finding of the pipe (Deetz, 1993: 174). Deetz represents in this writing the feeling most archaeologists experience in uncovering evidence left behind by the people of the past. It is an emotional connection Deetz believes shouldn’t be denigrated or hidden behind the distanced affect of scientific writing.

Mickel also voices her concern for this denigration and favoring of technical reports over narratives in archaeology. One of her arguments is that technical reports don't tend to be read outside of academia. This means the general public is only exposed to archaeology through high profile excavations on television and sensational artifacts or finds. Audiences miss out on the vital stories that are being overshadowed by romanticized media representations that can undermine the real work archaeologists' do. These depictions encourage troubling behavior like looting, lack of knowledge or respect for stratigraphy or leaving artifacts *in situ*, or even bolstering "colonialist justifications for scientific inquiry" (Mickel, 2012: 108). Appealing to a wider public can have a positive impact in archaeology, archaeologists W. Michael and Kathleen O'Neil Gear reported a fan of their archaeological based novels who "was inspired to motivate her community into saving a mound slated for bull-dozing" (Mickel, 2012: 117). Informing people and forging connections between the people of the past and present fosters a respect and interest that should be sought, not downplayed. For too long there has been a "pervasive condition within the culture of academic archaeology... to disparage writing for wider, popular audiences" (Mickel, 2012:116). This is cutting off the nose to spite the face, as more archaeologists need to step outside of academia to entreat the public since funds are being diverted to other areas and fields within universities, Cultural Resource Management firms are often being downsized, and the government has shown a decidedly growing lack of interest in the humanities. It will be through connecting with the public and displaying the applicability and magnitude of archaeology and anthropology that will not only save the humanity/science but also allow it to thrive. Mickel believes that the utilization of a more personalized voice and accessible writing style will provide the public with better representations of the archaeological perspective- the way they work, how they come to understand the people of the past and the sites and artifacts

they leave behind, how that work can be useful and informative, and how uncovering the past preserves knowledge for everyone. It can show the public the different roles and activities an archaeologist undertakes, the mistakes and learning experiences, the interactions with other archaeologists and specialists that inform investigation, as well as the techniques of excavation, documentation, collection, and analysis (Mickel, 2012: 115-116). The archaeologist can demonstrate the fascinating knowledge they learn about past cultures in a writing style that reveals archaeologists' creativity, imagination, and empathy.

An excellent example of this type of writing experimentation is Charles Hudson's Conversations with the High Priest of Coosa. Hudson "call[s] this work a fictionalized ethnography, for although it is most definitely a fictional work in a number of important respects [he has] endeavored to make it as true to cultural and social facts as it is in [his] power to do so" (Hudson, 2003: XI). Hudson conceived of his tale about a fictional high priest of the Coosa people named Raven, who describes his now reduced and scattered peoples' worldview to a fictional depiction of the real personage of Spanish priest Domingo de la Anunciacion through translations by a captured Coosa woman named Teresa. It was Hudson's way of employing his archaeological knowledge and cultural research to "explore the philosophical and religious thought processes" (Hudson, 2003: XI) of the Coosa people. He was motivated to write the book by reading cultural anthropologist Marcel Griaule's Conversations with Ogotemmel, wherein a Dogon man explains his people's culture to the cultural anthropologist in an interview. Hudson wanted to "discipline and inform [his] fiction with as much evidence as [he] could muster; [he] wanted the Coosa world [he] portrayed to be as close to the real thing... [He used] extant but fragmentary materials from the various Native American peoples... employing threads of fiction to stitch these pieces together into something like a coherent system of belief" (Hudson, 2003:

XV). Hudson meant for his book to not only be his elucidation of a “fragmentary” culture, but to “impel others to seek out the archaeological, historical, and ethnographic sources on which [his work] was based” (Hudson, 2003: XVIII). Conversations with the High Priest of Coosa is the distillation and exploration of an archaeologist’s comprehension of the ancient people he studied for years. He used the ethnographic fiction to bring together multiple threads of evidence, his imagination and analytical abilities combining to translate the data he had collected into a coherent and absorbing account.

Kasia Szpakowska’s Daily Life in Ancient Egypt also experiments by using her imagination and unique writing style to present her knowledge of a Middle Kingdom Egyptian town called Lahun. She starts each chapter of the book with a fictive narrative paragraph “written as if from the memory of Hedjerit [a lower middle class woman who lived in Lahun according to a few ancient documents] and are based on the style of actual Egyptian texts” (Szpakowska, 2008: IX-X). Szpakowska wanted her book to reach a wide variety of readers. The book focuses on everyday aspects of ancient Egyptian life by following one family, depicting them using artifacts found at the site, presenting texts that were written by people from Lahun, and using archaeological evidence to delve into the thoughts and lives of Egyptians.

Utilizing a similar technique, David C. Snell’s book Life in the Ancient Near East, which acts as a kind of survey of several different past cultures in close geographical location, also includes introductory fictive vignettes in every chapter in order to counterbalance the archaeologists tendency “to lose sight of the fact that real people lived in the ancient Near East and an imaginative recreation may help [archaeologists and scholars] focus on what their lives were like. [He] has not created imaginary situations; all are attested either in the archaeological

or textual record. [He has], however, taken the liberty of imagining thoughts and speeches” (Snell, 1997: 1) to breathe life into these ancient cultures.

The use of fictive narratives in archaeology has allowed archaeologists to “look at artifacts in a fresh way... imagination untethered from the constraints of traditional archaeology’s writing conventions and taxonomic devices” (Spector, 2009: 49) reaches larger audiences and generates discussions and dialogues. Cultural anthropology and archaeology’s evolution of theories and experimentations in interpretations has had a growing influence on bioarchaeology.

The use of osteology in anthropology began mainly by comparing skeletons for the purpose of categorizing groups into ‘racial’ types or to add “descriptive inventories of the sex and age of skeletal remains found in excavations. The inventories were dry and lifeless, and their publications were forever buried as appendices in archaeological reports” (Armelagos and Brown, 2005: 593). Over time bioarchaeology came to encompass a range of techniques and theories aimed at “understanding big questions about the evolution of our species, such as the impact of agriculture or the emergence or reemergence of diseases” (Stoddard and Palkovich, 2012: 2), which left closer studies of the individuals who lived in the past largely overlooked unless they were associated with spectacular finds or artifacts.

In 1930, Earnest Albert Hooten, working for the Peabody Museum, wrote: The Indians of the Pecos Pueblo: A Study of their Skeletal Remains. It was one of the first in-depth studies to “attempt some reconstruction of the growth and decline of a population” (Hooten, 1930: 331). Like most biological anthropologists of his day, Hooten’s primary concern was the collection of skeletal measurements, especially craniometric data, to investigate largely ethnocentric views on the false concept of ‘race’. What has lasted from his writings and been the most beneficial part of

his work were the examinations of the skeletons recovered and how he promoted the usefulness of the variety of information they could provide archaeologists. He went beyond the measurements that obsessed many of his colleagues to gather information on age at death, sex estimations, and pathologies observed on the skeletons. He used this data to theorize about the health of the people who lived at Pecos Pueblo and presented population statistics of the people over the course of the Pueblo's occupation. Hooten's work would be critical to the formation of Bioarchaeology as a term and a field of study when Dr. Armelagos, Dr. Buikstra, and others created and advocated this approach to osteologists.

Hooten's book also contributed to Frank Saul's work in expanding the insights that could be revealed by human skeletal remains. It assisted in shaping his conception in the 1970's and 1980's, of osteobiography. Saul contended that osteobiography was a means "to reconstruct [people's of the past] as individuals and as a population, and to reconstruct their life in much the same way as the archaeologist uses ceramic and architectural remains" (Saul, 1972: 9). His initial study was done on a sample of ninety individuals skeletons from the ancient Mayan site known as Altar de Sacrificios. He hoped to better demonstrate to archaeologists the extent of the contributions all of this data could reveal about how people constructed and lived at certain archaeological sites. Saul intended for osteobiography to "illuminate a wide gamut of life conditions and events; unlike studies of the famous deceased, the emphasis [is] upon illustrating the composite lives of the general population" (Robb, 2002: 160). Saul's original osteobiography took the form that would now be more widely thought of as, in social bioarchaeology, a bioarchaeological overview pertaining to population rates of sex and age in the skeletal record of a site. It was basically population statistics for a site punctuated with information on certain, often unusual, individual's skeletons as specific evidence of some pathology or trauma.

The definition and use of Saul's osteobiography developed beyond his original intentions. Hawkey, in 1998, applied the term to using "skeletal remains to discuss the life of a specific prehistoric individual with a rare, severe, progressive medical disorder" (Robb, 2002: 160), or an individual with uncommon burial treatment, or as a case study representing a specific interest such as cranial deformation practices. Both modes of osteobiography are used, but the more popular version now is the one that focuses on one or a few individuals chosen for closer examination. These changes came about during the rise of the new archaeology movement. Osteological analysis was focused on explaining or describing "major biocultural trends in human adaptation... [such] as the contribution to understanding big questions about the evolution of our species" (Stoddard and Palkovich, 2012: 2). In this process, however, there was a tendency for certain individual's skeletons, particularly outliers, to be left out of reports to avoid skewing the data. These became the skeletons most likely to be used in the Hawkey version of osteobiography.

Bioarchaeologists are always investigating both new methods of gathering evidence from human skeletal remains and of sharing the data collected. For example, Life Course History has been adapted from cultural anthropology's examination of how the physiological processes of the life cycle of humans - such as birth, weaning, adolescence, maturity, menopause, and death - are experienced (Howell, 2010: 19-42). Life course theory is also concerned with the allocation of energy "as organisms proceed through their life cycle they harvest energy from the environment and invest it in various life functions" (Hill and Hurtado, 1995: 18). For humans, culture plays an important role in how energy is produced and spent, and different cultures prioritize types of energy, production of energy, and access to energy based on their environment and values. Skeletons bear indicators that can mark the impact of a culture on an individual's

energy production and use, their health, and their susceptibility to disease. This has compelled bioarchaeologists to “do more than just describe the anatomical details of ancient bones, but actually use the clues observed in the skeleton to decipher aspects of past lifestyle and behavior. Biocultural approaches in bioarchaeology emphasize the synergistic relationship of the social, cultural, and physical forces in shaping the skeletal body” (Agarwal, 2012: 29).

Bioarchaeologists have embraced the idea embodiment, as mentioned above as being first discussed by Merleau-Ponty and then built upon by other scholars like Bourdieu. Merleau-Ponty originally advanced embodiment “in the problematic of *perception*, and Bourdieu situate[d] embodiment in an anthropological discourse of *practice*” (Csordas, 1990: 7). Archaeologists were drawn to the concept of embodiment and how it could inform interpretations of past peoples connections to sites and artifacts. Naturally many bioarchaeologists became interested in how a perspective of embodiment could enhance their osteological studies and examinations. Embodiment and Life Course History have become integral to the branch of osteology now known as social bioarchaeology.

The purpose of social bioarchaeology “is to transcend the skeletal body into the realm of lived experience and to make a significant contribution to our understanding of the social processes of life in the past” (Agarwal and Glencross, 2011: 3). Social bioarchaeology is a movement away from the desiccated lists and descriptions decried by Armelagos. Heavily influenced by recent trends in archaeology and cultural anthropology- like material cultural studies, feminism, and Marxist perspectives for example- social bioarchaeologists want to read how culture is inscribed on the bones and translate the information for a more experiential, phenomenological practice of osteology. For social bioarchaeologists embodiment is imperative for “conceptualizing identities as the complex outcome of varied characteristics [which] allows

for a more nuanced construction of past categories of personhood. The past is no longer comprised of ‘faceless blobs’, but encompasses diverse peoples whose identities were contextually contingent and mutable throughout their lives” (Geller, 2012: 256).

Osteobiographies have acted as the preferred mode of transmission for many social bioarchaeologists to hypothesize, theorize, and/or experiment with ways human remains can contribute to archaeological and cultural knowledge.

One of the leading proponents of the bioarchaeology movement, George Armelagos, called for bioarchaeologists to: “reaffirm a worldview that incorporates an interdisciplinary biocultural approach with a cross-cultural perspective... [To commit] to understanding the adaptation and the evolution of social systems” (Armelagos, 2003: 27). Armelagos saw bioarchaeology not as an abstract pursuit for curiosity’s sake, but a social science to comprehend how and why humans are shaped by and shape their environments. Culture is perhaps the most significant strategy humans have developed to survive. A person’s identity within their culture, such as their sex, age, gender, ancestry, and/or status, impacts their access to resources and support within their community. The skeletons of our ancestors chronicle how different cultures succeeded or failed their participants and can contribute answers, or even solutions, for how, as E.B. Taylor said, we can leave “the world better than we found it” (1881: 440). In response to this injunction, Armelagos and social bioarchaeologists have been seeking the means of contributing to this difficult goal.

Inspired by Armelagos’ vision, social bioarchaeologists wanted to draw upon theories and techniques from other fields of anthropology and also recognized that they could make and receive contributions from non-anthropological fields for researching past cultures. In 1988, anthropologists were invited to present papers at an Economic History Association meeting.

Bioarchaeologist Jerome C. Rose and economics historian Richard H. Steckel began discussing certain skeletal indicators of stress and how to discern the impact diet, status, stress, and disruptions such as wars or political or economic crises, had on human health by examining specific markers on human skeletons. Techniques were developed or improved for identifying and recording these markers using everything from individual case studies to paleodemographic trends. This undertaking, called the Backbone of History (2002), led to a better understanding of the ways the skeleton retains the traces of past lives lived within different evolving societies, and how skeletons can assist with reconstructions of the living conditions of the people who participated in those cultures.

Another social bioarchaeologist inspired to use data from skeletons to create a unique theory was Lorna Tilley who developed the Bioarchaeology of Care. She has argued that certain individuals with skeletons that show signs of severe pathologies or traumas that would have impacted their ability to care for themselves, yet show they survived with those issues, are archaeological evidence that people cared for them. This evidence of healthcare in ancient populations demonstrates how important it can be to pursue new ways of assessing agency from skeletons. Tilley is striving to create a bioarchaeological theory that “draws out a deeper understanding of past lives and lifeways... the concepts of agency and identity- collective and individual- are integral to this process” (Tilley, 2015: 127). Many likeminded social bioarchaeologists want human skeletal remains to inform how they study and discuss the individual and their culture, to offer new avenues of research to bioarchaeological interpretations.

Jane Buikstra has been a leader in social bioarchaeology, with an “emphasis on framing studies to answer archaeological questions that require an appreciation for social theory”

(Knüsel, 2009: 64). She created the Standards for Data Collection with Ubelaker that are currently used throughout North America to identify and record skeletal data for estimating sex, age, trauma, pathology, and other information that can be assessed. Buikstra believes that “the analysis of human remains is crucial to a holistic understanding of past societies... to ‘resurrect’ ancient societies- their social worlds and personae- and to give them a more complete present reality and relevance” (Buikstra *et al.*, 2012:3). Buikstra has encouraged and motivated the work of social bioarchaeologists to unite the specialized analysis of skeletal remains with the theoretical approaches that will illuminate the cultures of the past.

Inspired by Saul, Armelagos, Buikstra, and more, Alexis Boutin has drawn upon socio-cultural, archaeological, and osteological data to present unique interpretations on the people from the sites where she has worked. Initially recovering individuals from tombs at a Bronze Age site in Syria known as Alalakh, Boutin

“successfully confronted the standard production of bioarchaeological knowledge, questioning its success in terms of both style and accessibility. Rather than couch her findings in strictly scientific terms and academic language, she integrates her findings into fictive narrative accounts of the life and burial of individuals, drawing upon multiple historical and contextual sources and employing multiple voices and perspectives that play across the life-death continuum. Her approach recognizes the multivocality that characterizes the creation of archaeological knowledge and highlights the plurality of past experiences” (Buikstra *et al.*, 2012: 22).

Starting with her dissertation and then continuing in several publications in books and journals, Boutin has reported on her archaeological excavations and subsequent osteological analysis of skeletons recovered from several different sites. Boutin first presents her findings in the traditional writing forms common to most bioarchaeological reports, however she then makes an

“interpretation of osteological data in [a] narrative format [that] relies on archaeological and historical information to flesh out the lived experiences... [These] narratives explicitly seek to avoid the ‘lifelessness’ that characterizes much of archaeological writing” (Boutin, 2008: 51-52). Boutin drew upon the work of feminist and post-processual anthropologists and archaeologists to create a style of writing based on phenomenological methods to show embodied and lived experiences of some of the people who died and were buried in the tombs and graves she excavates. Her goal, like anthropologists and archaeologists before her, is to foster discussions not only among anthropologists, but to engage other readers as well. Some of her proponents call on others to follow Boutin’s example in order to “affirm the importance of humanistic outreach... In the same way it is preferable for Kathy Reichs to write fiction about forensic anthropology while carrying a responsible professional background, it is better for professional bioarchaeologists to help capture and shape public imagination about what [bioarchaeologists] do” (Stojanowski and Duncan, 2014: 7). Boutin’s narratives are a way of presenting all aspects of the mortuary archaeological data, to rehumanize and describe how people within the cultures she studies reacted to death and remembered and honored their loved ones (Boutin, 2011: 111). Like the cultural anthropologists and archaeologists that influenced her, Boutin is pushing at the boundaries of what a bioarchaeologist can say about human remains and how they can say it in order to contribute to the holistic and experimental trend in anthropology. Boutin and others like her are not only trying to acknowledge the role imagination plays in the formation of interpretations and theories, but to capture the essence of embodied personhood in the past in order to make an empathetic and enlightening bridge between the peoples of the past and the present.

The theories and innovators from cultural anthropology, archaeology, and bioarchaeology have shaped this dissertation and the concept of osteoethnography. Osteoethnography is a writing style for expressing the *bioarchaeological* imagination, a way to present all of the data and conclusions bioarchaeologists come to in the course of their studies, in a compelling and dynamic way that will reach and inspire a broader audience.

Chapter Three: Methodology

Once the theoretical premise of osteoethnography was formulated and defined, it became essential to create criteria for choosing individuals for the sample. The sample had to be representative of the population buried in the South Tombs Cemetery. One hundred individuals was decided upon as allowing for a broad range of women, men, and children of varying social status with indicators to assist in examining an embodied life at Akhetaten.

Five criteria were used to select skeletons. The first was percentage available for examination, any individual comprised of 49% or less of skeletal elements were excluded. Second, individuals had to have clear archaeological data concerning their burial. Third, percentages of men, women, and children were divided into similar group ratios of the overall population buried in the cemetery. Fourth, preference was given, in adult individuals, to skeletons that had been assigned sex estimations. The list of individuals used in the sample for this dissertation research were arranged in a pattern of youngest sub-adult, youngest female, youngest male, continuing in that manner until terminating at the oldest individual. In Appendix A, a list with the archaeologically assigned Individual number is followed by an ascribed name, the individual's estimated age, sex (or for sub-adults an assigned sex is given in parentheses), and a family number indicating to which family in the narrative they belong.

All skeletons recovered from Akhetaten's South Tomb Cemetery have been through thorough osteological examinations. The data collected was recorded in individual folders for the South Tombs Cemetery Database that also includes the archaeological reports for each skeleton's excavation as well as photographs taken of both the grave and the skeleton. Each folder contains a burial description that includes several sections: where the body was recovered, evidence of

mortuary practices, and percentage of skeleton complete. There are also sections for recording taphonomic changes to the bone like salt encrustation and sun damage. Then information on age, sex, and stature estimations were entered. Small sections with overviews of skeletal lesions, trauma, anomalies, dental lesions and wear, non-skeletal materials recovered with the individual, as well as a place for additional information are all located on the first form.

A sheet with the skeleton in standard anatomical position from different angles is used to map out the bones recovered and their completeness. The sheets are different for adults, sub-adults, and infants. The next form also varies based on the age category; it is a bone inventory sheet with sections for age and sex estimations, where data from examinations and scoring of the os coxa and skull- including dental age and cranial suture closure scoring, are entered. There are both adult and sub-adult measurement forms depending on the estimated age of the skeleton, the sub-adult and infant forms also have epiphyseal union stages recorded where discernable. There are forms for observations concerning the skull and dentition. Also all forms for the maxilla and mandible for recording tooth presence, tooth measurements, wear, defects, caries, abscesses, periodontal disease, linear enamel hypoplasias, dental modifications, and developmental abnormalities. If linear enamel hypoplasias were present, measurements were taken of the location on the tooth and input into mathematical formula used to estimate the age of the individual was when physiological or psychological stress impacted the production of tooth enamel during childhood (Goodman and Rose, 1990). In Appendix D, is a list of each individual that had measured linear enamel hypoplasias and the calculations utilized, to determine the year(s) childhood stress was experienced.

After the dental forms, if the individual had signs of pathologies or trauma there are forms used to document them in both sketches and written descriptions by the examiner.

Finally, there is a data collection form adapted by Rose from his Backbone of History research (Steckel and Rose, 2002). It assesses dental information; signs of anemia; ratings for indicators of auditory exostosis; symptoms of syphilis in the crania and postcrania; symptoms of scurvy in crania and postcrania; symptoms of leprosy in the skull, hands, and feet; rickets in the crania and postcrania; tuberculosis in the vertebrae, hip, and knee; number of rib heads present and number of ribs with pleural lesions; long bone metrics; osteoperiostitis; degenerative joint disease; and trauma.

Most of the techniques utilized for sex, age, and height estimations can be found in: Standards for Data Collection From Human Skeletal Remains (Buikstra and Ubelaker, 1994). For the os coxa sex indicators the Phenice techniques, gradation of the Greater Sciatic Notch and Preauricular Sulcus, and complete size and morphology, were examined. The skull was assessed using the scoring system of Acsadi and Nemeskeri (1970) along with size and morphology. Size and overall morphology of the rest of the bones was taken into account as well. Age estimations for children were based on dental age courtesy of both Ubelaker's (1989a) study of Native Americans and AlQahtani's (2010) study, as well as long bone length established from an Amarna standard, and epiphyseal union. When estimating age in adults over eighteen, observations are focused less on growth and development and more on wear and degeneration. The techniques used include Todd (1921) and the Suchey-Brooks (1990) pubic symphysis scoring, auricular surface scoring based on Lovejoy *et al.* (1985) and Meindl and Lovejoy (1989), cranial suture closure from several different researchers with the stages from Meindl and Lovejoy (1985), and dental wear from Scott (1979). All of this information formed the foundation of the osteobiographical profiles produced for each individual in the sample.

Part of the process of creating these osteobiographical profiles was taking these and other indicators of the individual's personhood, such as artifacts included in the grave, burial type, and more, to place the person, with supporting evidence from primary and secondary sources, within their culture. The osteobiographical profiles can be found in Appendix C. There are two important concepts to note concerning these profiles, in the fields of bioarchaeology and mortuary archaeology especially, first there has been a concern that burial treatment and health could be unreliable indicators of status, however, for the purpose of this dissertation both were taken at face value. Second, the osteological paradox, first discussed by Wood *et al.* in 1992 argues:

“Paleodemography and paleopathology presuppose that direct relationships exist between statistics calculated from archaeological skeletal series (e.g. skeletal lesion frequencies and mean age at death) and the health status of the past populations that gave rise to the series. However, three fundamental conceptual problems confound the interpretation of such statistics: demographic non-stationarity, selective mortality, and unmeasured, individual-level heterogeneity in the risks of disease and death” (343).

Or to put it more simply, the statistics on the health of individuals recovered from the South Tombs Cemetery at Akhetaten do not necessarily reflect the health of the people who lived there, because you could actually be looking at the frailest or most susceptible individuals from that population. This was taken into account when writing about these individuals and the community and culture in which they participated.

Next, a timeline for habitation of Akhetaten was established based on several Egyptologists' explications of evidence concerning dates and events, from the city and other sources. From this information each individual was given a birth and death year based on that timeline. This informed specific milestones in each individual's hypothetical life. Dr. Anna

Stevens performed in-depth surveys, mapping, and analysis of the South Tombs Cemetery. It has been determined that the cemetery was planned to an extent. Some burials' placements may have been motivated by a desire to establishing family plots or ensuring proximity to patrons they served in life, but this hasn't been tested or proven definitively (Stevens, 2018). Therefore, burial position was taken into account for many of the individual's birth and death calculations, starting the first year of Akhetaten at 1350 B.C. based on the first boundary stelae erected by Akhenaten announcing the founding of the city. The city was only occupied for fifteen to eighteen years, consequently, anyone over the age of 18 to 20 years at death was given a birth outside of the city, anyone younger than 18 was portrayed as being born at the city. Birth and death dates were also influenced by overall health. Individuals recovered from Akhetaten, when osteologically examined fell into roughly two categories: individuals who died of old age tended to have fewer indicators of childhood stress, while individuals who died young tended to show more signs of childhood stress. Though this was not always the case, the majority of skeletons showed that those most likely to have been born and raised at Akhetaten had higher frequencies of childhood stress, they also were inclined to be smaller and shorter than average Egyptians from comparable samples from other sites and time periods.

Part of constructing the osteobiographical profiles involved assigning status to individuals. This was mainly based on two components- burial treatment and health. At Akhetaten and in Egyptian society most people's status was based on occupation. Slaves, farmers, and workmen were often the poorest; craftsmen, artists, and soldiers were slightly better off, although soldiers during peacetime were often made to take on some of the labor that workmen did; there was a scribal class that often had ties to the slightly more important priest vocation and both were usually well off in terms of food and even luxuries, courtiers and

officials- including the Vizier and Generals owned properties and vast amounts of wealth as well as having the Pharaoh's favor- their work was mainly administrative and required little if any physical labor, and highest in status and wealth was the Pharaoh and his family. A person's skeleton can be impacted by the work they do, however there are very few occupations that can clearly be linked to skeletal changes at this time. Examining a skeleton's musculoskeletal markers and finding signs of degenerative joint disease hint at the influence of work, mainly repetitive actions and load bearing, on the body. Signs of stress or illness such as linear enamel hypoplasias, Harris lines, and lesions caused by certain diseases or deficiencies can be useful in suggesting what a person experienced in their lives. These all give clues to a person's occupation and status, especially when combined with consideration of burial treatment and artifacts found with the individual. In this manner occupations and status were studied and assigned to individuals. For example there was one skeleton where there was no doubt about occupation, I059, named Bakennifi for the osteoethnography, was a soldier who died of injuries received in battle (Dabbs & Schaffer, 2008: 20-29). For individuals where there were little to no clues about occupation, for the sake of exploring certain aspects of the culture, occupation was assigned based on indicators of status. The osteobiographical profiles are found in Appendix C.

Once individuals were ascribed status and occupation they were placed into seventeen family groups created to reflect the known variety of family sizes from primary sources like census data, several wills, tomb and tomb and monument biographies where family sizes or members were mentioned or depicted. Each family group was given a number and descriptions of how individuals were related to each other, these and the descriptions of the connections to other family units were made in order to demonstrate the social dynamics of communities at

Akhetaten and in 18th Dynasty, New Kingdom Egypt. This information can be reviewed in Appendix B.

Analysis of photographs, mainly of the skulls, and information on the physical characteristics from the osteological reports informed descriptions of how the living individuals would have appeared. This is detailed in Appendix E.

Individuals were given ancient Egyptians names based off of tombs, gods and goddesses, monuments, letters, wills, and other documents. Some individuals names were chosen randomly from male and female names, applied to the appropriate sexes. A few individuals were given names reflective of the assigned family, occupation, or narrative role. These can be viewed in Appendices A, B, C, and E along with their original, archaeologically assigned, Individual Numbers.

After all of these steps were accomplished, eight individuals were chosen to act as a representatives for their families and a point of view from which certain events are witnessed or experienced, they are referred to as Touchstones. The whole purpose of constructing identities and families for the one hundred individuals of the sample was to offer my interpretation of what interactions and reactions to specific cultural experiences lived by the ancient Egyptians of Akhetaten may have been like. An outline of a narrative of these specific events was formulated:

- 1) The Ceremony announcing the founding of the city.
- 2) The treatment of an injured worker by both a medical professional and a spiritual advisor, and the worker's subsequent death.
- 3) The funeral of a lower to middle status worker adhering to the Osirian Egyptian funeral tradition in a manner befitting the individual's status as experienced by his family.

- 4) Insight into law enforcement and family dynamics for a boy.
- 5) Labor and birth for a woman of lower to middle status.
- 6) A soldier's life and duties, family and childhood experiences, husband and wife relations and expectations.
- 7) Bureaucracy, city planning, corrupt officials, adultery, bribery, scribal duties, and slavery.
- 8) Female chores and expectations, illness, the death of a child, commonly held beliefs about religion and death.

The original osteoethnographical narrative was conceived as occurring during the first year of occupation at Akhetaten, with more families, more events, and a more in-depth exploration of relationships, but after consultation, the main concerns being length of the dissertation and time for the project, it was decided that this would be undertaken in future projects/research to be discussed in the concluding chapter of the dissertation. The final draft of the osteoethnographical narrative is presented in Chapter Four and occurs during the first month of the founding and settlement of Akhetaten from the eight Touchstones' perspectives. The osteoethnography was divided into eight sections based on these Touchstones and takes place from each of their perspectives in order to create a balance of male and female, young and old, wealthy and poor perceptions.

Each Touchstone's section was created using primary and secondary sources concerning the culture of 18th Dynasty Egypt during the reign of Akhenaten. It is meant to show the author's interpretation of how Egyptians viewed and experienced life and death. As the sections were written, notes on the research used to depict all events came from Egyptological, archaeological, and osteological sources. The notes will be found in Appendix G.

This narrative is meant to depict embodied lives within the culture of Akhetaten. Environment, diet, medicine, religion, occupations, politics, love, friendships, enmity, conflicts, sex, age, illness, death, and more are portrayed as faithfully as possible given the evidence left behind. Skeletal and archaeological data combined with primary and secondary sources were vital to drawing a more complete picture of each person, offering insight into their existence and culture.

Chapter Four: Death on the Horizon: Osteoethnography of Akhetaten

Nehimeou²:

Year 5 of the Reign of Akhenaten, Peret (The Growing Season) Ermouthi (March), Day 12

“Perhaps it’s cursed, or haunted.” Aunt Ranpu³ said with a wicked chuckle as the boat glided down the inky waters of the Aur. Nehimeou looked at their approaching destination, the dark cliffs, stark in the light of the afternoon sun, like arms reaching out to draw them closer. She shivered and was tempted to toss Aunt Ranpu over the side to the hippopotami and crocodiles for saying such things. It was as if she wanted them to be tormented by demons or *mwt*, the ghosts of the restless dead.

“She only says such things because she knows how much it bothers you.” Said Nehimeou’s sister Mehi⁴, as if hearing her thoughts. “I swear, it’s embarrassing, the whole court knows you’re as superstitious as a peasant! I heard the Pharaoh: life, prosperity, and health-speaking with his advisors at last week’s banquet, he thinks we should only trust the *ma’at* of the things we can see and experience. I think it makes sense, why should we worship gods that need statues made by humans in order to interact with us or respond to our prayers? The Aten made everything, even willed himself into being, that’s *ma’at*.” Mehi thought of herself as sophisticated, but Nehimeou noticed how she only repeated the whims of the court and the King. Nehimeou glanced at her father, Imhotep⁵, and detected he was distinctly uncomfortable.

“We’ll be arriving soon and we need to prepare to disembark, not sit here idle and chattering!” Buto⁵, the eldest and most practical of Imhotep’s three daughters, huffed

The names that have numbers are skeletons of individuals used in the study, there are notes at the end of this narrative showing the names and numbers assigned. Notes for each section concerning the cultural and archaeological research are in Appendix G.

disdainfully as she rose and began directing their slave Dhouti⁶ to gather the baskets and precious wooden boxes containing their possessions.

“I don’t think you packed enough Mehi.” Aunt Ranpu griped, staring at the mounting pile without moving from the cushion she reclined upon. Mehi rolled her eyes and then crossed them at Nehimeou, causing her to giggle.

“Thank the deities I have you and Maya⁷, Ptah-mes⁸, otherwise I should be quite outnumbered.” Imhotep said in mock rueful tones, a mischievous grin tugging at the corner of his thin lips.

Ptah-mes turned with startled eyes wide and brow wrinkled in confusion. “You’re still outnumbered, I don’t understand.” Though Ptah-mes had worked diligently to study all his life, he would never be a clever man, but Nehimeou knew Buto didn’t care whether her husband was witty; his devotion to Buto was all that mattered. Nehimeou tried to ignore the pang of jealousy as she watched Buto slap Ptah-mes’s shoulder with a look of endearing exasperation. Maya, Imhotep’s second wife, pretended to cough in order to disguise a burble of laughter that escaped her sensuous lips, it distracted Nehimeou. Maya still seemed to feel unsure of what was appropriate for her to say or do among this family she had married into, even after seven years.

Nehimeou turned back to their fast approaching destination, basket in her hands. It felt strange to be journeying up the river in the Pharaoh’s retinue, to be stopping the night in this uncanny, empty place. The green banks of the river appeared only willing to march so far before surrendering to the pale, dead sands of the desert. Nehimeou wondered why the Pharaoh had brought them all here, ordering courtiers, guards, elites, and slaves to leave the city of Waset for a ceremony on this desolate plain. She was of low rank in the court, little more than a glorified nursemaid for the young princess. No one told her anything but thrice handed down rumors and

baseless conjecture. She was starting to feel overwhelmed and disheartened, the reality of the court was rarely as pleasant as her childhood imaginings of palace life.

It wasn't all bad, she reminded herself, thinking of the parties she'd attended, the beautiful gardens of the palaces, entertaining the ebullient four year old Meritaten with songs and games. But ever since her divorce, Nehimeou was plagued with sadness, especially when she had to be away from her family. She knew her father had asked a favor of General Rahmose in order to get her a place at court, that he had done it to protect her and give her back the hope that had drained from her after last year's terrible events. Her arm ached at the memory of Set and what he had done to her. She put the basket down surreptitiously and made a gesture with her hands to ward off evil, hoping neither Mehi nor Aunt Ranpu would notice.

She came back to the present and let her gaze come to rest on the sailors bustling about on the Pharaoh's barque, a majestic boat worthy of its occupant with bright sails, tall oars, and a shaded cabin. It had a crew of twenty, plus servants, musicians, and the Pharaoh's closest advisors and family members. Smokey hints of incense and snatches of music drifted on a cooling breeze like a blessing on the fleet of ships that followed. A man at the bow of the humbler vessel her family was on tested the waters for the treacherous, undulating sandbanks hidden by the Aur's deceptively calm appearance. The river gave life to all of Egypt, it was a path from this world to the *Duat*, or afterworld, and sometimes seemed like the Pharaoh's second home as he travelled his realm. It was a spiritual as well as natural force and though she had lived by its inundations all her life, she knew it paid little heed to the ordinary humans reliant on its ebb and flow.

The destination they currently made their way towards inexorably had been designated for a special new project of the King's. Imhotep had served as a *swmw*, or doctor, on several projects

overseen by General Rahmose and the King's Fan-bearer May. Her father believed it might be a new temple or set of quarries, though she could tell that he was somewhat perturbed by the unusual amount of attention the Pharaoh was devoting to a spot of unoccupied wasteland. He had only been King for five years, but he was keeping the court bustling and humming with his unique religious focus on a single god, one many had given little thought to until the rise to power of his mother, Queen Tiye and her family, who had close ties to the temple of Aten in the city of Iunu.

Whatever the new project was, several groups of workmen and their families had been sent ahead weeks ago to begin preparations for tomorrow's announcement and ceremonies. The whole court and many elites had been gathered from faraway estates to attend a ceremony devised by the King himself. Nehimeou had even been told that she and the other court ladies, including her Aunt and Mehi, would all participate in the procession. They had all been instructed in what was expected for them and they had practiced for several days. They would be up tomorrow, long before sunrise, to begin the festivities. She was worried she'd make a mistake and embarrass herself and her family.

The boat began to pull up to the east bank of the river. Men on shore called out to sailors of the different boats, and the routine of ships docking- ropes being thrown, boats swinging to shore as mooring stakes were pounded in and some of the ships lowered ramps- brought her back to the present. Other boats' crewmen began handing people and items down to men wading in the shallows to help disembarking passengers. A man carrying a regal woman wearing linen so fine she appeared dressed in mist dropped her with a sheepish look of horror as she yelped at the cool water. Spectators on shore and boats let out peals of laughter at the woman now bedraggled and fuming in her ruined finery. A feeling of elation infused everyone. Animals were brought off

boats: great bulls and cows, goats, birds, and even the Pharaoh's gorgeous pair of golden, spirited stallions- their eyes covered with cloth, nostrils flaring with unease. Nehimeou and her family were caught up in the spectacle. Maya exhorted her husband to be careful as he clambered over the side of the ship, eyes sparkling with delight, he looked up at her with love, holding out his arms as if he would catch her should she jump down. She shook the long braids of her wig in delight, but waited for the help of some of the sailors, knowing her husband was no longer young enough to be putting himself through such acrobatics.

Nehimeou made sure she had her small woven bag and her most prized possession: a mirror in an elaborate carrying case. Her mother had given it to her shortly before she passed on to the afterlife. Her mother had been a priestess of Hathor and had used the mirror not just for applying make-up, but also in ceremonies to worship the Lady of the West. One after another, they all made it to shore safely, some drier than others, and found their way by a newly cut and worn path to a camp of tents and grass shelters that formed a small, crude village.

“Dhouti, go and see if there's a place for us near General Rahmose's camp.” Imhotep ordered the slave, whose long face took on a put upon air as he hunched his shoulders and shuffled off with his limping gait, muttering unintelligibly.

“You need to beat him or trade him, your slaves never seem to know their place.” Aunt Ranpu sniffed in a tone dripping with acid. Nehimeou saw her stepmother's head lower, her face turning away. Mehi flashed Aunt Ranpu a warning glare as Imhotep, remaining oblivious of the slight Aunt Ranpu intended, waved his hand dismissively.

“He's only churlish because he wanted to stay behind. He thinks I'm showing Ma-mai⁹ favoritism just because Qelhatat died.” He said this with sadness, watching out for the returning man.

“Oh no! What happened, she was fine when I saw her last, what about the baby?”

Nehimeou exclaimed. Her father had two other slaves, a husband and wife. The wife, Qelhatat, had been heavy with child. All of Imhotep’s slaves were fairly content to work for a master who treated his slaves kindly and courteously, they knew they could have it worse. In Ma-mai’s case, he had purposely sold himself and his wife to Imhotep, a man he knew was good, in hopes of working off his debt.

“She contracted a fever after giving birth, the child is fine, Ma-mai named him Benipe¹⁰. I asked Ua if any of his slaves could feed the babe, and thankfully there was one who is nursing. But for Qelhatat, I could not contend with the illness that afflicted her. Ma-mai was devastated, to make it worse, he seemed grateful for the care I gave her.” She could see her father was holding back a great deal of emotion; a pall fell over the family as they stood on the periphery of the lively encampment. Nehimeou had developed a fondness for the couple, they were not much older than her, and despite their circumstances always seemed to take comfort in each other while making the best of things. If she were honest, she found Dhouti’s resentment and grumbling intolerable, he ate better than most free men and rarely had to do any kind of taxing work. Her father had taken Dhouti as a reward for service to General Rahmose. The man had been working in a quarry as punishment for theft before being sent to her father, he acted more like the captured prince of a rich nation brought low by an unworthy foe.

“Ma-mai has a son who is alive and healthy because of you, that is what matters. Though Ma-mai is heartbroken, his grief will ease as he focuses on the child. He would have been too distracted if you had taken him from his boy, you did the right thing, we’ll just have to endure Dhouti’s moods.” Maya said in a soft comforting voice, putting her arm around her husband and kissing his cheek. Nehimeou blushed and looked away, Aunt Ranpu made a soft noise of disgust.

Maya had been a slave too, a weaver given to Imhotep to work as a linen maker, but he had fallen in love with her and asked if she would marry him. Aunt Ranpu thought Maya had only agreed to escape her life of drudgery and looked on Maya as an interloper. Imhotep's first wife had been Aunt Ranpu's best friend; she didn't trust the woman who had replaced her nieces' mother, a woman she saw as a willing to do anything for status. Nehimeou knew this wasn't fair to Maya, her father had been heart-sore and drained of vitality because of his grief, when Maya came to them she healed him, allowed him to experience joy again. Nehimeou would always be thankful to Maya for that alone, but the woman was also kind and caring, genuinely loving Imhotep. Nehimeou didn't share her Aunt's resentment, although she suspected that sometimes Buto also felt a kind of suspicion towards Maya.

“Lady Ranpu! Lady Mehi! Lady Nehimeou!” A shrill, panicky voice broke through the family turmoil, causing them to turn and search the crowds surging around them. Lady Sety¹¹, lovely in many ways but possessing a grating voice, hollered at them above the din. Her usually bright, wide smile was replaced with a harried aspect and she rushed towards them, out of breath. “I’ve been looking everywhere for you, you’re all wanted at the royal camp for preparations, and the Queen has ordered all participants to fast tonight, and I’m so hungry!” The last few words were gasped out in a muted wail. Lady Sety's limpid, brown eyes were filling with tears and she sniffled and swatted at a mosquito that had landed on her, just above her faience and carnelian beaded armlet. Nehimeou suspected Lady Sety had volunteered to get them in order to avoid doing any real work. Even though she and Sety were both the same age of fifteen years, Nehimeou felt far older than the flighty girl. Aunt Ranpu grabbed Sety by the shoulders impatiently and twirled her around toward the royal encampment.

“Quiet your foolishness, we’ll be right behind you, it’s only for tonight and then there’ll be feasting tomorrow and before you know it you’ll eat and drink so much I’ll have to hold your braids so you don’t get vomit in your pretty wig.” Aunt Ranpu was the only person Nehimeou knew who could flay a person with words.

Nehimeou turned to her father before following her Aunt and sister and gave him a brief hug.

“We’ll meet up tomorrow after the ceremony, I’m sure it will only last a day or two before we’re back in Waset. Send one of the palace slaves with a message if you need anything and I’ll have Dhouti bring it to you.” Imhotep said, returning her hug with a quick squeeze. She nodded and headed to the organized chaos of the royal camp.

Peret, Ermouthi, Day 13- The Feast of Seeing the Sun’s Rays

Long before the sun’s rising they were awakened and moving about, voices hushed, in lamp and torchlight. There was bathing, dressing, and errands to be run. A large group of priests, butchers, and slaves had been sent out with animals to walk in the dark desert to the altar that had been set up over the last few days in a spot chosen by the King himself. Everyone was tired and hungry, but there was anticipation, an ambiance of sacred solemnity that guided all their actions. Lady Sety gossiped in a whisper about how several men were complaining of the short amount of time given them to clear a road for the King and his family to ride the royal chariot to the site. Mehi was shocked and said the men should feel privileged to be given such an important task. Sety and Nehimeou shared a look of exasperation at Mehi’s superior, toadying tone and then stifled impudent laughter.

The women helped each other with wigs and jewelry, seeing first to the needs of the God's Mother, the Queen, and the Princess Meritaten. They were then arranged in the procession. The guards and the *Medjay*, or police force, some with pennants, some with torches, went forth first, with the hint of dawn on the horizon, they followed the new road. The King, his wife, and daughter got into the royal chariot. It's faint gleam from the precious metal, electrum, added an aura of the divine, as if instead of the god's boat carrying the sun across the sky, the Pharaoh himself would summon the Aten from the land of night. Elation ran through all the women as they stood behind the chariot. They all held sistrums and wore the *menit* necklaces sacred to Hathor, even though some of the women worried the Pharaoh would be displeased that they honored the Lady of the West at a ceremony for the Aten. When the royal family rolled forward, the women of the court began walking behind, their instruments creating a susurration and chiming in a rhythm that mingled with their clear voices as they sang a hymn written by the Pharaoh, sending praises to the Aten.

Nehimeou fell into a kind of reverie, tracing the trajectory of the chariot as her heart pounded in her chest. At first, it was as if they were marching in place in a palpable blackness, with a dim glow from the east glancing sparks off the chariot and pulling them all forward to the light. Then Nehimeou could see the outline of the cliffs, the puffs of dust from the men running ahead towards the altar. There were wisps of smoke rising over a scene made brighter by the dawn's illumination. A crowd of the elite: courtiers, soldiers, scribes, and priests awaited them; they dropped to the ground and pressed their faces into the desert sand in awe of their ruler. Somewhere in her dazed mind, Nehimeou wondered where her father would be in the crowd. Everything seemed heightened, intensified to her. Incense, burning fragrant wood, and the musky dust of the dry land almost overpowered her with their fragrances. The growing light increasing

in intensity made her eyes water and a part of her was tempted to shield them, but the rhythm must be maintained and it felt as if the radiance was an answer to their song, to block it would be to reject the blessing bestowed on them.

When they arrived, they came to a halt as the Pharaoh reigned in his horses and the royal family disembarked and mounted a dais so they were elevated above the surrounding crowd. A bull lowed mournfully and it was almost an obscenity in the stillness that had descended on every person. A lector priest, the sash of his office crossing over his breast, came forward with a scroll and began reading the opening prayers and the titles of the Aten, the Pharaoh, and the Queen. A scribe seated nearby wrote with rapid efficiency, capturing every word uttered.

As the priest finished, he retreated, head bowed toward the King, who turned his back on the assembly with his Queen beside him. They raised their arms to the newly risen sun. The king seemed like a giant in his tall crown. The altar in front of them was piled with offerings, the ritual tools, including a censer, were brought forward by the *Hem Netcher* Panehsy. The Pharaoh Akhenaten, exuding reverence, performed rituals honoring the Aten. Eyes watched him, mesmerized by his movements imbued with grace. When he began addressing the crowd, his voice was solemn yet joyful, the tones dulcet as he spoke of a monument to be built, eternal and everlasting in this wilderness that no god or man had claimed. There was a cadence to his utterances that lulled her until she heard several repressed gasps. It roused her from her reverie. She wasn't one with the moment any longer, but stood almost bereft, as she took in the meaning of the words, without moving her head she tried to look at each person in the surrounding worshippers, seeking her father, taking in expressions, some devout, some calculating, until finally she found the countenance of her father. He was attempting to keep his features free of

expression, but she knew his face better than her own, she saw confusion, fear, perhaps even despair.

The King continued speaking, she seemed to absorb the meaning slowly. He would build a city in this barren place, dedicated to his god, he would be buried here, as would the royal family, and all his followers. He raised his arms towards a distant cleft in the cliffs, just below the rising sun. Buried in the East...

Her heart, the keeper of all her thoughts and feelings, rebelled. This couldn't be right, it were as if he were telling them all that light would become darkness, that the moon and the sun would change places. For time beyond knowing, the people of Kemet had been buried in the West, it was where they were resurrected to their new life in the *Duat*. It was the dwelling place of Osiris, guarded by Hathor. It was where the living went to honor their ancestors, where they celebrated and mourned their loved ones. Not only must they come live in this forsaken place, but they couldn't escape it, even in death. The implications horrified her. But when her eyes sought her sisters', she saw Mehi was ecstatic. There were courtiers acting as though the words of Pharaoh were revealing great truths, that he had made a wise and great decision, they believed in him. Others seemed to be reserving judgment, carefully building facades of joyful acquiescence. Aunt Ranpu's face had grown as pale as limestone, but she'd collected herself and mimicked a joyous smile. Then there were the more cold blooded, weighing the costs and benefits. She saw Buto's gaze resting on her husband, thoughtful and hopeful. And finally, there was her father, a good man, caught in the merciless, unrelenting will of a living god. She realized that even with his love for Maya, he had still planned to be buried with his first wife, that wouldn't be possible now, and he would most likely be ordered to live here, they all would. She felt frightened and sick.

She'd been so distracted that she had missed the Pharaoh's closing remarks. The animals were led forward, a bull, perhaps the same that had dared break the silence, kicked out in a panic before its neck was quickly and cleanly cut. The creatures were sacrificed, the smell of blood like molten copper, catching in the back of her throat. All sacrificed.

The royal family boarded their chariot and flew away over the desert, preceded by guards, oblivious to the chaotic mood. The people of the ceremony began moving distractedly, almost aimlessly back to camp, she could hear a dissonant rattle and shimmer from the many metal necklaces and sistrums as the women no longer walked in step. Gradually a wild and atonal babble rose as some gushed with excitement for the new world being born, some spoke in starts and stops unsure of what to feel or say, some stayed silent, faces blank with shock.

As they neared the ramshackle village, a dreadful keening could be heard. Nehimeou saw her father shake off his devastation. He craned his neck and saw a group of men, coming down from the nearest area of the cliffs, a limp figure suspended in the arms of a group of workers. Imhotep ran to them and barked orders at the men, pointing at the ground where they laid their burden. Nehimeou trailed after her father, wondering what was happening but wanting to be alone, hidden from people, free to weep in silence.

"*Swnw!* He fell! We were building the scaffolding along the side of the cliff, for the boundary stelae, to write the deeds of this day and promise the land to the Aten. He climbed up to check the scaffolding, but then he fell! He won't open his eyes! Will he live? He's the husband of my wife's sister! The wise woman, the *rekhet*, she said he had the *bau* of a god upon him, but he scoffed at her!" The man speaking was frantic, voice strained as if he suffered physically.

Imhotep knelt down; there was blood on the man's head, some coming from his ears, scratches and bruises on his body. The man was the color of ash; she didn't think it possible for skin to

turn such a powdery grey. Her father gently lifted the wounded man's eyelids and ran his fingers lightly over injuries on the head. He placed two fingers to the throat and then the wrist of the fallen man. The intense look of concentration on her father's face gave way to sorrow, and he wept, as she had not seen him do since her mother's death. She knew it wasn't just for the fallen man, but for all of them, for his own burdened heart. He wiped at his red, puffy face with his hand, smearing a small dab of blood on his brow above his left eye. He grew calmer and took the hand of the brother-in law, getting up slowly. Nehimeou suddenly realized her father was old, it struck as if she was the one who had fallen from the cliff and her breath was trapped painfully in her chest.

"Take this man home, this is an injury with which I cannot contend. Let him be with his wife as he begins the long journey. Do what needs to be done for his funeral. I will consult with General Rahmose about where he may be buried." The brother-in law moaned piteously at her father's pronouncement. Dejectedly, the man squatted down and tried in vain to clean off the blood, probably to keep his wife and sister-in-law from seeing the fallen man in such a state.

Her father walked to her. She hugged him, feeling as if she needed to hold him up.

"Father, what are we going to do?" She choked out a whisper. He stroked her hair and kissed her forehead.

"Obey."

Achen¹²:

Peret, Ermouthi, Day 13- The Feast of Seeing the Sun's Rays

"*Rekhet! Rekhet!*" The strident call for the knowing woman caused her to look up from the clay doll she was making. She swallowed a mouthful of bread she'd been eating for her morning meal

and handed the doll to her eldest son Senbu¹³. He'd been mending a loincloth as they sat together in the shade cast by their tent.

A man came into their area of the camp, he was thin as a reed, covered in sweat, and gasping for breath. He rested for a moment with his hands on his knees, doubled over. When he looked up she saw there were tears on his cheeks and whiteness around his lips that told her he was heartbroken and afraid. She rose and went to him, putting a hand on his shoulder.

“What troubles you brother?” She used the term of familiarity in hopes of putting him at ease. She was a formidable looking woman; her intelligent eyes half hidden by hooded lids, her nose large and sharp like the beak of a predatory bird, her cheekbones had edges like an adze. She wore no wig and her scalp was shaved smooth. Many would have been intimidated by the aura of power that radiated from her, but her expression was compassionate and the man seemed relieved to see her, he regarded her with pleading eyes.

“I am Fai-Nofre-Bai¹⁴, my brother-in-law Itchut¹⁵ and I are stonemasons of the King, l-life, p-prosperity, and health.” He stuttered the common blessing for the Pharaoh quickly, his voice faltering. “You spoke to him three days ago, you told him he had a *bau* upon him, but he mocked you. He has fallen! They're taking him to my tent where I live with my wife and her sister, he's her husband, please *rekhet*, come to my sister-in-law, the *swnw* said he will die. He said there's nothing he can do, but must he die? If he dies, will the *bau* pass to us? What if my brother-in-law becomes a disturbed *akh* and haunts us?” Tears continued to rush down his plain and simple face as he began blubbing. Achen, the *rekhet*, gripped his shoulder and shook him, his panic subsided and he cast his eyes down, chastised.

She turned from him without a word and went into the reed and skins of the shelter she shared with her two adult sons, she emerged with a basket half filled with things she thought she

might need, she picked up a few other items lying about the encampment and added them to the basket. She told her son she didn't know how long she'd be, but admonished him to find his brother and put out the fire before he left. She returned to Fai-Nofre-Bai.

“We will see what can be done, you should have gone to your sister with her wounded husband before coming to me, but I understand, you're upset.” She spoke gently but chidingly and prodded at him to lead the way. He blinked, dazed, and then blushed.

“How did you know I came here first?” Achen smiled enigmatically and nudged him again to get him moving. He began loping along the path that wound between the shelters, guiding her. She didn't bother explaining that she had always noticed things others did not. It wasn't just that she could speak to the dead or recognize the fearful *bau*, or fate a god or goddess had placed on those they felt had sinned against them. She'd always had an ability to understand what motivated people, could feel what they were feeling, even when they tried to hide it. She could tell when a man was drinking too much to cope with pain, or discern when a woman had a cheating husband. Things that seemed hidden from others were as clear as the sky to her, she thought of it as a blessing bestowed on her by the deities, though it could also be a burden. Her grandmother and mother had taught her the ways of a *rekhet* and how to handle her gifts. When she'd reached the point in her life when she could no longer bear children, she had taken up the duties of a knowing woman, just as most of the women in her family had.

A wail, the unmistakable sound of a grieving heart, pierced through the normal sounds of the fledgling settlement, causing a brief, troubled silence to fall before people went back to doing their work. Many began speaking nervously or moving away from the tent where the sounds of bitter sorrow emanated.

Achen didn't need powers from the gods to know the stonemason was dead, there was nothing she could do to save his life, but she could comfort and assist his loved ones, and perhaps help his soul begin the long journey to the Duat.

Fai-Nofre-Bai came to a halt at the sound of mourning; it was with reluctant, slow steps that he continued to lead the *rekhet*. Achen remembered the stonemason as they approached the tent; he hadn't truly mocked her when she'd warned him that a god had marked him. He'd brushed past her with feigned bluster because he hadn't wanted the men he was with to think him alarmed or superstitious. She was often exasperated by the folly of a man's pride.

Unfortunately, the *bau* of a god was never something to be ignored or discounted. The deities had motives that ordinary people couldn't hope to fathom. Even priests and other magicians such as her struggled to comprehend the gods, she preferred dealing with ghosts to having to appease or confer with gods and demons. Ghosts at least had once been human, immortal beings were ruled by uncanny thoughts and desires that no mortal had ever experienced. But the gods could be benevolent as well as cruel, they had granted humans the *heka* that allowed for the upholding of *ma'at*, a means of communicating with the realm of spirits and gods, and the ability to create as Ra once had. Magicians, priests, and *rekhet* were the humans with the most *heka*, it was their responsibility to be the intermediaries between mortals and immortals.

When they arrived at the tent, Achen saw a partially woven basket left lying on the ground, a pottery jar filled with grain had the lid off, and the cooking fire was dying down to embers- signs of daily chores disrupted by tragedy.

"Put the lid on that, you don't need any pests in your food." She said to Fai. She looked up sadly at the tent, trying not to let the mournful cries overwhelm and distract her. She suddenly felt

weary, weary of experiencing the suffering of others, weary of feeling helpless. She put down her basket and went over to a jug of water, she used the dipper and poured the liquid over her head, her face, and then her hands and feet, purifying herself as best she could. She took out an ivory wand, which had been passed for generations to the knowing women in her family. She usually used it for births, but sometimes it was a way of drawing on *heka* and focusing her heart when she was facing a difficult task. An image of a fox and a lioness were carved on each end as well as *aha*, or fighter gods and goddesses, that were etched onto the hippopotamus tusk. When she held it, she felt comforted and protected. She decided to circle the tent, chanting a spell softly seven times to create a barrier to demons or harmful beings.

She put the wand back, gathered up her things, and took a lamp from the basket. She filled it with some oil and lit it. She told Fai to wait outside and his shoulders slumped. Achen ducked down and entered under a sheet of linen that was pulled to the side. It clearly acted as a door of sorts at night, but on the crisp spring day it had been left open to allow the breeze to enter. Unfortunately this had also allowed the flies in, they buzzed about drunk on the faint scents of blood and death that had started to fill the small space- just room enough for four people to sleep. She scanned the tent slowly from ceiling to mat covered ground. Thankfully she neither sensed nor saw any demons. There was a shadow hovering near two women crouching over the still form of a man. One of the women had her face pressed against the man's shoulder, but then she swung up, letting out another wail and pressing a fist to her forehead. Her sister stroked the mourning woman's braids back while occasionally joining her in her tears.

They were both small with delicate features. The wife of the dead man had her eyes shut; her face was flushed and slightly swollen from crying. Achen could feel her pain like a dull blade

pressing into her gut. She let a moment more of the unbearable grief bleed out before speaking. She knelt down in front of them on the other side of the body.

“I am Achen, Fai-Nofre-Bai brought me here, I am a *rekhet*.” Suddenly the sobs softened to a cough and then a hiccup, in a warbling voice with a sliver of awakened hope the widow spoke, she tried to open her eyes and focus on the visitor.

“A *r-rekhet*? C-can you h-help him? C-can you b-bring him back t-to me?” Crying made her words come out ragged as old linen. Achen sighed; the shadow seemed to draw closer to her.

“You know I cannot. Only one of the deities would have such power, but I will help you. What is your name child?”

“Kafy¹⁶.” The young woman could barely whisper, her hand reached out, trembling, and rested on the bruised shoulder of her dead husband.

“And your name?” Achen asked the sister, she was clearly the older of the two by several years. She lowered her head sheepishly.

“I’m Phut¹⁷, my husband is Fai-Nofre-Bai, I’m so sorry he bothered you.” Achen held up her hand in a placating gesture.

“It is no bother. I met him and your brother-in-law a few days ago; he was concerned and thought I could do something. I can, just not what he hoped.”

“Y-you told Itchut he had a *bau* on him, is that why this h-happened?” Kafy asked, tears tumbling down her rounded cheeks. She sniffled and started rocking.

“*Bau*’s very rarely kill, they are usually placed on us by the deities because they feel we’ve done something to wrong them, they usually want offerings and acknowledgement. The worst I have ever seen a *bau* cause is blindness. Will you let me examine your husband, Itchut you said?” Kafy bit her lip and nodded woodenly, her breath catching.

Achen leaned over the body; the man was big and well muscled, as she remembered. His rough features had gone slack and his skin was taking on a waxy dullness. There was a fly crawling on a sticky streak of blood from a gouge in his shoulder. She swatted it away, repelled by its horrible gluttony, they were almost as bad as demons. It tried to settle back on the corpse, but she smacked it to the ground. She blew air out her nose and tried to still herself. She felt Kafy's anguish threatening to drown out her own emotions.

Achen went through her basket and brought out two tiny figurines: one was Bes, with his fearsome leonine visage, its bared teeth and projecting tongue comforted her, and Tawaret holding a knife and touching the *sa* symbol that meant protection. She stood them near the body and put a small shallow dish in front of them. She lit a pellet of incense- myrrh and cinnamon, on the flame from her lamp and placed it in the dish, hoping the sweet scents would please the gods and the dead man's shadow. She began praying and bowed to the statuettes. She took out a sealed jar about as long as her hand and broke the seal, pouring out several drops of beer to each idol. She had known a few other *rekhet*'s who practiced differently than the women of her family, but Achen preferred to call on the defense of friendly gods before she began performing *heka*. She touched the amulets on the necklace she wore: a cobra for Weret Hekau, the goddess great of magic, a *wedjat* eye for the healing power of Horus, a hippopotamus for Tawaret, Bes, Isis, and Hathor interspersed with beads colored black, green, red, and blue. She closed her eyes for a moment and then opened them and concentrated on the shadow.

"Itchut, I give you words of power, hear them, learn them, speak them, that you may pass unhindered to live in the *Duat* as you have lived in this realm." Achen began to intone the spell in a voice as hushed and rasping as wind-blown sand. Each word had to be spoken precisely and in the correct manner for the spell to be efficacious. It was a spell her grandfather, a priest, had

once taught her for the dead. “Cry out: O Nut, Nut, I have cast my father to the earth, with Horus behind me. My wings have grown into those of a sacred falcon, my soul has brought me and its words have equipped me. Nut will reply to you: You have opened up your place among the stars of the sky, for you are the Lone Star of the sky; see, O Itchut, fair are the orders which you give to the spirits, for you are a power; you will not go hungry, you are not among them. See, upon your head as a soul are horns of a wild bull, for you are a black ram which a white ewe bore, one who sucked from the four teats. The blue-eyed Horus comes to you; the red-eyed Horus, violent of power, waits for you. He meets his soul, his messengers go, his couriers run, they come to him who is supported above the west; this one goes from you of whom it is said: ‘The god who speaks to the Field of the gods’. Your name is vindicated in the presence of the gods, the Ennead raise you up with their hands, the god speaks to the Field of the gods. Be strong at the door of the *kas* of the horizon-dwellers, for their doors shall be opened to you, they shall praise you and you shall have power over them. In joy they go forth and lift up their faces, so that they see you before the Great God. Min will bless your head. Someone stands behind you and you have power; you shall neither perish nor be destroyed, but you shall act among men and gods.” Her voice rose and fell as she held the bowl of incense under the dead man’s nose, and then above his heart. When she had finished she bowed to Tawaret and Bes again. She took up the still burning lamp and gazed into the flame dancing on the oil. Her eyes lost focus so she could see the patterns beyond the flames movement that helped her divine the past and the future. She reached out with her heart, seeking to find why the man Itchut had met his fate, to see if it had been the *bau* of the gods and if it had been appeased. She no longer felt the immensity of the *bau*. When she returned from the trance state she’d been lost in, the lamp had died out and the position of the

sun had changed the quality of light in the tent. Both women watched her warily; most people were uncomfortable with the use of *heka*, though they were grateful for the results.

“We must prepare him for his journey, we will fast. Kafy, as his wife you must stay with him and not leave the safety of this shelter, both you and your husband are vulnerable. Phut, you and Fai should let Itchut’s friends and family who are near know that he has passed and prepare them to take part in the funeral. We will need a coffin, is there a place to bury him?”

“I don’t know. We’ve only been here for about a month. Fai may know.” Phut looked exhausted and Achen realized she felt weighed down with the sorrow and the weakening that sometimes came with using *heka*. Kafy stared at her husband’s face, almost expressionless with shock and misery.

“Phut, unbraid your sister’s hair, I will speak with Fai.” It was a custom for a woman’s hair to be down and unkempt in reflection of the chaos of grief.

Achen left the sisters and went to Fai, who was crouched by the fire outside of the tent, poking it with a stick and gazing out at the river. When he heard her he scrambled to his feet, dropping the stick on the ground and kicking dirt on the glowing tip.

“Your brother is dead. I have conferred with the deities and spirits.”

“Was it the *bau*, will it pass to Kafy, or to us? Will his spirit haunt Kafy?” Fai wrung his hands. Achen didn’t like how he asked this; she sensed that Fai’s fear might cause him to distance himself and his wife from Kafy. She got up close to him and stared into his eyes, she didn’t often look directly into people’s eyes, it opened her to their feelings and knowledge of their lives, to the ghosts, demons, and gods attached to them- it was dangerous.

“Itchut died because it was his fate, the *bau* is appeased, the god Ptah was his personal god, and Itchut didn’t praise him or give him thanks for the gifts Ptah the builder had bestowed

on him. It has nothing to do with Kafy or your family. Itchut's soul will be put to rest when we give him the proper rites. Kafy is heartbroken; she needs the comfort and support of you and her sister. In time she will grieve less and come to fall in love with another and marry. When you stand in judgment before the gods, do you want to tell them that not only did you not offer consolation to the widow, but you also abandoned your own sister when she needed you most? How heavy do you think your heart will be when balanced against the feather of ma'at if you are guilty of that sin?" Fai gulped and lowered his eyes, she watched as they filled with tears.

"It's my fault, I-I, I was looking at the scaffolding we had put together to go up the rock face, it didn't look right. I didn't want to climb it. He told me I was being a coward and he went up to check, that's when he fell. I almost hoped it was the *bau*, because then I wouldn't have made my wife's sister a widow. What if he haunts me because I killed him?" He started to sink down, but Achen embraced him and held him up, patting him on the back. It was like holding one of her sons.

"No, you did nothing wrong. Do right by him, do right by Kafy, it will be all right. I will make sure of it, I will call on the gods and spirits to protect you and I will placate Itchut's soul. I'm going to help your wife and sister-in-law prepare Itchut for burial. Is there a place to bury him?" Fai nodded against her shoulder, drew in a shuddering breath and pulled away from her, wiping at his cheeks.

"The *swnw*'s slave came and told me, there's a ravine that the royal tomb planners have designated as one of the graveyards for citizens of the new city." She turned her head to the river in the distance and considered it.

"Will there be a ferry to carry him and the funeral procession across?"

“No, the ravine is east of here, in the cliffs.” Fai seemed bewildered and flung his arm out pointing behind them, away from the river and the western shore.

Achen felt troubled, but said nothing. It wasn't completely unheard of to have the citizens' graveyards close to the towns, villages, or cities where they lived, but the west was the preferred direction for them. She sighed and nodded thoughtfully, this Pharaoh was changing their world.

She gave Fai instructions: to get a coffin, to find a priest to officiate, to inform friends and family. She told him she would need to get a few more things from her camp and let her sons know where she would be for the night.

As she trudged away through the camp she felt a dry tightness in her throat, a longing for a beer. She needed to find a place to relieve herself. The thoughts of her heart distracted her from her surroundings until a small body hurtled into her side, almost knocking her to the ground.

“Ma'atnofret¹⁸! How many times have I told you to pay attention to where you're going! You may have hurt this poor lady, apologize!” The exasperated voice of an aggrieved mother scolded the spindly girl who started patting Achen's arms and legs searching for injuries, muttering an apology. Achen clucked her tongue and gave a mild shove to stop the girl from flapping about her like a wounded duck.

“It's fine, no harm done. I wasn't paying attention either.” Achen watched as a family group, apparently new arrivals based on the possessions they were carrying, caught up to her and the little girl.

“Where are we supposed to go, I don't want to carry this stupid pot anymore!” Groused a young man, perhaps thirteen to fifteen years old. His hair was in short braids that he kept trying to shake from falling over his furrowed brow as he clasped a large pot with both of his arms.

“Mother carries that on her head every day you whiner.” Scoffed a girl with a basket on one hip and a small pot on the other.

“I need to pee and no one cares!” Pouted another little girl, almost dropping the linen sack slung over her shoulder as she hopped from one foot to the other.

“Quiet everyone! I realize it’s been a long day and we’re all tired, but we’re almost there, Unnefer¹⁹- don’t kick your sister, don’t make me put this down! Pna²⁰, honey, we’ll go by the river in a minute.” The mother started off cajoling and then turned threatening as the boy scuffed dirt on the oldest girl for teasing him.

“Listen to your mother, we’ll have bread and beer before you know it. Hoh²¹, I think there’s honey in that little pot, I bet if you’re all good your mom will let us put honey on our bread tonight.” Said a man with lazy lidded eyes and a weak chin hidden by a lustrous, black beard. He was lugging several bundles and yet another pot. As he passed his wife she glared at his back in a way that promised she’d be doing red things to her husband that night, but he was oblivious to her fury.

“I’m sorry lady, I saw a cat and I thought if I could catch it mother would let me keep it.” The child who had run into Achen looked at her gravely with round, remorse filled eyes. “May I ask you a question lady, Papa said I couldn’t ask my grandmother, but you look as old as her, were you there when the pyramids were built, how did they do it?”

‘Ma’atnofret!’ Her mother shrieked, chagrined, as the father wheezed an infectious laugh. Achen snorted and then hunched down so she was eye to eye with the confused child.

“I may be old, but I am not so old as that. The pyramids have stood for time beyond counting, and I am not a goddess, so I have no idea what they did to make them, though I’ve wondered about it too.”

“Ma’atnofret, I cannot believe you insulted this nice lady after running into her, you have no manners! Apologize!” Her mother admonished.

“You’re so stupid Ma’at, how could you think someone would be old enough to see the pyramids being built!” The girl’s brother guffawed while her sisters giggled. Ma’atnofret’s face scrunched up like a cat about to yowl and tears sprung from her eyes.

“Everyone thinks I’m stupid just because I don’t know anything!” She bawled, causing even her mother to join in with the rest of the family’s mirth. Achen laughed out loud. She chucked the still crying girl under the chin.

“We all start out not knowing anything, you’ll smarten up in time little mouse.”

“I hope so, I don’t get why everyone thinks it’s so funny, it makes me sad when no one understands me!” Ma’atnofret whispered to Achen, stamping her little foot in frustration. Achen didn’t get to reply as the girl’s mother came up to them.

“Go with your father Ma’atnofret, here, take this basket you dropped. Go on.” She shooed the girl away and shook her head ruefully at Achen.

“My name is Schent²², my husband Chons²³ and I are taking our family to the outskirts of the camp, not far from the river. My mother-in-law²⁴ and my oldest daughter’s husband²⁵ went ahead of us to start getting our tent set up and start the fire. They’ll have some bread made if you’d care to join us for dinner. But no, I think you have other things you must deal with, I’m sorry.” Schent said after considering her as she spoke. Schent was a small woman with an air of determination and aptitude. She had a face like a fox: high cheekbones, clever eyes, and a slightly crooked, pointed nose.

Achen had a moment where she felt a force move through her, it was like a binding of soul to soul. She was in the presence of someone who had *heka* almost as strong as her own. She saw the same realization dawn in the other woman's eyes.

"This has been a day heavy with fate for me. You are right; I cannot come to your camp tonight. But I would like to visit with you soon if you would like."

"If my family hasn't frightened you away, I would be grateful to make a friend in this strange place." Schent said with a mischievous grin that put Achen at ease.

"I've faced down demons and angry ghosts, I'm sure I can survive a visit with your family." Schent made a quick gesture to ward off evil.

"Let's see if you still feel that way after sitting through a meal with us." They both chuckled and parted ways.

Achen thought about how quickly life could pass from tears to laughter as melancholy over the work that she still needed to do settled on her like a cloak. She entered her camp, took the jar of beer her oldest son Senbu handed her, and drank it in great gulps, letting out a soft burp when she finished. Her heart was too full. There were too many things to think on, how to comfort the widow and send the dead man's soul safely on its way, how to keep Fai-Nofre-Bai from being haunted, what to do living in this new place, and how to take care of her sons. Iritis²⁶, her younger son stumbled drunkenly past her into the camp and smiled at her vacantly.

"The backwards faced demon watches you mother, he watches us all." He sniggered as she felt a chill raise the hair on her neck. He stooped down and picked up a handful of sand and threw it on the fire, it sputtered but didn't go out. Senbu jumped up from his position by the cooking pot and helped his brother into their tent. She heard Senbu singing a sad song to Iritis, trying to send him to sleep as if they were children again and not full-grown men.

She didn't understand the vagaries of fate, why some suffered and some celebrated, some feasted while others starved. Why she could see and hear and feel things of which most people were completely oblivious. The creator had fashioned a wonderful, horrible world. Out of his loneliness he had filled that world with creatures capable of great joy and unutterable sorrow. She watched the sun fade and sink into the west as she thought to herself:

“I'm a poor excuse for a knowing woman, there is so much I don't understand.”

Tebu²⁷:

Peret, Ermouthi, Day 13- The Feast of Seeing the Sun's Rays

Tebu looked up as his cousin Phut ran into the camp where his grandmother was cooking dinner. The momentary distraction almost cost him a finger; he heard the click of the donkey's yellow teeth as he quickly pulled his hand back. His father had asked him to see to the treacherous beast after coming back from the river, large jars of water strapped to it's back. The donkey was quite possibly Ouonsou's²⁸ most prized possession and vital to his livelihood. Tebu considered it warily as he grabbed another fistful of hay and tried to tempt it to the hide awning that they had set up as a temporary shelter for the animal. The donkey snuffled the air, its brown eyes seemed to glint with suspicion, but it eventually clomped after Tebu and he was finally able to get it settled in for the night.

“Where have you been, you said you'd have that basket to me by the noonday meal, I had to put- Phut, what's wrong?” He heard his grandmother's normal chiding tone change to concern. She must have noticed Phut's tear streaked face; seeing it had cut off Tebu's call of greeting a moment before as he'd patted the donkey's dusty neck.

He rounded the tent to the cooking space just as Mesta²⁹, his oldest sister, and his grandmother Ruba-Ta³⁰ crowded around cousin Phut, hugging her as she sobbed.

“It’s Itchut! Oh grandma, Kafy’s devastated! Itchut fell at work, Fai ran and got a *swnw* and a *rekhet*- but there was nothing they could do to save him. T-the *rekhet* t-told Fai and I to start seeing to the funeral! What will Kafy do? And so soon after Rere!” Tebu felt his stomach clench, Rere had been Kafy and Itchut’s first, and now only, child. Rere had been a brave and rambunctious boy of five, no one knew for certain how he’d gotten stung by the scorpion. He had simply stumbled into their house in the village, shrieking and clasping his arm. Tebu still remembered scooping him up frantically and running as fast as possible with the boy tightly clasped in his arms. A *Kherep Serqet*- a scorpion charmer- had performed healing spells and given Rere water that had been poured over a Horus *cippi*, a statue many in the village swore had great power over snake bites and scorpion stings. They’d applied it to the sting and tried to pour the water down his throat, but by then he couldn’t swallow. His tiny hand had swollen to the size of a full-grown man’s. It had all been for nothing, the boy’s face had turned purple and his soul fled on his last choking gasp. Tebu had tears on his own cheeks now, thinking about cousin Kafy, her face pale with shock, shaking until grandmother had held her. It had only been a year, they had all hoped that the move to this new place would distract her from her grief and she might become pregnant again. Why did such horrible things keep happening to such a good, kind woman?

Tebu’s cousins Kafy and Phut had watched over him and played with him when he was little. Kafy had always had a fig or a bite of bread ready for him and she always found a way to make him laugh.

Tebu's father, Ouonsou and brother, Apophis³¹ came back from delivering the water jugs still covered with the day's accumulation of dust. His grandmother and Phut explained everything to Ouonsou, his dark solemn face became grim. He put a large calloused hand to Phut's cheek and wiped at her tears with his thumb.

"Where's Fai?" He asked in his voice like crushed gravel.

"He's trying to find a mat-maker, he's trading our last sheet of linen, a pot of beer, and some barley for a coffin." For those who couldn't afford elaborate coffins of costly materials, there was always the mat-maker. These men and women not only made the mats for covering floors, for sleeping on, and sometimes for the walls of huts, but also as coffins of varying quality. Some were finely woven from halfa and other grasses; many were made of palm and tamarisk branches. Techniques for weaving the grasses or leaves together were usually similar; although there were certain mat makers proud of the intricate patterns they could create through twisting and weaving.

"I told him I would let the family know. The *rekhet* said she would help Kafy and I prepare Itchut's body. Grandma..." Phut turned helplessly to Ruba-Ta. Though she was a tiny, hunched old woman, Tebu suspected she had lived to be so old through sheer force of will and the unquenchable flame of her temper. She was the support of the whole family and now wore an expression that showed she would take charge of the situation.

"Mesta, go and find your sister Imentet³², she took your cousin Tayet³³ to get more fuel for the fire. Phut, do you want Tayet to stay here or go home with you?" Tayet was Phut's ten-year-old daughter. She'd been sent by an exasperated Phut earlier that morning to assist Ruba-Ta with daily chores. Tayet had a way of getting underfoot like a hungry kitten and Phut had been busy trying to make a basket and bake bread with Kafy.

Phut wrung her hands, so overwhelmed she couldn't even make this simple decision.

Ruba-Ta clicked her tongue irritably and barked at Mesta:

"Mesta, find them, bring them here, and tell them to watch over the camp, to go to bed in the tent early. This will probably take all night. You'll come with me and aid Kafy and Phut after you get the girls, but I'll send you home in a while and you can join them and rest."

"Yes grandma." Mesta rushed off towards the green lining the riverbank.

"Where do we bury him?" Ruba-Ta mused sadly.

"The villagers who lived here before have some graves not far from here." Ouonsou replied.

"No, the *swnw* who examined Itchut when he first fell sent a man to our tent telling us that there will be an area out farther in the desert where we can bury him." Phut explained, then she paused and took Tebu's hand, not meeting his eyes, but continuing to address Ouonsou.

"Uncle, Kafy asked if Tebu could act as Horus for the funeral." She sputtered the words out hesitantly. "She wants Itchut to have a full funeral, to put his soul to rest properly."

Ouonsou sighed.

"Haven't you heard what the Pharaoh thinks of death now? There is no judgment, no journey to the distant Duat. The dead stay here; they sleep at night and walk with us during the day. Let her give offerings to the ancestor bust, I'm sure Itchut will eat and drink his share."

Ouonsou spoke softly, with a hint of sympathy on his usually stoic countenance. Ruba-Ta slapped his shoulder and glared at him. Phut had a hand over her mouth, her face crumpled into horrified sorrow.

"We wail for kings and courtiers- but we can't voice true grief for our own family? What do you mean? What these Aten followers practice is their business! I will stand as Nephthys,

Kafy will be Isis to her Osiris, and you will act as Anubis. Get that man, friend or acquaintance or whatever you call him, the priest who can read, ask him to act as Thoth. And if Kafy wants Tebu to act as Horus, to stand in the place of her dead son and honor Itchut, he will. He's a man now, he will honor Itchut properly, we all will!" Ruba-Ta fumed, thrusting her furious face up at her son.

"Do you want me to get a bull while I'm at it, commission a sarcophagus? Call for a troop of muu dancers?" Ouonsou muttered exasperatedly.

"Stop speaking nonsense! We'll do the wailing, we'll do the dancing. I do think you should at least get a nanny goat and her kid, and two geese. Tebu can perform the Opening of the Mouth and allow Itchut's *ka* to receive offerings through the ancestor bust." Tebu's mouth felt dry, he saw Apophis crouched by the fire shoving bites of still warm bread in his mouth as he smirked at the rest of the family while he thought no one noticed. No fasting for the dead for Apophis. Tebu suddenly wanted to push him into the fire, for being so heartless, for being amused by his family's loss. But Tebu reigned in his anger and focused on his father and grandmother. In what he hoped was a calm and manly voice he asked:

"Will I take the bust after the ceremony and make the offerings for him and his family from now on?" His voice betrayed him, there was a short, undignified waver as he said his cousin-in-law's name. Ruba-Ta turned her shrewd gaze on him, he stooped instinctively, but she didn't hit him, only took the hand Phut had been holding and gave it a light squeeze.

"I think Kafy will want to care for the bust, it will be her conduit to her husband and child and all of her husband's ancestors. Perhaps when she passes she will give you that responsibility, will you take it?" Tebu could see Kafy's face, how she had looked when Rere died, how she must look now with the death of her husband. He nodded his head emphatically and without

further thought, crying for them, hoping to ease Kafy's burden however he could. Ruba-Ta smiled sadly, clearly pleased.

“Then go with your father, help him gather the offerings and ask his- friend, to officiate.” She said the word friend strangely after a short pause, darting an unreadable glance at Ouonsou. “Son, I am going to organize the girls: we'll gather flowers for garlands, let any friends who are here know, and we'll start preparing for the ceremony and banquet. Make sure you also get some milk. I'll have to help Kafy and this *rekhet* with the body. Demon!” Suddenly she hissed and threw a sandal at Apophis as she spied him eating. Apophis scowled and leapt to his feet, even though he was only thirteen he was already taller than his grandmother. He tried to loom over her intimidatingly, but her eyes became slits of rage and she stared up at him unshaken.

“I named you well the day you came out of your mother, an evil day! Go and tell your stepmother³⁴ what is happening, and then find your cousin Fai and help him with the coffin!” Apophis took a step toward her but Ouonsou's voice, colder than the mud at the bottom of the Aur, lashed out.

“You heard her boy, don't make me knock you to the ground. You obey your elders, I better never see such behavior ever again!” Apophis ducked his head with poorly feigned respect.

“I was just mad father, she spoke to me as if I were still a child, I just wanted her to respect me. I'm more than willing to help, I'll go find mother and Fai!” He spoke as if it was his idea to help and waited until his father, watching him with an unreadable expression, grunted and motioned for him to leave.

Apophis trotted away obediently, but when he passed the tent where he thought no one could see him, Tebu caught the flash of an obscene hand gesture. He kept silent, just relieved his brother was gone.

“He is a man now and you shouldn’t pester and scold him.” Ouonsou groused to his mother, oblivious of his youngest son’s disrespect.

“You don’t understand him, I treat him how he deserves to be treated, that’s how I treat everyone. Enough of this, there’s too much that needs to be done. Go, and then meet us back at Kafy and Phut’s tent, and no eating!” Ruba-Ta huffed, going to gather supplies.

Ouonsou beckoned Tebu to follow him and they began making their way through the windy path between encampments. The sun was just sinking over the river, workers returning to fires for evening meals, jars of beer, songs and stories with their families. The smells of bread, onions, and occasionally even more tempting foods wafted in the air with the yeasty tang of beer, making Tebu’s stomach growl. He tried to distract from his hunger by wondering what kind of associate of his father’s they were going to see. The way Ruba-Ta had spit out the word friend had sounded more like she was asking Ouonsou to invite a snake to the funeral.

Tebu thought about all the funerals he had ever seen over the course of his fourteen years. His grandmother and stepmother were professional mourners and had started training Tebu’s sisters how to participate in funerals. Most had been for minor courtiers and officials, but when he was nine, his grandmother had actually been in the last Pharaoh’s funeral procession with other mourners gathered from the whole city of Waset and the village across the river where the tomb workers and Tebu’s family had lived. His grandmother had shown her great skill at rending hearts with her tears and keening. Most people didn’t have such elaborate funerals, though they often performed some of the same rituals, the ceremonies were usually simpler and more

intimate with only family and friends of the deceased attending. Tebu wasn't sure of what all would be required of him, he had never really focused on the things being said or all the steps involved, he'd been sad at funerals of people he knew and uncomfortable at ones where he hadn't been close or was a stranger to the person who had died. Logically he understood that one day he would have to fulfill this role as the eldest son, but a part of him thought of his father as so strong, seeming immortal and changeless, that he'd never paid much thought to how he would perform for his father's funeral. Tebu felt more than ever that he was truly leaving childhood behind for adulthood- more than the circumcision ceremony, more than his marriage two years before, this moment seemed to make clear that he no longer had the luxury of leaving responsibilities to others. He was daunted and unsure of how to ask his father to teach him what he would need to do.

He would have to tell Nub-Em-Het³⁵, his wife, about the funeral. Their tent was right next to his father's, he was struck by guilt that he hadn't thought to stop and tell her, but tried to justify it to himself that he had been caught up in the moment. Nub-Em-Het had wanted him to ask his grandmother to teach her to be a mourner as well for the last year. A part of her would see this as an opportunity to help Ruba-Ta, whom she looked up to, and prove herself. She wanted so badly to be closer to his family, but all he could think about was keeping her distant from them. It wasn't out of shame, but more to protect her. There was something about his family, it was different from other families, he still didn't fully comprehend what it was, but he suspected it was complicated, perhaps even dangerous. There was some aspect to Ouonsou's work that he was starting to share with Apophis whom he saw as tough and clever, but that he kept from his eldest son because he seemed to view Tebu as too emotional. Then there was Ruba-Ta; though a part of her took great pride in her work as a mourner he also knew she

seemed to carry guilt and shame. He didn't want that for Nub-Em-Het, but he also wanted to respect his wife's wishes. She would also be distraught when he told her about Itchut. She was fond of all his family, but especially Kafy, whom she had a close friendship with; it was only right that she be in the funeral. It was yet another responsibility Tebu didn't know if he could handle.

Tebu and his father reached a well-made camp with a tent of excellent quality. They could hear a man's voice speaking sternly and the muffled sobs of a woman. They found a gaunt, delicate looking priest, his head and body devoid of hair, brows plucked, no trace of stubble on his jaw. His eyes were somewhat protuberant and had an upward angle on the ends that were outlined in malachite. He had a face as unreadable and impassive as a gecko's- only eye movement, the flaring of the nostrils, or the clenching of the jaw might give an inkling of his thoughts and emotions. He wore an elaborately folded and pleated kilt of the finest linen and beautiful leather sandals. His enigmatic gaze was locked on a woman who cowered over a broken water jug, frantically gathering up the broken fragments.

"Amenemef³⁶." His father spoke the name in tones equal parts studied politeness and caution. The priest turned to them and crossed his arms over his chest.

"Ouonsou, have you come to play senet?" The man's voice had the resonance and clarity of notes struck from a lyre. It was somehow disconcerting to have such melodious tones come from the reptilian visage. Tebu stepped slightly behind his father to avoid attracting the man's notice. He needn't have worried. The priest glanced disdainfully at the woman³⁷ and ordered:

"Go fetch the board before you replace the water you so carelessly spilled, useless thing." Tebu realized the woman must be the priest's slave. He tried to ignore the pang of pity as she scrambled up swiftly; head down and shoulders bowed and entered the tent.

“Unfortunately I’m not here to play, perhaps another night.”

“I guess I shouldn’t be surprised to find that you and your brood have come to this place, you have an almost uncanny ability to see- well, shall we call them opportunities? I suspect you already know all about the King’s announcement this morning?” Amenemef spoke to Ouonsou with patronizing amusement. The slave came out of the tent with a prettily painted game-board with legs to stand on and ingenious drawers on the sides. The lilting tenor suddenly became an irritated hiss. “Did you not hear him Useless? Do I have to trade you to someone who will beat some sense into you? Put that back and get the water, I should exchange you for a privy pot, I suspect it would be more useful to me.” The contempt in his words was almost more painful than a kick to the shin. Tebu could tell by the set of his father’s shoulders and the way he tilted his head back that he was holding in anger. Tebu wanted to leave; he now understood why his grandmother had hesitated on using the word friend to describe this man.

The priest walked to a stool with duck heads carved into the legs and sat near the fire. With the sun sailing from one world to the next, the sky seemed to be darkening in mourning. The sand still retained a little heat from the day, but there was a slight chill in the air. Amenemef gestured for Ouonsou to sit on the ground and for the first time noticed Tebu.

“So, what brings you to my camp? Here, I have a pot of that wine you gifted me last time we met, don’t worry, I put it in a different container than the one it was originally in- some of my associates would have been shocked by the name on the seal.” A wicked smile curved Amenemef’s lips and Tebu looked with confusion to his father, who had a studied expression of disinterest. He squatted down and rested his arms on his knees.

“Yes, well, it’s probably best your associates don’t catch on to how a lowly army scribe became such a well-oiled priest so quickly. We all do what we must to thrive in this life, it’s

better not to waste too much time on the judgments of others.” Ouonsou rumbled softly. The priest’s teeth gleamed in the flicker of the flames but it was hard to discern if he was grinning or just baring his teeth. Ouonsou continued: “I’m not one for bantering or playing any games other than senet. My nephew-in-law has died, an accident. My mother and my niece want an Osirian funeral, my mother suggested asking you to be the lector, would you be willing? I could find a way to compensate you.” The priest poured red wine from a small pot into a white cup. He sipped thoughtfully and contemplated Tebu.

“And this one?”

“My oldest son, since my niece has no living sons, she’s asked him to be Horus.”

“With your vast riches, you’re not hiring a *sem* priest too?” Amenemef asked with an almost gleeful sarcasm. Ouonsou didn’t bother replying he simply watched the fire. When the priest realized he would get no reaction he uttered an amused chuckle.

“Very well, are you going so far in aping your betters as to mummify this nephew-in-law?” Tebu noticed his father clenched his fists briefly before relaxing his hands.

“No, the women are anointing and preparing the body, my other nephew-in-law is fetching a coffin from the mat-maker. I still need to gather the sacrifices. I am grateful for your participation.”

“This must be difficult for you, I know how you feel about elaborate funerals.” There was still a hint of mockery.

“I do whatever I must for my family, you know that well. We can discuss compensation later.” Ouonsou rose and waved to Tebu to follow him. “We’ll observe the three days starting tonight and then we’ll set out for the burial ground. Please come to my camp in the morning.”

“I will. Does your boy know what to do?” Amenemef eyed Tebu speculatively.

“I’ll teach him with my mother’s help. We’ll do the usual spells and liturgy, nothing too elaborate. Agreed?” The priest nodded and took another sip of wine. Ouonsou and Tebu left, passing the slave who struggled with a water pot balanced on her head.

“We’ll get up first thing in the morning and let the scribe and the overseer know that we need time off for the funeral, then we’ll get the animals for the sacrifice. As we help your grandmother and the women tonight, I will start teaching you your part in the ceremony.”

“Yes father.” Tebu replied obediently, sadness and fear gnawing at his heart.

Peret, Ermouthi, Day 16

Itchut had no amulets or jewelry, no prized possessions. What they lacked in grave goods was being made up for with the attention paid and the extravagant ritual being undertaken. They’d traded their largest sheet of linen for a gereed mat coffin, so only woven plant stems protected his body. All the perfumes and oils they’d used, coupled with the incense burning for the ceremony, still couldn’t disguise the intensifying rotting sweet stench of death. They bound the coffin shut with coarse, thin ropes and rested an already wilting garland of flowers on the end where Itchut’s head was in the coffin. The men were careful not to dislodge it as they carried the coffin from the tent into the pale morning light.

Family and friends of Itchut, even some people who had only just met the family, waited outside. Burdens of food, drink, and other offerings and materials needed for the funeral were handed out to be carried to the cemetery. It would be a long walk to the newly appointed burial ground, so the donkey would take the place of noble oxen to help Itchut through the desert for the first part of his journey.

Sounds of mourning could be heard, starting soft as people took their positions, then several people started grabbing fistfuls of sand and grinding it into their hair and scalps. Clothes and hair were pulled at roughly as wails and lamentations flew into the air, rising like the cries of birds. Some had their breasts bared and all of the women of the family wore bands of blue fabric tied around their brows. Tebu and Amenemef had white bands on their heads.

Kafy, as Itchut's wife, stood as the goddess Isis. She held the ancestor bust for Itchut's family and refused to relinquish it, even though a friend offered to carry it for her. Ruba-Ta, acting as Isis' sister Nephthys, had an arm around Kafy's shoulder. Ouonsou, in his role as Anubis, led the donkey. Behind the animal a crowd of twenty or more followed. At the head of the procession, trying desperately not to drop the pot of fresh milk that he was using to sprinkle on the donkey's path was Tebu.

"Where are you going my love that I must walk behind you? Prepare a place for me!" Kafy sobbed as they began to walk out of the encampment.

"Why do you leave us, where are you going?" Ruba-Ta's sharp, high voice signaled the mourners to join in with weeping and wordless moans that rose and fell. Others pleaded with Itchut or asked why he had to leave. The donkey brayed in displeasure at the doleful cacophony.

After a long march, they came to the place they'd been directed to use as a graveyard. Another family was there with a much smaller group for a different funeral, already digging and setting things up for their more modest ceremony. Ouonsou halted the donkey and Kafy and Ruba-Ta stepped forward. Ouonsou, Fai-nofre-bai, Apophis, and six of Itchut's friends and coworkers untied the body. There were four rope handles; two on either side of the body, four men each took a handle and lifted the body, and the other five men walked beside the body and they all said, speaking in unison:

“Beware, O earth!”

“Your arms on the ropes!” Called Amenemef in a voice like a golden trumpet.

Ouonsou, carrying the head of the coffin with Apophis on the other side, directed the men to an area at the mouth of the wadi. Tebu studied the pale sand that seemed to flow down through the dark cliffs into the desert where they stood, marking the passage of the rare floodwaters that had run through the desert. By now the sun was well over the horizon and the heat of the day caused sweat to mingle with dust and tears.

Ouonsou kicked and prodded at the dirt with his foot as he walked, finally coming to a stop and indicating to the other men to lower the feet of the coffin as Ouonsou held it upright, rotating it slightly so the coffin faced south, he held one hand in such a way as to keep the garland on.

Someone took the empty jar of milk from Tebu and he waited nervously as Amenemef unrolled a scroll and began to chant a prayer:

“I have come and I draw close, to see your beauties; my hands are raised in adoration of your name- Right and Truth. I came to the place where the acacia tree with thick leaves does not grow and the ground yields neither herb nor grass. Then I entered into the hidden place and spoke with the god Set, and my protector approached me, his face covered and he fell upon hidden things...” The speech continued and Tebu tried to hold still, tried not to think about how dry and tight his throat was with grief, fear, and thirst. He tried to listen to the prayer and willed the words to protect Itchut and guide him on his journey.

Other people from the group moved about setting up for the rituals. Kafy had finally given Apophis the ancestor bust to hold while he stood next to the coffin. When Amenemef’s prayer was over, she collapsed in front of her dead husband, some women had done this

exaggeratedly at other funerals Tebu had witnessed, but Kafy kneeled wearily, digging her fists into the sand as she pressed her forehead against the foot of the coffin. She sang a lament; a wife usually chose a song or created one to pour out her sorrow. She was crying so hard that at times she was sobbing and gasping the words to the point that they were almost incomprehensible, but she had chosen an old song that most of them knew by heart.

“You have gone far away;
How can you do it?
Alone I shall walk,
Yet I will always be behind you.
The one who loved to talk with me,
You have fallen silent;
You do not speak.”

Her anguish was palpable, it touched them deeply, and many cried. The men trying to keep their despondency quiet while the women practically shrieked, lifting their arms and clutching their heads. Tebu had difficulty seeing through his tears, everything shimmered like heat rising off the desert and he desperately blinked his eyes.

Ouonsou slowly lowered the coffin completely to the ground. The man they had traded with to get the sacrifice the day before brought the nanny goat and her kid forward. It was time to perform the Opening of the Mouth, which would allow Itchut to see, speak, hear, and taste again as he was reborn into the Amduat.

Tebu, Amenemef, and Ouonsou, acting out the roles of Horus, Thoth, and Anubis respectively, circled the coffin four times as they chanted together:

“Be pure! Be pure! Be pure! Be pure!”

Tebu then tried to do as his father had instructed him, focusing his mind intently on Itchut and the god Osiris. Tebu let his eyes drift closed and imagined Itchut as a ghost and a god, as a father figure. Tebu thought of the god Horus, performing magic to protect his father Osiris, he thought about his little cousin Rere, the one who should have been here, to channel their energy and power, to help Itchut on his voyage.

“Wake the sleeping one, the *sem* priest!” Amenemef called to Tebu.

“I have seen my father in all his forms!” Tebu rasped, his eyes slowly opening.

Apophis brought the ancestor bust to Tebu and stood with a bored expression- incongruous to the earnest ritual and it unnerved Tebu. He made himself concentrate on the limestone bust, a crudely carved and painted head of a man in a long black wig and a beaded collar at the throat. The small stone statue had curved shoulders, but there were no arms and only a hint at a chest.

Tebu began describing Itchut out loud, he remembered how his cousin-in-law’s eyes would shine with love for his wife, how his face had been traced with deepening lines since the death of his son Rere, the curve of his nose, his lop-sided smile at a joke, how tall and strong and confident Itchut had been in life. Once he had created an image of Itchut with his words he spoke the ritual prescription:

“Make the statue like my father! Make my father for me! Make it like my father! Who is it who makes it for me?” Apophis desultorily pretended to carve the bust into a statue of Itchut as Tebu continued chanting.

“Who are they who wish to approach my father? Do not smite my father! Do not touch his head!” Tebu lifted his hand, once Apophis was done acting out fashioning the statue, and with his index finger traced the mouth of the bust.

Amenemef took a knife and killed the kid, cutting off its right front leg as the nanny goat bleated at the death of her baby. The priest brought the blood-covered leg and touched the hoof to the head of the coffin and then the lips of the bust as blood pattered softly into the sand.

“Opening the eyes and mouth, may your *ba* go above, may your corpse go below.”

Amenemef chanted.

Tebu was handed an adze and Tebu went first to the coffin, touching the tool and placed the blade where he thought Itchut’s mouth was and then using his finger to act as if he were clearing out the mouth of a newborn babe so that it could breathe and cry for the first time. Then he went and performed the same actions on the bust. Ruba-Ta came and wrapped a small square of linen around the base of the ancestor bust.

Amenemef began speaking the final words of the ritual:

“I have given breath to those who are in hiding. I have enabled those who are in the Duat to breathe. I have caused them to rest in their chapels and their offerings to endure. The breath of life, it comes and creates his image, his mouth is opened. His name endures forever because he is an excellent *akh* of the Duat. He hears the call of those among his relatives. He protects the body of the one who pours water for him. He emerges as a living *ba*, he assumes its form according to the wish of his heart, wherever his *ka* wishes to tarry!”

Ruba-Ta led some of the mourners in the dance that would show Itchut how to pass through the Underworld, while others threw small pots at the ground, the sound of shattering believed to ward against evil.

Ouonsou and the eight who had walked with the body took turns digging the grave with hoes, it didn’t take too long as the soil gave way quickly under the exertions of the men. The grave was cut to perfectly fit the coffin; there was no wasted effort or space. They lowered the

body into the grave and then used the hoes to bury the coffin. Kafy knelt by the grave, rocking back and forth, striking a fist over her heart again and again until Tebu's wife Nub-Em-Het and Kafy's sister Phut took hold of her. They stroked her hair and murmured comfortingly. Kafy slumped against Phut, who wiped at her face with a piece of cloth. Several men and children went over the rise of the gully and started to bring limestone rocks that they used to build a cairn. A triangular shaped rock was placed at the head of the grave, it marked the burial place and stood symbolically for the tomb that would house, protect, and act as a focal point for offerings.

A mat was laid near the newly packed earth of the grave and people sat, stood, or squatted around. A man with a harp began to play delicately and the food and drink they'd brought with them was laid out on the mat. Amenemef spoke a spell over the burial to create the bread, beer, and good things Itchut would use in the Duat.

They ended their three day fast. The thought of food was repugnant to Tebu at first, he felt woozy and lightheaded, but his grandmother brought him some bread, beer, and a little meat from one of the roasted geese. She forced him to eat a few bites and it awoke his appetite. The rest of the food he ate quickly and willingly, though it didn't take much to make him feel full.

People continued to get up and dance, sing, or cry. Tebu was drained and thought there couldn't possibly be any more tears left within him, but he found his cheeks hot and wet as he watched Kafy kneeling near the ancestor bust pouring out some of her beer into a shallow dish in front of it.

Ouonsou came and sat next to Tebu, clasping his shoulder.

"You did well boy." It was the most praise Tebu could ever remember receiving from his father and his heart swelled.

The dishes and the pots from the meal that weren't coming back were broken and scattered on the ground and the mat they'd feasted on was brushed off and rolled up.

Kafy stumbled to her feet and gathered up the ancestor bust from the place of honor it had been placed at during the banquet. She carried it as tenderly as a woman holding her lover. The crowd of mourners joined with the other family that had ended their funeral feast and they all quickly and quietly left the cemetery, a few snatches of song sung here and there as they trekked back to the encampment and back to their lives.

Hotep-Ui³⁸:

Peret, Ermouthi Day 23

“Have you ever seen a baboon catch a thief?” Hotep asked as the baboon in the cage regarded him with amber eyes. It looked almost like a wise old man with its mane of tufted white fur surrounding the long pink face. It pushed its hand through the bars and tried to grab at the heavy basket hanging from his shoulder. Hotep pulled a fig out and held it out to the baboon. He was surprised at how strong the hand that grabbed the fruit was; in shape and size it was almost human. His Uncle Pasupti³⁹ chuckled as he hefted his end of the cage poles; a man Hotep didn't know held the other end.

“Just once in the market of Waset. You don't want to be bitten by an emissary of Thoth; their teeth are like daggers. The thief's leg bled so much I thought he would die.” As if to prove his uncle's tale the baboon opened its mouth to bite the fig, its teeth were as long as one of Hotep's fingers.

“Was the thief killed for stealing?” The answer to this question mattered a great deal to Hotep-Ui, but he tried to keep his voice as normal as possible, let his uncle think it was just normal curiosity. Hotep ignored the tightness in his throat.

“He’d taken a copper tool from his patron and tried to trade it for grain, it was the first time he had been caught stealing. He was beaten and wounded; they laid him on the ground and pierced his shoulders with a spear. He cried like a baby and the Chief told him if he were caught stealing again he’d lose his nose and ears. It was a serious enough wounding that he suffered a great deal of pain, but not so bad that he couldn’t return to work a week later. Most who endure such a punishment never steal again. But I have also seen men and women sent to the quarries for their crimes, others killed. It really depends on the severity as well as the one passing judgment.” Hotep nodded thoughtfully and gave the baboon another fig.

The wailing of women in a distant funeral carried across the open plain of the desert, causing the baboon to startle in its cage and let out a series of sharp, high-pitched barks at the mournful cacophony. Uncle Pasupti and the other man balanced the cage grunting with effort. The man began speaking in soft, placating tones to the creature and calmed it.

“Is he yours?” Hotep asked.

“Your boy is all questions, is there a reason he’s underfoot?” The man groused to Uncle Pasupti, completely ignoring Hotep.

“My nephew, he volunteered to carry supplies to help us out. Don’t mind him, he’s a good kid. Why are you complaining? Did you want to carry the food, water, tools, and this cage?” The man huffed but said no more and they continued on their way. Hotep hoped the baboon would bite the man when it was released from its cage. He pressed his lips together in a grim line and nervously wiggled a loose upper tooth, just behind his right cheek, back and forth.

He'd always admired his uncle for being a part of the Medjay, the royal police force. They guarded the king, his family, and his tomb. They patrolled the cities, villages, deserts, and borders of the beloved land. They were the enforcer's of the king's will. More than anything, Hotep wanted to carry the baton and the forked stick, to run before the king's chariot, to punish evildoers, and have adventures. He'd begged his uncle to let him help carry provisions so he could see the other officers. He was also excited to get close enough to observe the two baboons that were trained for hunting and capturing criminals. He'd snuck out of the tent before dawn in order to evade his father. He didn't care if the old man gave him a beating later, the opportunity to prove useful to the policemen, make a good impression and maybe earn himself a place on the force was worth it.

It was also a relief to not have to do the heavy labor expected of a workman- carrying stone blocks, digging canals and wells, cutting and hauling timber, or constructing shadufs- structures made of two support beams that held up a pole with a bucket on one end and a heavy weight, sometimes of stones or hardened mud, attached to the other end, that were used to draw up water, either from a river or a well.

Hotep hated being a workman, he didn't care that sons were supposed to learn from their fathers and do the same work. He didn't want to be anything like his father. He didn't want to toil in boredom and misery. He'd rather run away and become a soldier or just die and go to the underworld- almost anything to get out of having to be a workman.

Hearing his Uncle Pasupti tell stories about being a Medjay officer had filled him with a longing that was almost painful. His mother knew, she saw what his father, stubborn and uncaring, had refused to- Hotep was meant for more than just carrying bricks under a merciless sun. He was meant to do something that mattered.

Hotep resolved not to speak to, or bother in any way, the other officers. He wanted them and his uncle to appreciate his usefulness, intelligence, and fortitude. He made sure to offer all the men food and water when they stopped for a rest, and he kept up with them as they marched north along the border of the black land and red waste.

“So this is near where they’re planning to build the palace and temple, eh? From what I hear, the palace will go right down to the Aur. Here we are building the main barracks and the Lieutenant has told me I’m going to be assigned out in the desert to be near the Workmen’s Village, it’s not fair. I need to prove myself, catch the King’s eye, life, prosperity, and health.” The other man complained.

“Or the Queen’s. Though honestly, I don’t think there’s a woman alive who would be tempted by your face Kha, was your father a demon?” Uncle Pasupti teased the man and gave his nephew a wink. “Quit griping, think of all the drinks and women we’ll get when we’re telling stories of capturing tomb-robbers and desert bandits! Look, stop giving Hotep and me grief and I’ll cheer you up tonight with a jar of pomegranate wine I won during a game of senet.”

“When did I complain, eh? You’re only jealous that you’re not as strong and fast as I am. What do I care about the boy as long as he doesn’t pester me, he’s been keeping up and not whining, I’ll give him that. Who’d you beat at senet that you won a jar of wine?” Kha’s mood and voice lightened at the prospect of a drink or two. While pomegranate wine wasn’t as fine as the wine made from grapes, for many it was still a luxury.

The way the officers talked to each other was so different from the workmen, they only moaned about aching backs and hungry families. Hotep felt a flush of pride that Kha had noticed how well he’d marched and no longer wished the man ill.

The small group of seventeen men, nine Medjay officers and eight workers, plus Hotep, finally reached the spot where the highest ranked officer called a halt. He informed them they'd start setting up camp and digging a well at a place a scout had located two days before.

They took one more short rest and the baboons were let out of their cages. Kha showed Hotep how to hold their leashes and the words used to command the monkeys to sit, stand at attention, or be at ease.

“This one is Baba and the other is Hedjwer, they were brought from the temple of Thoth in the city of Khmun. They've been trained since they were babies.” Baba sat and started picking at Hedjwer's fur while Kha tied their leashes to a stake that had been pounded into the ground.

“Hotep!” Uncle Pasupti called him over and the boy reluctantly left the emissaries of Thoth. “You did good work today, but the sun has reached the middle of the sky, you should head back. I don't know how long your father will approve of you being gone. You know how he can get.”

“I don't care, besides, I can help dig the well or watch Baba and Hedjwer, or give you all more food and water when you need it.”

“Hotep, don't make me tell you twice, a Medjay takes orders and doesn't question his superiors.” Hotep hung his head and pressed his tongue hard against his loose tooth to keep from crying in frustration.

“Yes uncle.” He sighed and his uncle handed him a half-full water skin for the return journey and patted the boy on the back before sending him off.

Hotep trudged reluctantly, his feet dragging even though the sun caused the skin of his scalp, shoulders, and nose to feel tight and hot.

He reached the edge of the encampment that seemed to grow with every passing day; the makeshift village was starting to resemble a fat crocodile basking on the riverbank. He could hear men shouting from boats as they unloaded goods and workers, mothers and old women gossiped and hollered to each other as they went about their daily chores, children shrieked and laughed as they ran down crowded paths. Baking bread and smoke filled the air with their comforting scents. But Hotep didn't feel comforted. The pleasure of being with the Medjay and his uncle was fading to a sickening dread at the thought of seeing his father.

Distracted by his worries, he didn't notice the other boy until he tumbled into Hotep, their legs tangling as they fell in the dirt. A group of four older boys laughed scornfully at them.

"Your fighting skills are pathetic soldier's son. How are you supposed to hold a sword or a spear with those reeds you call arms? Maybe you *are* better off painting pictures with little girls!" Sneered a boy at the front of the group; he had a hand gripped around the skinny wrist of a furiously struggling girl. Her eyes were wild with a murderous intent. She opened her mouth wide and Hotep thought she was going to scream, but instead she sank her teeth into her captor's hand. He yelped and tossed her so that she landed on top of Hotep and the other boy. The three of them awkwardly rolled away from each other and stood up. The boy who had first fallen on Hotep was a little shorter and slighter than him and had an expression of calm disdain as he stared at the four tormenters. The girl was as gangly and thin as a stork, her hair a mix of braids and snarls. She stomped up to the leader seething, hands on her bony hips.

"You pig-breathed donkey face! You ruined it! We weren't even bothering you, you're stupid and I despise you! And Unnefer, why are you running around with this pustule? You should be helping father instead of picking on kids smaller than you! Girls aren't impressed by idiots like you, none of you will get married because you're all ugly and think you're better than

everyone else! Leave us alone!” She ranted. One of the other boys, who had a similar nose to the girl, blushed, but the lead boy laughed snidely and said over his shoulder:

“Your sister’s a brat, someone should teach her to keep her mouth shut!” He raised his fist, and without even thinking about it, Hotep ran forward and stepped in front of her, taking the hit. The blow popped his loose tooth out and made him rock back on his feet. Blood dribbled down his chin and his tooth fell into the dust. The girl gasped and put her hands on Hotep’s back, helping him keep his feet under him. The boy who had fallen on Hotep reached and scooped up the tooth and a fistful of dirt and threw it into the faces of the four boys. They sputtered and stumbled into each other as they wiped at their faces.

The girl took hold of Hotep and the other boy’s hands and yanked them.

“Run!” She panted and they did. It was probably the fastest Hotep had ever run in his life. They could hear the leader howling at the other boys to get them.

The three of them stuck together in a wordless panicked sense of unity, a faint hope in the safety of numbers. They clambered over baskets of grain and other goods, they dodged past people and slid and slithered through the narrow gaps between tents and reed shelters. Following a serpentine route to confound their hunters, they eventually arrived gasping at a mudbrick house on the river; they dashed behind it and dove into the thick green shelter of the plants along the bank. They hunkered down, trying to catch their breaths as quietly as possible and hold still as they assessed if their enemy had followed them. An irritated duck flapped past them into the back yard of the house. Other than that, there was no sign of movement, no trace of the four. They waited patiently and silently, huddled together with their feet sinking in the black ooze at the water’s edge.

“I think we’re safe.” The girl whispered after what seemed an eternity, but still none of them moved.

“Just wait a little more, that one, Apophis, he’s been trying to find a reason to beat me up ever since my dad hit him with a stick two days ago for throwing rocks at a cat. He’s a monster.” The other boy whispered.

“Are you okay? Your tooth fell out! You’ve got blood on you. I’m Ma’atnofret, here, hold still.” She moved slowly, deeper into the rushes and came back with some water cupped in her hand. She gently washed Hotep’s face and tried to get him to open his mouth so she could check where his tooth had been. Not unkindly, Hotep pushed her hands away and scrubbed at his wet face with his forearm. He winced when he touched his cheek but tried to hide it.

“I’m Hotep-Ui.”

“I’m Thoth⁴⁰, sorry. Ma’atnofret and I met yesterday, today she was showing me how to write with some of her father’s paints, but then those four showed up.”

“They’re too old to be picking on us, one’s a baker’s apprentice⁴¹ and the other a potter⁴². They seemed all right when they were just drinking and talking with my brother Unnefer, but then Apophis started teaching them how to wrestle and they treat him like he’s a god or the hero of a story. I loath him, he makes my stomach hurt.” Ma’atnofret said, crouching down and tracing a finger through the mud. She looked up at Hotep, her face worried.

“My mother knows some remedies, she could give you something to help with your jaw, its bruised and starting to swell.”

“I’m fine.”

“You were amazing! The way you stepped up, so fast and protected Ma’at. Sorry I feel like I should have helped more.” Thoth said, flashing Hotep a sheepish, admiring grin. Suddenly it seemed like his cheek didn’t ache quite so much, and he gave a lopsided smile back.

“We should meet here tomorrow and play a game. Right now I have to go back and find what’s left of my father’s paints and brushes. I can’t have my mother and father mad at me. Do you want to meet here? Usually I have to fetch water and do my morning chores, but I could maybe get away in the afternoon when I leave to get more water. What do you think?” Ma’atnofret asked.

“I’ll try, but my father has orders to move out with his platoon soon, so maybe the afternoon, if we have some free time we could try to meet. We could make this our spot, then Apophis and his friends would have a hard time finding us.” Thoth suggested.

Hotep studied them both. It would be nice, in this new place, to make some friends. He shrugged and then nodded his head. The other two beamed. They all crawled out from their hiding place, feet sticky with mud that they tried to scap off with leaves. Hotep found that Ma’atnofret had a tendency to chatter about all kinds of things, telling them she had an idea for a game, and that if Hotep wanted to paint sometime she would share some of her father’s poorly mixed paints that he only used to practice. They rounded the corner of the mudbrick house and made sure there was no sign of Apophis and his gang, then said goodbye and went their separate ways.

Hotep kept alert for trouble as more people were returning to their shelters as the day was reaching its end. Hotep realized that meant the workmen would be leaving the main construction sites and be returning home.

Throughout Ta-Mery, the Beloved Land, the riverside had always acted as the main market. Goods were traded- everything from fish to oxen, figs to cedar planks could be found. He heard his father's voice before he saw him. He made a protective gesture hoping some god or goddess would take pity on him and help him pass unnoticed through the crowd to make it home first. Then he heard what his father was saying.

"I'm telling you, it was the luckiest thing, in all the confusion of the move my wife didn't notice the extra jar of barley. Look, I've got three deben's worth here at least, let's trade, that large pot of beer and two ducks for my wife to cook. It's good barley!" Hotep's jaw throbbed as he gritted it; there had been no forgotten jar of barley.

No longer caring whether his father saw him or not, he pushed roughly past several people and headed home, head down and heart slamming against his chest.

"Boy! Boy! Do you think you can sneak by me? Stop when I call you!" His father's hand clamped down on Hotep's shoulder. He was spun around to face his father, who had a pot of beer under one arm and a good-sized basket slung across his chest on a coarse rope. His father Enna⁴³ was not a very tall man, but he loomed over Hotep.

Enna's heavy brow hung in a scowl over his eyes, which held an uneasy mixture of weariness and fury. He thrust the pot of beer into Hotep's arms and gave him a sharp slap on the back of his head.

"Let's go home, you and I need to have a discussion." Hotep wanted to throw the pot on the ground and shatter it; instead he strode beside his father sullenly silent. Enna waved to several other workers and bid them good evening.

They came to a simple reed mat shelter, put together two weeks before when they'd first arrived. Hotep's mother Hapentmat⁴⁴ had a pot on a fire and two loaves of bread on the mat she

had spread outside of the shelter. She was kneeling and tending to the evening meal while his two year old sister Gararai⁴⁵, naked and bashing two small stones together with her chubby fists, played beside her. It had been somewhat surprising that Enna and Hapentmat had had another child, both were getting older- he was thirty-three and she had been thirty-one, when they realized she was pregnant again. She had lost five previous children to miscarriages and illnesses, each one leaving marks of heartache and loss on her thin, fragile looking face. Sorrow hid in her large, deep-set eyes. It had made her cherish her two surviving children all the more. She was smiling as she stirred the pot and sang a song to her daughter. When her gaze lifted at the sound of their arrival, she stopped singing and her smile faded like the dying light of the sun. “I almost have dinner ready, I was able to get an onion from the neighbor for helping her make some new sandals for her son. The soup should be flavorful.” As if she could sense the tension between father and son, she spoke in an overly cheerful voice and beckoned them to sit by the fire. Enna handed her the basket instead.

“I got us two ducks.” One squawked nervously from the basket. “The boy isn’t eating tonight, put that beer down and come with me.” Enna ordered Hotep. Hapentmat rose and lifted her hands in a placating manner.

“You’ve both had a long day, let’s just eat and you’ll feel better.” Hotep put the beer near the mat and began heading for the hut, but his father gripped his arm and shoved Hotep in the direction of the river.

“No, I said we’re having a discussion.” And he pushed Hotep again to keep him moving. They came to the river, they’d gone far enough that there was no one around and the sounds of the village were faint.

“Where were you today? We’re starting on building the Quays we could have used your help. Don’t lie to me, just tell me where you were.” His father went to the reeds and started feeling the thickness of the tall stalks.

“I don’t lie, I’m not the liar of the family.” Hotep said, clenching his hands together behind his back as he watched his father hesitate for a moment before bending down and breaking off a reed as thick as a baboon’s tooth and the length of a man’s arm. He slashed it through the air and it made a sound like a hissing cat.

“Where were you?”

“I was with Uncle Pasupti, the Medjay are setting up a barracks to the north where they’re planning to build a palace for the King: life, prosperity, and health. I was carrying provisions and giving them water.” Hotep tilted his head back and stared into his father’s face defiantly.

“Who is your father? Is it Pasupti? You’re the son of a workman, you’re my son and sons do the work that their father’s do. Why is this so hard for you to understand?”

“I want to join the Medjay, I don’t want to be a workman.”

“You’re not hearing me son. You know, my father used to always say a boy’s ears are on his back, I hated when he said it, but I understand now. If you refuse to listen, I’ll make you listen.” Enna’s voice sounded more sad than angry before he began whipping Hotep across his shoulders, over and over until the reed broke. Enna went back to the river and grabbed another reed, wrenching it until it snapped and returning to Hotep.

Hotep hadn’t moved; he was desperately trying to keep his trembling legs steady. He hadn’t tried to evade any of the blows; he’d learned when he was younger that that only made

things worse. He didn't want to show how much it hurt, how afraid he was, so instead he showed his father all the hate and anger that was growing inside of him through a baleful glare.

"It's not about what we want, I don't know why this is so hard for you to understand. We don't make choices; we do as we are told. Sons obey fathers; fathers obey the King and the gods. You accept the fate you've been given and you make the best of your life. You don't have to pout and be miserable. Being a workman has meaning, because of our work, people throughout the kingdom see the marvels of the temples and monuments, the gods are honored, and the balance of *ma'at* is sustained. It is only inviting chaos and destruction to go against your fate. I'll teach you all I know. There's a purpose, even a joy in building something and watching it grow. Find a wife, make a family, and honor your gods and ancestors. That's why we're here, it's what we're all meant to do, fulfill the role you've been given."

"I don't want to; I don't have to be like you. Other boys get jobs different from their fathers." Hotep was proud his voice didn't waver or break.

"You're not other boys, I don't speak for those other fathers, making foolish decisions. I am my father's son just as you are mine. In this family we work for the King and we do as we're told." He struck Hotep again until the reed broke and went and got another. Hot, thin snakes of blood slid down Hotep's back, but still he didn't move, he only felt shame that he couldn't stop the tears that fell from his eyes.

"I'd rather die. Just beat me until I die because I will never be a workman. I'm not going to be like you, I'll never beat my son, I'll never steal, I'll never make getting a pot of beer more important than loving my family. I'll never lie to my family or myself that buying a duck or a pot of honey once a year makes up for the days of empty bellies, makes up for my wife working like a slave to cover for me drinking away my wages. I'll take care of the people I love and never

cause them pain because that's what you do when you love someone! I'll never be selfish like you, a hypocrite like you!" Hotep's voice started low and grew to a shout, and he didn't look away, even as he watched his words stab into his father like spears, even as anguish and sorrow darkened his father's features.

"You're still a kid, a selfish brat. You see the world one way, with you at the center. You think if people are good to you they're good and if they're bad to you, they're bad. You never try to look at where other people are, why they do the things they do. You don't understand me or anyone else, and you don't try to. You get angry when people don't act the way you want and you say or do whatever you can to hurt them for disappointing you. All kids are like that to an extent I was like that. But then I was forced to see the world the way it is, where I'm small and seem unimportant, where most people don't even know I exist let alone what I want or need. Where there's more to people than what you see on their faces. When you realize that your parents don't have all the answers, they're people just like you, not gods. You still have no idea what's it's like to make a mistake, to know you're making a mistake and still make it. Because you're tired, you're sad, your life seems unfair- you know you'll regret it, but you need that jar of beer, that woman's touch, that feeling that others like you, whatever the consequences. It's when you're dealing with those consequences, when you're looking into the eyes of someone you've hurt or let down, when you're looking in the empty grain jar knowing your family won't eat because of your mistake that you comprehend that the only thing you have, the only thing that saves you is the love of your family. The only thing you can trust in is the people who love you no matter what, even if you don't deserve it. But you're going to find out too late, just like I did if you're not careful. I'm just trying to keep you from making the same mistakes I did!" His father's voice cracked as he yelled. He reached for Hotep, but Hotep took a quick step back and

slapped away his hand. He kept his face as immovable as rock, he made his heart as hard as stone.

“You don’t know me, I’m nothing like you. You’re full of dung. You make mistakes knowing they’ll hurt us and that’s supposed to make you wise? I’ll take care of this family; I’ll take care of myself. I’m tired of being there to suffer for your mistakes. I hate you. I won’t make offerings when you die, I won’t even waste a thought on you. You think you deserve to be loved because we’re family? I may be a kid but I know that if you want love, you have to prove your love, and if you always put yourself first, your selfish needs, your selfish mistakes, your cowardice, you don’t deserve love.”

“That just shows how little you know boy, because no one deserves love, you can’t control love or make your heart do what you want. When you love someone even as they make you bleed, even as they tear your heart out, then you’ll understand love. No one’s ever going to live up to your standards, not even you. You may think you hate me, you may even think I’m a selfish demon, but I do love you. Even when you hurt me, when you disappoint me, I’ll continue trying to protect you, to be there for you and teach you. So you end up a better man than my father, a better man than me.”

“I don’t need anything from you, not your love and not your lessons. I’m already a better man because I’ve chosen to be nothing like you.” He turned his back on his father and walked back to camp, even as his father shouted at him to stop.

Hapentmat stood in the firelight watching for him anxiously, her hand went to her mouth at the sight of him.

“Hotep, what’s going on, what did you do to upset your father?” He didn’t answer her, he just went into the hut and dragged his sleeping mat the farthest he could from where his parents slept. Slowly, biting his lip against the pain he lay down on his side and faced the wall. He heard someone enter the hut behind him and felt as if he had the breath knocked out of his lungs as a cool, wet cloth gently washed his back. He thought it was his mother until he heard her outside talking to his baby sister. He wanted to jump up and leave, to push his father away, to strike him across the face. Instead he just rolled onto his stomach, keeping his face turned away and pretended to fall asleep, pretended his heart was still a stone.

Hunra⁴⁶:

Peret, Ermouthi, Day 23

Hunra felt like she lived with an evil demon that was bound to do her bidding by some terrible magic. A demon waiting for the magic to cease so it was free to destroy her. She knew she was being unreasonable, that all of her emotions were heightened because of the pregnancy, but the ominous dread sat in her heart like a poisonous toad. Ever since her husband Aka⁴⁷ and his father Sobek⁴⁸ had returned from one of their trade trips up the river with the slave she’d been haunted with unease.

They’d been trading grain for linen, a new stool, and a pot of honey. The man they’d gone to see hadn’t had enough linen, so he made up for it by offering them a tiny, old woman. She had been a slave brought back from a foreign land by his soldier father. Though the man acknowledged the slave was rather old, he assured Aka that she was a good worker and still strong. He’d forgotten to mention that she refused to speak. Aka had been so excited to present

the woman to Hunra, but she'd been horrified. She'd tried to hide her feelings but Aka knew her too well.

“Why are you upset? You're getting bigger with the baby coming, she can help with the household and maybe even give you some companionship the times I have to be away. I thought this would please you.”

“I'm a poor farmer's daughter and the wife of a sailor, not some pampered lady on an estate. I just don't feel right owning someone, I know others do it, but I've seen how a lot of them treat those slaves. Most slaves are people like us, who've struggled all their lives. I was terrified as a little girl that my father would have to sell us both to keep us alive, it seemed like we were only one bad harvest away from slavery. It's only by the gods' blessing that we managed to get by. I'm sorry, but this feels wrong, how am I supposed to order some poor stranger about, make her live with us? Give her some grain and let her go, or trade her to someone who can give her a better life. We're fine right now, but for how long? What if something happens to you, your father, or your brother- gods protect you, what if you get hurt? What if we lost one of the boats? How will we feed her, especially when we have a child on the way?” Hunra had felt bad pointing out all of her reasons to Aka, and she'd worried he'd lose his temper. Instead, he had pouted.

“We're keeping her for now, at least until you have the baby. We'll decide on what to do with her later.” Hunra could tell he wouldn't back down, so she sighed and determined in her heart to show the woman kindness and try to treat her more like a guest that had come to live with them. That was when she found out things were much worse than she'd feared.

The slave's previous master had called her Sekhmet⁴⁹- after the goddess of plagues and war. If he had found it amusing, he'd had a strange sort of humor. On top of that, she never spoke.

When Aka or a large part of the family was around, if she were told to do something she'd watch the men warily and perform her duties meekly. When it was just Hunra or Hunra and her mother-in-law Renenet⁵⁰, she would ignore them, or pretend to work, or make sure to do the work in such a way that Hunra ended up wishing she had just taken care of things herself. Ground grain would be gritty with sand and still have uncrushed kernels, food cooking on the fire would burn, and they'd gone through more pottery in the two months of owning Sekhmet than Hunra had had used in the entirety of her seventeen years.

It was supposed to be a happy, hopeful time in Hunra's life. She had married a man she loved, she'd become a part of his kind and often boisterous family, and with the King's new plan to build a city where their little town had been, Sobek and Aka had more work than ever. She no longer had to worry about how they would eat or if they would have enough to pay taxes to the Pharaoh and the priests. They were even able to afford some luxuries.

The new city was another concern weighing on Hunra's heart. Contrary to what the Pharaoh had proclaimed, the place he had chosen had not been completely unoccupied. Granted it hadn't been much of a village, just seven families of farmers, the boatmen of the Sobek clan, and an old potter who had died the same year as Hunra's father, three years ago. They'd all eked out a desperate existence, able to farm only a small portion of the land around them because of so few living in the area and difficulty in bringing up water. She thought of how the people coming to build a city here had no idea of the hardships they were about to face. All the well water in the area had a brackish taste to it, there was an overabundance of scorpions and mosquitoes, and the villagers seemed to have been struck every other year with a sudden, brutal illness that always left the majority of the villagers weak and exhausted and had even caused some to die. It was not an easy place to live, though there was a kind of peace and beauty to the

land around them. The sun rising over the tall, stark cliffs, the malachite green of the land next to the river, the waters of the Aur flowing by in a rush of colors like a beaded collar.

The river had been a blessing to Hunra, not only had its inundations kept her and her father fed; it had brought her her husband and family. She sometimes recalled the day when she and her father had gone to load their grain taxes on the boat that had arrived when a tall boy with a mischievous grin had jumped over the side of the boat and splashed her. While she'd been sputtering and furious he'd run up and grabbed the sack of grain from her arms telling her the drops of water made her sparkle like gold. Then he'd asked her name. A few weeks later Sobek and his family had brought their two boats and settled in the village. Hunra later learned from a laughing Sobek that he'd had no choice; his son had been pestering him to move the family to the village of the girl made of gold so he could marry her. They'd married not long after, when she was fourteen and he was fifteen. They were a little older than most newlyweds, but they didn't care. Hunra had been limited in her choices with the small population in the village, and she had been too focused on caring for her father to pay much attention to the boys around her. Aka had demanded her attention. She'd been grateful for the river bringing her the love of her life, but now it was a little as if the river had brought a curse to her family in the form of a bitter slave.

Sobek, Aka, and Aka's younger brother Gungen-wer⁵¹ and men they hired had left two days before on the river to transport workers and goods from the Delta. They'd been given orders to stop at several towns and cities so they would be gone for roughly the next three weeks. That left Hunra with Renenet, a woman she adored for filling the void of the mother Hunra had never known, but who also had a tendency to be flighty and accident prone. Hunra spent much of her time looking after her mother-in-law and taking care of the house that the whole family shared. It

was normal for young couples to leave and make a house for themselves, but Aka and Hunra had chosen to build another room onto Sobek's house. By then her father had died and the tiny hut she'd grown up in was not only in need of too many repairs, it held too many memories of her father, everywhere she looked filled her with an ache for her father's quiet wisdom and steadfast devotion. It had been quite a transition to move in with the Sobek clan, there were always loud conversations, laughter, fights, and songs. Whenever there was a crisis or a problem the whole family banded together and supported each other through their trials. She'd been so overwhelmed by loss when she miscarried her first baby, but the love and comfort given her by every member of her new family had eased her suffering and helped her to hope that she'd be blessed with another child.

Now she was so close to giving birth her belly was as round as a hippopotamus, she waddled like a duck, and when she tried to squat or sit she just couldn't get into a comfortable position. It was impossible for her to grind the grain or carry water. Renenet loved going to get the water, even though one of her arms could only move so far and sometimes pained her because she'd broken it in an accident as a little girl, she could still lift the pot to her head and balance it. However Renenet had a propensity to dawdle and chat with the other women. As the afternoon was getting on, Renenet had happily left. Hunra expected that when she came home the water jar would only be half full of water while Renenet would be happily topped up with all the latest gossip. Sekhmet sat in a corner of the kitchen, desultorily punching at bread dough and staring out the door.

Hunra had tried to start making a batch of beer, but the yeasty scents had made her nauseous and her back had been aching on and off ever since earlier that morning. She used the wall to help her rise from where she'd been kneeling over the big pot, and decided to get some

fresh air, yearning to clear away her troubled thoughts. Sekhmet's glare seemed to gouge into her back, so Hunra made a one handed gesture to protect her from the evil eye as she stepped outside.

She watched as two young boys and a girl came around the side of the house talking before waving goodbye and scattering off into the village. It was getting late and all of the people, the ones she'd known her entire life and the newcomers, were returning from their various employments. The village had gotten so much louder now that Hunra could barely hear the frogs and birds along the river.

Suddenly, as she stood staring at tents and huts and the people rushing around she had a very odd sensation. It wasn't the baby kicking, it was a tightening of her belly, as if it were transforming into a rock, then it spread to her back, which stiffened like a tree trunk. After a few breaths it passed. She was puzzled. She had heard that sometimes women got cramps or a false sense of going into labor but then were fine for weeks, she wondered if that was what she was experiencing. Renenet had mentioned that if it was time for the baby to come Hunra would feel pressure and a desire to push, but this wasn't anything she'd been told to expect.

She wondered if she'd imagined it or if she needed to urinate. She decided to walk to the back of the house, she squatted cumbersomely beside the river but nothing happened. Deciding it was her imagination after all, she headed back to the house, debating whether to tell Renenet about it when she returned. Before she got halfway across the yard it happened again, she put both hands on her rounded belly and could feel the hardening. Then it faded again. She knew when women gave birth there was a pain that came and went in waves, but there was none here, perhaps she was just different. The realization that the baby might be coming intrigued and

excited her. She wasn't sure if it was happening though, and she didn't know if she should send Sekhmet to find Renenet.

Everything Hunra knew about having babies came from stories her mother-in-law and several other village women had shared with her, but she had never witnessed a birth herself before. She started to be a little anxious. If it was time she would need to go to the room she and Renenet had set up especially for the birth. Women giving birth needed to be separate from others, both during the birth and for a while after, so the baby and the mother could undergo purification and be protected from the resentful ghosts and malevolent demons that would be attracted to their vulnerable state.

Hunra also wasn't sure if maybe it wouldn't be better if Renenet had several other women to help out, but she wasn't sure whom she should ask. She'd always had trouble making friends and she and her father had been so isolated until they'd met Sobek's family.

The young girl who had been with the boys came running back; she carried a small basket with several paintbrushes poking out of the top. She was loping by with a guilty look when the loud sound of water splashing surprised both her and Hunra. Hunra blinked, thinking someone was throwing out dirty water nearby or had dropped a pot. Then she noticed the girl was staring at her and pointing to her feet. She looked down and was shocked to find a puddle around her feet and the hem of her gown soaked through, she hadn't realized the water had come from her. The girl's eyes were as wide as duck's eggs and her mouth hung open.

"A-are you all right?" She squeaked.

"I think so but I'm not cert-" Before Hunra could finish her sentence she was in excruciating agony as yet again her belly and back stiffened. Hunra couldn't move or speak, she wasn't even sure if she was breathing. It was as if she had transformed into a limestone statue.

Then a horrible groaning came from between her clenched teeth. The pressure and the pain slowly, far too slowly, eased. Her legs began shaking and spasming, muscles locking up and tensing uncontrollably. Hunra tottered to the wall of the house terrified she would fall as tears scalded her cheeks. The girl dropped her bundle and rushed to her side and eased her to a sitting position on the ground.

“Stay here, I’m going to get my mother and Achen, she’s a *rekhet*, she knows everything, even magic, she can help.” The girl babbled before ducking into the house and Hunra could hear her frantically calling:

“Hurry! Hurry! I have to get my mother and the *rekhet*, I think your granddaughter’s having a baby!” The girl emerged pulling Sekhmet by the wrist; she led her to Hunra before taking off. Hunra was desperately rubbing at her legs, whimpering as the tremors got so bad her heels drummed against the ground.

“Please help me!” She turned her face up to Sekhmet and pleaded pitifully. When Hunra noticed Sekhmet’s face, there was none of the usual indifference, annoyance, or barely concealed hatred she was used to, but rather something approaching terror. The old woman began wringing her hands and shaking her head, taking a few unsteady steps backward.

“Hunra? What’s happened? Oh! Is it time?” A relief almost as intense as the pain moving through her caused Hunra to burst into sobs as Renenet came up to her, putting down the pot of water. Renenet pushed Hunra’s braids from her sweaty face and cupped her cheeks.

“Don’t worry my sweet daughter, let’s try to get you up and to the room, do you think you can walk?” Choking on tears and sniffing, Hunra indicated her legs.

“This sometimes happens, here.” Renenet began kneading the muscles in Hunra’s calves and thighs. Hunra wasn’t entirely sure it was doing any good, but she was grateful.

“You, come here and let’s get her on her feet, we’ll hold her up between us, come on now!” Renenet’s voice was stern as she ordered Sekhmet and the slave complied. They made their way inside and moving through the house, slowly got to the room.

“Powerful Tawaret, mighty Bes, protect this mother and her child!” Renenet prayed to the fearsome hippopotamus headed goddess and dwarven god who were the guardians of women and children.

A few days before they had been putting the room together, a small shrine with a painted stela honoring Tawaret, they’d painted the walls with Bes and Tawaret holding knives and symbols of protection. They had even brought in a few convolvulus vines with their delicate pink flowers. The flowers were now slightly withered. There were mats on the floor, three lamps, and a stack of linen sheets. There were also two bricks, a little bit longer and wider than the average woman’s foot, with images of gods and goddesses painted on them.

“Stay with her, I will only be gone a moment, I’ll go grab the water. Just stay here and try to breath. Don’t worry; I’ll be very quick. You, hold on to her.” Renenet positioned Sekhmet behind Hunra and put the slave’s hands on Hunra’s shoulders before leaving the room. Hunra tried to focus on breathing and massaged her legs. When another contraction came and her breath left her with a woosh, Sekhmet’s fingers dug into her collarbones. There was a commotion outside and then Renenet’s voice speaking with several women. They entered the room with Renenet holding the pot of water in her good arm; it was two strangers and the girl. One of the strangers was a woman who reminded Hunra of a hawk, her face was keen and intent, even though her back was beginning to bend with age. The other woman was tall and thin, she moved with confidence as she calmly surveyed the room. They all carried something: the older

woman had a large basket with a lid, the tall woman carried a sack, and the girl held some small jars.

“I am Achen, this is Schent and her daughter Ma’atnofret, we’ve come to assist you on this joyous day.” Achen’s voice was low and smoky; she smiled kindly as she spoke. “Is this your first child?”

“She was pregnant about a year ago but lost it after two or three months.” Renenet answered for her.

“Ma’atnofret, put those jars down over there.” The girl obeyed her mother. “Now I want you to go and help Lady Renenet make some food, also, get a few more lamps, it will be dark soon and this will probably take the whole night.”

“Yes mama. Where should I get the lamps from?” The girl was clearly nervous.

“I will show you where we keep them, first, let’s make just something simple for dinner, shall we? And you don’t have to call me Lady, it’s just Renenet, we’re so grateful that you all are here.” Renenet took a hand of each woman briefly before leading Ma’atnofret out.

Achen came over to Hunra and put her basket down. She squatted next to Hunra and studied her face.

“Your mother-in-law mentioned her name, but she forgot to tell us yours in all her excitement.” There was a spark of humor in the woman’s eyes, and Hunra suspected Achen had somehow already assessed Renenet’s character after only a short conversation. Her playful smile and faintly rueful tone caused Hunra to manage a pathetic, lop-sided grin.

“My name is Hunra, don’t mind Renenet, my mother-in-law can be a bit absentminded, but she loves me and always tries her hardest.” Achen nodded at this and patted Hunra’s hand.

“And who is this- not a relative, a friend?” Hunra nervously glanced over her shoulder at Sekhmet who was still gripping her shoulders.

“N-no, this is Sekhmet, she’s a slave my husband got in trade several months ago, she doesn’t speak.” Achen scrutinized Sekhmet for a moment.

“I would appreciate your aid, we are all women, we know how important this is, the hardships and dangers to be faced, but also the great joy of bringing a life into this world.” Hunra couldn’t see Sekhmet, but whatever the *rekhet* saw seemed to satisfy her.

Achen then started asking Hunra questions- things like how many months the pregnancy was, when her water broke, how long the pains lasted, and how much time passed between the pains. Hunra tried to answer as best she could, but she was feeling the precursors of the agony and it was hard to think, let alone speak, coherently.

Schent had put down her sack and came over and knelt on Hunra’s left, she gave her arm a pat.

“I know how much it hurts, and I won’t lie, it will hurt worse before the night’s over, but I promise you, when we put your child in your arms and you’re looking into the baby’s eyes for the first time, you will forget all of it, you will only think about how it was all worth it.” Schent smiled.

“Have you ever lost a baby?” Hunra asked both women, scared.

“Three, and it is always hard, but I have four children that lived, gods be praised.” Schent replied.

“I only had two sons, both are still alive, they’re older than you. It is different for all women. You and the child have made it this far. I have strong *heka* and we have Isis, Hathor, Bes, Meskhenet, and Tawaret on our side. I will draw upon all my power and call upon all the

gods and goddesses, if it is their will, you will have your baby soon. Here, let's prepare you and get things in order." There was something about the *rekhet*, an aura of fierceness that was somehow comforting, even as her words acknowledged the possibility of loss.

Renenet and Ma'atnofret returned with a simple meal of bread, figs, and beer. Hunra was too nauseous to eat more than a few bites of bread and a sip or two of beer. The other women ate quickly and cleaned up.

Then everyone began preparing Hunra. They took her dress off and helped her wipe herself down with a linen cloth soaked in water. Schent rubbed a potion that contained saffron, beer, and a few other ingredients onto Hunra's belly while Achen lit incense. After bending down and examining between Hunra's legs, Achen declared that everything appeared to be going well and the birth would most likely be *htp*-satisfactory. Normally the intimacy performed by strangers would have mortified Hunra, but the waves of pain kept coming and she was too distracted by fear and hope to give it much thought. Next they styled her hair so that it was up and out of her face, falling in three plaits, one down her back and then one on either side of her head, it was a hairstyle many women wore when giving birth.

Achen went to her basket and brought out an object wrapped carefully in linen. When she unwrapped it, it seemed to be a part of a hippopotamus tusk, a curved ivory wand with gods, goddesses, strange creatures, and symbol etched on it. Hunra had never seen anything like it, the other women were also curious.

"It is a very ancient magic, most went into the tombs of the women they were made for or with the *rekhets* who wielded them, but the women of my family have passed this down for generations. My grandmother gave it to me, told me the stories of the many mothers it protected and taught me how to use it." Achen rose carrying the wand before her, walking four times

around the room and chanting so low that Hunra couldn't make out what she was saying as the *rekhet* traced a protective circle on the packed earth of the floor around her. Achen then rested the tusk on the curve of Hunra's belly before wrapping it reverently and putting it near the basket. Then she took two small idols from the basket: one was a woman with long, pendulous breasts and a distended abdomen with a knife in one hand and a symbol in the other, the idol's head was a snarling hippopotamus; the other idol was a dwarf with a large head surrounded by a lion's mane, exaggerated breasts, his tongue sticking out, penis erect, and holding a knife in each hand. Tawaret and Bes, the goddess and god most trusted and beloved of mothers and children. They had both been painted a deep blue of the waters or even the heavens. Achen placed small dishes in front of them and offered them bread, beer, and incense. She exhorted them to do their duties appealing to them with both promises and threats to keep Hunra and her baby safe from supernatural forces. Schent and Renenet tied amulets around Hunra's neck and wrists.

“Hathor, the Lady of Denderra is the one who is giving birth! Protect her great and mighty gods or calamities will befall you, never again will you receive offerings or praise if Isis and her child suffer. Protect this mother and her child!” Schent called out, identifying Hunra with the two goddesses to earn the aid of the other deities. While the *rekhet* and her helper prepared, between the contractions, Renenet or Sekhmet would hold her arm and help her walk a little around the room. It didn't completely get rid of the aching and trembling of her legs but it helped alleviate them somewhat. Ma'atnofret fell asleep for an hour or two, but eventually Hunra's cries woke her.

The birthing bricks were aligned carefully on the floor and Achen told Hunra how she should squat on them, with the support of the other women to help her keep her balance. When the time came she was to listen to Achen, even when it was hard, and try to push the baby out

quickly. Schent and Achen went to the birthing bricks and asked the goddess Meskhenet to imbue the bricks with her strength and protection. Then Hunra placed a foot on each brick and squatted. She became chilled, her body seized up in the strongest contraction yet. Renenet supported her from behind and Schent and Sekhmet were on either side of her. Achen crouched in front of Hunra, sometimes craning her head and using her hands to examine her. Twice she placed her hands gently on Hunra's belly, probing and palpating.

Suddenly Hunra was overwhelmed by a deep, intense compulsion, within her body, without thought or choice, she had to start pushing. Her hands clamped hard on the women supporting her that Sekhmet let out a strangled yelp. Hunra's teeth were clenched so tightly, a distant part of her was worried they'd shatter.

"Breathe, I know it can be hard to remember when so much is happening, but you need to breathe. You're getting closer, try to focus on my voice, you're doing well!" Achen's words barely penetrated her mind, but dimly she realized she was dizzy from not having taken in any air. She gulped in and then started almost panting like a dog. Then she screamed, it was as if the jaws of a crocodile were slamming down on her hips and she was being ripped apart.

"I know you're suffering, but the child is emerging, breathe and push, with all your might, bear down!" Achen shouted over her shrieks.

Hunra lost all track of time, like she'd been pushing and screaming and being torn open for eternity. A vast exhaustion filled her and she came to loathe the voice barking endless orders at her. Then the child spilled out of her, and as Achen took hold of the baby she sang out triumphantly:

"My arms are over this child- the arms of Isis are over her as she puts her arms over her son Horus!" Hunra's eyes were dim, like she was looking through a fine linen veil. Achen lifted

the child to her, with a cord spiraling from its small stomach. She cleaned out the baby's mouth with her finger crooked. She put her mouth around the child's mouth and nose, sucked in, and then raising her head spit to the ground. She held the infant and rubbed and patted its back. A small hiccupping and mewling sound came from the tiny creature. Schent left Hunra briefly and brought Achen some linen sheets and they deftly cleaned the slime-covered body. Achen put the baby into Hunra's arms, pressed against her chest.

Hunra stared in wonder at the small, bewildered face, looked at the neck, arms, legs, fingers, toes, saw that she had had a daughter. The girl's eyes closed and her mouth yawned. Hunra had feared that she wouldn't be able to hold the baby because of her weariness, but the delicate form, the tuft of black hair as fine as goose down, rejuvenated the strength of her arms. Warmth suffused her, she realized she had never known or truly understood love until that moment. The words Schent had spoken before, that had seemed like a ludicrous lie during all the agony, now held true. All suffering was forgotten in a rush of unadulterated joy. All that mattered, all that had meaning was her daughter, she was a mother.

"Hatmehyt⁵², her name is Hatmehyt. Hello my love, I've waited for you for so long, my sweet, sweet girl." Hunra cooed, the baby moved her head and squinted up at her mother, pursing her lips in curiosity.

"Hunra, I'm afraid it's not done yet, I know you're tired and happy, but I need you to push again." Startled, Hunra's eyes filled with tears.

"You mean I'm not done?" She moaned. Achen held up the idol of Bes and began chanting.

"Come down placenta, come down, come down! I am Horus who conjures in order that she who gives birth becomes better than she was, as if she has already delivered! Come down

placenta, come down, come down! Look, Hathor will lay her hand on her with an amulet of health!” Schent tied another amulet on Hunra’s wrist taking special care of the knots, as they were an important part of the spell. “I am Horus who saves her!” Achen, Schent, and Renenet repeated the chant together three more times. The baby fussed and made some high-pitched grunts. Hunra gathered what little strength remained in her and pushed, she wasn’t sure how many times or how long, she was reeling.

“It is done, gods protect the woman and her child!” Achen cheered and then tied a linen strip to the cord and then cut it with a copper knife. She then wrapped up the placenta and put it in a pot. “We will take care of this later.”

Hunra staggered off the bricks, assisted by the women, while she carefully cradled Hatmehyt. They helped her lay down on a prepared bed. She gasped as her breasts engorged and became heavy and tight almost instantly. When she put Hatmehyt to feed, Hunra became fully bound to the child, as though not milk, but the love of her heart was nourishing her daughter. Achen took up her strange wand again and this time Hunra could hear her spell as she circled the room and made another drawn barrier around the bed.

“Protection by day, protection by night, cut off the head of the enemy when he enters the chamber of the child whom this woman has borne.” Schent tied yet another amulet, but this time around Hatmehyt’s diminutive wrist.

Hunra’s eyelids began to droop. Though her body still ached she began to drift off in contentment, comforted by the weight and warmth of the infant on her chest.

“Mama, I’m never having a baby.” Without opening her eyes, Hunra chuckled weakly at Ma’atnofret’s horrified whisper. The other women laughed as well.

“I know there were times when it was very frightening, but when you’re married and pregnant, it will be different. It is worth it, the pain, the fear, the risk. One day when you hold your child you will finally understand, and you’ll be so grateful for the gift of understanding.” Schent said with a sad smile.

“Understand what?” Ma’atnofret asked.

“Everything.” Hunra sighed.

Thoth:

Thoth used to get so excited when his father readied himself to join the other soldiers. He was so much younger then. Mesmerized by the copper gleam of the *khepesh* sword, curved like a serpent’s tooth. Unable to lift the heavy wooden shield, he would run his small hands over the speckled cowhide covering its front or try to get the leather loop in the back all the way up his arm. He watched as his father would run the sword and a short dagger over a whet-stone, telling him that everything a soldier carried could mean the difference between living and dying. His father showed him how to care for the weapons and shield, how to pack a bag, how to put on the pointed leather apron over the kilt.

His mother Eopei⁵³ always seemed upset as she brought food, tiny jars of healing herbs, and other items she thought her husband Bakennifi⁵⁴ might need on his march. One time she had bought a new blanket that she demanded he take rather than the one issued by the army.

“It’s too heavy, are you trying to break my back?” His father grumbled, awkwardly hefting it to test its weight.

“They’re expecting you to sleep through the cold night with nothing but a cloth no thicker than a spider’s web between you and the stars. This one will keep you warm. You always brag to the other men about your strong legs, you can carry a thicker blanket without whining.” Thoth was used to his parents bickering, there was always an underlying tone of exasperated love woven into the harsh words.

It wasn’t until he was five years old, the first time he could remember his father returning wounded, that he finally understood his mother’s concern. After that, he dreaded his father leaving almost as much as she did.

Bakennifi had been a *pehreru*, the runner who supported and protected a chariot team. Only the fastest men were chosen to keep up with the horses. His father was skilled at warding off other infantry and chariots that tried to attack. He also knew how to care for and calm the horses if they were injured. He had established himself as a warrior adept at capturing enemy chariots and efficiently following orders.

That was before his crew had come up against one of the *maryannu*, the elite Hurrian charioteers feared and admired by all soldiers, regardless of sides. In the first attack, the driver of the chariot his father had been assigned to died instantly with a javelin through his throat. The driver’s partner, a young warrior who was the son of a court scribe, panicked. Instead of shooting his bow or trying to gain control of the terrified horses he’d crouched down behind the cab and clung to one of the leather loops. A friend of Bakennifi’s, a soldier named Djefmin from the same unit, told Thoth and his mother the story of his father’s bravery after bringing his broken body home to them.

“I have never seen such a sight, your father ran like a cheetah, he leapt and boarded the chariot, managed to get the reins, and wheeled the horses around, that useless courtier’s son just

held on sobbing, not providing any kind of protection. Bakennifi was so focused on the horses, he never saw the javelin coming. It hit him in the hip; he fell to one knee but kept hold of the reins. He managed a hard right and got him and the blubbering fool safe back to the main force before he passed out and tumbled out of the chariot to the ground. The *swnw* and I did our best to get him back to you alive, but if he dies, know he is admired by many soldiers and goes to the Duat a hero.” Thoth stared at his father who was the color of gypsum with a wound wrapped in an old, brown encrusted linen bandage. He found the idea of having a dead hero for a father hollow comfort. Realizing the man he adored could die was horrible; it made his stomach hurt and made a cold sweat break out on his forehead. His mother thanked Djefmin and gave him a pot of beer before politely and dazedly asking him to leave. She knelt down next to her husband and gently laid a hand on his barely rising chest, which was bruised purple and yellow. Her face was grim, but there were no tears in her eyes. She raised her gaze to Thoth and recognized his heartache.

“I won’t let him die, but it’s going to be hard, we’ll have to work together to save him. Can you be my helper Thoth?” Thoth wasn’t sure, but he knew he couldn’t bear it if his father died. He was too terrified to even imagine what that loss would do to his mother.

“Yes mama, what can I do?” What followed had been the three worst months of Thoth’s young life.

Now, at eight years old, anytime his father got orders and began pulling out his kit, Thoth would suppress an almost physical revulsion. Since the injury, his father had developed a limp, he could no longer run as he once had, so he’d been moved to a position usually reserved for cadets, he became the driver and shield-bearer of a chariot. His main purpose was to keep alive and fighting his warrior partner who rode in the cab with him. His father had been proud to be a

pehreru, and though some in the unit tried to act like it was a promotion, Bakennifi's pride had been as wounded as his body.

Peret, Ermouthi, Day 12

The year Thoth turned eight was the time when the news of the Pharaoh's latest project had gone out to the people. Something big would be built out in a secluded spot not far from the city of Iunu. Several families had already been told by their patrons that they were being sent to the site, including Thoth's Uncle Aiemapt⁵⁵, a skilled woodworker. When Bakennifi heard, he'd pestered his wife Eopei over dinner. She was nursing Pabas⁵⁶, Thoth's little brother. All of them were eating bread and a stew of lentils with garlic and onions. Thoth sipped his beer as he listened to his parents.

"It just makes sense, I should only be gone for a little while and I won't even be far. An oasis just west across the river from the project site has had some Libyans raiding. Let's move with your brother and his wife. It'll be good for him to start over somewhere else with all the trouble he's caused. Though I know he's a bit of a wastrel, if anything comes up you could always go to him for help." Bakennifi wheedled. His wife snorted disdainfully.

"A bit of a wastrel? My brother is an ass, and he can't take care of himself and his wife, how do you expect him to be there for us? His nose is still the size of a pomegranate and his body more purple than the sky goddess. I think every man in the neighborhood got their fists on him and I can't blame them. Three different women, and all married! Why Bentmut⁵⁷ doesn't just leave him is beyond me, she has more than enough evidence of infidelity to take him before the officials and win a divorce. You don't understand, they're still basically children, I'd be looking after them, how would that help us? It's a foolish idea."

“No, it’s the only way I’m going to feel easy while I’m gone. Do you know how grateful I am a young and beautiful creature like you married an old dog like me? You could have married an artisan or priest and led an easy life, never had to worry all the time, not have to be strong all the time. I just want to take care of you for once, I want to know you’re not alone, that you and the boys will have someone there if the worst-“ Eopei cut him off.

“Don’t speak like that, you’ll invite disaster. You’re coming home it’ll be fine. How will packing up and moving to some gods’ forsaken wasteland make things easier for me?” She snapped. Pabas was startled off her breast and started to cry. She rocked him somewhat roughly in her irritation and got him quieted and back to suckling.

“Eopei, look at me.” She sighed and glared at her husband. Thoth turned to his father and studied him.

In the last month his father had lost two teeth. Though he’s shaved his head several weeks before, the stubble of his hair was growing in with patches of grey. His face looked haggard, his wide set eyes sad under his heavy dark brows. His father seemed more afraid for his family than during any other mission he’d been sent on, it was clear he thought he wouldn’t make it back this time. Thoth’s mother must have reached the same conclusion.

“You need to stop thinking this way, just focus on doing the job and coming home. If me and the boys moving with Aiemapt to the desert will help you do that, then fine, we’ll go. What do you think Thoth, we’re going to have to take care of each other, and your no-good uncle, you up for it?” He liked how his mother talked to him like he was an adult; he wanted to be a man she could rely on, like his father.

“Think of it as an adventure, and when I get back, we’ll see about getting you started working. You’re cleverer than your old man, it’s given me an idea, but we can talk about it later.

What do you say, can you watch over your mother and make sure she doesn't murder your uncle while I'm gone?" Bakennifi was smiling in relief.

"Sure dad, it'll be fine, and maybe I can make some new friends." And with that it had been decided. Both Bakennifi's and Aiemapt's families had packed and said their goodbyes over the course of a week. Bakennifi got a decent payment for their small house, and they took a boat to the site of the new city not long after the Pharaoh's announcement ceremony.

Peret, Ermouthi, Day 22

A common reaction among new arrivals to the isolated setting was surprise at the scope of the Pharaoh's new endeavor. The camp itself was impressive, it was clear that at the beginning there had been some kind of attempt to organize and control the layout, but as more and more people had arrived it had devolved into a kind of congenial chaos. Families had taken it upon themselves to find the best spots and clustered near people they knew or seemed to have good rapport with or they settled near useful resources. Impromptu neighborhoods of every kind of temporary shelter were starting to sprawl out further and further along the banks of the river. Thoth's father was appalled.

"Look at how they've allowed them to set up just anywhere! The lack of regulation is a disgrace! A regiment commander would flay the skin off our backs if soldiers threw together such a messy encampment. It's good that there are so many people, it should make the building go faster, but this is verging on a disaster. I hope it turns out the way the Pharaoh wants, his men need to get better control over the situation."

"Who knows if he's thought this through that much, he's just trying to do what his father did at the Malqata palace and in Waset, renovating whole chunks of the city to reflect his strange

religious beliefs. Only this is bigger; I don't see why he can't just focus on adding on to temples and palaces or sending out an expedition like Hatshepsut. Men are always trying to outdo their fathers." Eopei grumbled her opinion in a low voice, as they were tidying up their tent.

"Don't talk like that, I know you're tired love, but if the wrong person hears you we're all in for a beating. It's not so bad, just think, when we build our new house I'll make sure the kitchen and bedroom are larger, and maybe we can make Thoth his own room." Bakennifi said in a placating voice as he unrolled a large mat.

"Really? My own room, I wouldn't have to share with you, mama, and Pabas?"

"I don't see why not, besides, you'll be going through your circumcision ritual and becoming a man soon. A man deserves his own room." Thoth was so excited. It was the first thing he'd heard about the move that actually made him happy.

Knowing Bakennifi would be leaving them in a few days had left all of them pretending to be positive while hiding their sorrow from each other. Now Thoth was hopeful and was glad his father seemed to be talking more like he would return.

After breakfast, he and his father went down to the river to trade for supplies. Thoth and Bakennifi always had at least one long talk alone, away from Eopei, before each mission. He knew it was the real reason his father had asked him to accompany him.

"Remember before we left, I said I had an idea about getting you work?" His father laid his large, calloused hand on the top of Thoth's head as they walked together. They were both barefoot, a practice Bakennifi had instilled in his son, most soldiers went without sandals to toughen the soles of their feet.

"Is it that you want me to start training in the chariotry like you? I'll be honest Dad, I don't know if I can kill anyone, thinking about them being someone just like me." It took a lot

for Thoth to tell his dad this, he was worried Bakennifi would think he was a coward. Instead Bakennifi's hand roughed up Thoth's short hair and he looked down at his son knowingly.

“Every good soldier thinks that way, but when you have a spear or a sword in your hand and the enemy is coming at you, when you have to take a life in order to live, it's a desperate feeling. You fight because you're afraid to die, you regret killing later, but not in the moment.” While he'd always enjoyed the tales of adventure his father and his friends had spun on long nights, Thoth knew the reality of a soldier's life was filled with hardships. He was sad at his father's words, recognizing that his father was telling him something important not just about being a soldier, but about himself.

“You're becoming an admirable man, I see it every day and I couldn't be prouder. I know you'd make an excellent soldier, but I want something better for you, better for your mother. I don't know what it would do to her if you took up the sword and she had to kiss both of us goodbye and send us into battle. I've been watching you; you're a thinker, always trying to understand everything. Sometimes you notice more than the majority of the adults around you. You learn quickly and have a good memory. How would you feel about learning how to write? Even if you had to start out low, as a military scribe or a secretary, you'd be safer than being in a chariot, and I would much rather see you hold a pen than a bow.”

“But how would I learn to read and write?”

“I have a few connections, a few favors owed me. I've taken over twenty hands in battle, saved several men's lives. I think when I return, I'll call in some of those favors and try to find you a sponsor, get you into a temple school for a few years.” Thoth grew thoughtful. For the past two years he had waited for the day when his father would tell him it was time to join the army. Not many boys from families like his had the opportunity to become a scribe. Words were

powerful and magical; those who knew how to control them were highly respected. Scribes had the ability to go beyond the status of their birth, if he became one, it would be hard, but the rewards would be great. It would give him the means to make a better life for his family.

“Think about it, it’s a big decision, and we should discuss it with your mother. I brought you down here not just to get the supplies or talk about this, but there’s something I want you to do.”

“What?”

“See that priest there?” His dad pointed to a bald man in a white kilt sitting cross-legged on a mat not far from the river. He had a reed pen in his hand and he was making marks on an unrolled scroll of papyrus laid across his lap. A wooden palette that held his ink was on the ground beside him as well as a small bowl of water. Thoht watched him dip the pen in the water, apply it to one of the ink cakes, and then make another series of marks. The man was taking notes as cargo was unloaded from a boat. Even though he and his father were some distance away, he could hear the man calling out questions to the sailors in a voice as sweet as a professional harper’s.

“He’s a man called Amenemef, he served in the Chariotry with me as a scribe. When his father and older brother died, he was allowed to leave to take over his father’s position as a priest at an Amen temple in Iunu. I just found out he left that position and has joined the Aten cult administrators when the Pharaoh started making changes to the Amen temples to please the Aten. He’s a friend of an underling of the King’s fan-bearer May. I’m telling you all this about him so you’ll understand. Amenemef has his own code of *ma’at* that he follows, but he puts himself before all others, though he’s not necessarily a selfish man. He has aspirations to rise in power and position. But, he’s also a man who pays his debts, for good or ill. Don’t trust him,

though he can be friendly in his own odd way. He doesn't really seem to care for anyone but himself. I think that was why it meant so much to him when I saved his life; he told me that he would owe me a debt. I believe he will honor it as long as it doesn't cost him too much. I want you to go to him, if anything happens to me, ask for his help and tell him I said I would consider the debt paid."

"Dad, why are you talking like this, just come home, don't be thinking this way!" Thoth exclaimed, turning and hugging his father. Bakennifi hugged him back.

"You're the son of a soldier, each time a soldier is sent out, each time we put on the uniform or take up our sword, we know it could be our end. Better to face it prepared, than to be a fool and allow yourself to be caught unawares, leaving those you love without protection or hope. Maybe I do worry for nothing, but I can feel my body getting older, my reflexes getting slower. I don't want to let you, your mother, or your brother down, even in death. Now, what's the priest's name?"

"Amenhotep?"

"Amenemef, say it."

"Amenemef." His dad patted his shoulder.

"I'm proud of you, you have a good heart. Follow it and live by *ma'at* and you won't go wrong. Now go on, enough talk. See if you can make some new friends, eh?"

"What about the supplies?"

"It's fine, I'm not getting much, its only figs and onions. Just be back to help before dinner so your mother doesn't beat me to death with a pot." Thoth tried to smile and act like he was fine, but as he ran off, his heart was heavy with his father's words.

He saw a few groups of children running around playing games or doing chores, most were younger or older than him. He didn't feel drawn to any of them and he wandered awhile, looking at the people, tents, and animals. He came to an area without tents, a place with large rocks and several palm trees. Perched up on one of the rocks was a skinny girl, she looked like she might be around his age. She was sitting not unlike the priest and she had several small pots around her. She was chewing vigorously on the end of a reed and surveyed the river and sky with a dreamy expression. In one hand she held an ostraca- a flat shard of limestone like the ones painters and scribes sometimes used to write messages or drawings on.

His mother had often told Thoth that he had an overabundance of curiosity and one day it would lead him to mischief, he would think later in his life that his mother must have been a prophetess.

“What are you doing?” He asked.

The girl almost tumbled off the rock, her foot flailed out to help her keep balanced and she bumped one of the pots. It smashed in front of Thoth in a scatter of bright blue paint and slivers of pottery.

“No! It took forever to mix that just right! Why are you going around scaring people?” She moaned dejectedly, scrambling down to him. “You're not hurt are you? You didn't get cut?” She knelt down and examined his legs and feet; aside from a few splotches of blue he was fine.

“I wasn't trying to scare you, I just wondered what you were doing.” Thoth said indignantly.

The girl glanced up from where she was picking up shards of pot gingerly. She sighed, dug a hole, and dropped the fragments in it, her hands and the ground were a muddied azure. She stood up and studied Thoth for a moment. He noticed her eyes were unusual, a mottled brown

with flecks of amber and green like a turtle's shell. Her round face with a lingering hint of baby fat wore an expression of wariness.

"If I tell you what I was doing, can you keep it a secret?" Thoth nodded solemnly.

"I was trying to paint a hawk flying through the sky. I want my father to see I can be a painter like him."

"But you're a girl." Thoth blurted out without thinking. She scowled at him.

"So what, I'm good at it and I like doing it, shouldn't that be all that matters? Never mind, go do whatever you were doing." She huffed, leaving him and climbing back up the rock.

"Can I see your painting?" Thoth thought she might be bragging. She squinted down at him.

"Why?"

"I've never seen a painting that wasn't on a building or in a house, I just wondered."

"How good I am? Fine, see!" Defiantly she held up the ostraca. It wasn't finished and it wasn't as good as something from a temple, but it looked like a hawk. The way she'd used the colors drew the eyes to the brilliant wings and gave the impression of flight. He saw at the bottom of the picture several marks.

"What's that?" He pointed at them.

"It says 'Horus the falcon'."

"You can write?" He was astonished, not many people knew how to read and write, and he's never heard of a girl scribe.

"A little, I'm better at reading. My mother and father were part of the village of tomb workmen across from Waset, and then the old Pharaoh gave my father to Panehsy to serve him as a painter. We moved to Waset and then Panehsy sent us here with other craftsmen to work on

the new temple. In the village, my mother says there were several women who could read and write, one of them was her mother, and she taught my mother, who taught me. She says it can help to recognize certain words and phrases when trading or if you get a letter, then you don't have to pay a scribe to read it to you. Mother and father taught me and my older brother Unnefer and my older sister Hoh, but not my little sister Pna, she's too little." Thoth thought about what his father had said to him that morning and he speculated that the gods had meant for him to meet this peculiar girl.

"My father just told me he wants me to be a scribe, but I don't know how to write. Could you show me what you know?" He asked.

"Are you trying to test me or make fun of me?"

"No, I'd really like to learn." She tilted her head and tapped the reed pen against her chin. Then she patted a spot next to her on the rock.

"Grab another piece of ostraca and come up." There were several flat slices of stone and he took one that was two of his hands long and one hand wide. It wasn't heavy, but it made climbing the rock awkward.

"What would you like to learn?" She dipped her reed pen into one of the pots of paint and the tip came out black.

"How about soldier?"

"Um, let me think, I haven't used that one much, I think it's like this." She drew a stick figure of a man down on one knee; he held a crude bow in one hand and arrows in the other. Something like a feather stuck out from the top of his head.

“Now you try, just copy it” She gave him the ostraca and the pen. It was harder than it looked. The paint splattered on the first stroke, his bow looked more like an oval with a line through it and his stickman’s leg were somehow wrong.

“Try it again, hold the pen more like this.” She adjusted his grip on the reed and it felt strange in his hand.

“For the bow, make a kind of straight line on one side, and your man’s legs are backwards.” He drew it a few more times and finally it reached a close approximation of her original drawing.

“Not bad.” She encouraged. The ostraca was filled with a veritable army of squatting soldiers.

“What’s your name?” She asked.

“Thoth, what’s yours?”

“Ma’atnofret. Want to learn how to write your name?” She sketched an ibis standing on a mat or a shelf of some sort on the other side of the ostraca.

“I know a lot of gods and goddesses; mama says it’s good to know their names for protection and spells. She sometimes writes charms for people who are sick or afraid of getting sick, she says it makes the charms stronger.” Thoth took the pen back and began carefully making the ibis, he felt a kind of thrill knowing that other readers could understand that he had written his own name, this was why writing was great magic.

“I should go home now, but this was fun.”

“Could we do it again tomorrow?” He asked, reluctant to give up the pen and paints.

“I wouldn’t mind, maybe I could bring some of my father’s old brushes and inks that he only uses for doing sketches.” They parted happy in the knowledge of meeting the next day; she

skipped away with a basket full of her things. He went home picturing how to make the soldier and ibis, he considered showing his dad but decided it would be better, with Ma'atnofret's help, to write a special message to his father that he could carry with him when he left.

Peret, Ermouthi, Day 23

The next day while trying to write the message, a boy named Apophis and a group of his friends- one was Ma'atnofret's brother- attacked Ma'atnofret and Thoth. The boys were older and had an insouciant menace. Thoth recognized Apophis as a boy his father had chastised for throwing stones at a cat a few days before. He had targeted Thoth for revenge. Ma'atnofret was yelling at them to leave them alone and Apophis kept smacking Thoth on the face and Ma'atnofret tried to stop him. Apophis grabbed her wrist and twisted it. When Thoth tried to make Apophis let go of her, he shoved Thoth hard, and that was how Thoth met Hotep-Ui.

Watching Hotep-Ui stand up to Apophis and get hit in the jaw, losing a tooth but not making a sound awed Thoth. He thought Hotep would make an exceptional soldier. There was something about Hotep that was so dignified and determined. He seemed more mature than Ma'atnofret and Thoth. Hotep-Ui had a skinny, almost fragile appearance but he possessed an underlying strength that Thoth instantly admired, like he was a brave prince in a story who fought monsters and became a great king.

Thoth regaled his parents with the story of meeting Ma'atnofret and Hotep-Ui, leaving out a few details, like the names of the boys so Ma'atnofret's brother wouldn't get in trouble.

“Who were these ruffians? They hit your new friend? Why?” His mother was the one who noticed the omissions from the story. He started tearing his bread into small pieces nervously as they ate dinner.

“I don’t know, we only just got here, I don’t really know anyone but Hotep and Ma’at. They were bothering Ma’at and me because we were drawing and then Hotep stood up for us. And then we got away.” His mom was regarding him intently; Thoth shoved a piece of bread in his mouth and tried to look innocent as he chewed.

“I’m glad you’re already making friends, but be careful, and make sure you help your mother with the chores before you go spend time with them, and if you ever see those bullies again you come and get me or your mother, do you understand?” His father asked. Still munching his bread, Thoth nodded.

“The messenger came, I leave by boat first thing in the morning with several others.” Suddenly Thoth had difficulty swallowing.

“Are they replacing your shield? Last time when you got back it was in a sorry state. Are you still going to be driving for Bebi?” Eopei asked as she went into the back of the tent to pull out Bakennifi’s kit. Though she tried to sound like normal, Thoth could hear concern and sorrow hidden in her voice.

“No, it’s a new lad, Kawab, some mayor’s son. I’ll keep him alive even if he turns out to be another pampered brat. This blanket again, are you trying to make my pack so heavy I’ll limp?” His father teased.

“You already have a limp, idiot. The ingratitude, I suppose you’d be happier if I let you freeze.” Thoth’s eyes ached and he blinked rapidly, turning away from the fire as his parents bantered into the night.

Peret, Ermouthi, Day 24

The morning was cool with a soft mist clinging to the river. The sun had just begun to roll its light over the cliffs. Several other soldiers, two with families, a few sailors, and a couple of women going to fetch water were the only people about.

His father kissed baby Pabas on the head while he slept in Eopei's arms. He then cupped his wife's cheek.

"It shouldn't be too long, perhaps a month or two. If anything comes up, if you need something, go to your brother. From what I've been hearing around the camp, you, Thoth, everyone of working age are going to be expected to pitch in on this project. If so, make sure you and the boy get paid your fair share of grain. If there's any kind of emergency--"

"I know, I know, stop with all this worrying and just come back to us as soon as you can. We'll be calling on the gods to protect you. Here, wear this, it is an amulet I got a few days ago." His mother tied a string with a wedjat eye of Horus to his father's wrist with a complicated knot. Bakennifi brushed his lips against hers. Then, he crouched down in front of Thoth.

"I expect you'll have grown as tall as a Cyprus by the time I return, you get taller everyday. Watch over your mother and brother, don't get into too much nonsense with these new friends of yours, and promise me you'll remember what we talked about on our walk to the river." He placed his hands on Thoth's shoulders and they felt heavy.

"I promise, I love you dad. Keep your shield up." Thoth couldn't help crying, but he tried to do it quietly, like a man. He hugged his father tightly.

"I'll come home son." Bakennifi's voice was gruff and low. He let go of Thoth, stood, and smiled at them all, then turned and boarded the boat.

They waited on shore and waved to him until the boat was out of sight. Pabas woke and began mewling to be fed. His mother put him to her breast and started walking back to their tent. Thoth trailed after her, looking one last time at the river.

Back at their camp, a woman whose pretty face was beginning to be lined with pain and bitterness stood by the embers of their fire, biting her nails. Thoth wondered why his Aunt Bentmut had come so early, thinking maybe she had meant to say goodbye to his father.

“Eopei, have you seen Aiemapt, please Eopei, if you know where he is-“ Bentmut pleaded in a strained tone that faded to silence as Eopei glared at her.

“You know better than I do who he’s with, what woman in camp has he been sniffing around and acting gallant to? You watch him like a hawk. You deserve better Bentmut, divorce him, take your share and find another man, one who appreciates you, do it now while you’re still young. I’ll stand as a witness for you. He lies to you; he practices the abomination of Monthu so often it’s a wonder he hasn’t incurred that god’s *bau*. Leave him.” Eopei chided her sister-in-law, exasperated.

“I love him, he promised, he said this was a chance for us to start over, but he’s been so hurt, the way the men of the neighborhood beat him, you don’t know how he’s suffered. He’s not thinking clearly.”

“I know my brother better than you, better than anybody apparently. Here, take Pabas.” She handed Bentmut the baby. “Thoth, stay here with your aunt, I’ll be back shortly.” She stomped off while Bentmut clutched Pabas close, squatted on the ground, and rocked back and forth with tears on her cheeks.

“Are you hungry Aunt Bentmut? Let me get you some beer at least.” Thoth grabbed a cup and filled it from one of the jugs. He handed it to her and she took it but didn’t drink. Thoth

added fuel to the fire and stirred it up. He heard Pabas making the grunting noises that meant he should be changed, he turned and saw his brother's legs kicking and a dribble of urine falling in the sand. Bentmut put down her beer and motioned for Thoth to give her something to clean the baby. He wet a cloth and found a clean square of linen as she took off the dirtied diaper. She wiped Pabas clean and put the new linen on him.

Thoth had seen his mother place some bread dough to rise in a pot the night before. He got it and brought it to the fire, they didn't have an oven yet, so he formed small cakes with his hands and cooked them over the fire. The sun had reached the middle of the sky and Bentmut had moved to be in the shade provided by the tent.

Suddenly they could hear Eopei's voice, it was clear she was trying to keep from yelling but failing.

"Demon, you care about no one but yourself! You're the most selfish man I have ever known! How many beatings will it take, how much disgrace will you bring to yourself, to your wife, to me? Carve wood, make your wife pregnant, feed your family- can't you just be a good husband?"

"You know, I sincerely hoped when you married that old soldier that he'd take you in hand and keep you from being like a rabid dog. Have you got nothing better to do? You'll just follow me around and act like you're my mother? I didn't ask you to come and I don't want anything to do with you. My life is my life, and stop harassing Bentmut, you think I don't know how you pester her about divorcing me. Focus on *your* family and leave mine alone!" His Uncle Aiemapt's regularly charming, lopsided grin was replaced with a snarl as he flounced into camp ahead of his sister.

“Bentmut, give her the brat and let’s go. I told you I had business, I told you to just wait, why’d you drag her into this?” He hissed, gripping Bentmut’s arm after she had returned Pabas to Eopei.

“I was just so worried, you didn’t say it would take all night!” Bentmut whimpered as Aiemapt started dragging her away.

“Aiemapt, stop being a selfish snake, be a husband, be a brother!” Eopei had Pabas on one hip and her fist on the other.

“Leave us alone!” He shouted. Someone from another tent stuck his head out.

“Keep it down out here!”

“Mind your own business!” Aiemapt cursed at the man as he and Bentmut hurried off.

“I knew this would happen; I told your father. Why didn’t we stay in Waset?” His mother swiped angrily at her cheeks, she put Pabas on a mat in the tent and started cleaning up their camp slamming objects around in her fury.

Thoth hated when his mother got upset, he always experienced a strange combination of concern for her and fear of her when she was in a mood.

“Mama, is there something I can do to help?” He asked tentatively. She stopped hurling ceramics and baskets and slumped to her knees.

“I’m sorry Thoth, I just, I just already miss your father and I am so frustrated. I know my brother; he’s always been thoughtless and useless. Your father was crazy to think moving would somehow make Aiemapt grow up. He’s as trust worthy and helpful as a scorpion. We can’t count on him; it’s going to just be you and me until your father comes back.” Thoth went and put his arms around his mother’s shoulders.

“Why don’t I go get the water while you finish cleaning, it’ll be all right.” Thoth tried to reassure her.

“That would be helpful, thank you. I just need some time to figure this out and calm down. I’m angry at your uncle, not you or your father, you know that right?” Thoth nodded and got the big, empty water pot and headed for the river. Even though a well had just been dug nearby, the water tasted strange and he and his mother hadn’t gotten used to it yet. He also, if he was honest with himself, hoped Ma’atnofret and Hotep might be by the river.

He made his way to the mudbrick house they’d hidden behind and was happy when he heard Ma’atnofret chattering.

“It was the most frightening, horrible thing I have ever seen. I told my mom and Achen that I never wanted a baby and they laughed at me. They asked if I wanted to hold the baby, but it was so small and crying, I was terrified I’d drop it and I didn’t know how to stop it bawling. I will never, ever, have a baby.”

“But you’re a girl.” Hotep’s voice was confused.

“So?” Ma’atnofret retorted.

“Thoth, we were wondering if you’d come.” Hotep said when he caught sight of Thoth, relieved to get out of the awkward conversation.

“Did your father have to leave? Are you all right? You seem sad.” Ma’atnofret came and took his pot; she had one already filled that Hotep was tapping his foot against.

She ran to fill it in the river and Thoth felt shy around Hotep, unsure of what to say.

“What kind of soldier is your father?” Hotep asked.

“He was a *pehreru*, but because he was injured by a javelin, now he drives a chariot.”

Hotep looked sufficiently impressed. “What does your father do?” Hotep’s face became dark as night.

“He’s a workman, I wish he was made to go fight and he got killed and then I’d never have to see him again.”

“I hate him too, he beat Hotep just for being with his uncle yesterday, it’s awful!”

Ma’atnofret said fiercely as she struggled back to where the boys were with the water-laden pot. Hotep seemed embarrassed.

“I said I was fine.”

“You’re not fine, your back is all bloodied and bruised. I wish you’d let my mother or the *rekhet* look at it, I’m sure they’d have a salve or medicine to make it heal faster and not hurt so much.”

“What were you doing with your uncle that was so bad?” Thoth’s curiosity compelled him to ask.

“My uncle’s in the Medjay, I want to be a policeman too, but my father says I have to be a workman like him, I’d rather die first!” Hotep was so angry that Thoth and Ma’at didn’t know what to do. “I don’t want to talk about it anymore.”

“Well, why don’t we play a game?” Ma’atnofret suggested.

“”Like what?”

“We could do jumping over the goose, leap frog, or have a contest to see who can flip the best, or maybe a game of elbows?” Thoth listed some of the games every child knew.

“What if we made up a new game, I have an idea.” Ma’atnofret said excitedly as she watched a duck waddle out of the reeds. “We’ll call it Hunter and Ducks.” Hotep perked up.

“How do you play it?”

“First we’ll make small balls of mud, they’ll be the Hunter’s arrows. Come on.” She went near the reeds and scooped some mud up and began shaping small pellets about the size of a cat’s eye. Thoth and Hotep joined her and they quickly amassed a good-sized mound of ‘arrows’.

“One of us will start off as the Hunter and the other two will be the ducks. The ducks try to hide in the reeds or fly away; the Hunter tries to shoot one down. Whichever duck he hits becomes the new Hunter, the Hunter who kills the most Ducks wins.” It was fairly simple and involved throwing mud, the boys thought it sounded brilliant.

They played earnestly, the Ducks hiding in the reed trying not to laugh and then running as fast as they could while the Hunter took careful aim. They went several rounds with Hotep and Ma’atnofret becoming tied while Thoth was a single Duck behind. That was when Ma’atnofret’s older sister came calling along the river. Ma’atnofret’s face fell. All three of them were wet and covered in mud.

“You were supposed to get the water ages ago, you know mother is worried because of Pna’s fever and yet here you are playing. You’re filthy. Why do you have to be such a child?” Hoh scolded Ma’atnofret, who quickly tried to rinse off the worst of the mud. The boys stayed awkwardly quiet, trying not to attract Hoh’s wrath. The two sisters left with their water, Ma’atnofret furtively waving goodbye.

“I guess I should get back too. This was fun, we should play it again.” Thoth said, hefting his pot. He tried to pretend he hadn’t noticed the welts on the other boy’s back, while Hotep acted like he didn’t care.

“Well, maybe we’ll see each other tomorrow.”

“Yeah, if Ma’atnofret doesn’t get us in too much trouble.” They smiled at each other and Thoth left, his mood improved, though still tinged with the sadness of missing his dad.

When he got back, he found his mother pacing back and forth and there was no sign of Pabas.

“Where have you been? Never mind. I’ve been thinking, we have your father’s pay, but it would probably be a good idea to get us both some work. Your father said the rumor is most of us will be made to help with all the building projects. I’ve heard several people in camp talking about a man they trust, he’s kind and honest, and they look to him like a village headman. They said he usually knows about work projects and he’s helped several others get work. Why don’t we go and introduce ourselves? What do you think, are you up for this Thoth?” He stored the water and noticed Pabas wasn’t in the tent, he came out and took his mother’s hand.

“He’s going to come back and we’ll be all right. But if you want to find work, I’ll come with you. What about Pabas?”

“I signaled to your aunt while you were gone, Aiemapt went with a group of craftsmen to be briefed by one of the work-crew chiefs. She came and agreed to watch Pabas. If we’re going, we should take a gift, go get that one jar of beer, the one I sweetened with figs.” Thoth brought it to her and they headed for the tent of the man who might be able to help them.

It appeared the man had moved with his extended family. People were going back and forth from different tents and there was a large communal cooking area where seven women and girls sat working on various chores. Thoth noticed one young woman was sitting a bit by herself, a mournful expression on her face, while she wove together still green leaves into a bowl-shaped basket. The other women seemed to be giving her space. They talked and laughed a little but the atmosphere seemed muted and sad.

“Can I help you?” A tiny, ancient woman, her eyes sparkling suspiciously from the creases and wrinkles of her face, barked the question at them. A younger woman glanced up as she was grinding grain.

“I am sorry to bother you, my name is Eopei and this is my oldest son, Thoth. I have another son, still a baby, with my sister-in-law. My husband is a soldier in the Chariotry and was called to serve so he left this morning. We have just moved here and we don’t know anyone. I’ve been introducing myself to the people in tents around us and I heard that a man named Ouonsou was honorable and wise, that he is respected like the headman of a village. I would like to ask a favor of him.” The old woman scuttled over to them from where she’d been squatting, one white eyebrow raised.

“What kind of favor, as you can see, we are not well off, we have each other but very little else.” Her raspy voice had the keen edge of a warning.

“It’s not that kind of favor, I heard he does many different jobs and knows about work opportunities. I have my husband’s pay, but nothing’s certain in this life. I’m looking for work for me and my son, so we can take care of ourselves.” The careworn face relaxed into an approving smile that exposed pink gums and a few rotting teeth.

“I’m Ruba-Ta, Ouonsou is my son and you can trust him, he can give you advice about work. Though you shouldn’t believe every rumor you hear around here, my son can be as foolish as any man, but he’s had his moments of being wise too. I’m happy to say, those are the times he takes after me. He’s not here right now; he’s taken his donkey to move supplies from the ships to the building sites. But he should be back soon. Would you like to wait? I was just making dinner, why don’t you eat with us?” Thoth saw his mother was torn; she needed to get back to Pabas before Aiemapt went home, but she clearly felt this was too important.

“Thank you, that’s very kind, we brought you some beer I made, I sweetened it with figs.” Ruba-Ta took the jug, pleased.

“We have a big family, and I know you won’t remember all our names, but here is my daughter-in-law Anat, my granddaughters: Phut, Kafy, Mesta, and Imentet, and my great granddaughter, Tayet. All of the men are out working; my grandsons are with Ouonsou and my granddaughter’s husband Fai-Nofre-Bai is up in the cliffs carving stone markers for the Pharaoh. How long since you arrived?” Ruba-Ta introduced them to everyone and settled them on a mat. She went to the fire and stirred a pot.

“We arrived a day or two after the Pharaoh- life, prosperity, and health- made his pronouncement about the city.” Eopei said. “My husband wanted me and my sons to move here so I could rely on my brother if anything happened, but my brother is immature and unreliable. We have already had a fight and I need to know that I can care for my family on my own. I will be honest with you, I wish we’d stayed in Waset, but we didn’t, and I need to make friends and find work that will pay.” Ruba-Ta put down her spoon and rested her arms on her knees as she squatted by the fire and listened.

“It can be difficult to say such things to strangers, it can hurt your pride, I appreciate you telling me this.” The old woman said kindly.

“What pride, when it comes to keeping my children fed, will pride do that? You’re a mother, so I know you’ll understand. Women know what must be sacrificed and what we can afford to hold onto for the sake of our children. I buried my pride in the West when I became a mother.” Ruba-Ta cackled.

“You’re a sensible woman, what did you say your name was again?”

“Eopei.”

“I’ll call you my friend Eopei, and I’ll assure you now, my son and I will help you.”

“What promises are you making on my behalf?” A deep, wearily amused voice asked.

Thoth turned and saw a man leading a donkey followed by two boys, he tried to keep from slinking closer to his mother as he realized one of them was the bully who had chased him: Apophis. Apophis noticed him at the same time and an evil grin curled his lips.

“Nothing that will cost you anything! Put that beast away and wash up, dinner’s ready and we have some new friends joining us for dinner. She’s just here to ask about work.” Ruba-Ta rose with several popping noises from her joints as she shook the spoon at her son. He was sweaty and covered with a thin film of dust. He had a large, crooked nose and his eyes were deep, thoughtful, and a little sad. Ouonsou reminded Thoth of some of his father’s soldier friends, men who had seen things Thoth couldn’t imagine, men who had done things Thoth didn’t want to imagine.

The three men went to wash up and Ruba-ta started serving soup, bread, and beer. The soup tasted different than his mother’s cooking, but Thoth wasn’t sure if he liked it or not. He ate all of it to be polite. They all drank the beer his mother had brought and Ruba-Ta praised his mother’s brewing skills. Ouonsou rubbed at his right shoulder and considered Thoth and his mother.

“Are you looking for work just for yourself, or for you and the boy?” He asked as everyone was finishing their food. His mother had already put her empty bowl down and been observing the family quietly. She answered him in a humble, steady voice.

“I think it would be best if both Thoth and I found work, he’s eight now. His father has plans for getting Thoth trained in an occupation when he returns, but until then all Thoth does is

help me. If he also had a job, I think it would be good for him and it would give us a little extra grain” Ouonsou scratched his chin.

“Well, from what I have heard from several of the Overseers, there’s so much work to be done in such a short time, in order to keep to the Pharaoh’s schedule, that pretty much everyone in the camp is going to be made to work anyway. But it can’t hurt you to volunteer and maybe negotiate you and the boy’s pay. They’re setting up an area to start making mud-bricks, they’ll need women carrying water and mixing, it’s hard work. I know the man in charge, I can introduce you.”

“That’s fine, I’ve got two strong arms and two strong legs.”

“As for the boy, he’s still small, what is he good at?” Thoth was a little hurt and humiliated at being called small, especially with Apophis smirking at him from behind Ouonsou.

“I can run really fast, my dad was a *pehreru*, my feet are tough, and I can carry all kinds of heavy things.” Ouonsou covered a smile with his hand and made his face solemn.

“I’ve actually seen him run father; he is pretty fast.” Apophis innocently chirped. His eyes seemed to tell Thoth that he wouldn’t get away so easily next time.

“Is that so? Well, then I think I can find a way for you to be useful.”

“Then it’s settled, let’s celebrate this new friendship, I have something special- we mourned for the family of a sailor, he’d been all the way up to the ocean and traded with Myceneans. His wife gave me these, usually only courtiers and kings eat them, here try one.” Ruba-Ta brought out a small jar and inside were what Thoth thought were small, green fruits. He took one like everyone else, but when he bit into it, it was salty and had a strange musky flavor. There was a pit in the center, and everyone spit them into their hands. Thoth tried to not make a face of disgust; he didn’t like this new delicacy.

“Thank you, for everything. I will come by tomorrow and go with you. You don’t know how grateful I am, I owe you a debt.” As his mother said this, Ouonsou waved his hand.

“No debt, this is just a kindness between friends.”

They said goodnight and Thoth made sure to stay away from Apophis. They got back to find Bentmut looking heartbroken as she held a screaming Pabas. Eopei took the baby and crooned to him and got him calmed, he was hiccupping and there was the occasional soft sob.

“What happened, did you get in trouble with Uncle Aiemapt?” Thoth asked.

“He still hasn’t come home yet. What am I going to do Eopei?”

“Clearly you won’t listen to me, but you know I’ll do what I can to look out for you. I wish to the gods you’d just leave him. There are still some cakes Thoth made for lunch, eat them and sleep here tonight.” Eopei sighed, disgusted with her brother.

Listening to his Aunt weep faintly that night as he tried to go to sleep, he thought about his father and how much he missed him. The day had been long and so many things happened, he wondered if his father were on the river or was camping with the other men on land. He tried to remember everything his father had said to him this past week. He hoped when his father returned, he wouldn’t be upset about Eopei’s drastic decision. He was sure Bakennifi would have liked Ouonsou and Ruba-Ta, but he wouldn’t be pleased at his wife fighting her brother and asking a stranger to help her find work for her and Thoth. But Thoth could understand his mother, ever since his father had been badly injured; Thoth had seen how hard his mother endeavored to protect the family. Her words to Ruba-Ta about pride had lodged in his heart. Family was all that mattered, protecting the people you loved and making sure they never felt fear, were comforted and healed when they were in pain, those were the values his mother taught him. He worshipped and admired his father, but feeling sad and lost in the darkness, he decided

that it was his mother he wanted to emulate. He would never leave the people he loved, no matter what; he'd always take care of them, even if it meant burying his pride in the West.

Amenemef:

Peret, Ermouthi, Evening of the 23rd to the morning of the 24th

“There is nothing kept secret from me, for I am the keeper of secrets.” Amenemef intoned to the woodcarver walking with him to the meeting. Color fled the craftsman's face.

“Wh-what do you mean by that?” The man, called Aiemapt, sputtered.

“Let's discuss it later, there's still so much to get through and the evening grows late. We should attend to the meeting.” Amenemef pulled back the tent's flap and entered. It was one of the largest tents in the village, belonging to the Pharaoh's Chief Builder, Maanakhtef. He and the powerful Parennefer, Overseer of the Craftsmen, were leading the meeting. Over twenty men were gathered in attendance, they were served beer and sat in a circle, some on stools others on the floor. Lamps on stands had been brought in since the sun had already set.

“All of you called to this meeting will help with organizing the workers in the months ahead. This great undertaking placed in the heart of the Pharaoh: life, prosperity, health- to build this monument in the name of the glorious Aten will bring blessings to our land and our people. Be honored that you have been chosen for this task.” Maanakhtef was built like a block of granite, his face ugly but intelligent.

“We have several priorities, first is the brickworks and cement manufacturing. We have designated a site for them by the river, not far from where the Northern Palace and the Great Aten Temple will be built. Shaduf's will need to be constructed to ensure faster access to the water needed for the bricks as the level of the land in that portion rises above the waterline. As

for limestone, scouts have been sent to survey the surrounding area for quarries, as well as any other useful resources. A limestone deposit was located two days ago and a future quarry has been claimed and dedicated to the Pharaoh's mother Queen Tiye: life, prosperity, and health. Timber and other supplies will continue to come in from the river, so we need to build quays that will assist in making unloading as quick and easy as possible. Scribes, make sure you take note of all stamps and seals of goods, much of what's being brought in comes from the loyal citizens of the Pharaoh: life, prosperity, and health- to meet their quotas. Store all records for safe keeping in the mat hut currently acting as administration until a permanent building has been erected. Now, here is Lord Parennefer who wishes to address the craftsmen and men in charge of the temple project." Maanakhtef indicated a lithe, exceptionally well-dressed man. He wore an elaborately pleated, fine linen tunic without a speck of dust, and a bright jeweled collar. He rose from his seat.

"The Pharaoh Akhenaten's: life, prosperity, and health- vision for the purpose of this city is first and foremost to worship the Great Aten. He wishes the temple be one of the first buildings constructed, he wants it open to the glorious Aten's gaze, nothing is hidden from the god's eyes. Several hundred offering tables will be built with more to be added later in order to show proper obeisance to the creator of all life, offerings will be made every day to ensure his pleasure and favor." Several men in the group gasped at the large number as others present could clearly be seen to be calculating the amount of offerings to be made and reckoning how much it would cost. "The King: life, prosperity, and health- " Amenemef wondered how often these men had to utter the King's blessing in a single day and if it ever caused them to contemplate making the journey to the Duat ahead of their time. As much as he hoped for a rise in status, this was the side to courtly life he dreaded. He was gifted in many things, but fawning and toadying were not

talents in which he was particularly adept. “-Also wishes that a temporary structure to be called ‘The Aten is Content’, be constructed out of wood and mat walls near the temple site. A throne will be installed and this is where the Pharaoh: life, prosperity, and health- will come to hear about how the project is progressing and where he will stay on his next official visit. It must not only be built, but it must be decorated in a manner befitting our King and the Great Aten: life, prosperity, and health. Painters and woodworkers you are to use your utmost skill.” Several more orders were given, assignments made, and then the men were dismissed.

Amenemef stood and motioned for Aiemapt to follow him. As they left they could hear several conversations, some attempting to be discreet while others were loud and boisterous.

“Can you imagine that many altars- how can they all possibly be filled? How and to whom will the offerings be redistributed once the god has had his fill?” A young scribe marveled.

“You know as well as I do the reason we’ve moved out here and why the Pharaoh abandoned his projects in Karnak- too much opposition from the Amen priesthood, especially in Waset!” An aging granary official whispered to a trusted friend, but not as unobtrusively as he must have thought. Amenemef smirked slyly as he passed and made note of the man’s face. Finding out more about him would probably be very beneficial.

The sky had darkened to full night, a time most people of the land avoided being out. A few fires and torches lightened the gloom and made the journey back to Amenemef’s tent less treacherous. The woodworker hadn’t spoken; he walked beside Amenemef tense, repeatedly massaging the knuckles on his right hand.

Amenemef saw his slave dozing by the dying fire and it took all of his restraint not to kick her.

“Useless!” He hissed, her head jerked up and she quickly started poking and blowing at the fire. “It’s late, but I’m hungry and I have a guest. Bring us bread and one of my jars of wine.” He ordered tersely.

“I shouldn’t stay long, my wife-“ Amenemef interrupted the woodcarver.

“Is probably used to you being gone at night, please, break bread with me.” Said Amenemef in a cold but polite tone.

They entered Amenemef’s temporary abode, though more humble in size than Maanakhtef’s tent, it was of good quality and some of the possessions inside were of as fine a quality as the Chief Builder’s. Amenemef sat on his favorite stool and indicated Aiemapt could sit on the mat in front of him. He watched the woodworker’s eyes widen as they took in the details of an intricately carved and painted wooden box behind Amenemef. It was an exquisite piece worthy of a Pharaoh and a bit surprising to find in a priest and scribe’s tent. He knew Aiemapt was wondering how he could afford such a treasure.

The slave came in and placed the bread and wine on a small table near them and then scurried back out into the night like a beetle avoiding being stepped on.

Amenemef took three well-made ceramic cups out of a basket and poured wine into two of them. He handed a cup to Aiemapt.

“The woman you’ve been seeing is quite attractive, but beautiful women can be so dangerous, don’t you find it so?” Amenemef had waited until the woodworker had lifted the cup to his lips before speaking, he almost chuckled as the man started and dribbled some wine down his front.

“I don’t know what you’re talking about! I don’t understand why you’ve asked me here!”

Though Aiemapt attempted to sound innocently indignant, his voice came out in a plaintive whine.

“Do you like stories? I love them, it’s probably the greatest pleasure of my life: reading stories, collecting stories,” He paused for a brief moment and sipped his wine; “telling stories. May I tell you two stories? They have a great deal in common: similar characters and situations, and there are wonderful morals to both of them. It won’t cost you anything to listen, although if you refuse, well, that might cost you more than you’re willing to pay.” Amenemef watched the other man who stared back with the horrified mien of a mouse mesmerized by a cobra. Aiemapt gripped his wine cup in both hands.

“The first is personal to me, it concerns my mother. She was a farmer’s daughter who happened to be exquisite- not unlike a certain woman in my second story. However, it was only her appearance that was beautiful, beneath the surface my mother’s heart is selfish and greedy. She considered her life unfair, worried that like a flower on a dung heap, no one would notice or prize her; she’d live and die in filth. So she decided to put her greatest asset to use, she seduced a man of higher status, a naïve scribe and priest, my father. For all his learning and knowledge of the gods, he was a fool when it came to love. But love is a power greater than *heka*, for some it can be a wondrous gift, to others the bitterest poison. My mother enjoyed ensnaring my father, and once she was secure in her position, she grew drunk on the power of turning men’s heads. She found the challenge of tempting married men from their wives the most thrilling game of all. She also took a kind of twisted delight in deceiving my father and in telling her own children of her escapades and her uncertainty as to their parentage.” Amenemef gazed into his wine glass as if he were divining a vision.

“The feelings of others matter very little to her, you see. As long as she gets what she wants, what does she care if the people around her are crushed and destroyed? When my father and my older brother were struck down with an illness, do you know what she did? Nothing. She was too occupied with the games she was playing with other men’s hearts. My father and brother died neglected by her and poorly attended to by useless servants. Years have passed since their deaths, now, in an act of divine justice, my mother’s beauty withers and men ignore or avoid her. She’s slowly decaying under the begrudging ministrations of my sister. My mother writes to me through a scribe, a son she barely noticed and never appreciated must now put aside his ambitions and return to care for her. She threatens to have me taken out of her will.” Amenemef laughed softly and drank some more wine, savoring the warmth suffusing him.

He was suddenly struck by a vivid memory: three years into scribal school on a visit home he’d rushed to his mother breathless with excitement. He’d brought several papyrus scrolls and asked if she’d like for him to read to her, that he could teach her how to read herself. With a haughty eye roll she remarked that scribes thought that they were better than everyone just because they could draw tiny pictures and scribbles on papers and walls. They were so taken with their pathetic scribblings that they never really lived, just grew as dry and boring as the scrolls and walls that obsessed them. He wanted to shout at her that he would live hundreds of lives because of reading, not just his own. He saw her for the petty, ignorant, manipulative creature she was that day. It didn’t matter what he felt or thought or wanted, because she didn’t love him, didn’t love anyone but herself.

“She sent me a letter through a scribe threatening me. My illiterate, self-absorbed mother.” When he said the word illiterate it was with the utmost disdain, as if that were her greatest fault, her monumental sin. “Do you know what my reply was? Nothing. I care nothing

for her pathetic legacy; I have no need for her or the meaningless baubles she's accumulated over the course of her contemptible existence. I will grant her that through the lessons she taught me throughout my life, I learned not to fear threats from people, not to let myself ever be at anyone else's mercy by giving them power over me. I'm willing to lose everything she offers just for the satisfaction of knowing how she will suffer as she has made everyone in her life suffer. That's something you should know about me, if we're to become friends. Also, before I begin my next story, as much as it pains me to admit, I did inherit a particular ability of my mother's, a kind of talent in twisting the wills of others to my own purpose. Unlike her, I have never done so to an innocent soul. I prefer making use of sinners. I see myself as sitting in judgment like Osiris. If I find an evildoer before me, well, am I not enacting a form of ma'at, isn't it justice to make them pay for their sins? Useless!" He called for the slave in a sharp tone that made the woodcarver shudder.

The slave stuck her head through the tent flap, carefully keeping her eyes on the ground.

"Without waking his family, since it grows so late, go and fetch my friend, the one I play senet with, and tell him I need to speak with him. Quickly and quietly." She disappeared and Amenemef lifted the wine jar and offered to pour more for Aiemapt, who, defeated, lifted his cup to accept. Then Amenemef poured a serving in the third cup and put the jar down.

"Now I'll begin my second story, don't worry, it's much shorter and I'm sure you're already aware of many of the salient details. There was a man, not unlike my mother-thoughtless, selfish. He had a reputation for catching the eye of married women and tempting them into adultery until he grew bored with them. Or in one instance, until one of them divorced her husband to be with him and he abandoned her. Now, this man had been caught and punished by the men of his neighborhood for causing trouble with their wives, they gave him quite a

beating. So the philanderer slunk away from the city like a kicked dog. He moved here, to be a part of this new project. He is a very skilled woodcarver you see, with a pitiful wife and a pitiful life. In the new town, it didn't take this man long to notice a new woman, although this time, he seemed to have learned something from his past mistakes. He believed her when she assured him she was unmarried. He thought no one would notice or care if he had a little dalliance with an unattached lady of the court. Ironically, the perpetual liar found he had been lied to, the woman he had meant to use to salve his wounded self-esteem turned out to be married, to a very, very, important man. A man with access to the Pharaoh himself- life, prosperity, and health."

Amenemef grinned wickedly. "What would happen to this imprudent woodcarver if his indiscretion were known? Unfortunately for him, someone found out his secret, someone who decided to use it to his advantage." Aiemapt dropped his cup spilling what little wine had been left in it. He gripped his head with both hands and his breath came out in panicked gasps.

"Why are you doing this? What do you want from me? You said yourself my life was pitiful, what could you possibly hope to get from me? Why torment me like this?" Aiemapt ranted in a high-pitched whimper.

"I see you weren't paying as much attention to the first story as you should have been. No matter. Ah, if I'm not mistaken, here comes my friend."

"Is there a reason you summon me before the dawn? Do you think you're a lord and I'm your slave? Give me the other stool, I'm not groveling on the ground before you like this poor soul." Ouonsou huffed as he shouldered his way into the tent. Amenemef chuckled and pulled out the other folding stool, then also handed Ouonsou the third cup of wine.

"I thought you could act as an example to my new acquaintance: Ouonsou, please meet Aiemapt the woodworker. Ouonsou is a hard worker, a man who does a little of everything

really, no job is too hard or shameful. In a way he's very admirable, he will literally do anything for his family." Ouonsou sat down and eyed Aiemapt with pity.

"What hold do you have over him?" Ouonsou asked.

"I like to respect the secrets I keep for others, as I'm sure you can appreciate. I asked you here as an example. Though our friendship started in a similar manner to what Aiemapt is currently experiencing, I want him to understand that it is not all bad. Wouldn't you admit that over time our relationship has developed into something that is mutually beneficial?"

"You scribes and your fancy words. If you're going to kill a man, use a knife. If you're going to use a man, just say it plainly." Ouonsou muttered. Amenemef looked faintly disappointed.

"If you mean I should get to the heart of the matter, very well. Aiemapt, I hear you are very talented, even the King has admired your work. From now on if I wish you to work for me should I come across some wood-" Here Amenemef glanced with an unreadable expression at Ouonsou. "Let's not worry how I acquired it or from whom, but if I need you to make a chair, a box, anything really, you'll work for me without question. Also, I am sure that on certain of the projects you are given, there has been a time or two where you kept and used the surplus materials for your own benefit, am I correct?" Aiemapt continuing to hold his head nodded weakly. "You'll share those with me, occasionally I will let you keep it, but other times, I may have need of it. In return, you receive my protection; sometimes I will even be able to assist you with certain issues you may encounter. Ouonsou can act as my witness, tell him."

"Do what he says or he'll destroy you without mercy. I can't help you, only the gods could, if they exist, but I have my doubts. If you do what he asks, he isn't lying, there are ways he can help you- find you work, keep your secrets, get you out of a bind. He has his own strange

code of ma'at and he'll keep to it, unless it comes down to your safety or his, then he'll throw you to your fate."

"You put things so succinctly, I don't know whether to be flattered by the way you describe me, or appalled." Amenemef was amused.

Aiemapt finally lifted his head, his expression hopeless.

"How long?" He asked.

"For however long you are useful to me."

"And if I don't, then what?"

"Then I will tell your secret to the person you least want me to share it with. I leave the rest to your imagination. Basically, Ouonsou did indeed speak plainly, I will destroy you." They sat in silence for a few moments. The pale promise of the sun's rising could be seen through the door of the tent. Amenemef's slave, who had lain down after fetching Ouonsou, got up and started putting on a cooking pot and adding ingredients for breakfast.

"Fine, whatever you want, just spare me." Aiemapt surrendered.

"Excellent, now, I highly recommend you cultivate a relationship with Ouonsou here, you'll find him a wise, if somewhat churlish, friend."

"Can I leave now?" Ouonsou asked, running a hand over his tired face.

"Aiemapt, where are you? Aiemapt! Excuse me, I'm looking for my brother, a worthless toad who doesn't deserve to live, have you seen him?" A woman's voice could be heard outside, it sounded as if she was walking from tent to tent and calling out in a somewhat repressed voice. She was getting closer. Panic suffused Aiemapt's whole frame.

"Someone you know?" Amenemef asked with a startled expression.

“My sister, she can’t see me here! I’ll do whatever you want. Please, she’ll make a commotion! Can’t you hear her?” Aiemapt grabbed the priest’s linen tunic and pleaded.

“Very well, I’ll send my slave to you if I have need of you. This has been a very productive evening.” Aiemapt leapt to his feet and dashed out of the tent. The woodcarver could be heard bickering with his sister.

“By the gods what are you doing, are you trying to wake the whole camp! Do you want to embarrass me, let the whole world know my business?”

“Bentmut’s waiting at my tent breaking her heart over you, you call yourself a man?” The voices faded as Amenemef listened, bemused.

“What are you doing?” Amenemef blinked and turned to Ouonsou at the man’s question, as if he’d forgotten he was still there.

“My apologies, I thought it would be good for Aiemapt to know he’s not the only man in my control. I also wanted him to realize that being in my service was not necessarily as awful as he was imagining.” Amenemef replied with a shrug.

“That’s an easy thing to say when you’re the one in control. Now, if you have nothing else you need from me, I have work to do.” Ouonsou left and Amenemef followed him out of the tent, briefly watching him go before turning to his slave.

“Useless.” The woman hunched over her pot stopped stirring.

“Once you’re done with that bring me water to cleanse myself. Then you are to go to the tent of Scribe Meh, the one I visited with you two days ago. The one who is in charge of gypsum. I promised him your services once a week as a favor. Go and do whatever he asks of you. If you break one pot or burn one loaf of bread you will not eat for five days, do you

understand?" Amenemef tried to give her the orders calmly, but even he could hear the loathing in his voice.

He went back into his tent and from the linen chest took out a clean tunic and loincloth. When she brought the water in a bowl she placed it on the table.

"Remind me to contact the head of the laundrymen crew, I'll need my clothes cleaned soon." He made sure not to look at her as he spoke. He hated the sight of her; she was a reminder of his failure, of what he had lost.

It had been after he'd left the chariotry, when he'd received the letter telling him his brother and father were dead. He'd been relieved to leave the army, but devastated by loss, and furious with his mother. He hadn't known how to live with all the pain and anger so he'd thrown himself into his new work.

It had quickly been apparent to the *Hem Netcher* of the Amen temple in Iunu that Amenemef was not only proficient with numbers, he was adroit in collecting the tithes and taxes owed to the temple. Amenemef was given the task of gathering the linen shipments promised by various men in power. He would travel by boat from city to town visiting various estates and workshops getting the payments. When he wasn't working he performed the duties of a lector priest or read scrolls about any subject he could find to distract himself from the pain that howled like a hot, southern wind through his soul. It was in this miserable state that he had come upon a woman in General Rahmose's weaver's workshop in Waset. All the weavers there were slave women: some captured foreigners, some sold into slavery to pay off debts, a few criminals sentenced to service. Normally he paid no attention to such creatures, they were so far beneath him. The slaves worked in the small mudbrick building, a room for processing flax into thread

and another for the looms that wove the thread into linen. Everything from coarse and thick for items such as sails and tarps to the fine, thin linen favored by courtiers was being made.

The first time he saw Maya, she was singing, which was unusual in such places. Amenemef was a gifted singer himself; he had an ear for tone and pitch as well as a strong tenor voice. For occasions with important visitors at the temple he had been asked to sing the hymns either by himself or with others. Her voice put his to shame. It wasn't that it was better than his, it was that she poured her heart into singing; you could almost palpably sense her emotions, a mixture of loneliness and a desire to be cheerful. The other workers, even the Overseer, listened and didn't interrupt. He watched as she slid her shuttle and tamped down the threads with her comb. She sat with her knees up against her chest and used the song to keep a rhythm. She was singing a love song that wove a spell around his heart.

She wasn't traditionally attractive but there was something indefinable about her that drew the gaze. She was as refreshing as pomegranate wine. Her smile as warm and comforting as newly baked bread. On the days when the mere sound of people breathing made him clench his jaw and despise humanity, he would find an excuse for a trip to the weaver's workshop in Waset. He sought her out knowing that just the sight of her would soothe him and untwist his soul. By pretending to the Overseer that he was interested in her because of her skill as a weaver he learned her name: it was Maya. He plotted a course of action whereby he would do some favor for General Rahmose earning a boon and then ask for her as his reward. What did General Rahmose, with so many workers and dependents and almost limitless wealth, care about one slave? It would be easily paid.

At first, everything worked out as he had hoped. He'd found a way to help the General recoup some of the income he was paying to the temple by suggesting certain improvements to

the efficiency of not only the workshop but the transport of his goods. Rahmose had actually written a message himself asking Amenemef to visit with him and offered him a gift in gratitude.

“I’ve noticed your workshop in Waset has a particular slave. I have need of a slave and the linen she could make me would add to my income.”

“How strange the world is, you are the second man this month to ask me for one of my weavers. My *swnw* Imhotep was called to the workshop two weeks ago to treat a slave. Apparently the Overseer was punishing the woman’s sister who also works there, the slave tried to protect her sister and her arm was broken. I sent my *swnw* to treat her so I could have her back to work as soon as possible. It’s a shame; she was one of my finest weavers. My *swnw* became so enamored with her as he treated her that he asked if he could have her to make his wife. He’s a good friend and an excellent physician, I couldn’t refuse him.” Amenemef felt as though his heart had forgotten how to beat. It had been three weeks since he had been able to go to the workshop in all his plotting and working towards this moment. “It will be a little difficult to lose another weaver, but I guess I will just have to purchase more, I did offer you anything in my power to give.” General Rahmose said magnanimously.

“I would like the woman called Maya.” Amenemef and the General were eating a meal of roast Oryx, raised on one of his estates. Rahmose licked his fingers after taking a bite and regarded Amenemef nonplussed.

“Unfortunate, the same woman, perhaps she caught your eye as well?” Amenemef lifted his wine glass to his lips to hide his expression. He enjoyed having the power of other people’s secrets; he did not enjoy having his own exposed.

“I mentioned she had a sister, both of them were sold to me by their mother to pay off a debt. I don’t know the names of my slaves; to be honest I have so many. I only learned the name

of the one from Imhotep. Take the sister, I am sure there will be a family resemblance and from reports she is a good weaver as well.”

So Amenemef had to accept the slave Merit instead of her sister because he couldn't hurt the new connection he had forged with General Rahmose. It turned out that though she was a better weaver than her sister, she looked almost nothing like her. She was sullen and resentful where Maya had been charming and earnest.

Amenemef made sure to destroy the career of the man who had broken Maya's arm. Then he had spent the last seven years punishing Merit for not being the woman he had wanted. He could have traded her or given her away, but she at least represented some connection to the woman who had been stolen from him. So he kept her, called her Useless, and worked her without mercy.

He had never met the *swnw* Imhotep, but he bore a particular hatred for him that surpassed what he felt for Merit. If ever he had the opportunity to annihilate the *swnw*'s hope or deny his desire, Amenemef wouldn't hesitate to take it.

After so much time, that opportunity might finally be within his grasp. Amenemef had arrived with many others on the day of the King's pronouncement and ceremony for the city. He had left the Amen priesthood a year before when he'd realized that the power of Amen was waning and the King's beliefs were more radical than most wanted to acknowledge. There had been a period shortly after the death of Pharaoh Amenhotep III when the higher ranked priests had still believed that things would continue as always, despite Queen Tiye and her family's strong ties with worship of the sun god, which had impacted the last few years of her husband's reign. They ignored some of the strange philosophies and dogma of the new King thinking he would tolerate and recognize the power of the Amen temple. Most of the priests probably now

regretted their lack of foresight, no oracle had predicted these events. But Amenemef had seen where his future lay. He appreciated the way the King had started lifting up men of lower status to positions in his court based on their abilities and willingness to please him. This would be an auspicious time for Amenemef to make a name for himself. He thought coming to the new site would be an excellent way to ingratiate him with the upper echelons of society and build his influence. He'd been excited by the prospect of using his wits to make his name known, to have it written on monuments, perhaps one day in a tomb of his own, so that future generations would read his story in stone.

Though the motley collection of tents forming an unimpressive village at the side of the river didn't seem like much now, Amenemef had lived his whole life looking at the wonders his ancestors and fellow citizens of Ta-Mery had created. He knew building the city would be an impressive but not impossible feat. It was the perfect place to put his talents on display. Now, his decision to come here had brought him the chance to win back the prize that had been taken from him, or at least get revenge for her loss.

The day after the ceremony, returning from hours of writing down goods unloaded at the river, Amenemef had seen Maya standing like a mirage in his camp. Having kept her surly sister in his service all these years simply to cling to a paltry association of the woman he desired, was now worth it. Useless had been useful for the only time in her miserable existence.

He had not touched her sister in an intimate manner, though it would have been his right even if she had been unwilling. But he found the idea revolting on many levels. He had no interest in treating anyone, even an enemy, in such a manner. He had become celibate, dedicating himself to the memory of the only woman he had ever had an attraction to. It became a mark of

his love for her. So he suppressed his desire for Maya by focusing on his quest for status and wealth. He would never be thwarted in his desire ever again.

But then she had appeared, clasping the hands of her sister and speaking with her intently outside of his tent. His longing, which he had believed he'd conquered long ago, smote his heart at the sight of her. She had aged handsomely and was dressed in quality linen and jewels that suited her. Her wig perfectly framed her face with long black braids. Though there were a few wrinkles and the glimpse of a tooth or two missing, it didn't detract from her aura of gentleness and light.

He entered his camp almost stealthily, like a hunter afraid of alerting his prey. His breath had been trapped in his throat. Useless had seen him first and pushed away her sister's hands, saying something so softly he couldn't hear. Maya turned to him, inclining her head respectfully.

"Sir, I apologize for coming here like this, but your slave is my sister. I have not seen her for many years. I hope you don't think me rude." He stepped closer and she looked up at him, there was no recognition in her eyes. It was like being sliced by a razor, a moment of feeling nothing and then intense pain, a line of fire drawn across his heart.

"Rude? No." Amenemef had always relied on words to shield him, bolster him, and elevate him. Now it was as if they had abandoned him.

"Could we speak, perhaps over a meal? My husband and his family have a tent nearby." Amenemef noticed Useless grabbed her sister's arm, as if to warn her. His eyes narrowed in irritation. Then he drew on years of hiding his emotions to create a mask, a refined empty expression.

“You’re already here, we could dine and discuss whatever troubles you now in my tent.”

He said, not wanting to even blink for fear she would disappear. She put her hand to her mouth and studied him, considering.

“I’m not sure, I should speak with my husband first, he doesn’t know I’m here. You see it was so sudden; I was walking by and I-“ He cut her off.

“Saw your sister, yes, I understand. If you would like, I could send her to bring your husband here.” She flinched; she didn’t like the thought of him ordering Useless about.

“No, this is a matter I need to talk to my husband about personally. Hopefully you understand.” He wanted to laugh at that, ask her how he was supposed to understand her indifference to him, her being with another man? Instead he had forced himself to give her a compassionate look.

“Of course.” And even though he had longed to envelope her in his arms and press his lips to her neck, he instead stood as still as a statue and watched her leave. A letter had come the next day saying an urgent matter had caused the *swnw* and his family to have to return to Waset, but that the Lady Maya and her husband Imhotep still wished to meet with him and would contact him when they arrived back at the project site.

It had been ten days and still he waited for the letter, for her. He tried to imagine what the man who had stolen her looked like, picturing him old and on the verge of death pleased him greatly. However he doubted the gods would be so kind. They’d given him a odd fate and there were days he wondered if perhaps they possessed as cruel a sense of humor as he did.

Realizing how much time he had lost to his reverie, Amenemef washed and dressed. Though he was no longer of the Amen priesthood he had become comfortable with the shaved appearance some priests adopted to make their purification ablutions easier that he maintained it.

He ran his hands over his head and jaw and feeling the hint of stubble, decided he would shave at the end of the day.

He gathered his pallet, brushes, papyri, and his water bowl in their carrying case and headed towards the north end of the river. A part of him was thinking on his plans for the woodcarver while another part of his mind remembered hearing Maya's voice as she sang, he still sometimes had vivid dreams about that day.

“You're holding it wrong, turn it this way. Be careful, it's my father's only scroll.” Amenemef stopped, caught by the instructive tones of a young girl and her use of the word scroll. “It's a story you see, like the ones harpers tell on festival days. It's about a man named Truth and his brother Falsehood. Falsehood lies to the gods and says his bother stole a special knife from him and demands they blind Truth and make him his slave. They believe him and punish Truth. Then Falsehood has his servants throw his brother to the lions, but Truth escapes and collapses in a field. There a beautiful lady finds him and falls in love with him, she marries him and they have a son. When the son learns what happened to his father he decides to get revenge on his evil uncle. He leaves a colorful ox with Falsehood's herdsman and pays the man to protect the ox until he returns. When Falsehood comes to look at his cattle he sees the colorful ox and wants to eat it, so he steals it even though the herdsman says he's protecting it. Then the son goes to the gods and tells them everything and Falsehood is like: ‘If my brother is alive let me be blinded and made to serve in the Place of Truth!’ and the son shows the gods his father and Falsehood is punished!”

“This scroll says all of that?” Came the dubious voice of a boy.

“Isn't it amazing? That's why when I grow up I'm going to have hundreds of scrolls. They're very precious, but I'm going to find a way to have as many as I want. I'm even going to

paint pictures that go with stories I write so people can read them like this one day. I love how you can get lost in a story, it's like you're living it, you can see and feel it all in your heart. You can have all kinds of adventures and learn all sorts of things if you can read, that's why it's powerful *heka*." Amenemef shielded his eyes and searched the pile of boulders near him, up towards the sound of the conversation and found the two children sitting beside each other.

"What are you two doing up there?" They were startled and clambered down to stand before him. The girl quickly and carefully rolled up the scroll and tried to hide it behind her back.

"I'm sorry sir, my friend and I were only playing. We're not in the way are we?" She piped in a worried voice.

"Show me what you have behind your back." Guilt flooded her small, round face. Reluctant but conditioned to obey all adults, the child handed him the scroll. The boy was staring at him keenly but Amenemef ignored him and skimmed the contents of the document. It was the story of Truth and Falsehood just as she'd said.

"You can read this?" He asked surprised. She nodded her head.

"My mother taught me."

"It's very unusual for women to read."

"My mother is very unusual." The girl said proudly. Amenemef couldn't help laughing out loud. He handed the scroll back to her. "My mother and father are from Pa-demi, mother says there are a few women there who can read and her mother was one and she taught her just like my mother's teaching me. I can't read everything yet, there's still a lot I don't know, but I love it. I was showing my father's scroll to my friend Hotep, he's going to be a Medjay." The boy blushed and nudged the girl with his elbow.

“Sorry sir, my friend talks too much sometimes.”

“I don’t mind, I’m a scribe myself and I feel the same way she does about reading. There is a saying among scribes: ‘Set your heart on books, there is nothing better than books’. I have several scrolls of my own and they’re my most precious treasures. Here, take good care of this, it’s worth more than gold to discerning hearts.” The girl beamed at him.

“How many scrolls do you have? Can I see them? What kind of stories do they tell?” She showered him with questions.

“Ma’atnofret, you’re going to get us in trouble!” Hotep muttered out of the side of his mouth.

Something about the girl’s sincere excitement touched the scribe’s heart. For a moment he was that innocent boy, bringing his mother scrolls to read together.

“You won’t be in trouble. Actually I am impressed by how wise your friend Ma’atnofret is, I agree with her. Reading truly is powerful *heka*.” He patted the girl on the head and left them. He was cheered by the little meeting and experienced an odd sensation of affinity for the young story-lover.

Ma’atnofret:

Peret, Ermouthi, Day 27

Ma’atnofret felt like a *mwt*, one of the dangerous ghosts that went around causing trouble. She seemed to do everything wrong lately and didn’t know what to do to make her family happy. They were having a difficult time ever since they’d moved. Her mother and father had stopped speaking to each other. Ma’atnofret’s grandmother always seemed to be either snappish because she said her joints bothered her or too tired to do anything. Her brother Unnefer had taken to

running around with a group of wild ones, boys like Apophis who drank too much and caused mischief. Her sister Hoh was busy trying to make a household of her own with her new husband Yuny, a metal-smith who had already been put to work making and maintaining tools for the city project. And then there was Pna, her little sister who was closest to Ma'atnofret in age; she had caught a fever only a few days after arriving. Ma'at was starting to get scared, Pna had a hard time eating and when she did she usually vomited it back up.

Ma'at's mother Schent was using all the spells and healing wisdom she knew, and most days Achen the *rekhet* came to look in on Pna and make remedies or call on the gods to heal the sick child.

Schent had taken Ma'at and Hoh aside and spoken with them two days before, worry etched on her face.

"Girls, I'm going to need you to help me out, especially around the camp. Your sister is having a very hard time and I have to focus on taking care of her. Hoh, you're a woman now, and it will only be a year or two before you're one too Ma'at, you both need to be brave and work together. Now, you know, no one—" Schent was interrupted by her daughter.

"...Loves you as much as family and family looks out for each other no matter what." Hoh intoned the rest of their mother's often-repeated saying.

"Hoh, I'm going to put you in charge of cooking and keeping the camp tidy. Our nice new friend Renenet has offered to come and help you grind the grain each day. Ma'at, you're to clean out the waste pot every morning and evening and make sure to rinse it out. I'm also going to need you to fetch the water; you're going to have to do it several times a day. I know it's a lot of work but we can get through this. Your brother is helping your father with work for the Pharaoh- life, prosperity, and health, but he's also going to be in charge of getting the firewood

every day. Ma'at, if your sister, your grandmother, or I need help with something, you have to listen to us and do what we ask quickly. Do you both understand?"

"Yes mama." Ma'at and Hoh had answered in unison.

Ma'atnofret had tried her best to do her chores and assist her mother in whatever she needed. She would go to Pna and brush her hair from her hot forehead and sing to her. She hated seeing her usually rambunctious sister lie so still or weakly cry for her mother.

Ma'atnofret had also tried to be there for her father, but he was quiet and sad. He didn't laugh or tease her like he used to. She went to sit next to him one morning as he was mixing paints; she attempted to hand him one of the pots but it slipped from her fingers and shattered on the ground. She bent to pick up the pieces, flustered about causing a mess. She always seemed to ruin everything, even being supportive. She cut her finger and her father grabbed her hand and pulled her up roughly.

"What are you doing?" He shouted exasperated. Tears filled her eyes.

"I-I thought I could mix paints with you, I'm sorry!" She bit the inside of her cheek to try to keep from crying.

"Your sister's sick, we're all worried and busy, you getting hurt is just going to make things harder. Go have your mother clean this cut." He'd calmed down a little and gently pushed her towards the tent. She walked away from him with her heart heavy in her chest. When she entered the tent she saw her mother holding Pna over a pot as she was vomiting again.

"Ma'atnofret, get me a wet cloth so I can clean up your sister." Schent said. Her voice sounded composed, but Ma'at could tell she was upset. Ma'at went to the water jar with a linen cloth but when she looked in she realized she had forgotten to get more water. She was ashamed and petrified of telling her mother.

“M-ma-ma, I forgot to get more water, I’m sorry.”

“Did you do this on purpose? Are you upset that you’re not getting enough attention? I specifically asked you to get the water, you know you have to go several times to keep it replenished. I don’t need this right now!” Her mother snapped in frustration.

“I’ll go get more, I’ll be really fast!” Her father had come into the tent to get something to wipe up the paint and heard Schent’s scolding.

“No, I’m going to need you here, your sister isn’t doing well and-“

“Oh just send her, she’s underfoot and just making you angry. Go on Ma’at, get the water and hurry back.” Her father said. Ma’at saw the flash of resentment in her mother’s eyes. Ma’atnofret went and crouched beside her and Pna, who seemed to be sleeping. Her breathing was shallow and fast; her skin had a pale yellow hue. Ma’at kissed Pna and then hugged her mother; it was like hugging a stone pillar.

“I’m sorry mama, I’ll just go really quick, I’ll even bring something to cheer up Pna, make her feel a little better.” Her mother’s jaw was clenched and she didn’t say anything. Ma’at kissed her cheek too, but her mother didn’t move.

Ma’at went and picked up the water jar carefully, terrified of what would happen if she broke it.

She flew out of the tent, away from her sister’s illness, away from her father’s disappointment, away from her mother’s resentment. Achen was walking up the path, her basket under her arm. When she saw Ma’atnofret she stopped and glanced at the tent, then back to the girl.

“What’s wrong mouse? Where are you off to, how’s your sister?”

“I’m sorry *rekhet*, I forgot to refill the water and mama’s trying to clean Pna. She still isn’t feeling good, I have to hurry.”

“Maybe you should stay, I’ll go get one of my sons to get the water.” Achen had a strange expression on her face as she looked at the tent.

“No, I made everyone mad, and if I get the water and maybe find a present to make Pna feel better it’ll help.” Ma’at hugged the jar with one arm and scrubbed the other across her eyes, unaware she was smearing the malachite eyeliner her mother had painted around them earlier that morning. Without waiting to hear if Achen had anything else to say Ma’at trotted off.

She hated herself for being so clumsy, for making everything worse. She desperately wanted to tell her mother that she didn’t want to take attention away from Pna, that she hadn’t forgotten the water on purpose. She wasn’t paying much attention to where she was going because of the sadness that overwhelmed her until she reached the river near Hunra’s house and heard a splashing noise.

Standing in water up to his ankles, Hotep-Ui was violently skipping stones. She noticed his back had fresh wounds, and when he turned at the sound of her arrival she saw a scab on his cheek under his left eye. He’d been crying too.

“Hotep! Are you okay? Did Apophis catch you?” She put down the pot and raised her hand to touch near the scab but Hotep smacked it away. She clutched both hands and held them to her chest, taking a step back from him.

“It’s sore.” He muttered, looking sheepish.

“Oh, well, I’m sorry, I wasn’t going to touch the spot, just near it. What happened?”

“I don’t want to talk about it.” He said in a voice tight as a clenched fist. “Hey, why don’t we play that game? I’ll be the Hunter and you be the Duck.” She was torn, she knew she should

get the water and return, but Hotep was her friend and she could tell he didn't want to go home, that he was hurt and lonely.

“Maybe just one or two rounds, but then I have to get the water and take it back to my mother.”

“Is your little sister still sick?”

“Yes, I'm really worried about her. But I just seem to make everything worse for everybody and I thought if I got the water it would make up for it.” She babbled as they made the tiny mud pellets that were the arrows.

When they finished their preparations Hotep closed his eyes while she hid in the reeds and bushes. She made the quacking sound that was the signal for him to open his eyes. Feeling the cool mud ooze between her toes while smelling the river and the sharp, green scent of the plants around her eased a tightness in her neck and back. She moved with furtiveness closer to where Hotep was looking for her before bouncing up with another quack. Hotep hurled a pellet at her and missed. She threw herself down and squirmed near the ground before finding a good place to leap up again. Hotep threw and missed. She laughed and ducked when he tried to hit her a third time. She saw his face darken, like bread too close to the fire. He started flinging the pellets at her fast and hard, one struck her on the lip and she yelped.

“What are you doing? Stop! That hurt!” She shouted, pressing her fist to her throbbing lip. “It's not my fault you have bad aim, don't take it out on me!”

“You were cheating, I don't know why I thought it would be fun to play with a stupid girl who thinks she can be a painter when she grows up. Go home and have babies like you're supposed to!” He roared back. His words hurt her more than the pellet, more than the cut she'd gotten picking up the broken pot.

“How dare you! I thought you were my friend but you’re being mean! You said you hate your dad for not letting you be a Medjay and hitting you, but you’re just as bad as him!” The moment the words left her mouth she was overcome with regret. His face lost all emotion; his eyes were as dark and fathomless as the underworld.

Without saying anything he turned and started walking stiffly away. Distraught, she ran and grabbed his arm.

“Please, I’m so sorry, I didn’t mean that, but you hurt me and said I was just a stupid girl- I shouldn’t have said that. Please forgive me! I don’t think you’re like your father! Please forgive me!” She implored. He shook her off as if she were an insect trying to crawl on him. He refused to meet her gaze or speak to her. He stalked off.

For a moment she collapsed into a heap and bawled, everything she’d been through that day pouring out of her, but there was no relief. She wanted to make things right. She wiped at her face and stumbled to her feet, taking off in the direction he had gone. She whipped her head this way and that, craning her neck until she found him. He had broken into a run and was heading somewhere with single-minded determination. She couldn’t catch up to him, his legs were longer and he was faster, but she kept him in sight as she followed him. He seemed to be heading to the main work site until he saw two Medjay officers with their batons. He waved at them. They walked over to where Hotep had come to a stop near a tent and a stack of logs and gypsum cones. She stepped into the shadow of a nearby mat shelter, panting. As she caught her breath and her blood slowed and stopped pounding in her ears she could hear them speaking.

“What are you doing up here? Coming to see Baba and Hedjwer?” One of the Medjay asked Hotep.

He shook his head and for a moment seemed unable or unwilling to talk. He took one of the men's wrists and Ma'atnofret guessed it must be his Uncle Pasupti that he always bragged about. He pulled his uncle closer to the stack of logs, putting some distance between them and the other officer. No one noticed she was there.

"I want to turn in a thief, I saw someone I know steal something. You said if it were just a small crime they'll only get beaten, they wouldn't be killed or sent to serve in a corvée?" Pasupti studied his nephew with concern.

"Hotep, this is very serious, do you know what you're doing right now?" The Medjay put his hand on Hotep's shoulder. "You should go home and think about this."

She watched as Hotep's hands became fists at his side and he raised his face to his uncle, his expression implacable.

"I don't want to be like him, I'm going to be different, I'm going to be in the Medjay. I won't let him touch me one more time. I saw my father trade stolen grain for beer." The Medjay let go of Hotep's arm.

"If I report this to my commander, you won't be able to take it back. Go and try to work this out with your father." He appealed to Hotep.

"Once it's done, can you get me a place in the Medjay, maybe if I volunteer?" Hotep persisted.

"I can pull in some favors. You shouldn't do this Hotep, I know you're angry, but this will change everything for you."

"Good." Hotep said.

Ma'atnofret was pressing her fingers against her lips. She could feel the mark the pellet had left. She didn't know what to do and she didn't think it was right that she had witnessed this

moment. She whirled to run away and saw standing in the doorway of the mat hut the priest who had spoken to her about books. He gave her a strange smile like they shared a special secret. It somehow made her feel guiltier and she bowed her head and bolted past him.

She hurried back to Hunra's house. She felt horrible; afraid she'd just lost her friend, shocked by his actions.

She found the pot where she'd left it, picked it up and took it to the water and started filling it. Her hands were shaking. It had been a miserable day. She hiccupped and the pot splashed into the water but thankfully didn't break. As the sediment settled and she refilled what she'd spilled she noticed a creamy gleam in the dark mud. She pulled it up, wiping away the soil that clung to it. It was a fragment of the tooth of an animal, about the length of her palm and thicker than her father's thumb. There was something satisfying about its smoothness and color. Hope filled Ma'atnofret, she took it as a sign from the gods that Pna would be okay; it was the perfect gift for her sister.

She hefted the water jar, keeping one hand closed tight around her prize so she wouldn't lose it. It was hard for her to carry the full pot. Because she was still too small and clumsy her mom wouldn't allow her to balance the pot on her head. She carried it with both arms, trying not to slosh any water over the top.

She knew her parents would be mad at her for taking so long and she didn't know how to explain it to them. She wanted someone to talk to about the whole day, she wished Thoth were with her.

She hated it here; she wanted to be back in Waset. She'd liked their house, the way her brother and sisters had still played with her, the affection she used to see between her parents. Now it seemed like she was losing everything she was used to, that was important to her.

As she got close to the camp she couldn't see anyone outside the tent and wondered if her father and Unnefer had gone to work. She entered quietly in case Pna was sleeping and put the pot in its spot. In her peripheral vision she saw her mother, grandmother, Hoh, and Achen clustered around Pna.

"Ma'atnofret." She had been expecting a reprimand, but the despair in her mother's voice was awful. Ma'atnofret opened her hand and looked at the tooth.

"I'm sorry I took so long, but I found something really special for Pna, I think it's a tooth, but it's big." Ma'atnofret turned.

All the women of the family had their hair down and unbraided. Their faces were red and swollen. Hoh was rocking back and forth with her hands on her eyes.

"I was trying not to wake her, do you think she'll be surprised?" Ma'at asked, blinking her eyes fast, her own voice sounding far away. She wanted to put the tooth in Pna's hand but she couldn't seem to move.

"Pna, look what I found, maybe it's a crocodile tooth. The gods helped me find it for you." Pna didn't move, she was so still and small, Ma'atnofret took a faltering step forward.

"Oh my heart, come here." Schent reached out her arms and Ma'atnofret staggered into them. Her mother pressed her close, Ma'at's chin rested on the curve of her mother's neck.

"Your sister was very sick and in a lot of pain, but now she's going to start the journey to the Duat and we're going to help her. I know it's hard and I know how much it hurts, but we have to be strong together." Ma'atnofret could feel her mother's words reverberate through her body.

"I don't want her to go, I don't want her to go!" Ma'atnofret broke free of her mother's embrace. She crawled next to Pna and attempted to put the tooth in her sister's hand. "Please

don't go, see, see what I brought, please don't leave, please?" She sobbed. When she looked at her baby sister she didn't look right, something was gone, it was like looking at a statue of her sister. Ma'atnofret felt like a coward, like a bad sister, but she couldn't stay in the tent. She got up and stumbled towards the door. Suddenly she was lifted and carried outside.

"Ma'atnofret, mouse, I know it's hard, but you must stop." Achen was holding her in her lap as if she were a baby. Her throat hurt, she'd been wailing and hadn't realized it.

"I-I'm s-sorry, I'm s-sorry, it's my fault, I shouldn't have left, I shouldn't have forgotten the water, I'm sorry!"

"Shh, shh, shh. Your sister had an illness, you did nothing wrong. *I'm* sorry. Even with your mother and I working together, we couldn't persuade the gods to change her fate. I know the pain you feel, and I know it's hard to understand. Sometimes you can't contend with the ghosts or demons or gods. Sometimes there is nothing you can do but make sure those you love who die go to the afterlife peacefully. I had an older sister; I love her, as much as you love Pna, but a time came when she grew ill. No spell or medicine my grandmother knew of was able to heal her. I was sad and furious. I blamed myself, I blamed the demons, I even blamed my grandmother. She told me what I'm telling you now, the truth. We all die. Sometimes we can heal the sick or protect those afflicted by the beings that inhabit the other realm, but sometimes we can't. Though it may seem like we've lost them, we haven't. They're just with us in a different way. You'll see your sister again. Sometimes her *ba* will visit you as a bird; maybe you'll talk with her and see her in your dreams. And when the day comes that it's your turn to journey to the Duat, you'll be reunited with her as you're reborn into the afterlife." Ma'atnofret's head and heart ached, she wasn't sure if she'd be able to open her eyes they were so puffy. She tried to hear what the *rekh*et was saying to her.

“Can I see what you found that you tried to give your sister?” Ma’at nodded jerkily and held up the present.

“I don’t think the gods helped you find this for your sister, I think your sister’s spirit helped you find it, to keep and remember her, not like she is right now, but as she was when you would play together. It’s a very powerful gift your sister found for you, that is a piece of hippopotamus tusk. Tawaret watches over women and children and she’s watching over you. Keep it, it will protect you and remind you of your sister’s love. Do you promise to take good care of it?”

“I p-promise.”

“Your mother and your family need you, you all have to hold each other up and comfort each other. Can you do that?” Achen asked.

“I’ll try. Achen, if I had *heka* and were a *rekhet*, could I have done something, helped you and mama more?”

“All people have *heka*, it’s just that they don’t necessarily know how to use it. Becoming a *rekhet* isn’t easy; it requires a great deal of from you, sacrifices that are hard for a child to comprehend. Remember when you were frightened watching Hunra give birth, but then the baby was born and she held her and was so happy?” Achen asked

“Yes.”

“But your sister dying today, that is painful and it is a burden that seems almost impossible to bear. And that’s what it means to be a *rekhet*, you care for the sick, you help women give birth, you fight the demons and ghosts that haunt people, it’s scary and drains you and even when it ends well, you are overwhelmed by emotion. Because to be a *rekhet* means to share the feelings of others and to face the ghosts, demons, and gods, who, good or bad, demand

things from you- your energy, your health, your dreams. That's why it requires strong *heka*."

Achen tried to explain.

"Today was the worst day of my life, I just wanted to make everyone feel better. If I have strong *heka* and become a *rekhet* then maybe I could do that. Will you teach me?"

"If, once you are old enough to truly understand, you still wish to use your *heka*, I will teach you. For now, come back to the tent so we can take good care of your sister." Achen tenderly lifted Ma'at to her feet. Ma'atnofret heard her sigh under her breath:

"The young, you speak wisdom to them but it takes years before they finally hear you."

She thought she understood Achen that it was unfair for the old *rekhet* to treat her like she was too young to understand. She believed there was nothing she wouldn't be willing to give up as long as she could help other people. Not mess up and make things worse, but to learn how to actually heal and protect the people around her. Any price would be worth paying to possess that type of magic.

Ma'at looked around through the slits of her swollen eyes. People in the camp were talking and laughing, the smell of cooking fires and food drifted on the air, three children ran by playing a game. She wanted to scream, it was wrong, that everyone just went on with their day, it wasn't right. Someone beautiful and wonderful had left this world and would never come back except as a bird or a dream.

The sun was shining down on her like it didn't know or didn't care that her sister was dead. After that day, she never thought of the light from the sun as benevolent, to her it would ever after be an indifferent god with no compassion for the broken hearted and no mercy for the weak.

End Notes:

Individuals numbered throughout the narrative are listed in order of appearance.

- 1) I120- Nehimeou Age: 25-29 years; Sex: F; Family: 1
- 2) I017- Ranpu Age: 35-40 years; Sex: F; Family: 1
- 3) I150- Mehi Age: 20-29 years; Sex: F; Family: 1
- 4) I117- Imhotep Age: 35-50 years; Sex: M; Family: 1
- 5) I188A- Buto Age: 35-45 years; Sex: F; Family: 1
- 6) I092- Dhouti Age: 25-35 years; Sex: M; Family: 1
- 7) I069A- Maya Age: 40-49 years; Sex: F; Family: 1
- 8) I223- Pthah-mes Age: 27-40 years; Sex: M; Family: 1
- 9) I137- Ma-Mai Age: 25-35 years; Sex: M; Family: 1
- 10) I221- Benipe Age: 2.5 years; Sex: NA (M); Family: 1
- 11) I199A- Sety Age: 15-18 years; Sex: F; Family: 11
- 12) I227- Achen Age: 40-60 years; Sex: F; Family: 7
- 13) I106- Senbu Age: 35-45 years; Sex: M; Family: 7
- 14) An amalgam- Fai-Nofre-Bai (M); Family: 3
- 15) I216- Itchut Age: 40-60 years; Sex: M; Family: 3
- 16) I205- Kafy Age: 20-35 years; Sex: F; Family: 3
- 17) I219- Phut Age: 25-40 years; Sex: F; Family: 3
- 18) An amalgam- Maatnofret (F); Family: 2
- 19) I121- Unnefer Age: 18-24 years; Sex: M; Family: 2
- 20) I314- Pna Age: 7.5 years; Sex: NA (F); Family: 2
- 21) I166- Hoh Age: 18-24 years; Sex: F; Family: 2

- 22) I345- Schent Age: 36-45 y Sex: F Family: 2
- 23) I107- Chons Age: 25-35 Sex: M Family: 2
- 24) I134- Ta-ei Age: 50+ y Sex: F Family: 2
- 25) I229- Yuny Age: 15-25 y Sex: M Family: 2
- 26) I102- Iritis Age: 35-45 y Sex: M Family: 7
- 27) I131- Tebu Age: 25-35 y Sex: M Family: 14
- 28) I367- Ouonsou Age: 34-68 y Sex: M Family: 14
- 29) I110- Mesta Age: 25-35 y Sex: F Family: 14
- 30) 358- Ruba-Ta Age: 50+ y Sex: F Family: 14
- 31) I191- Apophis Age: 25-35 y Sex: M Family: 14
- 32) I377- Imentet Age: 22-24 y Sex: F Family: 14
- 33) I356- Tayet Age: 25-35 y Sex: F Family: 15
- 34) I015- Anat Age: 40-50 y Sex: F Family: 14
- 35) I357- Nub-Em-Het Age: 25-35 y Sex: F Family: 14
- 36) I039- Amenemef Age: 35+ Sex: M Family: 5
- 37) I114- Merit Age: 35-45 y Sex: F Family: 5
- 38) I278- Hotep-Ui Age: 20-24 y Sex: M Family: 17
- 39) An amalgam- Pasupti (M) Family: 17
- 40) I057- Thoth Age: 16-20 y Sex: M Family: 12
- 41) I200- Sos Age: 25-40 y Sex: M Family: 13
- 42) I295- Mose Age: 25-35 y Sex: M Family: 15
- 43) I233- Enna Age: 30-50 y Sex: M Family: 17
- 44) I034- Hapentmat Age: 35-45 y Sex: F Family: 17

- 45) I176- Gararai Age: 18-24 y Sex: F Family: 17
- 46) I100- Hunra Age: 25-35 Sex: F Family: 8
- 47) I141- Aka Age: 18-24 y Sex: M Family: 7
- 48) I071- Sobek Age: 35-45 y Sex: M Family: 8
- 49) I028- Sekhmet Age: 40-50 y Sex: F Family: 8
- 50) I043- Renenet Age: 40+ y Sex: F Family: 8
- 51) I009- Gengen-Wer Age: 18-24 Sex: M Family: 8
- 52) I045- Hatmehyt Age: 6.5 y Sex: NA (F) Family: 8
- 53) I201- Eopei Age: 24-40 Sex: F? (F) Family: 12
- 54) I059- Bakennifi Age: 35-40 y Sex: M Family: 12
- 55) I194- Aiemapt Age: 35-50 y Sex: M Family: 16
- 56) I207- Pabas Age: 7.5 months Sex: NA (M) Family: 12
- 57) I276- Bentmut Age: 26-35 y Sex: F Family: 16

Chapter Five: Conclusion

Living life, participating in a culture, is written on our bones. Diet, status, sex, trauma, illness, occupation, and time leave marks like hieroglyphs that need to be translated for the tales locked in their mysterious patterns to be discerned. Osteoethnography is meant to act as one way of presenting these stories. Bioarchaeologists have few formats to present the evidence that they collect, or to stretch their bioarchaeological imaginations to show how their minds make connections between skeletal, cultural, and archaeological data.

My definition of osteoethnography is a written narrative that draws on cultural, archaeological, and skeletal evidence to describe an ancient culture. Osteoethnography is meant to pull “together multiple strands of archaeological [and bioarchaeological] data into an interpretation that is more than the sum of its parts” (Boutin, 2011: 112). The skeletons of the people who lived in that culture are the central focus of the osteoethnography, and the data collected from those skeletons directs the bioarchaeologist to portray the people as active agents within their culture.

There are five essential components that are required to create an osteoethnography:

- 1) Detailed skeletal analyses of human remains recovered from the same site, representing roughly the same time period.
- 2) Analysis of the archaeological site the skeletons were recovered from, dating to the same period.
- 3) Linking the people and their skeletal health with the environment and culture.
- 4) Extensive research into primary (if available) and secondary sources concerning the culture and period such as: diet, climate, flora and fauna,

house construction, family sizes and structures, politics, labor, social groups, religion, technology, law, beliefs, medicine, taboos, stories, philosophies, and more.

5) Finally, though some may have a difference of opinion with me, I believe that crafting a narrative that engages empathy is crucial to helping the readers comprehend and appreciate the culture being depicted. Though it is neither the writer nor the reader's culture, the common ground of emotions- visceral feelings felt regardless of cultural background- can help us to interpret, even if imperfectly, the experiences and culture of people being studied.

The use of empathy and imagination does not detract from the fact that osteoethnography is built on a foundation of research. But because it is one person's informed reconstruction of the culture from the available data there is a need, just as with ethnography, for reflexive evaluation. The motivation for the writing of osteoethnography should be for: "knowledge of other peoples and other times that is the result of understanding, compassion, careful study and analysis for their own sake" (Said, 2003: XIX). The cultures being described in osteoethnographies no longer exist and can only be 'observed' through research. Osteoethnography should function as a way to present an ancient culture in action to formulate hypotheses and discussions, to open new avenues of appreciation and study.

Reflexive Analysis of Death on the Horizon

The reflexive analysis I have undertaken of my narrative is meant to function similarly to Boutin's archaeological journal of the excavations she did on the graves whose occupants she portrayed in her osteobiographical narratives. It is meant to show how I processed my research

and the skeletal data I utilized, shaping it into a coherent narrative to depict the impact of life at Akhetaten on the bones of the people.

I decided to use the form of an osteoethnographic novel because this is how my mind takes in information and makes sense of it, I will give two examples of what I mean from my examinations of skeletons at Amarna, before I had undertaken this dissertation topic.

One of the first skeletons I examined was I198/S203, a woman who had died between the ages of 25 to 35 years and was approximately 5 feet tall. When assessing the skeleton for evidence of pathology or trauma, I start at the skull and work my way down to the phalanges of the feet. I picked up I198/S203's skull and saw impressions of her plant-mat coffin on her forehead and cheekbones, I instantly saw her still, pale body being placed on the mat and wrapped in the coffin material gently by a grieving loved one. I realized as I looked at her that her nose had been broken, that it was angled to the right, which meant the blow or fall struck the left side of her face, various scenarios flashed through my head. I saw her being punched by an angry man; I saw her under some scaffolding looking up to catch a tool being thrown down to her, missing it and it hitting her face, I saw her carrying a large pot of water on her head and tripping and falling on her face as her hands tried to keep the pot from breaking. My mind created a version of her and imagined the scenes I've described and a few more that occurred quicker than it takes me to write it.

The second example also involves a skull; I was holding it for a colleague who was setting up a camera to take a picture. It was the small skull of a child, if one went by the size, it would have been mistaken for a two year old, but the children of Akhetaten are smaller than average due to stress and malnutrition. The teeth of the child gave the more reliable age, around 4.5 to 5 years old. I pictured the child as a little boy who loved to jump and swim, he exasperated

and amused his mother with his antics. She called him her little frog and chastised him to stay close and to never go swimming unless she was with him. One day she noticed he seemed tired and listless, not his usual self and it worried her. She put her hand on his forehead where mine was and was shocked by how hot he was. I saw her frantically nursing him, calling on her deities, using any spell, amulet, and medicine she had while watching him grow weaker, fade, and die. I saw her devastation, preparing him for burial, angry he'd been taken from her, heartbroken and wondering what she could have done differently, and praying he would make it safely to the afterlife so that when she died she could be reunited with him. The reality was, I didn't know if the child was a boy, I didn't know if he had loving parents caring for him, I had no way of knowing the child's personality, but my mind made credible stories based on the data I had. I examine a skeleton and I see a person, built from the data and my imagination. My interpretations are influenced by my experience and understanding of the world. I don't ever want to forget or take for granted that the skeletons I work with belonged to real people. For me, a skeleton is like a shell found on the beach, you can see the beauty and the complexity of the structure, if you know any marine biology you may know certain signs to look for on the shell to tell you about the animal that made it- its health, diet, age, size. But as you hold the shell you're aware that it belonged to a living creature that has moved on, its not the same as holding the actual snail, clam, or crab in your hand, but your imagination knows what those creatures look like and so depending on the shell you're holding you will picture the animal it belonged to. It is similar to imagining the people that the skeletons you work on belonged to, they are a part of a whole- I can't see just the part, I see a version of the entirety.

This is an important step, and one I think many bioarchaeologists automatically do, in creating an osteoethnography by allowing the mind to imagine the living human beings instead

of just seeing a skeleton. For me, osteoethnography goes far beyond this initial step, placing this reconstructed version of a person back into the culture they were a part of, creating a narrative that follows that person through their daily life within their culture to see the things that could have caused the evidence found on their skeletons. The combination of evidence and imagination are necessary to hypothesize about how stresses, injuries, actions, and more left their marks on these people's bones. I try to use the skeletal and archaeological data to inform me about life within their culture so that the images I see aren't merely figments of my imagination, they're informed reconstructions.

Now that I have given an overall reflexive analysis of my motivation for writing the narrative, I will now do a section by section analysis- based on the eight Touchstone characters- of the narrative to explain what I was exploring, revealing, and hypothesizing about the people and their culture, and about how the city impacted their lives.

In the section titled Nehimeou, I wanted to begin the narrative with the beginning of the city. The first installed Boundary Stelae at Akhetaten record the ceremony and speech that Akhenaten gave to his people announcing the building of the city and its purpose to glorify the Aten. I wanted to present the reactions to the speech from the point of view of someone who, though not quite one of the powerful elite, was still in a privileged position. Before creating the narrative, I had divided up the people into family groups with specific statuses based on health and the archaeology of their graves. I made Nehimeou, or I120, into a court lady and the daughter of a *swnw*, or doctor, who was fairly well placed within the upper middle social status. Her position gave her a place within the ceremony. I thought it would work as a good introduction to the culture. I started on the river journey to Akhetaten because the Nile held great meaning and import to the people. I showed family dynamics and introduced the concepts of

religion, superstitions, and magical beliefs of the majority of Egyptians and how Akhenaten's religious beliefs differed. I attempted to show the complicated status of slaves within the culture. I showed the desolate landscape that Akhenaten envisioned as a city to his god and how the people being told to build and live in that city would probably have seen it. I also wanted to use the section to examine a question many Egyptologists still debate- how did the people feel about Akhenaten's religious reforms and his movement of the capitol? I believe there is evidence to show a variety of reactions to Akhenaten, and I present those through Nehimeou's observance of her own family members: some believed in Akhenaten and his movement, some saw it as an opportunity to further their own interests, some were unsure, and some were frightened and dismayed. Regardless of their reactions, all of them knew or felt it impossible to go against the living god that ruled over them. I then ended her chapter with the incident of the wounded workman, Itchut, I216, whose skeleton bore the injuries described, to portray a doctor diagnosing an injury using Egyptian medical techniques, but also showing through Nehimeou and her father Imhotep the fear and grief some people would have been experiencing. It was also a way to transition to the next section, to follow the injured man home to his family.

Achen's, I227, section is meant to show how prevalent magic was to the culture and also afforded me the opportunity to begin my depiction of Egyptian culture's reactions and beliefs concerning death. Archaeologists in Egypt have uncovered artifacts used in magical practices and letters, papyri, and other written sources that mention spells, amulets, communication with the dead, gods, and demons. Achen's section also shows the families being brought to Akhetaten to build it. It took stonemasons, laundrymen, women, rekhet's, and more to build the city.

In Tebu, I131, I wanted to continue to build on the concepts of family and funerals in ancient Egypt. Most of the evidence for funerals that we have concern the elites, their

extravagant tombs and rich assortment of artifacts buried with the dead have always been a subject of interest and study since the beginning of Egyptology, but it is only relatively recently that inquiries into the funerary practices of the non-elites have been undertaken. There has been evidence uncovered at the South Tombs Cemetery alone, including a paddle and adze in the grave of a child numbered I045, that suggests that the non-elites didn't just share the funerary beliefs of the elite, at least some of them appear to have practiced similar rites. While reviewing evidence from tombs and documents relating to elite funerary services I tried to deduce the parts of the elaborate ceremonies that were practiced by both groups and what compromises the non-elites could make to make the funeral more affordable. For instance, in the Opening of the Mouth ritual, a male calf is meant to be killed by cutting off its front leg in front of its mother, then the bleeding leg was touched to the lips of both the mummy and the statue representing the deceased in order to pass the life force into the dead and awaken their abilities to eat, speak, drink, and breathe in the afterlife. A poor family couldn't afford a calf and its mother, so maybe they substituted an animal they could afford, like a goat. Also, one of the beliefs that was central to their religious ideology, as well as their beliefs about the dead and the gods, was the importance of representations. The gods and goddesses were believed to be capable of, and willing to, interact with humanity if there were a proper vessel for their incorporeal essence/power to inhabit- this is why idols were so essential to the Egyptians, and why many of the duties of the priests revolved around the care of these idols. The same was believed to be true of human souls, the Egyptians had very complex beliefs about the soul, it had seven attributes or components: the Ka was a person's status and dignity and a protective spirit. The Ba was a part of the soul that could transform into any form but most often took the shape of a bird after death, it was able to travel from the afterlife to the world of the living, and could communicate with the living, other

spirits, and the gods. A person's name stood for their individual identity. The *Ib*-heart represented a person's emotions, thoughts, and morals. The *H3ty*-heart was the physical organ, used in the judgment of the dead. The *Ht*-body was the physical appearance. The shadow helped to gather offerings for the dead and was seen as a blessing from the sun god (Harrington, 2013: 2-14). For the elite, at least one statue was required so the *Ba* could be communicated with and it could receive the offerings made to it. Evidence for the belief in the power of the image as allowing the dead to be a part of this world can be seen in the destruction of the statues of the reviled, like Akhenaten, in an attempt to deny the *Ba* a way to the living world and offerings. Unlike the elite, the non-elite often couldn't afford to have statues made of every person in their family who died, so they created something both indicative of the belief and economical, the ancestor bust. A single bust was used to represent the honored dead and to act as the point of contact between the living and the dead. In an elite person's Opening of the Mouth ritual, both the corpse and the statue go through the same processes. I believe it makes sense for the non-elites to utilize the ancestor bust in the place of the personalized statue, so I believe it was probably taken to the cemetery for the funeral. Tebu's section acted as a way for me to share some of my hypotheses about non-elite funerals, while also showing the important functions the ceremony served the people practicing them.

In the section about Hotep-Ui, I278, I was portraying several different things, mainly the societies expectation that children follow the same path as their parents, especially boys. While this may have been a societal ideal, I know from letters and tomb biographies that there were individuals who didn't do what was expected of them. This would have created conflicts within some families, so I used Hotep's combative relationship with his father to also present many Egyptian's thoughts on discipline. This can also be seen in Uncle Pasupti's story of the punished

thief. There are several individuals from the South Tombs Cemetery that bear signs of physical abuse and/or punishment, it was a part of the culture that can clearly be seen on a number of the skeletons.

Hunra's, I100, section focuses on women and childbirth. For ancient Egyptian women, their most important role or act was being a mother, giving birth and creating a family. However, this role/act made women incredibly vulnerable. The Egyptians drew on all the powers of gods, magic, and medicine to protect the mother and baby. This not only speaks to the dangers inherent in childbirth but to the great value Egyptians placed upon life, even their funerals and beliefs concerning death came from a love and reverence of life. To them it was the meaning of everything, life and creation were the opposite of chaos, and it was represented in the ideology of ma'at.

Thoth's, I057, section is about family. I wanted to show different issues families dealt with in ancient Egypt. I made Thoth the son of the soldier Bakennifi, I059, whose skeleton showed clear signs he was involved in battles. I wanted to look at the feelings of the family members of a soldier, the work women did to care for their families, and adultery and divorce. In reading some of the letters and stories of the Egyptians I found these were some of the issues that were important for them. This also is the section where I begin to examine the significance of writing to the Egyptians. 'The Satire of the Trades' is an ancient Egyptian exhortation to become a scribe because it will better a person's station in life and grant them access to power and magic, while also portraying the horrors of the other jobs an Egyptian can have and why being a scribe is preferable to any of them. The relationship of Thoth and his father also acts as a kind of contrast to Hotep's. Not all families were alike, and even though there were families concerned

with upholding cultural norms there were others trying to be exceptions to the rules, not unlike many cultures today.

To depict the laying of the foundations for the city of Akhetaten, and the organization of the bureaucracy that served the king, I used the section about Amenemef, I039. I started with several hypotheses about what would have been the necessary steps taken to quickly and relatively efficiently, build a city with ancient technologies. I also wanted to portray some of the sycophancy and manipulation that can be seen in administrative letters for the period. One way of doing this was the use of the 'life, prosperity, and health' blessing commonly found, sometimes multiple times, in letters concerning business and politics especially. I don't know if this blessing was ever said aloud or if it was an epistolary affectation, though there are letters where its use appears sincere, there are also plenty of examples of it being used fawningly, cynically, and even satirically. Amenemef represents a master manipulator of the system, a bureaucrat who uses the patronage system that Egyptian society was built on to further his own ends. He also represents the kind of corrupt officials excoriated in letters and who are subjects of disputes and criminal cases preserved in ancient Egyptian legal documents. I also stress again the importance of reading and writing in Egypt and how it was used to maintain their government and religion, preserved their medical practices, spells, mythologies, dreams, stories, and more. I also used Amenemef's status as a former priest of Amen to show the changes in religion.

The final section follows the only Touchstone character not represented by a specific skeleton, Ma'atnofret, an amalgam character created from data from several skeletons and also acting as a kind of representative of my thoughts and feelings about ancient Egypt and life. I feel the main purpose of this section is how the Egyptians made sense of death- the sorrow, fear, and pain of that experience and how they coped with it all.

Through the entire osteoethnography I wanted to create a cohesive narrative that followed the individuals as they began to form a community and build a unique city. For many of the citizens of Akhetaten we have only their traces left in the archaeological record and their skeletons to hint at the stories of their lives. I want to honor those lives, not erase the actual lives lived and supplant them with my imaginings. However since there is no way to learn every facet and detail about each individual's life story I use my imagination to give them a semblance of the life they once lived based on the evidence available. My intention is not to say that my representations flawlessly capture the culture of ancient Egypt and the reality of these peoples' lives, but I am creating an informed depiction that shows the people as active agents within their complex culture. The goal of this research and my osteoethnography is to take my scientific knowledge and apply it in a humanistic way.

Future Research

For future research, I would like to continue to follow my Touchstones and their families through the eighteen years of building and occupying the site of Akhetaten to its abandonment as I have already plotted the lives of the one hundred individuals chosen for this study. I want to prove that osteoethnography is a viable form for presenting bioarchaeological, cultural, and archaeological information in a way that appeals to a broad audience. Furthermore I envision this process to be the source of forming and exploring hypotheses and fostering discussions between not only the fields of anthropology, but also other disciplines as well.

I chose the form of an ethnographic novel to write my osteoethnography, but I believe that there could be other methods of presenting an osteoethnography- a more scientific format or a format that uses a prose style but from the point of view of the bioarchaeologist in the present.

Ideally I hope my efforts with this research will encourage others to take the idea of osteoethnography and develop it so that it evolves as ethnography did in cultural anthropology.

Osteoethnography is meant to act as a way for the bioarchaeologist to unite skeletal data with cultural data in a meaningful and creative way. Above all it should depict cultures and the people who create and are shaped by them, by perceiving the stories that are held within our bones. There are other peoples' skeletons, other cultures, waiting to have their stories shared, hopefully future endeavors will reveal them.

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Appendix A

Individuals are listed in the order used for Dissertation research based on a pattern of youngest subadult, youngest female, youngest male, continuing in that manner until terminating at the oldest individual. Archaeologically assigned Individual number is followed by an ascribed name, the individual's estimated age, sex (or for Subadults an assigned sex is given in parentheses), and a family number indicating to which family in the narrative they belong.

- 58) I207- Pabas Age: 7.5 months Sex: NA (M) Family: 12
- 59) I199A- Sety Age: 15-18 years Sex: F Family: 11
- 60) I229- Yuny Age: 15-25 y Sex: M Family: 2
- 61) I078- Isi-oeer Age: 7-18 months Sex: NA (F) Family: 15
- 62) I166- Hoh Age: 18-24 y Sex: F Family: 2
- 63) I057- Thoth Age: 16-20 y Sex: M Family: 12
- 64) I060- Satia Age: 1.5 y Sex: NA (F) Family: 2
- 65) I176- Gararai Age: 18-24 y Sex: F Family: 17
- 66) I359- Geb Age: 17-23 y Sex: M Family: 14
- 67) I181- Bata Age: 1.5 y Sex: NA (M) Family: 6
- 68) I150- Mehi Age: 20-29 y Sex: F Family: 1
- 69) I009- Gengen-Wer Age: 18-24 Sex: M Family: 8
- 70) I087- Osiris Age: 2.5 y Sex: NA (M) Family: 14
- 71) I205- Kafy Age: 20-35 y Sex: F Family: 3
- 72) I121- Unnefer Age: 18-24 y Sex: M Family: 2
- 73) I188B- Layla Age: 2.5 y Sex: NA (F) Family: 1

- 74) I377- Imentet Age: 22-24 y Sex: F Family: 14
- 75) I123- Nefu Age: 18-24 y Sex: M Family: 2
- 76) I221- Benipe Age: 2.5 Sex: NA (M) Family: 1
- 77) I201- Eopei Age: 24-40 Sex: F? (F) Family: 12
- 78) I141- Aka Age: 18-24 y Sex: M Family: 7
- 79) I353- Rabiah Age: 2.5 y Sex: NA (F) Family: 16
- 80) I061- Zahra Age: 25-35 y Sex: F Family: 4
- 81) I171- Lateef Age: 19.5 y Sex: M Family: 9
- 82) I091- Anqt Age: 3.5 y Sex: NA (F) Family: 13
- 83) I068- Iihersu Age: 25-35 y Sex: F Family: 4
- 84) I278- Hotep-Ui Age: 20-24 y Sex: M Family: 17
- 85) I097- Pakhet Age: 3.5 y Sex: NA (F) Family: 14
- 86) I090- Milt Age: 25-35 y Sex: F Family: 13
- 87) I042- Unsu Age: 20-25 y Sex: M Family: 9
- 88) I180- Ja Age 3.5y Sex: NA (M) Family: 17
- 89) I100- Hunra Age: 25-35 Sex: F Family: 8
- 90) I092- Dhouti Age: 25-35 y Sex: M Family: 1
- 91) I361- Tefnut Age: 5.5 y Sex: NA (F) Family: 10
- 92) I110- Mesta Age: 25-35 y Sex: F Family: 14
- 93) I099- Nane Age: 25-35 y Sex: M Family: 6
- 94) I025- Sam-Ta Age: 6.5 y Sex: NA (M) Family: 17
- 95) I120- Nehimeou Age: 25-29 y Sex: F Family: 1
- 96) I107- Chons Age: 25-35 Sex: M Family: 2

- 97) I045- Hatmehyt Age: 6.5 y Sex: NA (F) Family: 8
- 98) I147- Ehe Age: 25-29 y Sex: F Family: 6
- 99) I131- Tebu Age: 25-35 y Sex: M Family: 14
- 100) I192- Krr Age: 6.5 y Sex: NA (M) Family: 6
- 101) I154- Akusaa Age: 25-35 y Sex: F Family: 15
- 102) I137- Ma-Mai Age: 25-35 y Sex: M Family: 1
- 103) I314- Pna Age: 7.5 y Sex: NA (F) Family: 2
- 104) I198- Ty Age: 25-35 y Sex: F Family: 2
- 105) I153- Ra Age: 25-40 y Sex: M? (M) Family: 13
- 106) I124- Ra-Men-Ankh Age: 8.5 y Sex: NA (M) Family: 16
- 107) I219- Phut Age: 25-40 y Sex: F Family: 3
- 108) I191- Apophis Age: 25-35 y Sex: M Family: 14
- 109) I129- Aper Age: 8.5 y Sex: NA (F) Family: 2
- 110) I356- Tayet Age: 25-35 y Sex: F Family: 15
- 111) I200- Sos Age: 25-40 y Sex: M Family: 13
- 112) I109- Sed Age: 9.5 y Sex: NA (M) Family: 14
- 113) I357- Nub-Em-Het Age: 25-35 y Sex: F Family: 14
- 114) I295- Mose Age: 25-35 y Sex: M Family: 15
- 115) I041- Ouei Age: 12.5 y Sex: NA (F) Family: 9
- 116) I276- Bentmut Age: 26-35 y Sex: F Family: 16
- 117) I223- Pthah-mes Age: 27-40 y Sex: M Family: 1
- 118) I111- Ruty Age: 12.5 y Sex: NA (M) Family: 14
- 119) I329- Weret Age: 30-50 y Sex: F Family: 10

- 120) I230- Har-Bai Age: 30-45 y Sex: M Family: 17
- 121) I149- Kek-T Age: 12.5 y Sex: NA (F) Family: 15
- 122) I362- Shentayet Age: 30-39 y Sex: F Family: 10
- 123) I233- Enna Age: 30-50 y Sex: M Family: 17
- 124) I331- Iah Age: 12.5 y Sex: NA (M) Family: 14
- 125) I012- Nena Age: 31-51 y Sex: F Family: 15
- 126) I367- Ouonsou Age: 34-68 y Sex: M Family: 14
- 127) I159- Seteta Age: 13.5-14.5 y Sex: NA (F) Family: 6
- 128) I017- Ranpu Age: 35-40 y Sex: F Family: 1
- 129) I039- Amenemef Age: 35+ Sex: M Family: 5
- 130) I170- Ket-Ket Age: 14.5 y Sex: NA (M) Family: 17
- 131) I034- Hapentmat Age: 35-45 y Sex: F Family: 17
- 132) I059- Bakennifi Age: 35-40 y Sex: M Family: 12
- 133) I051- Kit Age: 15.5 y Sex: NA (F) Family 4
- 134) I093- Pet-Amen Age: 35-50 y Sex: F Family: 2
- 135) I071- Sobek Age: 35-45 y Sex: M Family: 8
- 136) I114- Merit Age: 35-45 y Sex: F Family: 5
- 137) I102- Iritis Age: 35-45 y Sex: M Family: 7
- 138) I188A- Buto Age: 35-45 y Sex: F Family: 1
- 139) I106- Senbu Age: 35-45 y Sex: M Family: 7
- 140) I345- Schent Age: 36-45 y Sex: F Family: 2
- 141) I194- Aiemapt Age: 35-50 y Sex: M Family: 16
- 142) I015- Anat Age: 40-50 y Sex: F Family: 14

- 143) I117- Imhotep Age: 35-50 y Sex: M Family: 1
- 144) I028- Sekhmet Age: 40-50 y Sex: F Family: 8
- 145) I317- Ba-Akh Age: 35-45 y Sex: M Family: 10
- 146) I043- Renenet Age: 40+ y Sex: F Family: 8
- 147) I344- Rahmose Age: 36-50 y Sex: M Family: 11
- 148) I069A- Maya Age: 40-49 y Sex: F Family: 1
- 149) I056- Efankh Age: 40+ y Sex: M Family: 4
- 150) I127- Heket Age: 40-45 y Sex: F Family: 6
- 151) I216- Itchut Age: 40-60 y Sex: M Family: 3
- 152) I175- Nehemtawy Age: 40-50 y Sex: F Family: 9
- 153) I267- Khnum Age: 45-50 y Sex: M Family: 15
- 154) I204- Dsjot-Khons Age: 40-60 y Sex: F Family: 17
- 155) I227- Achen Age: 40-60 y Sex: F Family: 7
- 156) I134- Ta-ei Age: 50+ y Sex: F Family: 2
- 157) 358- Ruba-Ta Age: 50+ y Sex: F Family: 14
- 158) An amalgam- Maatnofret (F) Family: 2
- 159) An amalgam- Fai-Nofre-Bai (M) Family: 3
- 160) An amalgam- Pasupti (M) Family: 17

Appendix B

A list describing individual's family groups and occupations.

Family 1: Imhotep (117): A *swnw*, or doctor, under General Rahmose. Husband of Maya; brother of Ranpu; father of Mehi, Buto, Nehimeou; father-in-law to Pthah-mes; grandfather of Layla; master to Dhouti, Ma-Mai, and Benipe.

Maya (69A): Former weaver slave married to wealthy doctor Imhotep; step-mother to Mehi, Buto, Nehimeou; sister-in-law to Ranpu; sister to Merit; step-mother-in-law to Pthah-mes; step-grandmother to Layla.

Ranpu (017): Sister to Imhotep; sister-in-law to Maya; aunt to Buto, Mehi, and Nehimeou; aunt-in-law to Pthah-mes; great-aunt to Layla; lover to Aiemapt. Court lady.

Buto (188A): Eldest daughter of Imhotep; step-daughter to Maya; sister to Mehi and Nehimeou; wife of Pthah-mes; mother of Layla; niece of Ranpu.

Mehi (150): Second daughter of Imhotep; step-daughter of Maya, niece of Ranpu; sister of Buto and Nehimeou; aunt to Layla, sister-in-law to Pthah-mes, lover of Kaya. Court lady.

Nehimeou (120): Youngest daughter of Imhotep; step-daughter of Maya; ex-wife of Ipuy; lover of Dhouti; sister of Buto and Mehi; aunt to Layla; friend of Sety; sister-in-law of Pthah-mes; niece of Ranpu. Court lady.

Pthah-mes (223): Scribe for the Keeper of the Bulls. Husband of Buto; father of Layla; son-in-law of Imhotep and Maya; brother-in-law of Mehi and Nehimeou; nephew-in-law of Ranpu.

Layla (188B): Daughter of Buto and Pthah-mes; granddaughter of Imhotep; step-granddaughter of Maya; grandniece of Ranpu; niece of Mehi and Nehimeou.

Dhouti (092): Slave of Imhotep; lover of Nehimeou.

Ma-mai (137): Slave of Imhotep; widowed husband of Itjai; father of Benipe.

Benipe (221): Slave of Imhotep; son of Ma-mai and Itjai.

Family 2: Chons (107): Painter. Ex-husband of Schent; husband of Pet-amen; father with Schent of Unnefer, Hoh, Maatnofret, and Pna; father with Pet-amen of Nyn; step-father of Nefu; father-in-law of Yuny; son of Ta-ei; grandfather of Satia.

Schent (345): Rekhmet (wise-woman). Ex-wife of Chons; mother of Unnefer, Hoh, Maatnofret, Pna; mother-in-law of Yuny; owner and freer of Ty and Aper; friend of Achen; daughter-in-law of Ta-ei; grandmother of Satia.

Ta-ei (134): Mother of Chons; mother-in-law of Schent and Pet-amen; grandmother of Unnefer, Hoh, Maatnofret, Pna, and Nyn; grandmother-in-law of Yuny; great-grandmother of Satia.

Unnefer (121): Eldest son of Chons and Schent; grandson of Ta-ei; brother of Hoh, Maatnofret, and Pna; half-brother of Nyn; step-brother of Nefu; brother-in-law of Yuny; step-son of Pet-amen; lover of Ty; father of Satia.

Hoh (166): Eldest daughter of Chons and Schent; granddaughter of Ta-ei; sister of Unnefer, Maatnofret, and Pna; half-sister to Nyn; step-sister to Nefu; step-daughter of Pet-amen, wife of Yuny; aunt of Satia.

Maatnofret (amalgam): Daughter of Chons and Schent; granddaughter of Ta-ei; sister of Unnefer; Hoh, and Pna; half-sister of Nyn; step-sister of Nefu; step-daughter of Pet-Amen; apprentice of Achen; friend of Hotep-ui and Thoth; aunt of Satia.

Pna (314): Youngest daughter of Chons and Schent; granddaughter of Ta-ei; sister of Unnefer, Hoh, and Maatnofret; aunt of Satia.

Yuny (229): Metal-smith (Specializes in gold). Husband of Hoh; son-in-law of Chons and Schent; grandson-in-law of Ta-ei; brother-in-law of Unnefer, Maatnofret, Pna, Nefu, and Nyn; uncle-in-law of Satia.

Ty (198): Slave of Efankh, bought and freed by Schent; lover of Unnefer; mother of Aper and Satia.

Aper (129): Daughter of Ty and Efankh.

Satia (060): Daughter of Ty and Unnefer; granddaughter of Chons and Schent; niece of Hoh, Maatnofret, Pna, Nefu, and Nyn.

Pet-Amen (093): Second wife of Chons; mother of Nefu and Nyn; step-mother of Unnefer, Hoh, Maatnofret, Pna; step-mother-in-law of Yuny; sister of Taho; aunt of Ra-to.

Family 3: Itchut (216): Stonemason. Husband of Kafy; brother-in-law to Phut and Fai-Nofre-Bai.

Kafy (205): Weaver. Wife of Itchut; sister of Phut; sister-in-law to Fai-Nofre-Bai; aunt of Tayet.

Phut (219): Weaver. Sister of Kafy; wife of Fai-Nofre-Bai; sister-in-law of Itchut; mother of Tayet.

Fai-nofre-bai (amalgam): Stonemason. Husband of Phut; brother-in-law of Kafy; father of Tayet.

Family 4: Efankh (056): Donkey driver and tomb-robber. Husband of Iihersu; brother-in-law of Zahra; brother-in-law of Baut; father of Kit with Iihersu; father of Aper with Ty; owner of Ty.

Iihersu (068): Efankh's wife; sister of Baut; sister-in-law of Zahra; mother of Kit.

Baut (023, not on individual sample list but chosen to represent Zahra's husband): Laundry-man. Iihersu's brother; Zahra's husband; Efankh's brother-in-law; uncle of Kit.

Zahra (061): Wife of Baut; sister-in-law of Iihersu and Efankh; aunt of Kit.

Kit (051): Daughter of Efankh and Iihersu; niece of Baut and Zahra.

Family 5: Amenemef (039): Former priest of Amen and tax collector for the temple, scribe for the Aten Temple. Owner of Merit; obsessed with Maya.

Merit (114): Weaver slave of Amenemef; sister of Maya.

Family 6: Nane (099): Fisherman. Husband of Ehe; son-in-law of Heket; father of Setata, Krr, and Bata.

Ehe (147): Wife of Nane; daughter of Heket; mother of Setata, Krr, and Bata.

Heket (127): Mother of Ehe; mother-in-law of Nane; grandmother of Setata, Krr, and Bata.

Setata (159): Eldest daughter of Nane and Ehe; sister of Krr and Bata; granddaughter of Heket.

Krr (192): Son of Nane and Ehe; brother of Setata and Bata; grandson of Heket.

Bata (181): Youngest son of Nane and Ehe; grandson of Heket; brother of Setata and Krr.

Family 7: Achen (227): Rekhmet or wise-woman. Mother of Senbu and Iritis.

Senbu (106): Laundry-man. Eldest son of Achen; brother of Iritis; friend of Tebu.

Iritis (102): Laundry-man. Son of Achen; brother of Senbu.

Family 8: Sobek (071): Boat captain. Husband of Renenet; father of Aka and Gungen-wer; father-in-law of Hunra; grandfather of Hatmehyt; owner of Sekhmet; Nehemtawy's brother; uncle of Unsu and Lateef; great-uncle of Ouei.

Renenet (043): Sobek's wife; mother of Aka and Gungen-wer, mother-in-law of Hunra; grandmother of Hatmehyt; sister-in-law to Nehemtawy; aunt-in-law of Unsu and Lateef; great-aunt of Ouei.

Aka (141): Sailor. Eldest son of Sobek and Renenet; husband of Hunra; father of Hatmehyt; nephew of Nehemtawy; brother of Gungen-wer; cousin of Unsu and Lateef; 2nd cousin of Ouei.

Hunra (100): Wife of Aka; daughter-in-law of Sobek and Renenet; sister-in-law of Gungen-wer; mother of Hatmehyt; niece-in-law to Nehemtawy; cousin-in-law to Unsu, Lateef, and 2nd cousin Ouei.

Gungen-wer (009): Sailor. Son of Sobek and Renenet; brother of Aka; brother-in-law of Hunra; uncle of Hatmehyt; nephew of Nehemtawy; cousin to Unsu and Lateef; 2nd cousin of Ouei.

Hatmehyt (045): Daughter of Aka and Hunra; granddaughter of Sobek and Renenet; niece of Gungen-wer; great-niece of Nehemtawy; cousin of Unsu, Lateef; and 2nd cousin of Ouei.

Sekhmet (028): Slave of Sobek.

Family 9: Nehemtawy (175): Bead-maker. Mother of Unsu and Lateef; grandmother of Ouei; older sister of Sobek; sister-in-law of Renenet; aunt of Aka and Gungen-wer; aunt-in-law of Hunra; great-aunt of Hatmehyt.

Unsu (042): Sailor. Widower father of Ouei; son of Nehemtawy; brother of Lateef; nephew of Sobek and Renenet; cousin of Aka and Gungen-wer; cousin-in-law to Hunra; 2nd cousin to Hatmehyt.

Lateef (171): Sailor. Son of Nehemtawy; brother of Unsu; uncle of Ouei; nephew of Sobek and Renenet; cousin of Aka and Gungen-wer; cousin-in-law to Hunra; 2nd cousin to Hatmehyt.

Ouei (041): Unsu's daughter; granddaughter of Nehemtawy; niece of Lateef; cousin of Aka, Hunra, Gungen-wer, and 2nd cousin of Hatmehyt.

Family 10: Ba-akh (317): Wab priest of Sekhmet and Keeper of Cattle. Husband of Weret; brother-in-law of Shentayet; uncle of Tefnut.

Weret (329): Retired dancer. Wife of Ba-akh; sister of Shentayet; aunt of Tefnut.

Shentayet (362): Dancer. Sister of Weret; sister-in-law of Ba-akh; mother of Tefnut; lover of Aiemapt.

Tefnut (361): Daughter of Shentayet and Aiemapt; niece of Ba-akh and Weret.

Family 11: Rahmose (344): Unguent preparer for Meketaten. Lover of Sety; married to woman still in Waset.

Sety (199A): Court lady. Lover of Rahmose. Friend of Nehimeou.

Family 12: Bakennifi (059): Soldier. Husband of Eopei; father of Thoth and Pabas.

Eopei (201): Bakennifi's wife; mother of Thoth and Pabas. Sister of Aiemapt.

Thoth (057): Messenger. Son of Bakennifi and Taia; brother of Pabas. Friend of Maatnofret and Hotep-Ui. Nephew of Aiemapt and Bentmut.

Pabas (207): Son of Bakennifi and Taia; brother of Thoth. Nephew of Aiemapt and Bentmut.

Family 13: Ra (153): Baker. Older brother of Sos; brother-in-law of Milt; uncle of Anqt.

Sos (200): Baker. Brother of Ra; husband of Milt; father of Anqt.

Milt (090): Sos's wife; Ra's sister-in-law; Anqt's mother.

Anqt (091): Daughter of Sos and Milt; niece of Ra.

Family 14: Ouonsou (367): Donkey owner/digger/workman by day, leader of tomb robbers.

Husband of Anat; son of Ruba-Ta; father of Tebu, Apophis, Mesta, and Imentet; father-in-law of Nephthys and Tayet; grandfather of Geb, Iah, Pakhet, Ruty, Sed, and Osiris.

Ruba-ta (358): Professional mourner and scout for tomb robbers. Ouonsou's mother; mother-in-law of Anat; grandmother of Tebu, Apophis, Mesta, and Imentet; grandmother-in-law of Neb-Em-Het and Tayet; great-grandmother of Geb, Iah, Pakhet, Ruty, Sed, and Osiris.

Anat (015): Professional mourner and scout for tomb robbers. Wife of Ouonsou, daughter-in-law of Ruba-ta; mother of Tebu, Apophis, Mesta, and Imentet; mother-in-law of Neb-Em-Het and Tayet; grandmother of Geb, Iah, Pakhet, Ruty, Sed, and Osiris.

Tebu (131): Laundry man and his father wants him to be a tomb robber. Son of Ouonsou and Anat; grandson of Ruba-ta; brother to Apophis, Mesta, and Imentet; married to Neb-Em-Het; brother-in-law to Tayet; father of Geb, Iah, and Pakhet; uncle of Ruty, Sed, and Osiris; friend of Senbu.

Nub-Em-Het (357): Mourner. Wife of Tebu; daughter-in-law of Ouonsou and Anat; granddaughter-in-law of Ruba-ta; sister-in-law of Apophis, Tayet, Mesta, and Imentet; mother of Geb, Iah, and Pakhet; aunt of Ruty, Sed, and Osiris.

Tayet (356): Weaver. Daughter of Phut and Fai-Nofre-Bai; niece of Kafy and Itchut; wife of Apophis; daughter-in-law of Ouonsou and Anat; granddaughter-in-law of Ruba-ta; sister-in-law of Tebu, Mesta, Neb-Em-Het, and Imentet; mother of Ruty, Sed, and Osiris; aunt of Geb, Iah, and Pakhet.

Mesta (110): Mourner. Ouonsou and Anat's eldest daughter; granddaughter of Ruba-ta; sister of Tebu, Apophis, Imentet; sister-in-law of Neb-Em-Het and Tayet; aunt of Geb, Iah, Pakhet, Ruty, Sed, and Osiris.

Apophis (191): Worker and tomb robber. Son of Ouonsou and Anat; grandson of Ruba-ta; brother of Tebu, Mesta, and Imentet; husband of Tayet; brother-in-law of Neb-Em-Het; father of Ruty, Sed, and Osiris; uncle of Geb, Iah, Pakhet.

Imentet (377): Mourner. Ouonsou and Anat's daughter; granddaughter of Ruba-ta; sister of Tebu, Apophis, and Mesta; sister-in-law of Neb-Em-Het and Tayet; aunt of Geb, Iah, Pakhet, Ruty, Sed, and Osiris.

Geb (359): Laundry man and wants to be a tomb robber. Neb-Em-Het and Tebu's eldest son; brother of Iah and Pakhet; cousin of Ruty, Sed, and Osiris; grandson of Ouonsou and Anat; great-grandson of Ruba-ta; nephew of Apophis, Mesta, Tayet, and Imentet.

Iah (331): Laundry man. Neb-Em-Het and Tebu's son; brother of Geb and Pakhet; cousin of Ruty, Sed, and Osiris; grandson of Ouonsou and Anat; great-grandson of Ruba-ta; nephew of Apophis, Mesta, Tayet, and Imentet.

Pakhet (097): Neb-Em-Het and Tebu's youngest daughter; sister of Geb and Pakhet; cousin of Ruty, Sed, and Osiris; granddaughter of Ouonsou and Anat; great-granddaughter of Ruba-ta; niece of Apophis, Mesta, Tayet, and Imentet.

Ruty (111): Worker and tomb robber. Eldest son of Apophis and Tayet; grandson of Ouonsou and Anat; great-grandson of Ruba-ta; nephew of Tebu, Mesta, Neb-Em-Het, and Imentet; brother of Sed and Osiris; cousin of Geb, Iah, and Pakhet.

Sed (109): Worker and tomb robber. Son of Apophis and Tayet; grandson of Ouonsou and Anat; great-grandson of Ruba-ta; nephew of Tebu, Mesta, Neb-Em-Het, and Imentet; brother of Ruty and Osiris; cousin of Geb, Iah, and Pakhet.

Osiris (087): Son of Apophis and Tayet; grandson of Ouonsou and Anat; great-grandson of Ruba-ta; nephew of Tebu, Mesta, Neb-Em-Het, and Imentet; brother of Ruty and Sed; cousin of Geb, Iah, and Pakhet.

Family 15: Khnum (267): Potter. Husband of Nena; father of Akusaa and Kek-t; father-in-law of Mose; grandfather of Isi-oe; brother-in-law of Aiemapt; brother of Bentmut; uncle to Ra-men-ankh and Rabiah.

Nena (012): Basket and mat maker. Wife of Khnum; mother of Akusaa and Kek-t; mother-in-law of Mose; grandmother of Isi-oe; sister-in-law of Aiemapt and Bentmut; aunt of Ra-men-ankh and Rabiah.

Akusaa (154): Basket and mat maker. Daughter of Khnum and Nena; wife of Mose; sister of Kek-t; mother of Isi-oyer, niece of Aiemapt and Bentmut; cousin of Ra-men-ankh and Rabiah.

Kek-t (149): Basket and mat maker. Daughter of Khnum and Nena; sister of Akusaa; aunt of Isi-oyer; niece of Aiemapt and Bentmut; aunt of Ra-men-ankh and Rabiah.

Mose (295): Potter. Husband of Akusaa; son-in-law of Khnum and Nena; brother-in-law of Kek-t; father of Isi-oyer; nephew-in-law of Aiemapt and Bentmut; cousin-in-law of Ra-men-ankh and Rabiah.

Isi-oyer (078): Akusaa and Mose's daughter; Khnum and Nena's granddaughter; niece of Kek-t; great-niece of Aiemapt and Bentmut; cousin of Ra-men-ankh and Rabiah.

Family 16: Aiemapt (194): Woodcarver. Brother of Eopei; brother-in-law of Khnum; husband of Bentmut; lover of Shentayet and Ranpu; father of Ra-men-ankh and Rabiah; uncle of Thoth and Pabas.

Bentmut (276): Wife of Aiemapt; sister of Khnum; sister-in-law of Bakennifi and Eopei; aunt-in-law of Thoth and Pabas; mother of Ra-men-ankh and Rabiah

Ra-men-ankh (124): Daughter of Aiemapt and Bentmut; niece of Khnum and Nena; cousin of Akusaa, Mose, and Kek-t; sister of Rabiah.

Rabiah (353): Daughter of Aiemapt and Bentmut; niece of Khnum and Nena; cousin of Akusaa, Mose, and Kek-t; sister of Ra-men-ankh.

Family 17: Enna (233): Workman. Husband of Hapentmat; brother-in-law of Khati; father of Gararai, Sam-ta, and Hotep-Ui; father-in-law of Har-bai; grandfather of Ja; step-grandfather of Ket-ket.

Hapentmat (034): Wife of Enna; sister of Khati; mother of Gararai, Sam-ta, and Hotep-Ui; mother-in-law of Har-bai; grandmother of Ja; step-grandmother of Ket-ket.

Pasupti (amalgam): Medjay officer. Brother of Hapentmat; brother-in-law of Enna; uncle of Gararai, Sam-ta, and Hotep-Ui; uncle-in-law of Har-bai; great-uncle of Ja; step-uncle of Ket-ket.

Hotep-Ui (278): Medjay officer. Eldest son of Enna and Hapentmat; nephew of Khati; brother of Sam-ta and Gararai; brother-in-law of Har-bai; uncle of Ja; step-uncle of Ket-ket; friend of Maatnofret and Thoth.

Gararai (176): Dancer. Daughter of Enna and Hapentmat; niece of Khati; second wife of Har-bai; daughter-in-law of Dsjot-khons; mother of Ja; step-mother of Ket-ket; sister of Hotep-Ui and Sam-ta.

Sam-ta (025): Enna and Hapentmat's youngest son; brother of Gararai and Hotep-Ui; nephew of Khati; brother-in-law of Har-bai; uncle of Ja; step-uncle of Ket-ket.

Har-bai (230): Musician. Son of Dsjot-khons; husband of Gararai; brother-in-law of Hotep-Ui and Sam-ta; father of Ket-ket and Ja.

Dsjot-khons (057): Beer brewer. Widowed mother of Har-bai; mother-in-law of Gararai; grandmother of Ket-ket and Ja.

Ket-ket (170): Statue-maker's apprentice. Son of Har-bai and his first wife; step-son of Gararai; grandson of Dsjot-khons; half-brother of Ja; step-grandson of Enna and Hapentmat; step-nephew of Hotep-ui and Sam-ta.

Ja (180): Son of Har-bai and Gararai; half-brother of Ket-ket; grandson of Enna, Hapentmat, and Dsjot-khons; nephew of Hotep-ui and Sam-ta.

Appendix C

Osteobiographical Profiles

I207: Pabas

Assigned birth and death: 1351-1350 *Assigned Family: 12*

1) Individual 207 was most likely born at Akhetaten since the city was built and occupied for only seventeen to twenty years, it was decided that any individual buried at Akhetaten eighteen years or older were born somewhere else in the kingdom of Egypt. For the sake of this dissertation anyone seventeen years old or younger, with the exceptions of a few individuals, will be considered as having been born at the city, with the knowledge that there was a likelihood that at least some of these young individuals could have been born elsewhere. Anyone over the age of eighteen is portrayed as having been born outside of the city of Akhetaten.

2) Since estimation of sex cannot be made for juveniles, for the sake of the dissertation, sexes will be assigned. There are twenty-six unsexed children in the sample of one hundred individuals, thirteen will be given the designation of female and thirteen will be designated male randomly.

3) The Osteological Paradox (Wood *et al.* 1992), argues that it is problematic to draw conclusions about the health of an archaeological population based on the individuals recovered from graveyards and burials. It is stated that: “three fundamental conceptual problems confound the interpretation of [determining a population’s health based on statistics of people recovered in graves and burials]: demographic nonstationarity, selective mortality, and unmeasured, individual-level heterogeneity in the risks of disease and death” (Wood *et al.* 1992).

- 4) The act of childbirth in art and stories has a woman squatting, sometimes on birth bricks, one of which was found with pictures of protective deities and a mother with her child (Robins 1993; Mertz 2008).
- 5) Giving birth could also take place on a special chair (Mertz 2008).
- 6) Pregnant women were mostly portrayed as being attended to by people (sometimes goddesses), mainly women, in various helpful positions such as standing at the shoulders or waiting to take hold of the baby (Janssen and Janssen, 2007; Szpakowska 2008; Mertz 2008; Robins 1993).
- 7) The hieroglyphic sign for “to give birth” shows a female figure squatting as a baby’s head and arms emerge from her (Mertz 2008).
- 8) In the Tales of Wonder found on the Westcar Papyrus, four goddesses and a god: Isis, Meskhenet, Nephthys, Hekat, and Khnum, all disguised as dancing girls and their porter, help a woman give birth to the three children she is carrying. Isis takes a position in front of her, Nephthys behind her, and Hekat helping with the birth, mainly by reciting spells of healing and protection (Mertz 2008).
- 9) From depictions, it appears that some women gave birth in a room within their house, but some gave birth while in a garden bower or pavilion, possibly located on the roof of the home, decorated with papyrus and convolvulus plants (Janssen and Janssen 2007).
- 10) It has been suggested that boxed in platforms found in the front rooms of houses at Akhetaten and Deir el Medina were used for women to give birth, though most scholars believe that these areas probably were used for some other purpose, such as household shrines (Pinch 1983; Koltsida 2007; Stevens 2009).

11) If the child came from a poor family the mother most likely had the child in a separate room or on the roof with her female family and/or friends helping her through the process. If she was wealthier and/or it was a difficult birth, the Egyptians also had access to health professionals, either priests or doctors, and medical papyri dedicated to gynecology, obstetrics, and pediatrics that could have assisted during the birth (Mertz 2008; Janssen and Janssen 2007; Pinch 1983).

12) They called upon both magic and medicine to ensure safe deliveries (Szpakowska 2008; Mertz 2008).

13) There were three main types of healers in ancient Egypt: the *swnw*, which we would consider the most like a traditional doctor; the *wab* priest of Sekhmet (goddess of plagues) who may have acted as both a veterinarian and public health doctor; and the *sau* or magician (Nunn 2006). While priests may have given assistance freely or for the cost of sacrifices, *swnw* and *sau* may have expected patients to recompense them through barter, as seen in one letter from Deir el Medina during the New Kingdom where a father listed items given to a doctor and wetnurse for services rendered (MsDowell 1999).

14) In the story from the Tales of Wonder, the husband pays the deities for their help with a bag of grain for making beer, so it's possible payments or gifts were given to those involved (Mertz 2008).

15) Individual 207 had developed twenty deciduous teeth fully and also had seven permanent tooth cusps that were used to estimate age. Individuals, especially children, recovered from the South Tombs Cemetery have been found to have shorter bone lengths than what was normal for people recovered from comparative samples of the New Kingdom in Egypt, thus teeth were used to age children when possible (Amarna Osteological Recording Standards).

16) There is an Amarna standard of bone length developed by recording lengths of Akhetaten citizens' long bones and comparing the average lengths to the more reliable dental age of each individual and then this standard has been used for estimation of age in individuals where no teeth were recovered to allow for dental aging (Amarna Database).

17) Individual 207 had bilateral cribra orbitalia, the pitting of the bone of the eye orbits that is a symptom of anemia (and possibly linked with illnesses such as malaria) (Smith-Guzman 2015).

18) Of the individuals recovered from Akhetaten's South Tomb Cemetery, 42% have Cribra Orbitalia, 2.9% have Porotic Hyperostosis, and 5.2% have signs of Scurvy (Kemp *et al.* 2016).

19) Cribra orbitalia is "a lesion located in the orbital roof, usually in the anterolateral portion; 90% are bilateral... cribra orbitalia has a virtually identical morphology as well as demographic features and associations as Porotic Hyperostosis. Cribra orbitalia is usually more common in a population and is therefore regarded as a more sensitive marker for whatever [is] the underlying stimulating influence (anemia?)" (Mann and Hunt 2012).

20) The Fairgrieve and Molto (2000) study of cribra orbitalia at the Dakleh Oasis, suggest that the likelihood that cribra orbitalia is the result of several factors acting synergistically. Some of the possible contributing factors include: "parasitic infestations (e.g., schistosomiasis), infectious diseases (e.g., one of the malaras), potentially low bioavailability of iron in the diet, and even genetic anemias" (Fairgrieve and Molto 2000). In past populations, such as the skeletal sample of the Pharaonic and Roman Empire cemeteries show that infants primarily experience cribra orbitalia and one of the contributing factors might be diarrheal diseases. "The etiology of infant gastrointestinal disorders is complex and multifactorial, involving...malnutrition and infection. The infectious agents are often endogenous although in some environments (e.g. endemic malaria) exogenous sources could play a significant role" (Fairgrieve and Molto 2000). Another

“potential cause of the cribra orbitalia at Dakleh... is... not only iron deficiency, but also folic acid and vitamin C deficiencies” (Fairgrieve and Molto 2000).

21) If infants were given honey when being given complimentary feeding or during weaning they could have been exposed to *Clostridium botulinum* spores. “This saprophyte colonizes the infant’s intestinal tract and forms a botulin toxin resulting in botulism... a severe and often fatal form of food poisoning” (Fairgrieve and Molto 2000).

22) Cribra orbitalia “may be associated with anemias that lead to diploic bone hypercellularity and hypoplasia, such as those caused by anemias, protein deficiency, and anemia of endocrine disorders” (Rivera and Lahr 2017).

23) “The lesions paleopathologists identify as cribra orbitalia can be attributed to a greater range of causes than porotic hyperostosis, and we argue that the subperiosteal bleeding associated with a codeficiency of vitamin C and B12... The hematological evidence... suggests that a vitamin B12 deficient diet is much more likely to be the key nutritional component in the set of interacting variables responsible for both porotic hyperostosis and many cases of cribra orbitalia” (Walker *et al.* 2009).

24) Touzeau *et al.* (2014) performed a study of stable isotopes from Egyptian mummies from throughout the history of ancient Egyptian culture and found: “calculations indicate that animal protein represents $29 \pm 19\%$ of protein in the diet. This proportion is similar to that of 32% of ovo-lacto-vegetarians”. The diet primarily consisted of (in order of most consumed to least): C3 plants, vegetables, fruits, C4 plants, and cereals. Studies of hair show nitrogen levels that suggest, “some Egyptians fed on freshwater products (freshwater plants, crayfish, or fish low in the aquatic food chain compared to perches)” (Touzeau *et al.* 2014). Differences in isotope readings from children “may reflect true differences in diet at different periods in life, e.g.

consumption of specific foods during childhood”(Touzeau *et al.* 2014). Isotopic analysis also revealed that until the Roman period “ancient Egyptians were consuming food produced exclusively within the Nile Valley” (Touzeau *et al.* 2014). Since these studies rely almost exclusively on mummified individuals, caution is recommended, the isotopic analysis may reflect eating habits of a portion of the population, but does not necessarily represent the diets of all ancient Egyptians of different status, age, or sex over the course of the entirety of the ancient Egyptian culture.

25) Anemia can occur due to three “basic mechanisms: blood loss, deficient erythropoiesis {production of red blood cells}, or excessive hemolysis {Red blood cell destruction}” (Porter and Kaplan 2011). Symptoms of anemia include: “weakness, seeing spots, fatigue, drowsiness, angina, syncope, and dyspnea {shortness of breath} on exertion... Vertigo, headache, pulsatile tinnitus, amenorrhea, loss of libido, and GI complaints may also occur. Heart failure or shock can develop in patients with severe tissue hypoxia or hypovolemia” (Porter and Kaplan 2011). Medical papyri like the Ebers papyrus have terms related to weariness (*wered*) and weakness (? *Amed*,? *shes*) possibly fluttering (? *Nepa*) or dancing of the heart (*rut*). The Chester Beatty and Ebers papyri have treatments for the heart. “Recognition of amenorrhea is clearly defined in Ebers 833: ‘If you examine a woman who has spent many years without her menstruation (hesmen) coming. She spits out something like *hebeb*. Her belly is like that which is on fire. It ceases when she has vomited. Then you shall say concerning it/her: it is a raising up (*akhet*) of blood in her uterus’. A complex but innocuous remedy is then proscribed to be drunk for four days” (Nunn 1996). B12 deficiency symptoms can include: “various symptoms including weight loss and poorly localized abdominal pain, may occur. Glossitis, usually described as burning of the tongue, is uncommon. Neurologic symptoms... decreased position and vibratory sensation in

the lower extremities... mild to moderate weakness and hyporeflexia (below normal and absent reflexes)... extensor plantar responses... and ataxia (poor/limited coordination). Some patients are also irritable and mildly depressed. Paranoia, delirium, confusion... and at times, postural hypotension may occur in advanced cases” (Porter and Kaplan 2011). There are different treatments listed for many of these symptoms in the medical papyri (Strouhal 2014; Nunn 1996).

26) Individual 207 had pitting, as well as new bone formation, on the rami of the mandible, the right maxilla, both zygomatics and temporals, the lateral portion of the sphenoid, and the endocranial surface of the occipital that denote scurvy (Amarna Database).

27) The signs of scurvy visible on the skeleton are usually bone formation disruption, with a porous and coarse or irregular manifestation. On a living person afflicted with scurvy, there will be pinpoint sized areas of bleeding that expand to blotches and bruises on the skin (Porter *et al.* 2011).

28) Because of small bleeds behind the eyes, there can sometimes be a bulging appearance and bleeding under the skull causes the hair to grow in with a corkscrew curl (Fain 2005).

29) The hemorrhaging from scurvy can impinge on nerves and cause paralysis or result in a blood clot that causes a pulmonary embolism (Fain 2005).

30) Scurvy can cause “red, swollen, often ulcerated, infected gums” (Aufderheide and Rodriguez-Martin 1998).

31) Acute scurvy can lead to infection, “most commonly pneumonia” (Aufderheide and Rodriguez-Martin 1998).

32) Other symptoms I207 would have suffered from in life: “include failure to gain weight, loss of appetite, and irritability. Severe pain in the thighs and legs is a striking feature of infantile

scurvy and can result in pseudo paralysis, subperiosteal hematomas may be palpable as painful swellings of the diaphyseal shafts” (Fain 2005).

33) Scurvy can also lead to gastrointestinal, gynecological, and cerebral bleeding (Porter *et al.* 2011).

34) Scurvy can also cause fatigue, depression, and connective tissue defects (Fain 2005).

35) The severity of scurvy can be increased by inflammatory disorders such as diarrhea, low production of stomach acid, excess thyroid hormone, “iron deficiency, cold or heat stress” (Porter *et al.* 2011).

36) Infants need at least 50 mg of ascorbic acid (vitamin C), and “breast milk contains enough vitamin C to meet the infant’s needs, provided the mother [or wet nurse] does not have vitamin C deficiency (Fain 2005).

37) I207 was at the age when she/he was most likely being breastfed and also beginning supplemental or “complimentary feeding” (Sellen 2006). There are two scenarios that could have occurred for a child this young to experience scurvy: 1) The woman breastfeeding the child had scurvy or 2) The child was weaned from breast milk early and the foods it was being fed did not contain the required vitamin C amount.

38) I207 would have displayed some or all of the symptoms mentioned, and the people caring for the baby would have turned to the medical and magical knowledge of their culture to treat the illness (Nunn 1996)

39) A few medical papyri have survived and been translated including *The Book for Mother and Child*, which deals with gynecological and childhood illnesses. One of the diseases named and described is *temyt*, which “was felt in the bones and blood vessels, could cause abdominal pain, and was to be driven out of the head and all the limbs”(Strouhal *et al.* 2014).

There is another illness mentioned called *baa* that the Egyptians believed the child contracted from the mother's milk: "it exhausted him, caused his lips to turn blue, and made his knees buckle (made walking impossible)" (Strouhal *et al.* 2014).

Egyptian doctors had a variety of treatments for both illnesses: the main ones for *temyt* were magical incantations or amulets and for *baa* there were actual prescriptions for the mother to make herself, such as a drink using fresh dates, sycamore fruit, fibers from the *debyt* plant, hemp, and part of the castor oil plant (Strouhal *et al.* 2014).

40) The mother and child were threatened predominantly by various infections, puerperal fever in mothers and intestinal infections in the newborns, which were relatively frequent considering the poor hygienic conditions" (Strouhal *et al.* 2014). The Egyptians interpreted the dangers faced by women and children as being caused by supernatural forces. Since infants born during this period were considered incredibly vulnerable to demons, vengeful ghosts, and other dangerous supernatural phenomenon, medical treatment could also consist of numerous prayers, charms, and spells to protect babies from harm (Mertz 2009).

41) In several homes of the non-elites at Akhetaten, depictions of the god Bes and the goddess Taweret were painted on walls, made into jewelry or small statues for worship, because they were protectors of women in childbirth and children (Kemp 2012).

42) Children in ancient Egyptian culture were seen as a blessing, they were loved for their own sake but they also were expected to look after aged parents and ensure the sacred rites and offerings were performed for the dead so that they might have a happy existence in the Duat- the afterlife (Meskell 2002).

43) After I207 died at 7.5 months old, the child was buried in a supine, extended position in the Lower Site of the South Tombs Cemetery (Amarna Database).

44) The child was first wrapped in textile and then a gereed matting coffin that was too big for her/him (Amarna Database).

45) Linen was the main fabric material used to make clothing and other articles, such as blankets, shrouds, and towels. Linen is made from the plant flax, which was cultivated by a largely male agricultural workforce who would plant the flax during the winter months (Szpakowska 2008).

The flax was then processed into thread, which could vary from coarse to fine in quality, and was woven into various articles on looms by female workers (Szpakowska 2008, Kemp 2012).

Ushabti models of weavers found in the tomb of Meketre (Hassaan 2016) and tomb paintings show the processing of flax into thread and weaving all taking place in the same room. Evidence at Akhetaten shows the locations of the workshops or homes where linen production took place are scarce near the palaces and temples, but around the “housing areas... they are liberally and fairly evenly scattered. A particular concentration appears at the Workman’s Village...

According to texts of the New Kingdom, temples and palaces owned textile workers, who seem to have been [mainly] slaves. [The fact that at Akhetaten the distributions of weavers is in the houses and Workman’s Village]...implies massive delegation of responsibility from state to officials, who... were locked into supply agreements with the state... to deliver a certain quota of pieces of cloth... ‘In a sense, the Amarna suburbs appear as a vast but loosely structured factory serving the state’” (Kemp 2012).

46) Basket material making involves the weaving, tying, or binding of plant leaves or fibers together. It was an important industry in ancient Egypt and the products of such labor were used in multiple ways. Everyday objects such as mats, plates, shoes, bags, baskets, fans, as well as wall, door, and floor coverings were made with various techniques (Hadidi and Hamdy 2010). Scientists have studied objects recovered from ancient Egyptian sites and created categories to

describe these various styles of making basketry as: sewing, plaiting, binding, twining, and the rope and cord techniques (Hadidi and Hamdy 2010). As seen in Stevens' (In Press) study of the different types of woven mat coffins used at Akhetaten's South Tombs Cemetery, there were a variety of materials used and the intricacies of the structures appear to have depended on maker, use, availability of materials, and technique employed.

47) Stevens (In Press), the archaeologist directing the South Tombs Cemetery excavation and analysis of the artifacts and burials has posited that there is evidence some of the children found in coffins could be in burial containers that weren't purposely built for them or were in "reused boxes". Though there was respect and love for children, the burial of children in repurposed containers like jars or boxes that used to hold clothes or toiletries was probably more about what the family could afford or had on hand to use rather than a reflection of how the family members felt about the child (Janssen and Janssen 2007). Even princesses, such as Tutankhamen's stillborn daughters were nestled in a humble wooden box that was stacked on a pile of his belongings (Hawass and Saleem 2011).

48) The child's grave was shallow and had a cairn of around twenty boulders placed on top (Amarna Database).

49) Important structures and monuments were made of different kinds of stone in ancient Egypt. Because Akhenaten was trying to build his new city as quickly as possible, he brought about several innovations, one of which was the *talatat* block. The *talatat* stone block was one cubit long and half a cubit wide and weighed around one hundred pounds. These relatively smaller stone block could be carried by a single strong person and didn't require the sledges used to move the heavier bricks that had been utilized in past building projects (Kemp 2012). Several quarries were opened by Akhenaten, including limestone quarries near the city; one was even

named after his mother Queen Tiye. Stones used on several of the graves at the South Tombs Cemetery appear to have been quarried at or near the graveyard for the purpose of building cairns (Kemp 2012).

50) The grave was not robbed in antiquity and a jar was found at the foot of the grave that was probably an offering (Amarna Database).

51) “Pottery was one of the earliest crafts developed in Egypt... two basic materials were used... the ubiquitous Nile silt from the riverbanks and cultivable plain...[and] marl clay, which is found on the fringes of the desert” (Wilson 1997). The work of potters in ancient Egypt is discussed in ‘The Satire of the Trades’ as involving grubbing in the mud for materials, pounding and shaping the clay into vessels and other objects, and enduring the heat of kilns (Lichtheim 1973). Pottery had many uses: surfaces for preparing and cooking food, carrying and storing water and food, baking bread, storage of other items, lamps, and more. It was sometimes decorated, but more often was simple and utilitarian (Wilson 1997).

I199A: Sety

Assigned birth and death: 1365-1350 Assigned Family: 11

See Notes 1-14, 18-25, 39, 40, 45-46, 49, 51

52) Individual 199A is estimated to be a female who died between the ages of 15-18 years using Buikstra and Ubelaker’s Standards for Data Collection (1994). Her height was 156.5 cm (5’1 ½”).

53) The heights of adults recovered from the South Tombs Cemetery at Akhetaten (Amarna) show an interesting pattern when compared with other ancient Egyptian populations excavated and studied (for this overview, not including the data from Akhetaten, see Zakrewski 2003). The

average male stature of STC adults is 161.44 cm based on 55 individuals. The average female stature is 151.39 cm based on 71 individuals (Rose *et al.* 2013). Stature can be an indicator of diet and overall health (Steckel and Rose 2005).

54) I199A's teeth have mild and uniform wear and no indication of caries.

55) Linear Enamel Hypoplasias (LEHs) and other dental enamel hypoplasias “are deficiencies in enamel thickness resulting from physiological perturbations (stress) during the secretory phase of amelogenesis. The results of a wide variety of experimental, clinical, and epidemiological studies strongly suggest that these defects and their associated abnormalities are relatively sensitive and nonspecific indicators of stress” (Goodman and Rose 1990). Goodman and Rose established formulae for using the measurements to determine the age range at which periods of stress occurred. Stress can be physiological, dietary, and/or psychological. See Appendix D for measurements, formulae, and ages deduced using this technique.

56) Linear enamel hypoplasias were observed and measured on I199A. This individual appears to have had at least four periods of childhood stress that were recorded in the teeth: 1) 2.1-2.25 years {this period could possibly align with the time Egyptians began complimentary feeding.} 2) 3.2-3.7 years {this may be the time she was weaned.} 3) 4.4-4.6 years {around the time Egyptian children began to learn and perform their adult responsibilities (Janssen and Janssen 2007)}. 4) 5.3-5.5 years.

Each LEH could represent separate, unrelated instances of stress. The causes of the stress listed are theories based on knowledge of the period and the culture, however there could be other causes such as childhood illnesses.

57) Complimentary feeding studies have been done to determine the optimal amount of time for breastfeeding. Most studies have shown that an infant's nutritional needs can be met by breast-

milk alone optimally for the first six months (Sellen 2006). Most cultures, including ancient Egypt, begin complimentary feeding, when the child is still breastfeeding but also is introduced to solid or semi-solid foods. When weaning, the child no longer relies on breast-milk for sustenance.

58) In Egypt, either a mother or a wet-nurse breastfed the child until around three years of age. If the mother died or couldn't produce milk and a wet-nurse couldn't be found to feed the child, there is the possibility goat's milk or some other supplemental food would be used. Bottles meant to hold breast-milk have been found {though breast-milk, especially from a woman who had given birth to son, was prized as a medicinal ingredient} (Janssen and Janssen 2007, Pinch 1993). There are other sources about how long mothers breastfed their children before weaning. From the 'Instructions of Any': "When you were born after your months, your mother was still yoked to you, her breast in your mouth for three years" (Lichtheim 1976). Weaning would be a period when a child was susceptible to dietary stress, and also physiologically if they contracted an illness from food or drink.

59) If complimentary feeding began around 6 to 24 months, the first period of stress may indicate that period. The second period of stress could reflect weaning.

60) The main food of ancient Egyptians, rich to poor was bread and beer. "The administrative texts, including temple offering-lists, show that two cereals... emmer and barley, were used almost interchangeably to produce a wide range of types of bread and cake, as well as beer...[There are a] plethora of words for types of bread and cakes. By the late New Kingdom it is possible to list no less than eighty-one... several variables served to distinguish one type from another: shape and color, added ingredients, method of preparation, and whether the context was religious or secular" (Kemp *et al.* 1994).

61) During the XVIII Dynasty, there was no formalized currency, “the production, exchange, and processing of cereals formed the basis of the ancient Egyptian economy”. Workers for the state were paid mainly in grain, for example, records of payment for a corvee crew’s physician or *swnw* during the Ramesside period (shortly after the XVIII Dynasty, which Akhenaten and his family were the final rulers of that era) “one and a quarter *khar* of grain per month may have been the Ramesside equivalent of a minimum wage. If a *khar* contained [as is theorized] 76.48 litres of grain, with wheat weighing 785 g/litre and barley 705 g/litre with energy values of 354 Kcal/100g and 360 Kcal/100g respectively for Middle Eastern wheat and barley... this would be enough to support a household of four people for 30 days with about 2,175 Kcal per person per day” (Miller 1991). This does not include any other food sources available to individuals, such as vegetables from gardens or meat sources. If a family were living on mostly bread rations and had lack of access, for whatever reason, to other foods, this might explain any malnutrition that is being seen in the people of Akhetaten.

62) Water quality is also an issue at Amarna, tests of existing wells have produced water that is brackish (Kemp 2012), so it is likely most people may have relied on Nile water or beer for their drinking needs. “Ancient Egyptian inscriptions and documents make it clear that beer, together with bread, was a staple item of diet. Beer nourished the wealthy as well as the poor, was offered in temples to the gods, and was placed in tombs as a provision for the afterlife. It was drunk daily as a refreshing beverage and brewed specially for state occasions and local festivals. It is very likely a reliable source of potable liquid as well” (Samuel 1996).

63) Working in the desert meant water was also essential, not just for drinking, but to aid in making the mud bricks used in the citizens houses and watering the gardens and farmland (Kemp 2012). Water was transported in ceramic vessels found by archaeologists throughout the city that

weighed as much as 60 to 80 kg when filled. Water was often drawn from the Nile or wells using a *shaduf*, a “pivoted pole that raised a container of water from the ground up to shoulder height with the help of a counterweight” (Kemp 2012). Depictions in temples, tombs, and *ushabti* figures show that water vessels were sometimes carried on the head, hanging on the ends of yokes that rested on a person’s neck, or on donkeys. Egyptians were known to carry things on their heads and shoulders, Herodotus notes it in his histories. There are also paintings of workers such as “female offering bearers from the tomb of Meketre, who balance square baskets on their heads, and numerous other portrayals of servants, male and female, fetching and carrying all kinds of burdens” (Wilson 1997). Ushabtis, tiny statues meant to represent workers who will serve the dead in the afterlife have also been made carrying important objects on their heads. These kinds of burdens would have put a great deal of pressure on the cervical vertebrae and may have contributed to damage seen in this area. Gardeners, farmers, and water bearers also sometimes used yokes that rested on the neck to carry containers filled with water. The Edwin Smith papyrus describes several cervical injuries and treatments (Strouhal *et al.* 2014). ‘The Satire of the Trades’ describes how: “The gardener carries a yoke, His shoulders are bent as with age; There’s a swelling on his neck, And it festers” (Lichtheim 1975). In a scene in the tomb of Ipy (Ipwy) “a gardener with a hump on his cervical spine, operating a *shaduf*... [which] could be an example of a hunched back...[likely] an intentional portrayal of a deformed spine” (Hebron 2013). This individual who is portrayed in Ipy’s tomb, as well as several other depictions in ancient Egyptian art depicting people with deformed spines, have also been suggested as showing Pott’s syndrome caused by Tuberculosis (Nunn 2006). Miller argues the possibility that this same depiction of the “hump-backed gardener... may be shown with a bursa

or scoliosis which could perhaps be related to a secondary infection aggravating the repeated strain of operating the [shaduf]" (1991).

64) Several indicators will be used to inform the depiction of this individual's social status: health, teeth, stature, the possibility of grave offerings, and the painted, anthropomorphic wooden coffin.

65) Three other individuals were found with I199A: I199B (35-50 year old male), I199C (10.5-11.5 year old), and I199D (3-month-old fetus), indicating I199A was pregnant when she died.

66) Knowledge of childhood in New Kingdom Egypt comes from tomb and temple scenes, textual sources, artifacts, and burials (Janssen and Janssen 2007, Meskell 2005, Szpakowska 2008, Mertz 2009).

67) While children played, much as they do today, as evidenced by depictions and recovered artifacts, of games and toys found in tombs, graves, and houses. Children were taught and performed chores from an earlier age than in our current society. Around the age of three, children took care of certain simple tasks within the household such as feeding animals and helping parents (Mertz 2009; Janssen and Janssen 2007). At around five to seven, boys went with fathers or were sent to learn a trade, usually their father's, or to scribal school. There is also written and pictorial evidence that it was not unusual for a child to endure castigation in the course of their day to day life, a common saying in scribal schools was that a "boy's ear is upon his back, he hears when he is beaten", and in one tomb painting two children who are being mischievous are being threatened by an old woman with a stick (Janssen and Janssen 2007). Girls rarely learned to read, though there is evidence elite or wealthy families and some women from Deir el Medina, the town of artisans who worked on the Pharaohs' tombs in the Valley of the Kings, knew how to read and write (Janssen and Janssen 2007). Girls spent most of their time

with their mothers, learning the duties of caring for the home and children, often by looking after younger siblings. Some girls have been depicted or mentioned as servants and slaves, usually in banquet scenes. Young girls are also often shown helping women with “personal adornments and hairdressing”(Meskell 2005), girls from wealthier households may have learned to sing, dance, and play musical instruments and some with these talents may have been servants hired out as entertainers. Poorer children “probably only learned the arts of spinning, weaving, and cooking” (Meskell 2005) and how to perform other household chores.

68) Though there is no evidence, in legal or religious sources, of formal marriage ceremonies, though there is legal evidence of divorce, which was more an assertion of who got what property when households were disbanded (Mertz 2009, Janssen and Janssen 2007, Tyldesley 2002, Meskell 2005, and Robins 1993). Women and men established relationships and moved in together, the term interpreted as married literally translate: “to establish a household”, “to enter a household”, and “to live together” (Robins 1993). Marriage, or the establishment of a household was mainly for the purpose of producing children. Relationships started usually based on attraction and love as seen in tomb depictions and in the existence of love poems, love songs, and letters, but there could also be arrangement by parents or relatives for economic reasons (Janssen and Janssen 2007). Girls were considered women with the onset of menstruation. Based on the ‘Instructions of Any’ and ‘Ankhshoshenq’, individuals reached “social maturity and marriageable ages” at around twelve or thirteen for females and twenty for males (Meskell 2005).

69) There were two important adult roles: to maintain ma’at, the cycle of existence as well as truth and justice, and to have children to carry on after your death (Meskell 2005, Mertz 2009, Robins 1993, Szpakowska 2008, Harrington 2013, and Wilson 1997).

70) I199A was three months pregnant at the time of her death (Amarna Database), suggesting she had established a household and was fulfilling her most important duty within her culture.

71) Pregnancy was extremely important to the Egyptians. The ancient Egyptians had “developed a number of tests that could be performed to indicate whether a woman was pregnant or not.

These are described in various magico-medical papyri, some of which deal almost exclusively with gynecology, obstetrics, and childcare, showing how important successful childbearing and rearing was for Egyptian society” (Robins 1993). The Egyptians were respected for their medical knowledge, studies of some of their prescriptions and medical treatments have been found to be efficacious and they had even developed a working pregnancy test (Nunn 2006). The Egyptians also used magic to protect pregnant women and babies, as well as to prevent miscarriage (Meskell 2005).

72) I199A had healing cribra orbitalia lesions (Amarna Database).

73) I199A has Schmorl’s nodes on T10-L4 vertebrae, but no other signs of trauma. There is no presence of Degenerative Joint Disease/Osteoarthritis (DJD/OA).

74) Schmorl’s nodes are “depressions [that] result from the herniation of the nucleus pulposus, the partially liquid central portion of the intervertebral disc... Schmorl’s depressions are common findings in the elderly and the result from degenerative disc disease. However, the presence of such nodules/depressions can be seen in adolescents but is uncommon... Schmorl’s depressions in subadults result from trauma from such activities as a fall from height, heavy lifting, trauma during physical exercises, and similar activities” (Mann and Hunt 2012).

75) “Schmorl’s nodes occur when the cartilaginous endplate of the vertebral body has been disrupted. Such disruption can be produced by an intrinsic abnormality of the plate itself or by alterations in the subchondral bone of the vertebral body... The subchondral bone may be

weakened by numerous local and systemic process, such as osteomalacia, Paget's disease, hyperparathyroidism, infection, neoplasm, trauma, and Scheurermann disease" (Pfirrmann and Resnick 2001). It is important to be "cautious of using Schmorl's nodes to indicate spinal trauma or physical stress, and hence 'activity' as other factors also appear to influence the development of the lesions... The vertebral morphology related to Schmorl's nodes may be due to normal human variation, with the correlation with Schmorl's nodes occurring as a result of this particular shape predisposing an individual to biomechanical instability and strain" (Plomp *et al.* 2012). However, "in an autopsy study of the spines in 70 patients who had died in motor vehicle accidents, 10% had acute Schmorl's nodes. Acute or chronic trauma due to excessive axial loading may cause Schmorl's nodes that initially are symptomatic" (Pfirrmann and Resnick 2001).

76) Shortly after I199A's death at 15-18 years old, she was wrapped in textile and placed into a painted, anthropomorphic, wooden coffin and buried in the Lower Site of the South Tombs Cemetery. Potsherds found in and around the grave most likely represent offerings made to the deceased (Amarna Database).

77) The Egyptians' belief in the afterlife included a conviction that food, wine and beer, objects important to the deceased like jewelry, clothing, make-up, furniture, and more, could still be used and appreciated by the deceased soul. Pharaohs and the elites filled their tombs and graves with precious objects. Even the humbler graves of the non-elites could include offerings by loved ones (Harrington 2012, Mertz 2009). Potsherds "were by far the most common item recovered... potentially originating both from offerings left graveside and within the burial pit itself... There were vessels found in situ within graves, a few containing food offerings. There were also examples of jars with probable 'killing holes'... grave goods were fairly rare, but did include

items of personal adornment or significance such as cosmetic implements; and amuletic or ritual objects, such as scarabs, used presumably to aid the transition to the afterlife and ensure the well-being thereafter” (Stevens In Press).

78) Unfortunately the knowledge of precious objects buried with the deceased led to what Rose, Tyldesley, and other anthropologists have termed the World’s Second Oldest Profession: Grave-robbing. “Grave-robbing was a serious business/crime in ancient Egypt and could have severe consequences” (Tyldesley 2000).

79) The grave of I199A was robbed in antiquity. The lid of the coffin had been broken open. Two individuals- I199B and I199C were buried in the same grave cut were most likely incursive burials. The coffin is the right size to have been made specifically for I199A who was pregnant with I199D (Amarna Database).

80) I199A was not mummified or buried in a tomb, signs of elite status, however the fact that she was buried in a specially made wooden coffin that was decorated suggest she was of higher status than most of the individuals buried in the STC. Hers was one of only eight that were anthropoid (human shaped, often with a representation of the deceased painted or shaped on the lid).

81) Of the 364 graves excavated, only twenty had decorated wooden coffins (there was an additional 21 undecorated wooden coffins). “Evidence from the STC indicates that wooden coffins were either rarely sought after- or more likely- rarely attainable at Amarna. They represent only around 10% of the burial containers excavated... and decorated examples around... 5%” (Stevens In Press).

82) Coffin types: “Deceased individuals were usually wrapped first in textile and then placed in a burial container, of which five different kinds were encountered. By far the most common was a

mat that had been wrapped around the body and bound with rope. It was made of usually of palm midrib (gereed) or tamarisk sticks, or less often of palm-leaf, halfa grass, reed, or sedge. There is evidence for the use of pottery coffins, although only as a few fragments found during surface survey, and a single example of a mud coffin, for an infant (I301). Forty(-one) wooden coffins were also encountered. Twenty(-one) take the form of simple undecorated boxes... but around twenty graves showed evidence of having contained painted wooden coffins... Most were black-painted... at least eight were anthropoid” (Stevens In Press).

83) There is no clear correlation between a coffin and status: “emotions connected with bereavement may have prompted family members to acquire items beyond their normal means... for some individuals attaining a coffin may have been the product of personal investment over the course of a lifetime – a pinnacle of achievement. Some people buried in coffins might indeed have had elevated status, but in a restricted social context – as head of a household for example – rather than a broader community setting” (Stevens In Press).

84) Stevens (In Press) argues that different styles of coffins may suggest different makers of the coffins. ‘Village’ craftsmen may have produced the less well-made coffins. Those of finer quality with better art and writing may indicate the craftsmen who made the tombs and burial goods of the elite made the coffins.

85) I199A’s position in the STC may indicate she died at the beginning of the colonization and construction of Akhetaten.

86) There are two main cemetery areas, north and south, which possibly reflects the division “of the residential suburbs of the city into two zones” (Stevens In Press).

87) “The main city... was home to a population that varied considerably in socioeconomic status and occupation... the South Tombs Cemetery... probably [has] a mixed and broadly representative sample of the Amarna population” (Stevens In Press).

88) While there is no definitive evidence for how the cemetery was planned out and utilized- if there were plans, plots or areas specifically designated for certain individuals or families, “it seems likely that the colonization of the ground was driven especially by family level agency... It is tempting to see the cemetery beginning at the mouth of the wadi and the graves spreading down its length over time... It may be noteworthy, too, that the two coffins that have been identified with images of traditional divinities {Coffins 5 [Belonging to I199A] and 6} occur at the Lower Site, reasonably close to the beginning of the wadi” (Stevens In Press).

89) Examination of the graveyard, there is the possibility: “when the internments are plotted according to age and sex, they reveal a mixed distribution, the burials of adults, children, and infants, and males and females, intermingled. Presumably what we’re looking at, at least in part, are family groups” (Stevens In Press).

90) In the STC, a few of the graves have shown evidence of gravemarkers. “Sometimes a stela seems to have been placed graveside, usually made of limestone and with a distinctive pointed shape, finishing at the top in a single, double, or triple triangle. The decoration rarely survives, but traces of carving on some suggest that the main scene was an image of the deceased sitting in front of a table of offerings... they combine the rock cut tomb (the pointed element) with a memorial representation of the deceased (on a stela), the pointed iconography presumably implying a solar association” (Stevens In Press).

91) Decoration of I199A’s coffin “continue[s] the pre-Amarna tradition, utilizing Book of the Dead Spell 151 and assimilating the deceased with the Osiris” (Stevens In Press). This is a scene

with a “jackal headed Anubis as a divine embalmer over a bed supporting the mummy or coffin. On either side kneels a goddess, at the head is Isis, and at the feet is Nephthys. At the corner of the [embalming] tent was placed a protective figure, inserted into a mud brick: the four items were shabti figure, djed pillar amulet, torch, and Anubis jackal. The four children of Horus were also there, in their duty as protectors of the soft internal organs” (University College of London 2002). Each figure, in copies of the Book of the Dead has spells or protective incantations being spoken by most of the associated figures in the scene, (translations are available, including from the University College of London 2002 quoted above). The deceased individual becomes Osiris, Lord of the Dead, and is given spells for the journey through the afterlife. Most coffins decorated with such scenes also supply the deceased with air, water, beer and wine, food, and other provisions to make the afterlife more comfortable. This is important because Akhenaten did not approve of the Osirian mythology and the concomitant deities. This may be linked to a theory that the cult of the Aten was more for the elite and that “Akhenaten’s religious reforms did not penetrate the existing domestic religious system to the extent that is sometimes suggested” (Stevens 2016).

92) An indication that I199A might be in a ‘family plot’ or designated area of relations is her grave’s proximity to other coffins. The coffin near her favors a “godless” decoration style more in keeping with Akhenaten’s philosophy (Stevens In Press). Several of the people buried in the STC may be family to the twenty-seven officials who had rock-cut tombs known as the South Tombs. These tombs don’t show evidence of burial shafts to accommodate those official’s family members so they may be located in the STC (Stevens In Press).

I229: Yuny

Assigned birth and death: 1362-1338 *Assigned Family: 2*

See Notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90

93) Individual 229 is a male who died between the ages of 15-25 years, is stature was 172.0 cm (5'7 ½"). Sex, age, and height estimates were established using Standards for Data Collection (Buikstra and Ubelaker 1994).

94) I229 is above average height for adults from Akhetaten, this may suggest he did not grow up in the city or he may have had access to a better diet.

95) Dental calculus around the teeth of I229, obscuring any evidence of LEHs.

96) There “appears to be little indication of an oral hygiene regime in ancient Egypt and indeed many skulls show considerable deposits of calculus... Although many cosmetic and toilet articles have been unearthed, nothing resembling a toothbrush has ever been discovered” (Forshaw 2009). Calculus is a “bacterial plaque [that begins to] calcify” (Aufderheide and Rodriguez-Martin 1998).

97) I229 lost his left mandibular second molar antemortem. The wear on I229's teeth was moderate to extreme.

98) “The most common [dental] pathological condition identified was that of excessive tooth wear, a condition so widespread that it was found in most of the ancient Egyptian skulls throughout the dynastic period. This disorder has often been categorized as attrition, but analysis of the problem reveals that attrition was not the sole agent responsible for the loss of tooth tissue. Contamination of the food by significant numbers of inorganic particles resulted in an additional element of abrasion” (Forshaw 2009).

99) The term enthesiopathies or also enthesial change, will be used to refer to “skeletal manifestations variously known as activity-induced pathologies, evidence for occupation, markers of occupational stress, musculoskeletal stress markers, muscle markers, musculoskeletal attachment sites” (Rhode 2012). There have been studies to determine the usefulness of these indicators, most famously Hawkey and Merbs 1995 and Larson 1997. The areas being examined, described, and/or measured are the “rugosities, tuberosities, crests, spurs, pits, grooves, and furrows observed at sites of muscles, tendon and ligament origin and insertion, whose distribution and patterning are commonly interpreted as resulting from the performance of strenuous, habitual, or repetitive activities... The medical literature distinguishes two types of entheses, both of which are examined in enthesial change research, fibrous and fibrocartilaginous” (Rhode 2012). Research is still ongoing to determine exact cause and what factors contribute to noticeable changes but links have been found “with both degenerative pathological conditions and overuse injuries, with inflammation of the entheses, known as enthesitis and any pathological change to the entheses known as enthesiopathy” (Rhode 2012).

100) Studies of enthesial changes/enthesiopathies (some people refer to them as musculoskeletal stress markers) have sought to determine whether behavior or activities can be reflected or implied by close examination of muscle marker measurements and various scoring systems of enthesiopathies (Hawkey and Merbs 1995, Weiss 2007, and Villotte *et al.* 2009). Controlling for size and age, Weiss was able to show activities of prehistoric Amerind populations.

101) Villotte *et al.* (2010), “established strong links between enthesiopathies and physical activity; men with occupations involving heavy manual tasks have significantly (P – value <0.0001) more lesions of the upper limbs than nonmanual and light manual workers. Probability of the presence of an enthesiopathy also increases with age and is higher for the right side

compared with the left”. The study was conducted using four European skeletal collections where “age-at-death, sex, and activity {occupation}” (Villotte *et al.* 2010) were known.

Individuals were divided into four groups based on occupations: Nonmanual workers like priests and landowners, a group of light manual workers like weavers and shoemakers, a group of medium manual workers like masons and farmers, and the final group which did extreme manual labor like day laborers and soldiers. It was found the first two categories had fewer and milder enthesial changes than the two groups that did heavier labor, but not enough variation to clearly indicate differences between the two light labor groups and the two heavy labor groups. Areas focused on for the studies were the lesser tubercle of the humerus, greater tubercle of the humerus, lateral epicondyle of the humerus, medial epicondyle of the humerus, and the radial tuberosity, which are upper limb fibrocartilaginous entheses. Age, side, and difficulty of the activities undertaken were all factors in severity of the enthesiopathies (Villotte *et al.* 2010).

Work has been done on some individuals at Akhetaten to examine enthesiopathies and is subject of ongoing research. These indicators will be taken into account for certain individuals.

102) There was “minor eburnation on the capitulum of the left humerus and the head of the right radius” (Amarna Database).

103) Eburnation is: “a smooth, shiny, polished surface produced by bone to bone contact in cartilage-free areas during joint movement” (Aufderheide and Rodriguez-Martin 1998), a pathology often signifying degenerative joint disease (DJD) or Osteoarthritis (OA).

104) Degenerative Joint Disease (DJD) “is a noninflammatory, chronic, progressive pathological condition characterized by the loss of cartilage and subsequent lesions resulting from direct interosseous contact with the diarthrodial joints...DJD is subclassified as either primary or idiopathic (80% of cases) in which no cause is evident, and secondary in which the joint has been

altered by some other disease or event. The latter may be physical (trauma, congenital hip dislocation), infectious, metabolic (rickets, ochronosis), vascular (osteochondrosis desiccans); neurotrophic (peripheral neuropathy) or other arthritis type (rheumatoid) in addition to extra-articular causes (Obesity, occupational stress, congenital deformities, diaphyseal angulations or limb asymmetry)” (Aufderheide and Rodriguez-Martin 1998).

105) Degenerative Joint Disease is also known as Osteoarthritis, which is the most common “manifestation of disease after dental caries. It is present in most persons older than 50 years, and in 90% of octogenarians...[It is] important to consider other genetic, environmental, physiological behavioral, and biomechanical factors that contribute to our aging process” (Mann and Hunt 2012).

106) DJD is “characterized by cyst formation, osteophytosis, and subchondral sclerosis with joint space loss and in some cases eburnation as an end result” (Molnar *et al.* 2011). It can affect any joint and sex differences are only seen if individuals are over 55 and then it is seen more often in women, however archaeologically “males are usually more frequently affected than females” (Molnar *et al.* 2011). In DJD, “in addition to eburnation, the presence of two out of three further lesions: osteophytes, pitting, and remodeling of joint area have been suggested to indicate OA” (Molnar *et al.* 2011).

107) “Excessive activity may lead to articular degeneration. This has been shown in studies of joint disease in athletes, where excessive repetitive load on joints and bones was a contributing factor to the onset of degenerative joint disease... However, genetic, nutritional, and metabolic factors as well as trauma or a pre-existing articular disease may also affect the structural architecture of the joints” (Molnar *et al.* 2011).

108) “The city at Amarna was constructed quickly, progress on the stone buildings facilitated by the introduction of a standardized limestone building block (*talatat* in modern Egyptian Arabic), measuring a nominal 52.5×25 cm (one cubit by a half, and often slightly larger than this), its weight approaching 70kg. One person could now carry each building stone, creating a more production-line style of working. It is tempting to view the carrying of *talatat* blocks as contributing to the widespread DJD seen at the cemetery; the hauling of such heavy loads, which puts stress especially on the lower body, fits the kinds of DJD attested [at Akhetaten]” (Kemp *et al.* 2016).

109) Macroporosity was present on the “heads of both radii, the heads of both femora, the lateral tibial plateaus of both tibiae, and the posterior talar articular facet of both calcanei... on the right and left superior articular facets of the sixth cervical and fifth thoracic, the right side only of the sixth thoracic vertebra, and both the inferior articular facets of the fourth and fifth thoracic vertebrae, and the right side only of the sixth, seventh, and ninth thoracic vertebrae” (Amarna Database).

110) There may be some paleopathological evidence for the squatting posture: “unusually early osteoarthritic changes to the knee joints of one adult aged about 20 were noted in Manchester mummy 1768, and a 1st to 2nd century AD Roman period burial from the Fayoum, who suffered osteoarthritis in both knees... The position in which the Egyptian weaver is described... with the knees against the chest [in the ‘Satire of the Trades’] is also illustrated in Middle Kingdom tomb paintings of women weaving” (Miller 1991) as well as in ushabti models of a weaver’s workshop.

111) There are Schmorl’s nodes on the third and fourth lumbar vertebrae (Amarna Database).

112) There is a “bony growth” on the sixth right rib “due to muscle trauma” also “right ribs three through nine have lipping around the heads” (Amarna Database) though the exact cause isn’t known, this is most likely a reaction to trauma.

113) “The right and left femora have osteochondrosis dessicans on the lateral condyles” (Amarna Database).

114) Osteochondritis Dessicans “is a benign, non-inflammatory condition of young adults characterized by the production of small, focal epiphyseal areas of necrosis on the convex surfaces of diarthrodial joints resulting in partial or complete detachment of a segment of the subchondral bone and articular cartilage” (Aufderheide and Rodriguez-Martin 1998). Because this type of lesion has been found quite often in young athletes there have been some theories on a connection to trauma. However, “numerous other causes have been suggested including abnormal ossification of the epiphyseal cartilage, contact with the tibial spines, hereditary influences, and generalized disorders” (Mann and Hunt 2012).

115) There were periosteal reactions on both tibiae and fibulae (Amarna Database).

116) Periosteal reactions or periostitis is “inflammation (reaction to trauma or certain pathological processes) of the periosteal layer of bone- periosteum is the ‘fibrous membrane, which completely covers the surfaces of bones’” (Buikstra and Ubelaker 1994). Periostitis is when reactive “bone [has] formed only on the outer cortex while osteitis refers to changes within the cortex, and osteomyelitis to changes that affect both the marrow and bone” (Mann and Hunt 2012).

117) Both the right and left feet have evidence of healing antemortem fractures, they could have occurred as separate or coinciding incidents of trauma (Amarna Database).

118) The process and timeline for the healing of bones begins with an acute inflammatory reaction during the “first twenty-four hours” and lasts for seven days with a soft callus forming in the first seven to nine days, the replacement of the soft callus with a bony callus occurs within fourteen days, then for three to four weeks bone remodeling takes place, and finally, a “fully regenerated bone structure” takes years to transpire (Marsell and Einhorn, 2011).

119) The XIX Dynasty tomb of a sculptor named Ipy (Ipy/Ipwy) in Deir el Medina depicts some of the injuries incurred by craftsmen, the scene shows several workers creating a wooden frame, or bier, on which a corpse is laid out. It portrays a worker having a dislocated shoulder put back in place, a worker with something in their eye having it removed, and a man who has had a mallet dropped on his foot.

120) The body had been wrapped in textile and a tamarisk matting coffin. Buried supine with the left hand placed slightly over the right over the pelvis. The grave was robbed in antiquity (Amarna Database).

121) The Roman period ‘Tale of Setne’ describes the hero watching two different ancient Egyptian funerals- one of a rich man with professional mourners, “great honors”, and a wooden coffin. Then the funeral of a poor man without mourners and with the deceased wrapped only in a mat (Stevens In Press). Coffin type may be an indication of status, but as previously noted, it is not a reliable standard.

122) I229 had a piece of jewelry the grave robbers overlooked or didn’t find valuable enough to steal, on the left ring finger was a copper alloy bezel ring with the possible design of Re (or Ra)-Horakhty (Amarna Database).

123) Re-Horakhty was an aspect of the sun god merged with the falcon god to represent the morning sun, Re was also linked to Atum, the evening sun, and later Amun. This god “was a

prime element in most Egyptian creation myths and also acted as a divine father and protector of the king” (Wilkinson 2003). Re in the afterlife was seen as the ba (or soul) of Osiris, linking him to the king of the afterworld. Because he represented the rising of the sun, he also stood for rebirth (Wilkinson 2003). Re-Horakhty was also tied to Horus, the son of Isis and Osiris, a protector, healer, warrior, and creator. Horus also fought against chaos, in the form of his uncle Seth, to maintain ma’at (Pinch 2002).

124) There were a variety of occupations for men in ancient Egypt. Slavery existed in Egypt, though not to the extremes of some cultures, often captives of war, criminals working off their crimes (Tyldesley 2000), or people in debt, they still had legal rights and ways to earn their freedom {instances of adoption and marriage raised slaves status, for example} (Meskell 2005) (Mertz 2008). They often took care of onerous tasks but had to be fed, clothed, and provided medical care (Mertz 2008). The majority of the ancient Egyptian population was farmers, the backbone of the culture providing sustenance and the bulk of the wealth through difficult labor. There were also laundry men, fishermen, potters, bakers, builders, butchers, soldiers, servants, messengers, police officers, craftsmen, carpenters, and many other occupations (Mertz 2008, Meskell 2005, and Kemp 2012). Among the higher status individuals many occupations required the ability to read and write. Those who had gone to school and learned these skills were known as scribes. There was a type of administrative middle class that did everything from keeping records of offerings to managing political correspondence throughout the kingdom and with foreign powers (Janssen and Janssen 2007).

125) Males, unlike females, possibly underwent a puberty ritual involving circumcision in order to signal their transition to adulthood (Janssen and Janssen 2007).

I078: Isi-oeer

Assigned birth and death: 1349-1347 Assigned Family: 15

See Notes 1-14, 16, 18-25, 40-42, 45-47, 49, 51, 57-58, 66-67, 77-78, 86-89

126) Individual 078 was an infant, 7.5 to 18 months old at the time of death “based on the length of the long bones and the Amarna-specific metric standard” (Amarna Database).

127) I078 Had slight cribra orbitalia lesions in the left orbit (Amarna Database).

128) Microporosity was observed on the pars basilaris and pars lateralis {the occipital} and also on the tibiae, which also have hyper-robusticity in width, “which seems to be independent of the microporosity” (Amarna Database) No clear diagnosis for these symptoms.

129) I078 was buried wrapped in textile and a plant stem mat coffin. The child’s grave had been robbed in antiquity and the upper portion of the body disturbed.

130) I078 was buried with an object that archaeologists identified as either a clay jar seal or a model of bread. If it were a model of bread, this would be a magical object meant to provide food for the child in the afterlife.

131) Clay jar seals were used to close up pottery vessels: “the standard practice involving first a bung (perhaps of grass) or lid and then a cap of mud or, less commonly, gypsum plaster... A seal stamped on the mud while it was soft left the impression of a design that might... contain information on what was inside and where it had come from” (Kemp 2012).

132) Egyptians believed that handmade models and drawn or painted images could be made and imbued through magic with properties that could help the dead in the afterlife. Ushabti (also known as shabti or ishabti) figures were human figurines that were meant to perform work duties in the afterlife on behalf of the deceased person they were buried with (Kemp 2012). Paintings

and models of servants, food, drink, and more were meant to be “magical substitutes” to provide for the needs of the dead (Mertz 2009).

I166: Hoh

Assigned birth and death: 1361-1341 *Assigned Family: 2*

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90

133) I166 is estimated to be a female age 18-24 years with a height of 159.1 cm (5'2 ½”).

134) There are signs of healed Cribra Orbitalia in the left orbit.

135) I166 has a Schmorl's node on the L2.

136) I166 has linear enamel hypoplasias that indicate two periods of stress in childhood: at 1.6 years and 4.6 years, see appendix D for measurements and calculations.

137) I166 had the shank of a blue faience ring in her grave.

138) “Egyptian faience is made of ground quartz mixed with various other things, including colorant, and molded into the desired shape. When the object was fired, the colorant rose to the surface in a brilliant glaze. Blue-green, in imitation of turquoise, was the most popular color, but not the only one” (Mertz 2008). Archaeologists at Akhetaten/Amarna have found workshops in the residential areas that made “the little glazed (faience) rings and other ornaments widely worn at this time” (Kemp 2007), but also areas within houses that suggest ‘cottage industries’ where households created various objects as goods to be given to the Pharaoh as a kind of tax (Kemp 2012).

139) I166 was wrapped in textile and a tamarisk coffin.

140) I166 had a limestone boulder found over her body, which most likely acted as a grave-marker or cairn, there were also fragments of pottery in the grave.

141) Evidence from the South Tombs Cemetery “has indicated that while the burials themselves were simple... mortuary cultic activity is suggested by the presence of ceramic vessels and stelae...[At] Deir el Medina... it was standard practice to take time off for personal festivals and family sickness, as well as mourning and caring for the dead. In a single list, libating, mourning, and embalming/wrapping corpses accounted for seventeen days absence, and ‘offering to’ or ‘burying the god’ for a further nine days. The involvement of women and children is suggested, at least in part, by tomb scenes and funerary stelae” (Harrington 2013). An important component of Egyptian religion was ancestor worship and care of the dead, visiting the graves of loved ones, and feasting or bringing offerings were practiced by people of every social status, though most likely not to the same extent. “In Egyptian culture death was not considered as the end of one’s existence nor of one’s effectiveness on earth... Ancestor busts and stelae provided a focus for interaction... The tomb culture... with its associated mortuary cult, involved numerous ongoing practices including offerings and invocations to the deceased, thus creating and sustaining a reflexive relationship between living and dead” (Meskell 2005).

142) Women had many daily activities and occupations to perform; they worked in the fields and gardens and could even be landowners (Meskell 2005, Kemp 2007). They ground grain and prepared meals (Samuel 1994 and 1999, Robins 1993), they manufactured textiles and made clothing, wove mats and baskets, cleaned, fetched and hauled water, cared for children, the elderly, and the sick, worked as servants, administrators, could occupy religious positions, work as dancers and musicians, and more (Meskell 2005, Robins 1993, Szpakowska 2008, and Mertz 2008).

I057: Thoth*Assigned Birth and Death: 1359-1339**Assigned Family: 12*

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 96, 98, 124-125, 141

143) Individual 057 is estimated as a possible male between 16-20 years old with a stature of 169.7 (5'7").

144) I057 has two LEHs, one on the left and one on the right mandibular canine, giving an age of 3.03-3.08 years old for a period of stress.

145) I057 has calculus and mild to moderate tooth wear.

146) I057 has carious lesions on the right maxillary 1st molar, right mandibular 1st molar, and right mandibular 2nd premolar.

147) Caries is "tooth decay, commonly called cavities... caused by acids produced by bacteria in dental plaque" (Porter and Kaplan 2011). In Hillson's study of teeth from people of the Dynastic period he found a prevalence of 10%, the amount of caries was relatively low, but grew after the 4th Century when trade with the Greeks brought "fine white bread, honey... previously not consumed by the majority of the population, became more readily available" (Forshaw 2009).

148) I057 had congenitally absent 3rd molars.

149) I057's mandibular canines and incisors were rotated and displaced.

150) I057's temporomandibular joint (TMJ) had evidence of trauma related to dislocation.

151) People "prone to dislocation may have naturally loose temporomandibular joint (TMJ) ligaments" (Porter and Kaplan 2011).

152) I057 had a healed cribra orbitalia lesion in his left orbit.

153) I057 had lipping on the clavicle where the trapezoid ligament attached.

154) In acromioclavicular joint sprains “the usual mechanism is a fall on the point of a shoulder or on an outstretched arm. Severe sprains tear the coracoclavicular ligament, displacing the clavicle upward from the acromion. Treatment is immobilization and early mobility exercises” (Porter and Kaplan 2011).

155) I057 has compression fractures of the 2nd thoracic and 5th lumbar vertebrae.

156) I057 has Schmorl’s nodes on ten vertebrae.

157) I057 had a fracture of the sacrum and displacement of the 5th lumbar vertebra, which created a new articular surface on the 5th lumbar.

158) A fracture to the sacrum could have caused: “Hyporeflexic or areflexic paresis of the lower extremities, usually pain and hyperesthesia in the distribution of the nerve roots, and usually loss of bowel and bladder control” (Porter and Kaplan 2011).

159) I057 was buried wrapped in textile in a greeed coffin. The grave was robbed in antiquity.

I060: Satia

Assigned Birth and Death: 1346-1344

Assigned Family: 2

See notes 1-14, 16, 40-42, 47, 57-58, 66-67, 45-46, 82-84, 86-89, 121, 141

160) I060 was 1.5 years old based on dental and bone length.

161) I060 had twenty erupted deciduous teeth, with the second deciduous molars only partially erupted.

162) I060 was in a grave with two other individuals, I23 (Male 25-33 years) and I61 (Female 25-35 years). All three may have been interred at the same time or I23 may have been added to the burial at a later time.

I176: Gararai*Assigned Birth and Death: 1352-1333**Assigned Family: 17*

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 141, 142

163) Individual 176 was estimated to be a female aged 18-24 years and was 151.2 cm (4'11 ½").

164) I176 had LEHs that indicated periods of stress during childhood at: 1.6, 2.2-2.9, 3.2-3.8, 4, and 5-5.4 years old.

165) I176 had healed bilateral cribra orbitalia.

166) I176 has two compression fractures on the 2nd and 3rd thoracic vertebrae and Schmorl's nodes on 10-11 thoracic and the 2nd and 4th lumbar vertebrae.

167) I176 has degenerative joint disease of the left shoulder and elbow.

168) I176 has mild tooth wear.

169) The mandibular canines are slightly rotated and displaced and there is also displacement of the mandibular incisors. Anterior maxillary dentition has displacement of the right lateral incisor.

170) I176 had her original hair preserved on her head. It was a short hairstyle of wavy, brown locks with bangs cut high on the forehead.

171) Hairstyles and wigs could be important signals of gender, age, and status. Children, mainly boys, are shown with shaved heads and a single side-lock, priests standing in for the first born son of a deceased person wore wigs with a symbolic side-lock (Meskell 2005). Daughters "who seem to have reached adult status but were perhaps not yet married. [Had a] mass of hair [that] was less weighty and fell to just below the shoulder with ringlets on either side of the face somewhat separate from the thicker strands at the rear. The same style could be worn by young maidservants" (Robins 1993). Pregnant and nursing women are shown with specific styles.

Married women are often shown with longer hairstyles, one is tripartite with locks on either side of the face and hair down the back. Another hairstyle of women was long hair that went all the way around and covered the shoulders (Mertz 2008). There are also women who shaved their heads to wear wigs, as seen in the “younger lady” mummy from the KV35 tomb, that some have argued is Nefertiti (Tyldesley 1998, Fletcher 2004). There were concerns about hair such as “hair would turn gray or fall out. Such concerns affected men and women equally. Texts show that black hair was desired, and various potions were concocted to maintain it” (Meskell 2005). Most men are depicted with shaved heads or short wigs, although in the Turin papyrus some men are shown with “unkempt hair and scruffy beards” (Meskell 2005).

172) I176 was wrapped in strips of textile from toes to neck, around her face and head a single piece of textile was wrapped and twisted at the top of her head. She was then placed in a greeed coffin. Over the grave was an intact limestone boulder cairn.

I359: Geb

Assigned Birth and Death: 1352-1335

Assigned Family: 14

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 124-125, 141, 147

173) Individual 359 is estimated to be a male aged 17-23 years old and had a height of 163.7 cm (5' 4 ½").

174) I359 had Linear Enamel Hypoplasias that indicate periods of stress at 1.87 years, 2.59 years, 3.1-3.98 years, and 5.1 years old.

175) I359 has a Schmorl's node on the 11th thoracic vertebra.

176) I359 lost several teeth antemortem and had carious lesions on the Maxillary left 2nd and 3rd molars and a Mandibular left 2nd molar. There is also mild to moderate wear on the teeth.

177) I359 was wrapped in a sedge mat coffin.

178) I359 was buried with two adult females (I357 and I358) the grave had been robbed in antiquity and damaged by flooding.

I181: Bata

Assigned Birth and Death: 1340-1338

Assigned Family: 6

See notes 1-14, 16, 18-25, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 45-46, 82-84, 86-90, 121, 141

179) Individual 181 is a 1.5-year-old child based on dentition and bone length.

180) I181 had active, mild bilateral cribra orbitalia.

181) I181 was buried singly in an unrobbed grave, wrapped in textile and tamarisk matting coffin.

182) I181 was covered with a cairn made of limestone rocks and a pottery hearth. There was a broken storage vessel that used as a gravemarker and was placed over the child's face.

I150: Mehi

Assigned Birth and Death: 1366-1338

Assigned Family: 1

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108,

116, 141, 142, 171

183) Individual 150 is estimated to be a female aged 20-29 years and a height of 160.4 cm (5' 3").

184) According to the two LEH's found on her mandibular canines she suffered a period of stress at the age of 4.4 years.

185) I150 had a hairstyle of shoulder length braids on the sides and longer hair down the back, with short bangs.

186) I150 had a cone on top of her head. It is one of the first confirmed examples of an object that has been seen depicted in many religious, celebratory, and party scenes.

187) Wax and incense or incense cones are depicted “on the crown of the head along with what are perhaps flowering lilies. The general assumption is that it was made of scented fat or wax” (Kemp 2012). The Egyptian word for incense was *senetcher*, which was derived “from the word, *senetcheri*, meaning ‘to make divine’” (Wise 2009). Incense was used in magic and religious rituals and was believed to give life to the gods and the dead, which is why it was such an important offering. Incense was used every day in a variety of ways, from make-up to funerals.

188) I150 has a congenitally absent 3rd molar.

189) I150 has spondylolysis of the 5th lumbar vertebra, the fracture healed without fusion of the broken elements.

190) Spondylolysis is “separation of the vertebral body from the posterior vertebral arch, usually at a junction known as the pars interarticularis or isthmus. Some researchers believe this condition to be congenital in origin while others state that stress plays a major role in causing the neural arch to separate, or basically a stress/fatigue fracture and nonunion” (Mann and Hunt 2012).

191) I150 has a healed patch of periostitis on the left fibula.

192) I150’s left shoulder and both elbows have slight degenerative joint disease.

193) I150 had carious lesions on the maxillary left 1st molar and mandibular right 2nd molar. And tooth wear was moderate and uniform.

194) Caries or tooth-wear can lead to an infection, which causes pus to build up and create a drainage channel in the bone or an abscess; symptoms can include pain and swelling (Porter and Kaplan 2011).

195) I150 had an abscess present adjacent to the left mandibular 1st molar socket.

196) I150 lost both 1st molars antemortem.

197) I150 was buried alone in an unrobbed grave wrapped first in textile and then in a tamarisk mat coffin.

198) I150 had two plant stems that ended in buds, crossed and placed over her ribcage. The meaning behind this has not been determined.

I009: Gungen-Wer

Assigned Birth and Death: 1366-1348

Assigned Family: 8

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 124-125, 141, 190

199) I009 is estimated to be a male between 18-24 years with a height of 167.7 cm (5'6").

200) I009 has spondylolysis of the 5th lumbar vertebra.

201) I009 has Spina Bifida of the 1st through 5th sacral elements.

202) Spina Bifida is “the most common of all spinal congenital defects, in which incomplete midline bony closure appears in one or more neural arches, most cases occurring in the lumbosacral region of the spine, especially in the sacrum” (Aufderheide and Rodriguez-Martin 1998). The cause of Spina Bifida “is not known, low folate levels during pregnancy increase risk...many... with minor defects are asymptomatic... varying degrees of paralysis and sensory defects are present below the lesion” (Porter and Kaplan 2011).

203) I009's grave was highly disturbed by robbery in antiquity with the body removed from the grave.

204) There is evidence in the grave of a gered mat coffin.

I087: Osiris

Assigned Birth and Death: 1344-1341

Assigned Family: 14

See notes 1-14, 16, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 82-84, 86-90, 121, 141

205) I087 is estimated to be a 2.5 year old based on tooth eruption and bone length.

206) I087 has a small lytic lesion on the right temporal, possibly indicative of mastoiditis.

207) Mastoiditis "is a bacterial infection of the mastoid air cells, which typically occurs after acute otitis media. Symptoms include redness, tenderness, swelling, and fluctuation over the mastoid process" (Porter and Kaplan 2011).

208) I087's long bone length shows "growth retardation associated with childhood stress and possibly inadequate nutrition" (Amarna Database).

209) The child has the deciduous maxillary left and right M1 and M2 and the right I1 as well as all mandibular teeth except for the left I2, the mandibular right canine is rotated and there is displacement and rotation of the right lateral incisor.

210) I087 was buried in a grave pit with I090 with a 25-35 year old female, I091 a 3.5 year old, and I093 a 35-50 year old female. The grave had been partially disturbed.

211) I087 was laid on top of the two adults (I090 and I093) and appears to have been in a tamarisk or gered coffin.

212) There were grave goods associated with the burial. Potsherds and a shallow pottery dish were found in the grave.

I205: Kafy*Assigned Birth and Death: 1375-1341**Assigned Family: 3**See notes 1-14, 45, 46, 49, 51, 53, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 141, 142*

213) Individual 205 is estimated to be a female aged 30-34 years with a height of 152.7 cm (5'0").

214) I205 has osteophytes on the 11th and 12th thoracic vertebrae and all of the lumbar vertebrae.

215) Osteophytes are “rounded or radiated finger-like projecting bony growth(s) commonly found on the rim and vertebral bodies of older individuals. However, these formations are not age specific but do tend to increase in size and number with age, being found in association with younger individuals who have either sustained trauma to the spine or due to any number of spinal diseases” (Mann and Hunt 2012). Osteophytosis is caused when “degeneration of the intervertebral disk permits closer approximation of the vertebrae. Irritation from vertebral contact at the vertebral margins stimulates the periosteum to form nodules of new bone (osteophytes)” (Aufderheide and Rodriguez-Martin 1998).

216) I205 has a small Schmorl's node on the 1st lumbar vertebra.

217) I205 has osteoarthritic lipping on the distal ends of both femora, the proximal ends of the tibiae, and the posterior surface of both patellae.

218) I205 lost twenty teeth antemortem.

219) I205 has a neoplasm of the right mandible “extending from the canine position distally to the third molar” (Amarna Database). The most likely cause was a reaction to an abscess causing an inflammatory cyst.

220) When an “abscess [which is] forming at the tooth root is an extension of the bacterial infection of acute pulpitis. If the tooth is not extracted the body's immune and inflammatory

response often contains an abscess, forming a wall around it composed of granulation tissue infiltrated by chronic inflammatory cells” (Aufderheide and Rodriguez-Martin 1998). Other causes can be Ameloblastoma “a locally destructive but nonmetastasizing tumor arising from the enamel organ of the jaw” or Dentigerous cysts “unrelated to inflammation, these are related to maldevelopment of the enamel organ” (Aufderheide and Rodriguez-Martin 1998).

221) I205 has moderate tooth wear.

222) I205 was buried singly in a grave that was robbed in antiquity. There was some evidence in I205’s grave that she was buried in a greeed mat coffin.

223) The grave was covered with a possible cairn of worked limestone quarry waste.

224) Potsherds were found in the grave.

I121: Unnefer

Assigned Birth and Death: 1364-1342

Assigned Family: 2

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 124-125, 141, 147, 171, 190

225) Individual 121 is estimated to be a male aged 18-24 years with a height of 161.7 cm (5’ 3 ½”).

226) I121 had short hair and traces of a beard on his mandible.

227) I121 had healed mild cribra orbitalia in the right orbit.

228) I121 had a carious lesion on the maxillary left 2nd molar.

229) I121 had mild, uniform tooth wear.

230) I121’s mandibular canines are slightly rotated and the incisors are somewhat displaced.

231) I121 was buried singly in an unrobbed grave with some flood damage. I121 was wrapped in textile and a tamarisk mat coffin.

232) A single olive stone was found in the grave fill, but it could be “an incidental inclusion” (Amarna Database).

I188B: Layla

Assigned Birth and Death: 1343-1340

Assigned Family: 1

See notes 1-14, 16, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 82-84, 86-90, 121, 141

233) I188B is estimated to be a 2.5 year old based on dentition.

234) I188B was buried in a grave with I188A, a 35-45 year old female in a plain wooden coffin, there is a possibility they shared the coffin. The grave was robbed in antiquity.

235) There were “three scaraboid beads in the shape of hippopotami” (Amarna Database) of different sizes with traces of a cord through holes drilled in each bead, they may have been strung on a necklace or bracelet. There are images carved on the underside of each bead. The largest has an image of Tawaret, the hippopotamus headed goddess holding a *sa*-sign, “meaning ‘protection’” (Davies 1990), and a long knife. The medium sized bead has the god Bes holding two snakes. The smallest bead has a seated goddess with either a vulture headdress or uraeus holding a staff.

236) Tawaret is a goddess that can be associated with Isis or Hathor. Her body is that of a pregnant woman. She is often shown with the ankh, the symbol of life, the torch, which banishes darkness and harmful forces, and the *sa*-sign of protection. She is a goddess called upon for protection who is linked to fertility and pregnancy. “Tawaret amulets were found in the excavated houses of Akhenaten’s capital at el-Amarna, and Bes and Tawaret images decorated

some of the rooms there” (Wilkinson 2003). Bes is a protective dwarf deity with a lion’s mane, he was connected to the creator sun god, and was also a divine exorcist. He could also be seen as a healer, his main role was improving sex, fertility, and ensuring safe birth. Bes is often shown “strangling snakes, waving knives, or playing musical instruments” (Pinch 2002).

I377: Imentet

Assigned Birth and Death: 1361-1337

Assigned Family: 14

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 141, 142, 171

237) Individual 377 is estimated to be a female aged 20-24 years and a height of 160.4 cm (5’3”).

238) The LEH’s on I377’s teeth show she experienced stress at 1.5-1.9 years, 2.4 years, 3.03-3.2 years, 4-4.7 years, 5.3-5.5 years old.

239) I377 has a carious lesion on the mandibular right 2nd molar.

240) I377’s tooth wear is moderate and uniform.

241) I377 has a compression fracture on the 10th thoracic vertebra.

242) Compression fractures of the spine can be caused by stress or from trauma such as a fall (Ortner 2003). Compression fractures can result “in wedge shaped vertebra, flattened to a greater degree anteriorly. The consequent misalignment produces a forward bending (kyphosis) of the upper trunk, the degree of which is related to the difference in compression between the anterior and posterior ends of the vertebral body” (Aufderheide and Rodriguez-Martin 1998).

243) I377 has Schmorl’s nodes on the 11th and 12th thoracic and 1st lumbar vertebrae.

244) I377 had a plaited and interwoven hairstyle.

245) There was a small stone ear or hair ring.

246) I377 is buried singly in an unrobbed grave with some water damage; she was wrapped in textile and then a gereed mat coffin.

I123: Nefu

Assigned Birth and Death: 1358-1339

Assigned Family: 2

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 118, 124-125, 141, 147, 190

247) I123 is estimated to be a male aged 18-24 years with a height of 157.3 cm (5'2").

248) I123 has no teeth because no cranium was found with the body.

249) I123 had a healed fracture to the right radius with fairly good alignment.

250) I123 was buried with a child aged 6.5 years (I122).

251) The grave was disturbed or robbed and I123 was buried wrapped in textile and placed in a tamarisk mat coffin.

252) Under I123's hand was a steatite scarab, a beetle, with an ibex carved on the underside.

253) The "scarab was one of the most popular amulets in ancient Egypt [because it] not only [is an] image of the beetle that rolls balls of dung with in which its young are born, but also the hieroglyph hpr 'to become' 'to be transformed' ...[the ibex on a scarab] provides an additional regenerative level to the scarab [both protection and] rebirth and healing" (Strandberg 2009).

I221: Benipe

Assigned Birth and Death: 1350-1347

Assigned Family: 1

See notes 1-14, 16, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 82-84, 86-90, 121, 141, 242

254) Individual 221 is estimated to be 2.5 years old based on dentition and bone length.

255) This individual has growth and remodeling of the diaphysis of the humeri, radii, ulnae, femora, tibiae, and fibulae. The diaphysis of the upper limbs have “diameters consistent with a 6.5 year old” child from Akhetaten (Amarna Database). This might indicate the child was undertaking work that caused extraordinary growth.

256) I221 has a compression fracture of the 4th lumbar vertebra that caused the delay of growth.

257) I221 was buried singly in a robbed grave. I221 was interred in a stick coffin.

I201: Taia

Assigned Birth and Death: 1375-1343

Assigned Family: 12

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 141, 142, 147, 171, 194

258) Individual 201 is estimated to be possible female aged 25-40 years with a height 151.7 cm (4' 11 ½").

259) I201 had LEH's that indicate two periods of childhood stress, one at 2.1 years and 5.3 years.

260) I201 had mandibular canines and incisors that were rotated and displaced.

261) I201 lost teeth antemortem.

262) I201 had carious lesions on the maxillary right 1st and 2nd molar and 2nd premolar.

263) I201 had abscesses associated with the right maxillary canine and left maxillary central incisor, and right mandibular canine.

264) I201 had slight arthritic lipping on the 1st cervical (atlas) and dens of the 2nd cervical vertebrae (axis).

265) There is DJD on the 3rd-5th thoracic vertebrae.

266) I201's 9th thoracic and 1st-4th lumbar have Schmorl's nodes.

267) I201's 3rd and 7th left ribs have lipping.

268) There is lipping on the right talus.

269) The grave may have had a cairn, because three boulders were found in the grave fill.

270) I201 was buried in a single grave that had been disturbed. I201 was interred in a tamarisk coffin.

271) I201 had hair in a braid.

I141: Aka

Assigned Birth and Death: 1368-1344

Assigned Family: 7

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 116, 118, 124-125, 141, 147, 190

272) Individual 141 is estimated to be a male aged 18-24 years with a height of 165.7 cm (5'5").

273) Tooth wear is uniform and moderate.

274) I141 has a fracture of the left fibula at the distal end; it was possibly a compound fracture because there is osteomyelitis on both the fibula and the distal end of the tibia's diaphysis.

275) The pedal naviculars are lipped on the proximal articular surface.

276) I141 was buried singly in a robbed grave. I141 was wrapped in textile and a tamarisk mat coffin.

I353: Rabiah*Assigned Birth and Death: 1342-1339**Assigned Family: 16**See notes 1-14, 16, 18-25, 40-42, 45, 46, 47, 49, 51, 55, 57-58, 66-67, 82-84, 86-90, 121, 141*

277) Individual 353 was estimated to be a 2.5 year old based on dentition and bone length

278) I353 had mild active cribra orbitalia in the left eye orbit.

279) I353 has a circular enamel hypoplasia on the deciduous right mandibular canine.

280) I353 was buried together with two adult females I351, 15-24 years old, and I352, a 17-19 year old. The grave had been robbed in antiquity.

281) I353 was wrapped in textile and then in a halfa grass coffin.

282) I353 had a gold chain bracelet on the left wrist.

I061: Zahra*Assigned Birth and Death: 1372-1344**Assigned Family: 4**See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 96, 98, 104-108, 141, 142, 147, 194*

283) Individual 061 is estimated to be a female 25-35 years with a height of 154.9 cm (5'1").

284) I061 may have had a traumatic fracture of the 3rd cervical spinous process.285) I061 had a congenitally absent maxillary 3rd molar.286) I061 had a carious lesion on both mandibular 3rd molars.

287) I061 had mild to moderate tooth wear.

288) I061 had rotated mandibular canines.

289) I061 was buried with I023, a 25-33 year old male and I060, a 1.5 year old child. Most likely they were all buried at the same time though there is the possibility that I023 was interred at a later time. The grave was robbed in antiquity.

290) I061 was wrapped in textile and may have been in a tamarisk mat coffin.

I171: Lateef

Assigned Birth and Death: 1353-1335

Assigned Family: 9

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 124-125, 141

291) Individual 171 is estimated to be a male aged 19.5 years, height couldn't be estimated.

292) I171 had LEH's that show periods of childhood stress at 2.7-2.99 years, 3.3-3.5 years, 4 years, and 5-5.2 years old.

293) I171 had mild to moderate, uniform tooth wear.

294) I171 was buried singly in a grave that was robbed in antiquity in a textile and gereded coffin.

I091: Anqt

Assigned Birth and Death: 1337-1334

Assigned Family: 13

See notes 1-14, 16, 18-25, 27-39, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 82-84, 86-90, 121, 141

295) Individual 091 was estimated to be 3.5 years old based on dentition and bone length.

296) There was microporosity and pitting on both temporals, maxillae, and pars basilaris, which is indicative of scurvy.

297) I091 has active moderate bilateral cribra orbitalia.

298) Both of I091 has both tibiae bowed, which may be caused by nutritional deficiency.

299) I091 was buried with I087 a 2.5 year old, I090 a 25-35 year old female, and I093 a 35-50 year old female. They were interred in a single pit that was robbed in antiquity. I091 was wrapped in textile and buried in a palm leaf mat.

300) There were pottery sherds and a shallow, pottery dish given as offerings in the grave.

I068: Iihersu

Assigned Birth and Death: 1377-1345

Assigned Family: 4

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 96, 98, 104-108, 118, 141, 142, 147, 171, 242

301) I068 is an estimated female aged 25-35 years with a height of 156.6 cm (5' 1 ½").

302) I068 had long, plaited hair.

303) I068 had a compression fracture of the 4th lumbar vertebra.

304) I068 had a healed fractured pedal phalanx.

305) I068 had moderate and uniform tooth wear.

306) I068 was buried singly and the grave was robbed in antiquity. I068 was wrapped in textile and buried in a gereed mat coffin.

307) There was a wooden cosmetic tube containing kohl and a thin, wooden applicator.

308) Kohl is a “eye paint... green (malachite) or gray (galena). These minerals were ground and made into a paste, which was applied in heavy lines over the eyebrows and around the eyes by means of a little wooden or bone rod or by that handy implement, the finger” (Mertz 2009).

There were medicinal benefits, the copper in the green eye paint prevented bacteria entering the eyes (Nunn 1996 and Reeves 1992). Kohl also “called *mesdemet* and worn by both women and men of all walks of life...mesdemet is thought to protect the eyes from both the bright sun and

ocular diseases, which are not unusual in Egypt” (Ryan 2010). Make-up in ancient Egypt wasn’t limited to kohl, there were “treatments to skin [that] included oil of various types, gum, powder, resins, honey, milk. Kohl...[had] both symbolic and practical qualities...Slate palates for the grinding and preparation of eye paint have been found from Predynastic times onwards. Production of this eye paint has recently been shown to be a laborious process of ‘wet chemistry’” (Meskell 2002).

I278: Hotep-Ui

Assigned Birth and Death: 1359-1336

Assigned Family: 17

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 124-125, 141, 147, 171

309) Individual 278 is estimated to be a male aged 20-24 years with a height of 162.2 cm (5’4”).

310) I278 has LEH’s indicating periods of stress at 1.01 years, 2.1 years, 2.9 years, 3 years, and 3.69 years old.

311) I278’s left and right humeri have subchondral bone loss in the coronoid fossa; Subchondral bone loss has been associated with arthritis.

312) I278’s feet exhibit degeneration of the joints with lipping and bony spur development, with subchondral bone loss on navicular proximal articular surface. Some of the pedal phalanges have lipping around the articular surface.

313) I278 has a congenitally absent right 3rd molar.

314) There are carious lesions on the 2nd and 3rd right maxillary molar and left 2nd and 3rd mandibular molars.

315) I278 has uniform and moderate toothwear.

316) I278 had braided hair that was still attached to the skull.

317) I278 was buried singly in a grave that was robbed in antiquity. He was wrapped in textile and then a gereed mat coffin.

I097: Pakhet

Assigned Birth and Death: 1347-1343

Assigned Family: 14

See notes 1-14, 16, 18-25, 27-39, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 82-84, 86-90, 121, 141

318) Individual 097 is estimated to be a 3.5 year old based on dentition.

319) I097 had active bilateral cribra orbitalia.

320) Microporosity on both temporals indicates I097 may have had scurvy.

321) I097's growth was seriously underdeveloped, most likely due to poor nutrition.

322) I097 was buried singly in an unrobbed grave, wrapped in textile and then a halfa grass mat coffin.

I090: Milt

Assigned Birth and Death: 1361-1334

Assigned Family: 13

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142, 147, 242

323) Individual 090 is estimated to be a female aged 25-35 years with a height of 148.6 cm (4' 10 ½").

324) I090 has a LEH that shows she suffered childhood stress at 3.8 years old.

325) I090 had complete atrophy of all the right arm skeletal elements "(clavicle, scapula, humerus, radius, ulna, carpals, metacarpals, and phalanges)" (Amarna Database). This individual

probably couldn't use her arm because there was "possibly associated nerve damage" (Amarna Database).

326) As with many modern cultures, ancient Egyptians believed in helping and supporting those with disabilities. In the 'Instructions of Amenemope', the reader is told: "Do not laugh at a blind man, Nor tease a dwarf, Nor cause hardship for the lame...The god is his builder" (Lichtheim 1976). As Lorna Tilley points out in her Theory and Practice in the Bioarchaeology of Care (2015): "skeletal indicators of disability only exist by virtue of the care by others that helped this person to survive long enough for pathology to register in the bone".

327) I090 had a compression fracture of the 3rd lumbar vertebra.

328) I090 has a carious lesion on the right mandibular 2nd molar.

329) I090 has mild to moderate uniform toothwear.

330) I090 had significant misalignment of the anterior mandibular teeth.

331) I090 was buried in a pit with I087 (2.5 years old), I091 (3.5 years old), and I093 (Female 35-50 years old). It was an unusual burial, at least one of the bodies appears to have been reburied in antiquity. I090 was wrapped in a tamarisk mat coffin.

332) There were potsherds and a shallow pottery dish in the grave.

I042: Unsu

Assigned Birth and Death: 1370-1345

Assigned Family: 9

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 124-125, 141, 147, 190, 202

333) Individual 042 is estimated to be a male aged 20-25 years old with a height of 163.8 cm (5' 4 ½").

334) I042 has LEH's that indicate several periods of childhood stress: 2.3-2.4 years, 2.7 years, 4.4-4.6 years, 4.9 years, and 5.9 years old.

335) I042 had spondylolysis of the 5th lumbar vertebra.

336) I042 has Spina Bifida of the sacrum.

337) I042 was buried with I041 (12.5 years old) in a grave that was robbed in antiquity. I042 was wrapped in textile and a gereed mat coffin.

I180: Ja

Assigned Birth and Death: 1341-1337

Assigned Family: 17

See notes 1-14, 16, 18-25, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 82-84, 86-90, 116, 121, 141

338) Individual I180 is estimated to be 3.5 years old.

339) I180 had slight, healing bilateral cribra orbitalia.

340) I180 had active periostitis on both tibiae.

341) I180 was buried singly in a grave that was unrobbed. The child was wrapped in a gereed mat coffin (Amarna Database).

342) There were rocks placed at both ends of the grave, it is a possible they were a cairn or grave marker.

I100: Hunra

Assigned Birth and Death: 1367-1342

Assigned Family: 8

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 141, 142

343) Individual 100 is estimated to be a female aged 25-35 years with a height of 147.8 (4'10").

344) I100 had LEH's indicating periods of childhood stress at ages 3.8 years, 4.6-4.8 years, and 5.1-5.5 years old.

345) I100 had lytic and proliferative lesions on her left and right ilium and the sacrum. Another lesion on the ilium resembles periostitis. Most likely all lesions are from soft tissue neoplasms on possibly the ovaries or colon.

346) Neoplasm is another word for tumor, it "is a new growth of tissue that is uncoordinated with the normal tissue and may interfere with normal physiology" (Mann and Hunt 2012).

Benign tumors usually present no serious danger, but malignant tumors can grow rapidly or spread and can result in death of the individual (Mann and Hunt 2012).

347) The mummy of Lady Irtyersenu from 600 BC was examined first by Dr. Granville in 1845, who found an ovarian tumor that he believed caused her death. In 2010, Donoghue *et al.* determined that Lady Irtyersenu's tumor was benign, however they found she had tuberculosis and that this was most likely the cause of her death. A differential diagnosis of low probability for I100 is intestinal tuberculosis.

348) I100 had mild to moderate uniform tooth wear.

349) I100 was buried single in a grave that was robbed. She had been wrapped in textile and then a greeed mat coffin. There are two burials located near her that might be related to her I101 (30-50 Male) and I105 (16-22 year, sex undetermined).

350) I100 was buried wearing a bracelet on her left forearm made of carnelian, blue glass, light blue glass or stone, and copper alloy beads strung in a pattern that formed two rows.

351) Jewelry in ancient Egypt served several purposes: it was about sending signals, being an object of beauty, and also about magic and faith, as is seen in many cultures (Meskell 2005).

There were amulets and other forms of protection, such as the use of the wedjat eye. There were beads and decorations meant to beautify and draw the eye, using precious, semi-precious, and common (see note 132 on faience) materials. Jewelry could also signal status such as the use of specific metals: “copper for the commoner, gold for the nobly born” (Mertz 2008). Egyptian jewelry is gorgeous, often well made, and wonderfully diverse, we see examples both in depictions of what people wore in art on tombs and temples, and in artifacts recovered throughout Egypt and evolving in style over thousands of years. However, jewelry was one of the main targets of grave robbers, so it also the reason so many graves were disturbed at Akhetaten and many other sites.

I092: Dhouti

Assigned Birth and Death: 1378-1343

Assigned Family: 1

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 124-125, 171, 242

352) Individual 092 is estimated to be a male aged 25-35 with a height of 166.9 (5'5 ½").

353) I092 had LEH's that indicated several periods of childhood stress: 1.3-1.4 years, 2.2 years, 3.9 years, and 6-6.2 years old.

354) I092 had short hair with braids.

355) I092 had healed rib fractures on left rib 9 and the right 2nd and 3rd ribs.

356) I092 had three Schmorl's nodes on the 7th and 8th thoracic vertebrae.

357) There were two compression fractures on I092's 1st and 2nd thoracic vertebrae.

358) Two distal pedal phalanges of I092's left foot had fused to the intermediate phalanges.

359) I092 had moderate, healing bilateral cribra orbitalia.

360) I092 had DJD of the left shoulder and right elbow.

361) I092 had some asymmetry in the development of the muscle attachments.

362) Tooth wear was severe and the lingual surface of the maxillary incisors was uniquely worn down to the dentin.

363) I092 had lost both mandibular 3rd molars antemortem.

364) I092 was buried singly in a grave that was robbed in antiquity. There were traces suggesting he was wrapped in textile and then two layers of a plant-stem mat coffin.

I361: Tefnut

Assigned Birth and Death: 1348-1342

Assigned Family: 10

See notes 1-14, 16, 18-25, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 82-84, 86-90, 116, 121, 141

365) Individual 361 is estimated to be aged 5.5 years.

366) I361 had periostitis on the left fibula and right radius.

367) I361 had cribra orbitalia.

368) I361 was buried with I362 (30-39 years old female) in a grave that had been robbed in antiquity. I361 had been wrapped in textile and then a palm leaf mat.

I110: Mesta

Assigned Birth and Death: 1371-1342

Assigned Family: 14

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142,

190

369) Individual 110 is estimated to be a female aged 25-35 years old and with a height of 153.5 cm (5' ½").

370) I110 had a healed, slightly misaligned fracture (mid-diaphysis) to the left ulna.

371) I110 had spondylolysis of the 5th lumbar vertebra.

372) I110 had significant DJD to the lumbar vertebrae, slight DJD of the thoracic vertebrae, and slight DJD of the left and right elbows.

373) I110 is noted in the burial description as having no teeth to observe.

374) I110 was buried with I084 (a 25-35 year old male), I109 (9.5 year old), I111 (12.5 year old), in a grave pit that had been robbed. Because of the severity of the robber's disturbance, I110's body treatment and coffin are unknown.

375) There were potsherds found in the grave.

I099: Nane

Assigned Birth and Death: 1369-1338

Assigned Family: 6

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 124-125, 147, 242

376) Individual 099 is estimated to be a male aged 25-30 years old with a height of 165.2 cm (5'5").

377) I099 had an LEH that indicated a period of childhood stress at the age of 1.2 years old.

378) I099 had 22 Schmorl's nodes of varying severity, "likely from one or more major traumatic events" (Amarna Database).

379) I099's first cervical vertebra (atlas) has double articular facets and bony growths into the neural canal.

380) I099's tibial "plateaus are medially rotated and it is likely this individual would have appeared 'knock kneed'" (Amarna Database).

381) I099 had mild DJD on both knees and on the right elbow.

382) I099 had three small carious lesions on the mandibular left 3rd molar and the right 2nd and 3rd molar.

383) I099 had mild to moderate tooth wear.

384) I099 was buried singly in a grave that was robbed in antiquity. I099 was wrapped in textile and then a gereed mat coffin.

385) There were potsherds found in I099's grave.

I025: Sam-Ta

Assigned Birth and Death: 1348-1341

Assigned Family: 17

See notes 1-14, 16, 18-25, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 82-84, 86-90, 121, 141

386) Individual 025 is estimated to be 6.5 years old.

387) I025's age is based on dentition because long bone lengths indicate I025 suffered childhood stress and inadequate nutrition.

388) I025 has LEHs that unfortunately were not recorded.

389) I025 was buried singly in a grave that was robbed in antiquity. I025 was wrapped in textile and then placed in a reed/gereed mat coffin.

I120: Nehimeou

Assigned Birth and Death: 1365-1337

Assigned Family: 1

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142, 147, 171, 194, 308

390) Individual 120 is estimated to be a female aged 25-29 years and a height of 150.0 cm (4' 11").

391) I120 had long, braided hair.

392) There was a fracture to I120's right mandibular condyle/ramus, it healed poorly and caused significant remodeling to the TMJ.

393) I120 has lost the maxillary and mandibular left 3rd molars antemortem.

394) I120 has carious lesions on the mandibular left 2nd molar and right 2nd and 3rd molars.

395) There is an abscess below I120's right mandibular 2nd molar.

396) I120 had mild to moderate, uniform tooth wear.

397) Her mandibular canines were rotated, and the incisors were displaced.

398) I120 was buried singly in an unrobbed grave, wrapped in textile and then placed in a greeed coffin.

399) I120 was buried with a copper alloy mirror, a wooden cosmetic applicator, and a mass of braided hair (possibly her own or a wig). The mirror and applicator had been wrapped in textile.

400) Mirrors served several purposes: they could be used for arranging hair, tweezing, or applying makeup. In *The Admonitions of Ipuwer* it describes how: "A woman who (once) had to gaze on her face in the water now has a mirror" (Szpakowska 2008). Many mirrors had special carrying cases. Made of leather or baskets. Mirrors were for both men and women (Mertz 2009). Mirrors are connected to the goddess Hathor. "Possessing a mirror indicated a certain degree of status... That some of the mirrors were inscribed with the titles of priests and priestesses raises

the possibility that they could have been used... with formal temple or shrine rituals”

(Szpakowska 2008).

401) In ancient Egypt, wigs were commonly worn by men and women, rich to poor. Many depictions of people, especially women, show them wearing elaborate wigs. When a woman’s hair wasn’t enough to be shaped into one of the complicated hairstyles, she could also use extensions of human hair to pad out her own. Most wigs recovered are made of human hair (Mertz 2008, Meskell 2005).

I107: Chons

Assigned Birth and Death: 1381-1345

Assigned Family: 2

See notes 1-14, 45, 46, 49, 51, 53, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 124-125, 147, 171, 194

402) Individual 107 is estimated to be a male 25-35 years with a height of 175.5 cm (5’9”).

403) I107 had short, fine hair and traces of a beard.

404) I107 had seven healed, remodeled rib fractures.

405) I107 had three healed fractures of the left 1st-3rd proximal pedal phalanges.

406) I107 had a healed fracture to the left distal radius and the right lateral clavicle.

407) I107 had six Schmorl’s nodes on the 7th, 8th, and 12th thoracic, and 1st, 2nd, and 4th lumbar vertebrae.

408) DJD was found on all the major joints of the arms and legs as well as the thoracic and lumbar vertebrae of I107.

409) I107 lost nine teeth antemortem.

410) I107 had three abscesses, one on the maxillary right canine, mandibular right canine, and left lateral incisor.

411) I107 has nine carious lesions on both maxillary 2nd molars, right maxillary lateral incisor, both left 3rd molars, both mandibular right premolars, both mandibular canines.

412) I107 has severe and uniform wear.

413) I107 was buried singly in a grave that was robbed in antiquity, wrapped in textile and then placed in a tamarisk mat coffin.

I045: Hatmehyt

Assigned Birth and Death: 1350-1344

Assigned Family: 8

See notes 1-14, 16, 18-25, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 82-84, 86-90, 98, 121, 141

414) Individual 045 is estimated to be aged 6.5 years.

415) I045 had active cribra orbitalia in the right orbit.

416) I045 had mild, uniform tooth wear.

417) I045 was buried with I044 (a 1.5-2.5 year old) in a robbed grave. I045 was wrapped in textile and then a reed-matting coffin.

418) There were two ear/hair rings {38526 ii}, plant seeds/grain, a paddle shaped piece of wood which was tentatively identified as boat paddle or a model of a boat paddle {38537}, and a small metal blade [copper/bronze] with a wooden handle {38538} which may be a carpenter's adze, in the context of a burial, this tool may represent that it may have been used in the opening of the mouth ceremony (Stevens 2008).

419) The opening of the mouth ceremony occurred at funerals to enable the "deceased to communicate with the gods and the dead, and to ensure the preservation of the body through the

provision of sustenance” (Harrington 2013). Opening the mouth allowed the deceased to consume the offerings made by the living.

420) Boats were incredibly important to the ancient Egyptians. Their lives revolved around the Nile, which flows “straight and navigable for almost six hundred miles...Constant communication between east and west banks was necessary, particularly when a city was built on the east side and its cemetery, as dogma preferred, on the west...Perhaps the pyramids and the massive temples could never have been built without the river... Oars and paddles... were used throughout Egyptian history” (Mertz 2009). Because of the centrality of the river to life, farming, and travel, when the Egyptians envisioned the afterlife a version of the Nile ran through it connecting the living and the dead. Boats were buried near the pyramids and tombs, and models or paintings of boats were found in tombs. Many funerals involved taking the deceased from the east bank to the west and “New Kingdom texts refer to the ferry as the neshmet barque, the sacred boat of Osiris, an allusion to the deceased’s association with the god of the afterlife” (Teeter 2011). The Egyptian underworld, the Duat or Amduat, “contained rivers, lakes, and marshy areas. Therefore, deities and the spirits of the dead were often shown or described as traveling by boat...[In the Coffin Texts and Book of the Dead] the deceased soul has to persuade a divine ferryman to help him or her across the rivers of the afterworld...funerary spells were intended to assist the dead to join the crew of the solar barque. This was the boat in which the sun god traveled across the sky [and fought off chaos and darkness on the journey]... through the underworld” (Pinch 2002).

I147: Ehe*Assigned Birth and Death: 1367-1339**Assigned Family: 6**See note 1-14, 45, 46, 49, 51, 53, 66-69, 77-78, 82-84, 86-90, 98, 118, 141, 142, 147, 308, 351*

421) Individual 147 was estimated to be a female aged 25-29 years old of a height of 147.5 cm (4'10").

422) There was a healed fracture to I147's left patella that resulted in a pseudoarthrosis.

423) Four of I147's teeth had six carious lesions: the maxillary right 2nd and 3rd molars, the mandibular left 3rd molar, and mandibular right 3rd molar.

424) I147 was buried with I145 (a 5.5 year old) and I146 (a 10.5 years old). The grave was robbed in antiquity. I147 was wrapped in textile, then a reed mat, and then a tamarisk mat coffin.

425) A stela was found near the grave, it is unclear if it was for this grave.

426) I147 had a blue faience wedjat eye ring, and a stick of kohl, beads, a white faience ear/hair ring, and a possible palm leaf basket or body wrap were found in the grave.

427) The wedjat eye was a potent and popular symbol to the ancient Egyptians, it represented healing and protection, as the magical eye of Horus. In the myth of Osiris, the god was betrayed and killed by his brother Seth who cut up his body and scattered the pieces over the earth. Isis, a goddess of healing and magic, travelled the earth collecting the pieces of her dead husband, who was also her brother, and put him back together, wrapping him in linen and creating the first mummy. Horus used his magical eye to resurrect his father and imbue Osiris with a kind of existence, but Osiris had to stay in the afterworld as its ruler. The union of Isis and Osiris resulted in the birth of Horus, a falcon headed god that would come to be associated with the sun, kingship, and creation. His eyes were the sun and the moon and he was considered Lord of the Heavens. He fought his uncle to avenge his father, during the battle he lost both or one of his

eyes, (in the single eye version it's the lunar eye). There are several different versions of the myth, sometimes Horus heals himself, sometimes his Uncle buries his eyes and Hathor heals Horus, and sometimes Anubis buries the eyes and Isis heals Horus, sometimes Thoth finds the eye(s). The new eye or eyes being the product of magical healing are very powerful and the fact that the eye(s) resurrected Osiris made them a symbol of making a body whole and giving life to the dead (Pinch 2002). Egyptians used the wedjat eye as a symbol of protection, of the triumph of order over chaos, of healing, and a symbol of rebirth.

I131: Tebu

Assigned Birth and Death: 1364-1334

Assigned Family: 14

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 124-125, 147, 171, 242

428) Individual 131 was estimated to be a male, 20-35 years old with a height of 163.3 cm (5'4 ½").

429) I131 had short, black hair.

430) I131 had a healed fracture of the left ulna with poor alignment, a healed fracture of the intermediate phalanx of the right 5th digit of the hand.

431) I131 had a compression fracture of the 5th and 6th cervical vertebrae and the 1st, 2nd, and 3rd lumbar vertebrae.

432) The 1st cervical vertebra's condyles and the condyles of the occipital have extended surfaces.

433) I131 had a Schmorl's node of the 3rd lumbar vertebra.

434) I131's left mandibular condyle has a large, bony spur on the anterior surface and left temporomandibular joint has bony development on the posterior margin indicative of TMJ.

435) I131 had slight, healed cribra orbitalia in the right orbit.

436) I131's left maxillary 1st and 2nd molars have carious lesions.

437) I131 had moderate, uniform tooth wear.

438) I131's mandibular canines were slightly rotated and the incisors slightly displaced.

439) I131 was buried singly in a grave that was robbed. He was wrapped in textile and then placed in a gereed mat coffin.

440) There were potsherds found in the grave.

I192: Krr

Assigned Birth and Death: 1349-1342

Assigned Family: 6

See notes 1-14, 16, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 82-84, 86-90, 98, 121, 141, 427

441) Individual 192 was estimated to be 6.5 years old.

442) I192's bone lengths show the child suffered childhood stress and/or poor nutrition.

443) I192's teeth had mild, uniform wear.

444) I192 was buried singly in a grave that was robbed in antiquity. The child was wrapped in textile and then a gereed mat coffin.

445) I192 had a faience cylinder and ring beads, one wedjat eye bead, a small wooden ear stud, and potsherds.

I154: Akusaa*Assigned Birth and Death: 1363-1337**Assigned Family: 15*

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 71, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 110, 116, 118, 141, 142, 147

446) Individual 154 was estimated to be a female aged 25-35 with a height of 157.7 (5'2").

447) I154 had LEHs indicating periods of childhood stress at 4.4-4.8 years and 5.3-5.6 years old.

448) I154 had mild healed periosteal reactions on the right proximal, anterior-lateral surface of the fibula and the left tibia's distal lateral surface.

449) I154 had Schmorl's nodes on the 1st and 2nd lumbar.

450) I154 had a large bony development on the right femur's distal posterior surface, the ossification of the gastrocnemius.

451) I154 had slight DJD of both knees.

452) I154 had mild, uniform tooth wear.

453) I154 died pregnant and was buried with I155, a 34-week fetus in a grave that had been robbed in antiquity. She was wrapped in textile and a reed-matting coffin.

I137: Ma-mai*Assigned Birth and Death: 1371-1341**Assigned Family: 1*

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 124-125, 147, 171

454) Individual 137 was estimated to be a male aged 25-35 years old with a height of 157.9 cm (5'2").

455) I137 had LEHs indicating periods of childhood stress at around 3.7-3.9 years and 4.1 years of age.

456) I137 had traces of a reddish beard.

457) Egyptians sometimes used henna to dye their hair (Mertz 2008). Ancient Egypt had contact with Mediterranean and Asiatic peoples at this time (Fluehr-Lobban and Rhodes 2004).

458) While beards were not common in ancient Egypt, there were some who wore them, (see the earlier mention of the Turin papyrus in note 165).

459) I137 had three Schmorl's nodes.

460) I137 had DJD of the vertebrae, shoulders, elbows, hips, and knees.

461) I137 had TMJ.

462) The 5th metacarpal of I137's left hand had been fractured and then healed.

463) The 5th metatarsal of I137's right foot had fractured and healed with a pseudoarthrosis of the styloid process.

464) Both of I137's left 2nd molars were lost antemortem.

465) I137 had moderate, uniform tooth wear.

466) I137 was buried singly in a grave that had been robbed in antiquity; he was wrapped in textile and a gereed mat coffin.

I314: Pna

Assigned Birth and Death: 1358-1339

Assigned Family: 2

See notes 1-14, 16, 18-25, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 82-84, 86-90, 98-101, 121,

141

467) Individual I314 was estimated to be 7.5 years old.

468) I134 had an LEH that indicated a period of childhood stress around 1.2 years of age.

469) I314's hair was in plaited locks.

470) I134 had active, bilateral cribra orbitalia.

471) There was an enthesiopathic lesion on I134's left ulna.

472) I134 had a congenital absence of the 11th thoracic vertebra and associated left and right ribs.

473) I134 had mild, uniform tooth wear.

474) I314 was buried singly, wrapped in textile and placed in a wooden coffin.

475) I314 had two ear/hair rings, one glass and one faience.

I198: Ty

Assigned Birth and Death: 1367-1337

Assigned Family: 4 and 2

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142, 147, 194, 215

476) Individual 198 is estimated to be a female, aged 25-35 years old with a height of 156.5 cm (5'1 ½").

477) I198 had LEHs that indicated periods of childhood stress at 2.3-2.5 years and 3.2-3.7 years old.

478) I198 had a healed, broken nose.

479) There was a lytic lesion on I198's manubrium and new bone growth on the costal facets of the sternal body.

480) Marks of avulsion caused pitting and porosity on the medial end of I198's right clavicle.

481) There was bilateral pitting of the coronoid of I198's humeri, which might be evidence of hyperflexion of the elbow.

482) Evidence that I198 had suffered bilateral trauma of the os coxae, resulting in porosity of the acetabular fossae.

483) I198's left femoral head had pitting suggestive of subluxation.

484) I198 had a Schmorl's node on the 1st and 5th lumbar vertebrae.

485) There were osteophytes on I198's 4th lumbar vertebra.

486) I198 had periosteal activity on the left and right transverse processes of the 5th lumbar vertebra.

487) I198 had lost four teeth antemortem: the left maxillary 2nd molar, right maxillary 3rd molar, left mandibular 3rd molar, and right mandibular 2nd molar.

488) I198 had two abscesses and three carious lesions.

489) I198 was buried with I196 (3.5 year old) in an undisturbed grave. I198 was wrapped in textile and then in a tamarisk mat coffin.

I153: Ra

Assigned Birth and Death: 1366-1337

Assigned Family: 13

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 124-125, 147, 194, 215, 242

490) Individual I153 is estimated to be a probable male aged 25-40 years old with a height of 169.6 cm (5'7").

491) I153 had an LEH indicating a period of childhood stress at 4.4 years of age.

492) I153 had slight, healing cribra orbitalia.

493) There was periosteal reactions on I153's right tibia's diaphysis and left fibula's diaphysis.

- 494) There were compression fractures on I153's 2nd, 7th, and 9th thoracic and 5th lumbar vertebrae.
- 495) I153 had osteophytes on the 3rd and 4th cervical and the thoracic vertebrae.
- 496) There were five carious lesions on I153's right maxillary 2nd molar, left maxillary 1st premolar, and all three left maxillary molars.
- 497) I153 had abscesses on the left maxillary 2nd molar and left maxillary canine.
- 498) Tooth wear for I153 was moderate to severe and uniform.
- 499) I153's right mandibular canine was rotated and the right incisors displaced.
- 500) I153 was buried singly in a grave that was robbed in antiquity. I153 was found in wrapped in two layers, the inner a tamarisk mat coffin and then a reed mat coffin. There was no evidence of textile, but it could have degraded over time.

I124: Nyn

Assigned Birth and Death: 1348-1339

Assigned Family: 2

See notes 1-14, 16, 18-25, 40-42, 45, 46, 47, 49, 51, 55, 57-58, 66-67, 82-84, 86-90, 98, 121, 141

- 501) I124 is estimated to be 8.5 years old.
- 502) I124 had LEHs that indicated periods of childhood stress at 2 years, 2.3 years, and 2.6 years of age.
- 503) I124 had slight, healed bilateral cribra orbitalia.
- 504) There was porosity on I124's maxillae and palatines.
- 505) I124's C1 (atlas) had an unfused posterior arch.
- 506) There was a growth of bone extending from the occipital to the transverse process of the atlas.

507) I124 had mild, uniform wear on the teeth.

508) I124 was buried singly in a grave that was disturbed by robbers in antiquity, the textile and matting in the grave was too degraded to make any observations about body treatment.

I219: Phut

Assigned Birth and Death: 1382-1343

Assigned Family: 3

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142, 147, 171, 194

509) I219 is estimated to be a female, 35-39 years old with a height of 146.7 cm (4'10").

510) I219 had LEHs that indicated periods of childhood stress at 0.88-1.8 years, 2.2-2.6 years, 4.5 years, 5-5.8 years, and 6.4-6.9 years old.

511) I219 had bilateral TMJ disease.

512) I219 had long braided hair.

513) There were Schmorl's nodes on I219's 7th-9th and 11th thoracic and 1st and 2nd lumbar vertebrae.

514) I219's 3rd and 4th lumbar vertebrae were fused.

515) There was a compression fracture of I219's 4th lumbar vertebrae.

516) There was DJD of the 3rd and 9th thoracic, 1st, 2nd, and 5th lumbar vertebrae.

517) There was arthritic lipping on the left hand distal phalanges, the right hand proximal and distal phalanges, the left 1st metatarsals, and lipping to the left and right acetabula.

518) I219's maxillary canines were congenitally absent.

519) I219 had carious lesions on the left 3rd molars and the left mandibular 2nd molar.

520) There were abscesses near I219's left mandibular 2nd molar and right maxillary central incisor.

521) I219 had moderate to severe, uniform tooth wear.

522) The mandibular teeth were rotated and displaced.

523) I219 was buried singly in a grave that was robbed in antiquity. She was wrapped in textile and placed in a gereed mat coffin.

524) There were potsherds in I219's grave.

I191: Apophis

Assigned Birth and Death: 1363-1337

Assigned Family: 14

See notes 1-14, 45, 46, 49, 51, 53, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 124-125, 147, 171, 475

525) Individual 191 was estimated to be a male aged 25-35 years with a height of 162.7 cm (5'4").

526) I191 had multiple fractures: the right 7th and 8th ribs, the left 10th rib, the right 2nd metatarsal, the left 3rd metatarsal, and the left ulna's distal portion.

527) There was a compression fracture to I191's 3rd lumbar vertebra.

528) The 3rd and 4th lumbar vertebrae were fused and there was partial fusion of I191's 5th lumbar to the sacrum.

529) I191 had DJD at the site of all injuries and mild DJD to the left occipital condyle, the distal end of the right radius, both hips and both knees.

530) Periosteal reactions were noted on both of I191's tibiae.

531) I191 had a Schmorl's node on the 3rd lumbar vertebra.

532) The dorsal surface of the scapulae had bony growth suggestive of trauma.

533) The scapulae have piercing wounds that perforated the bone, but show signs of healing.

534) At least five adult males recovered from the South Tombs Cemetery “exhibit slot-type fracture lesions of the scapula... Given location, morphology, and the surrounding bony changes, these lesions are consistent with sharp force trauma, specifically stabbing...most likely represent the consequences of corporal punishment... known from Egyptian literature for... a wide range of civil and criminal activities” (Dabbs and Zabecki 2015). Dabbs presented the theory that there was a need to punish people in a way that would still allow them to continue working. A policeman or soldier with a spear would stand above the person to be punished, who would be forced to lay on their stomach with their arms stretched out to the sides. The spear was jabbed almost surgically, but brutally, into the shoulder blades. In a decree by Seti I from the 19th Dynasty that was carved at Nubia, there is mention of a mysterious form of punishment known as the “five open wounds” (Tyldesley 2000), which could include the injuries to the scapulae.

535) In ancient Egypt, when a person committed a crime, there were no prisons. If a person was found guilty they might be sentenced to a “work gang or given a physical punishment ranging from beating and wounding through mutilation of the face to death by impaling on a post” (Tyldesley 2000).

536) I191 lost 19 teeth antemortem.

537) I191 had severe, uniform wear on the teeth.

538) There was not enough enamel to observe linear enamel hypoplasias.

539) I191 was buried singly in a grave that was unrobbed. He was wrapped in textile and a tamarisk mat coffin. There was alluvial bricks or plaster under the lower matting when the skeleton was removed from the grave.

540) I191 had short, dark brown hair and a beard.

541) I191 had potsherds in the grave.

I129: Aper

Assigned Birth and Death: 1355-1346

Assigned Family: 4 and 2

See notes 1-14, 16, 40-42, 45, 46, 47, 49, 51, 55, 57-58, 66-67, 82-84, 86-90, 98, 121, 141

542) Individual 129 is estimated to be 8.5 years old.

543) I129 has LEHs indicating periods of childhood stress at 2.5-2.8 years and 3.03-3.8 years of age.

544) I129's tibiae and fibulae were both bowed laterally.

545) There was porosity and reactive bone on I129's scapular spinous processes and acromion processes, suggesting nutritional deficiency.

546) I129 had the shortened long bone growth when compared to dental age common for the children of Akhetaten.

547) Tooth wear was mild and uniform.

548) There was rotation and displacement of I129's mandibular incisors.

549) I129 was buried singly in a grave that was not robbed. The child was wrapped in textile and placed in a tamarisk mat coffin.

I356: Tayet

Assigned Birth and Death:

Assigned Family: 14

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 110, 116, 118, 141, 142, 147, 194

- 550) Individual 356 is estimated to be a female aged 25-35 with a height of 152.1 (5'0").
- 551) I356 has LEHs that indicated periods of childhood stress at 2.2 years, 4.3-4.9 years, and 5.1-5.4 years old.
- 552) There was active periostitis on both of I356's radii.
- 553) Lipping was observed on I356's anterior margins of T4-10 and L1-5 vertebrae.
- 554) There was lipping on both acetabula of I356's os coxae.
- 555) There is DJD on the left and right carpals, metacarpals, and phalanges, lipping on the articular surfaces.
- 556) Both patellae have subchondral bone loss and ossification of the patellar ligament.
- 557) I356 has lipping on six pedal phalanges articular surface.
- 558) There are fractures to the left 11th rib and left 5th metacarpal that are healed.
- 559) The 11th thoracic spinous process didn't fuse and the spinous process on the 12th is only partially fused.
- 560) The right 2nd mandibular premolar through the right 3rd molar and the left 2nd and 3rd molars were lost antemortem.
- 561) There were abscesses at the left mandibular 1st molar, 2nd premolar, and central incisor.
- 562) Tooth wear is severe.
- 563) Both mandibular canines are rotated.
- 564) I356 was buried singly, the grave robbed in antiquity. She was wrapped in textile and placed in a gereed mat coffin.

I200: Sos*Assigned Birth and Death: 1362-1332**Assigned Family: 13*

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 124-125, 147, 190, 242

565) Individual 200 is estimated to be a male aged 25-40 years with a height of 156.8 cm (5'1 ½").

566) I200 has LEHs that indicate periods of childhood stress at 1.4-1.6 years, 2.2-2.3 years, 2.4-2.7 years, 3.1-3.4 years, 4.01-4.6 years, 5.2 years, and 6 years of age.

567) There was porosity on I200's left and right wings of the sphenoid.

568) The right ulna's distal end had a well-healed fracture.

569) I200 had twelve Schmorl's nodes on 5th-11th thoracic vertebrae.

570) There were compression fractures to the 4th and 5th lumbar vertebrae.

571) There is spondylolysis of the 5th lumbar vertebra.

572) I200 had arthritic lipping on the left and right metatarsals, with eburnation on the left, and lipping on the left and right 1st proximal pedal phalanges.

573) Sacral vertebrae 1, 2, and 3 have woven bone on their surfaces.

574) The tooth wear is severe and uniform.

575) I200 was buried singly in a grave that was robbed in antiquity. The skeleton was bound but no textile was found in the grave, then the body was placed in a tamarisk mat coffin.

I109: Sed*Assigned Birth and Death: 1346-1336**Assigned Family: 14*

See notes 1-14, 16, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 82-84, 86-90, 98, 121, 141

576) Individual 109 is estimated to be 9.5 years old.

577) I109 has LEHs that indicate periods of childhood stress at 2.4 years, 3.1-3.9 years, and 4.1 years old.

578) I109's shortened long bone length when compared to dental age suggests childhood stress.

579) Tooth wear is mild and uniform.

580) I109 was buried with I084 (25-35 years Male), I110 (25-35 years Female), and I111 (12.5 years), It was robbed in antiquity. I109 was buried in a finer type of reed mat coffin more often seen with children (Stevens In Press).

581) Potsherds were found in the grave.

I357: Nephthys

Assigned Birth and Death: 1366-1338

Assigned Family: 14

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 141, 142, 147, 242, 253, 351

582) Individual 357 is estimated to be a female aged 20-35 years with a height of 155.2 cm (5'1").

583) I357 had LEHs that indicated periods of childhood stress at 2.8-2.9 years, 3.1-3.8 years, 4.1-4.8 years, and 5 years old.

584) I357 had severe active bilateral cribra orbitalia.

585) The left tibia had a small patch of healed periostitis.

586) There was a healed compression fracture to I357's 5th lumbar vertebra.

587) There were carious lesions on the right mandibular 2nd and 3rd molars.

588) The right maxillary molar root had an abscess.

589) Mild to moderate, uniform tooth wear.

590) The maxillary canines were rotated and displaced.

591) I357 was buried in a pit with I358 (50+ Female) and I359 (17-23 years Male). The grave had been robbed in antiquity. I357 was wrapped in textile and placed in a tamarisk mat coffin.

592) There was a cowroid bead incised with a lizard in the grave and I359 had a small, blue faience scarab.

I295: Mose

Assigned Birth and Death: 1365-1339

Assigned Family: 15

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 114, 118, 124-125, 147, 242, 534, 535

593) Individual 295 was estimated to be a male aged 30-50 years with a height of 171.8 cm (5'7 ½").

594) I295's teeth had LEHs that indicated a period or periods of childhood stress at 3.3-3.9 years old.

595) There was a healed fracture with poor alignment to the hyoid bone.

596) The location and fragility of the hyoid means that in forensic cases it is often an sign of manual or ligature strangulation.

597) The left scapula has evidence of stab wounds.

598) The right ulna of I295 has osteochondrosis dessicans.

599) The 4th cervical vertebra has a compression fracture and osteophytes.

600) There was a bony spur on the 6th cervical vertebra.

601) I295 had DJD of the articular surface of all tarsals.

602) All of I295's maxillary molars as well as the left 1st mandibular molar had caries.

603) The teeth have extreme wear.

604) I295 was buried singly in a grave that was robbed in antiquity. He was wrapped in textile and placed in a gered mat coffin.

I041: Ouei

Assigned Birth and Death: 1351-1339

Assigned Family: 9

See notes 1-14, 16, 18-25, 40-42, 45, 46, 47, 49, 51, 55, 57-58, 66-67, 82-84, 86-90, 98, 121, 141, 202

605) Individual 041 was estimated to be 12.5 years old.

606) I041 had LEHs indicating periods of childhood stress at 3.2-3.3 years, 3.5 years, 4.6 years, and 5.3 years old.

607) There was mild healed cribra orbitalia in I041's left orbit.

608) I041 had spina bifida of the 5th lumbar and 1st-5th sacral vertebrae, although there is also the possibility that this was a sign of delayed growth.

609) The maxillary and mandibular canines were rotated and the incisors displaced.

610) I041 was buried with I042 (20-25 year old male). I041 was wrapped in textile and reed mat coffin.

I276: Bentmut

Assigned Birth and Death: 1378-1342

Assigned Family: 16

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142, 147, 171, 215, 242

611) Individual 276 is estimated to be a female aged 30-39 years with a height of 154.1 cm (5' ½").

612) There were healed fractures to the 4th-6th right ribs, the 4th left rib, the left 5th metacarpal, the left proximal digital phalanx, the right 1st metatarsal, the 1st and possibly 2nd right proximal pedal phalanges.

613) There were compression fractures to the 1st-11th thoracic vertebrae.

614) There was subchondral bone destruction to the 4th-7th cervical bodies.

615) I276 had osteophytes on all lumbar vertebrae.

616) The left and right femora at the distal end and the left and right tibiae at the proximal end exhibit lipping.

617) The distal articular surface of the right fibula has subchondral bone loss.

618) I276 has moderate to severe tooth wear.

619) I276 was buried singly in a grave that was robbed in antiquity, wrapped in textile and placed in a gered coffin.

620) Plaited hair was found in I276's grave.

621) There was a steatite bead (40084) and potsherds, some painted, in the grave.

I223: Pthah-mes

Assigned Birth and Death: 1370-1338

Assigned Family: 1

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 124-125, 138, 147, 194, 207

622) Individual 223 is estimated to be a male aged 27-40 with a height of 156.5 (5' 1 ½").

623) There is an LEH that indicates that I223 suffered a period of childhood stress at around 3.9 years of age.

624) I223 had symptoms of DJD of both elbows and his vertebral column.

625) I223 had TMJ.

626) The right occipital condyle was longer and there was lipping.

627) I223 had mastoid asymmetry, possibly related to the TMJ or caused by mastoiditis.

628) There was evidence of a healed fracture to I223's nasal bones.

629) I223 had fractures to bones in both left and right hands.

630) There were fractures to I223's 2nd right rib and left ribs 2, 5, 8, and 9, there were also possible perimortem fractures of the right 2nd-11th ribs and the 3rd-11th left ribs.

631) Three of I223's teeth: the right maxillary PM2, the left M2, and the mandibular right M2, were lost antemortem.

632) The maxillary right M1 and PM1 had abscesses.

633) I223's teeth showed signs of severe, uniform wear.

634) I223 was buried singly in a grave that had been covered with a cairn of ten limestone boulders. It was robbed in antiquity. I223 was wrapped in textile and then a gereed mat coffin.

635) There was a small piece of faience found with I22.

I111: Ruty

Assigned Birth and Death: 1347-1334

Assigned Family: 14

See notes 1-14, 16, 18-25, 40-42, 45, 46, 47, 49, 51, 55, 57-58, 66-67, 82-84, 86-90, 98, 121, 141

636) Individual 111 was estimated to be 12.5 years old.

637) I111 had LEH's that indicate periods of childhood stress at 2.8 years, 3.6 years, 4.6 years, and 6.5 years old.

638) I111 had severe bilateral cribra orbitalia.

639) There was a 2.5-year difference between I111's dental age and long bone age suggestive of childhood stress and/or malnutrition.

640) Individual 111 was buried with I82 (25-35 year old male), I109 (9.5 years old), I110 (25-35 year old female in a grave pit that was robbed in antiquity. I111 was buried in a tamarisk mat coffin.

I329: Weret

Assigned Birth and Death: 1374-1338

Assigned Family: 10

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142, 147, 171, 194

641) Individual 329 was estimated to be female aged 30-50 years with a height of 163.8 cm (5'4 ½").

642) Had LEHs but no measurements were recorded, but indicate periods of childhood stress.

643) I329 was found with shoulder length braids.

644) There was a 8.24 mm diastema between I329's maxillary central incisors.

645) The ligamentum flavium was calcified on the 3rd-12th thoracic vertebrae.

646) I329's 5th lumbar vertebra was partly sacrilized.

647) I329 had carious lesions on the left and right mandibular M2s.

648) I329 had an abscess near the right mandibular M2

649) I329's tooth wear was moderate and uniform.

650) I329 was buried singly in an unrobbed grave, wrapped in textile and then placed in a tamarisk mat coffin.

I230: Har-bai

Assigned Birth and Death: 1369-1334

Assigned Family: 17

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 124-125, 147, 242, 351

651) Individual 230 is estimated to be a male aged 30-45 with a height of 155.4 cm (5'1").

652) I230 had LEHs that indicate he suffered from periods of childhood stress at 1.6 years, 2.1-2.6 years, 3.5 years, and 4.4-4.5 years old.

653) There was evidence of healed cribra orbitalia in I230's right eye orbit.

654) There was DJD throughout the postcranial joints, especially the elbows, hands, right knee, and vertebral column.

655) I230 had a fracture to the right femur that healed at an angle that curved laterally and was displaced at the proximal end.

656) A piece of wood found in the grave may have been related to I230's deformed femur.

657) Walking sticks and staves were used in Egypt by the healthy and injured or deformed, the rich and the poor, the young and the old. Tutankhamen, for instance, was buried with 130 different canes, staves, and walking sticks. There are hieroglyphic signs that show old men or old women with walking sticks. There is also art in tombs and temples that show individuals with walking sticks, for example there is an old, white haired woman with a cane depicted in the tomb of Huy who served under Tutankhamen (Janssen and Janssen 2007).

658) There were antemortem fractures to the 7th and 12th right ribs and 4th and 5th left ribs.

659) Fractures were found on I230's 4th and 5th right metatarsals and healed fractures to the proximal pedal phalanx of the left foot.

660) I230 has Schmorl's nodes on the 6th, 7th, 9th, and 12th thoracic and 1st-3rd lumbar.

661) The 2nd-5th thoracic vertebrae have fractures to the right inferior articular facets and fractures to the right superior articular facets of the 3rd-6th thoracic vertebrae. There were antemortem fractures to the right transverse processes to the 4th-10th thoracic vertebrae that caused inferior displacement.

662) I230 had a compression fracture of the 4th and 5th lumbar vertebrae with a chip out of the body of the 5th vertebra related to the compression fracture.

663) The right maxillary and mandibular M1s and M2s and left maxillary PM1 through the M2 were lost antemortem.

664) The right maxillary PM1 had a carious lesion.

665) Tooth wear was moderate and uniform.

666) There was slight displacement of the right mandibular canine, lateral incisor, and left central incisor.

667) I230 was buried singly in a grave that was robbed in antiquity. He was wrapped in a greeed mat coffin.

668) A copper ring was found on the 2nd toe of the right foot. There was also pottery in the grave.

I149: Kek-T

Assigned Birth and Death: 1359-1346

Assigned Family: 15

See notes 1-14, 16, 18-25, 40-42, 45, 46, 47, 49, 51, 55, 57-58, 66-67, 82-84, 86-90, 98, 121, 141

669) Individual 149 is estimated to be a child aged 12.5 years old.

670) I149 has an LEH suggesting a period of childhood stress at the age of 3.5 years old.

671) The difference between dental age and long bone lengths is suggestive of childhood stress and malnutrition.

672) I149 was buried singly in a grave that was robbed in antiquity. The child was wrapped in textile and then a gereed mat coffin.

673) A stela (object 39912) was found near the grave, it is unclear if it belongs with this individual or one of the other nearby graves.

I362: Shentayet

Assigned Birth and Death: 1375-1342

Assigned Family: 10

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142, 147, 202

674) Individual 362 is estimated to be a female aged 30-39 years old with a height of 152.3 cm (5' 0").

675) There was evidence of osteochondritis dessicans on the proximal end of I362's right radius.

676) I362 had lipping on her 7th-8th thoracic and 2nd-4th lumbar vertebrae.

677) There was sacralization of I362's 5th lumbar vertebra.

678) I362 had spina bifida of all sacral elements.

679) I362 had a healed fracture of an unsided proximal 5th digital phalanx.

680) The right 1st metacarpal, right proximal 1st metacarpal, and right proximal 1st digital phalanx have lipping.

681) I362's mandibular left 2nd premolar and 1st molar were lost antemortem.

682) Tooth wear was uniform and severe.

683) I362 was buried with I361 (5.5 year old) in a grave that was robbed in antiquity. She was wrapped in textile and then put in a gereed mat coffin.

I233: Enna

Assigned Birth and Death: 1385-1336

Assigned Family: 17

See notes 1-14, 45, 46, 49, 51, 53, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 124-125, 147, 242, 534-535

684) Individual 233 is estimated to be a male aged 30-50 years with a height of 158.8 cm (5'2 ½").

685) I233 had LEHs that indicated a period of childhood stress at age 1.8 years, 2.3-2.6 years, and 3.4-3.7 years old.

686) The left scapula had eight and the right scapula had ten piercing wounds.

687) I233 had healed fractures to left ribs 2-6, 9-10, and 12 and right ribs 1-4 and 6-10.

688) I233 had DJD to all vertebrae except the C2 (axis).

689) There were compression fractures of the 11th thoracic, 5th lumbar, and 1st sacral vertebrae.

690) I233 suffered from TMJ.

691) I233 had evidence of a nasal infection and possibly a nasal fracture.

692) There was periostitis on the left femur, both tibiae, and the right fibula.

693) There was a healed fracture to the left fibula.

694) There were signs of DJD/arthritis of the pedal phalanges, the left metatarsals, the right foot, and the left and right hands.

695) I233 had remodeling of the right cuneiform.

696) I233 had lost ten teeth antemortem.

697) There were carious lesions on the right mandibular 1st molar and both left maxillary premolars, and the left maxillary 3rd molar.

698) Tooth wear was severe and uniform.

699) I233 was buried singly in a grave robbed in antiquity I223 was wrapped in textile and placed in a tamarisk mat coffin.

I331: Iah

Assigned Birth and Death: 1349-1337

Assigned Family: 14

See notes 1-14, 16, 18-25, 27-39, 40-42, 45, 46, 47, 49, 51, 55, 57-58, 66-67, 82-84, 86-90, 98, 121, 141

700) Individual 331 was estimated to be a child aged 12.5 years old.

701) I331 had LEHs indicating periods of childhood stress at 2-2.8 years, 3.7-3.8 years, 4.4-4.9 years, and 5.7 years old.

702) There is evidence of blunt force trauma to the skull: a depression fracture with radiating fractures, which is evidence that this injury occurred while the child was alive and did not happen postmortem.

703) Several individuals from the South Tombs Cemetery have injuries that could have been caused by “falls, physical confrontations, and misadventure” (Judd 2004). Studies have been conducted at several ancient Egyptian sites to determine incidences, location, and rates of trauma (Judd 2004, Buzon 2007, Erfan *et al.* 2009). One conclusion was that during periods of social and political upheaval, the frequency of trauma that could be linked to interpersonal violence increased. Judd notes that in many studies of cultures and primates several patterns emerge, including: “Wound[s]... due to assault are nonrandom with the majority of injuries affecting the

skull” (Judd 2004). Court cases of assault, one involving the use of a stick as a weapon, have been recorded with punishments being issued against the assailant (McDowell 1999).

Interpersonal violence could happen as a punishment (Tyldesley 2000), soldiers inflicted and incurred such wounds both in training and battle (Wilson 1997), family members perpetrating abuse, teachers beating their students (Janssen and Janssen 2007). Such injuries were prevalent enough for medical papyri, such as the Edwin Smith surgical papyrus, to have several detailed descriptions of different types of head wounds and ways of treating them (Strouhal *et al.* 2014). As seen in the tomb painting of Ipy (see note 113), accidents could also be the cause of such injuries. There are a few individuals from Akhetaten who appear to have injuries caused by falls or even, in one case (I059), a chariot accident (Dabbs and Schaffer 2008).

704) I331 had porosity associated with scurvy on the left and right temporal superior to the mastoid process and external auditory meatus, the wings of the sphenoid, and left and right palatines.

705) Tooth wear for I331 is mild and uniform.

I012: Nena

Assigned Birth and Death: 1387-1340

Assigned Family: 15

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 141, 142, 147, 171

706) Individual 012 is estimated to be a female aged 31-51 years old with a height of 161.3 cm (5' 3 ½").

707) I012 had LEHs that indicated periods of childhood stress at 2.4 years, 2.8 years, 3-3.1 years, 3.6-3.9 years, 4-4.7 years, 5.1-5.2 years, 5.4-5.5 years old.

708) There was a fracture to I012's left fibula at the distal end with signs of serious infectious activity to both the left fibula and tibia near the site of the fracture.

709) There was DJD to the cervical vertebrae, the left elbow, and both knees.

710) I012 lost seven teeth antemortem.

711) There was a carious lesion on the left and right mandibular 1st premolar.

712) I012 had moderate to severe, uniform tooth wear.

713) The mandibular incisors were displaced.

714) I012 had short hair.

715) I012 was buried singly in a grave that was robbed in antiquity. She was wrapped in textile and then a reed mat coffin.

I367: Ouonsou

Assigned Birth and Death: 1401-1338

Assigned Family: 14

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 124-125, 147, 215

716) Individual 367 was estimated to be a male aged 34-68 years old with a height of 163.6 (5'4 ½").

717) I367 had LEHs that suggested periods of childhood stress at the ages of 4.8 years, 5.1-5.3 years, 5.8-5.9 years, and 6.2-6.6 years of age.

718) There was deviation of the septum and nasal concha that was not traumatic.

719) There was DJD of the vertebrae, right shoulder, and both clavicles.

720) I367 has lipping on the 2nd-7th cervical vertebrae with microporosity on the facets.

721) There is osteophytosis of all the vertebrae.

- 722) The 1st and 2nd cervical and 1st thoracic vertebrae have Schmorl's nodes.
- 723) I327 has hyperflexion of the 5th lumbar vertebra.
- 724) There is arthritic lipping on the plantar and left and right metatarsals.
- 725) There are healed fractures to the right 7th and left 6th ribs and the distal end of the left ulna.
- 726) I327 has severe, uniform tooth wear.
- 727) I327 lost the left mandibular 3rd molar, right maxillary 1st and 2nd molar, left maxillary 1st premolar, 1st molar, and 3rd molar antemortem.
- 728) There were carious lesions on the maxillary right 3rd molar, 2nd premolar, 1st premolar, maxillary left lateral incisor, canine, and 3rd molar, and mandibular right canine and 1st molar.
- 729) I367 was buried singly in a grave that was robbed in antiquity. He was wrapped in textile, then a palm leaf mat, and then a tamarisk mat coffin.

I159: Seteta

Assigned Birth and Death: 1351-1337

Assigned Family: 6

See notes 1-14, 16, 40-42, 45, 46, 47, 49, 51, 57-58, 66-67, 82-84, 86-90, 118, 121, 141

- 730) Individual 159 was estimated to be a 13.5 year old.
- 731) I159 had a healing fracture to the left 4th metatarsal.
- 732) I159 was buried singly in a grave that was robbed in antiquity. The child was wrapped in textile, then a halfa grass mat, then a tamarisk mat coffin.
- 733) There was one jar and a shallow bowl with traces of seeds or fruit left as offerings in the grave.

I017: Ranpu

Assigned Birth and Death: 1379-1344

Assigned Family: 1

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142, 147, 194, 202, 215, 242, 253

734) Individual 017 was estimated to be a female aged 35-40 years old with a height of 152.1 cm (5' 0").

735) I017 had an LEH that suggested a period of childhood stress around the age of 4.5 years old.

736) I017 had spina bifida of the sacrum.

737) I017 had DJD/OA of the right shoulder and elbow.

738) There was a compression fracture of the 1st thoracic vertebra.

739) A healed Schmorl's node was present on I017's 7th thoracic vertebra.

740) There were osteophytes on the 3rd lumbar vertebra.

741) I017 had an abscess near the maxillary right canine.

742) Tooth wear for I017 was moderate and uniform.

743) The mandibular canines were rotated and the incisors displaced.

744) I017 was buried singly in a grave that was robbed in antiquity. There were the skulls of two other individuals found in the grave fill. I017 may have been buried in a wooden coffin.

745) I017 had a steatite scarab {37630}.

I039: Amenemef*Assigned Birth and Death: 1377-1338**Assigned Family: 5*

See notes 1-14, 45, 46, 49, 51, 53, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 124-125, 147, 190, 534-535

746) Individual 039 was estimated to be a male aged 35+ years old with a height of 165.6 cm (5'5").

747) There were fractures to I039's right clavicle and two right ribs.

748) I039 had spondylolysis of the 5th lumbar vertebra.

749) There was DJD to the shoulders, hips, knees, wrists, and feet.

750) I039 had healed left and right scapular trauma.

751) I039 lost eight teeth antemortem.

752) There was severe wear on the molars, the anterior teeth were lost antemortem.

753) I039 was buried singly in a grave that was robbed in antiquity. He was wrapped in textile and then a tamarisk mat coffin.

I170: Ket-Ket*Assigned Birth and Death: 1348-1334**Assigned Family: 17*

See notes 1-14, 16, 18-25, 40-42, 45, 46, 47, 49, 51, 55, 57-58, 66-67, 82-84, 86-90, 98, 116, 121, 141, 147

754) Individual 170 was estimated to be 14.5 years of age.

755) I170 had LEHs suggesting periods of childhood stress at the ages of 2.6 years, 2.9 years, 4.9 years, and 5.1 years old.

756) There was a 2.5-year age difference between the dental age and the long bone length suggesting childhood stress or malnutrition impacting growth.

757) I170 had myostitisis ossificans (ossification of the muscle) on the inferior spine of the left ilium.

758) There was periostitis on the posterior side of the proximal portion of the left femur.

759) I170 had carious lesions on the mandibular right 2nd premolar and 1st molar.

760) Tooth wear for I170 was mild to moderate and uniform.

761) I170 was buried singly in a grave that was robbed in antiquity. The child was wrapped in textile and then a gereed mat coffin.

762) There was evidence of a possible cairn of limestone boulders that may have had mortar.

I034: Hapentmat

Assigned Birth and Death: 1383-1339

Assigned Family: 17

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142, 147, 194, 215

763) Individual 034 was estimated to be a female aged 35-45 years of age with a height of 152.7 cm (5'0").

764) I034 had LEHs that suggested periods of childhood stress at the ages of 2.8 years, 3.1-3.3 years, 5.1-5.4 years, and 5.6 years old.

765) There was osteophytosis of I034's thoracic and lumbar vertebrae.

766) I034 had DJD of both shoulders, the right elbow, and the left wrist.

767) There was a well healed fracture to I034's distal right ulna.

768) Parry fractures vs. stress fracture: to diagnose a parry fracture requires that very specific conditions must be met: an absence of the involvement of the other lower arm bone (the radius), a transverse fracture line, a location below the midline, and either minor misalignment in any plane or horizontal apposition from the diaphysis, or shaft, of the bone (Judd 2008). There have been studies of whether people show signs of domestic or child abuse done at the Egyptian settlements of Tombos and Kerma by Buzon and Judd 2008, one in Saqqara by Kozieradzka 2013, and at the Dakhleh Oasis by Wheeler *et al* 2012, that make compelling arguments that unfortunately, just as in modern times, interpersonal violence occurred in ancient Egypt. However, spurred by her research, Judd encourages bioarchaeologists encountering a trauma to the ulna to also bear in mind that in some instances what looks like a parry fracture may be a stress fracture brought about by habitual activities and so this a differential diagnosis.

769) The right and left maxillary 2nd and 3rd molars had been lost antemortem.

770) I034 had abscesses of the right maxillary lateral incisor, the left maxillary 2nd premolar, 1st molar, right mandibular 2nd premolar, 1st molar, and left mandibular 1st premolar.

771) I034 had severe tooth wear that was not uniform, the posterior teeth had extreme wear suggestive of repetitive paramasticatory behavior.

772) The mandibular incisors were rotated.

773) I034 was buried singly in a grave that was robbed in antiquity. She was wrapped in textile, then a palm leaf mat, and then a tamarisk mat coffin.

I059: Bakennifi*Assigned Birth and Death: 1387-1350**Assigned Family: 12*

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 124-125, 147, 194, 768

774) Individual 050 was estimated to be a male aged 35-39 years old with a height of 167.1 cm (5'6").

775) LEHs could not be observed because of the extreme tooth wear.

776) It has been argued, based on the evidence from I059's skeleton, that he was a soldier who had been wounded (Dabbs and Schaffer 2008). It is "clear from the degree of healing... on this individual that he returned to Tell el-Amarna {Akhetaten} to convalesce" (Dabbs and Schaffer 2008). Examination of the skeleton of I059 suggests a balance of privilege and hardship not seen in other STC individuals since there is little to no evidence of malnutrition, I059 is taller than many of his compatriots and had no signs of anemia or cribra orbitalia. Soldiers were taken as children and trained to serve, they were fed by the government (Wilson 1997) and were exempt from having to do construction work on the new city (Dabbs and Schaffer 2008).

777) I059 had fractures in varying stages of healing: the left ulna had a well healed parry fracture, a healing fracture to the nasal bones, a healed fracture to the right fibula, left 3rd metacarpal, proximal digital phalanx, and sternum. There are seventeen rib fractures in varying stages of healing.

778) Based on stages of healing, I059 broke his ribs on at least four different occasions: one rib, the right 9th, had a perimortem fracture that happened at or close to the time of death due to lack of any signs of healing. Eleven ribs had reached the stage of callus formation which in "generally good health conditions in modern populations...lasts from three to nine weeks after injury.

Additional healing fractures representing the consolidation phase was observed on left ribs 4 and 5. These fractures are much more advanced... and represent a third traumatic incident, which likely occurred at least a year before death. None of these rib fractures are patterned. Thus they are interpreted as resulting from individual blows to the thoracic region” (Dabbs and Schaffer 2008).

779) I059 had two wounds to the left os coxa that appear to have been caused by penetrating weapons, most likely projectiles in the form of arrows. The first injury appears to have happened “months or possibly years, before death and resulted in a circular abscess” lesion (Dabbs and Schaffer 2008). The other injury was close to the old wound and “shows very little healing, and extensive infection may have contributed to the ultimate cause of death” (Dabbs and Schaffer 2008).

780) Weapons common during this period which were used by soldiers, police, guards, and enemy combatants included bows and arrows, slings, throwing sticks, maces, clubs, axes, swords, and daggers (Darnell and Manassa 2007).

781) Chariots were introduced to the Egyptians by the Hyksos culture, which had invaded and ruled over the Egyptians, until the Egyptians rebelled and ousted the Hyksos at the start of the 18th Dynasty. The Egyptians kept some of the innovations brought to their culture by their fallen conquerors. Chariots were mainly used by the elites and soldiers for travel and war. Akhenaten and his family are depicted in numerous scenes riding in chariots as the people watch. In the tomb of Mahu, the chief of police, police and soldiers are shown using chariots (Kemp 2012). Chariots have been recovered from tombs, including beautiful ones from Tutankhamen’s (Desroches-Nobelcourt 1977), the tomb of Huya, and the tomb of Any (Kemp 2012). There have

even been theories that chariot accidents contributed to the deaths of two people from the Amarna period: KV 35's 'younger lady' and Tutankhamen (Hawass 2013).

782) I059's injuries to the ribs and sternum appear to be "a clear indicator of interpersonal violence" (Dabbs and Schaffer 2008). And the fact that both projectile wounds happened to this individual in almost the exact location "suggests that this may have been the first vulnerable place under the shield of this warrior" (Dabbs and Schaffer 2008).

783) The reigns of Amenhotep III and his son, Akhenaten, appears to have been a mostly peaceful time in Egypt, with the focus on treaties, diplomacy, amassing wealth, and building monuments and temples (Aldred 1988, Kemp 2012, Mertz 2009, Moran 1992). The main evidence for this is letters and documents from the court of Amenhotep III and Akhenaten known as the Amarna Letters. However in some of the letters, and from knowledge of the period and other cultures the Egyptians were interacting with, there were growing problems with the Hittites and the Amurru (Moran 1987), as well as an uprising against Egypt in the land of Punt.

784) There was a Schmorl's node on the 4th lumbar vertebra.

785) I059 had congenital absence of the 3rd molars.

786) All maxillary molars, the left 2nd premolar, right mandibular 2nd premolar, left mandibular premolar were lost antemortem.

787) There were 11 carious lesions on nine teeth.

788) Abscesses were seen on both maxilla and mandible.

789) DJD was present throughout the postcrania including the cervical and thoracic vertebrae.

790) I059 had ossification of the inferior glenohumeral ligament and costal cartilage.

791) There are signs of possible TMJ seen in porosity on the condyles of the mandible.

792) I059 was buried singly in a grave that was robbed in antiquity; he was wrapped in textile and then placed in a gered mat coffin.

I051: Kit

Assigned Birth and Death: 1349-1333

Assigned Family: 4

See notes 1-14, 16, 18-25, 40-42, 45, 46, 47, 49, 51, 55, 57-58, 66-67, 82-84, 86-90, 98, 121, 141, 190, 202

793) Individual 051 was estimated to be a 15.5 year old.

794) I051 had LEHs that suggested periods of childhood stress at the age of 4.1-4.3 years and 4.9-5.0 years old.

795) I051 had spina bifida of the sacrum.

796) There was spondylolysis of the 5th lumbar vertebra.

797) There is a 3.5-year age difference between the dental age and the age indicated based on long bone length suggesting childhood stress and malnutrition.

798) The right maxillary 2nd molar and both mandibular 2nd molars had carious lesions.

799) Tooth wear was mild and uniform.

800) I051 was buried singly in a grave that had been robbed in antiquity. The child was buried in a wooden coffin.

801) There were two jars with mouths covered by small dishes and two shallow bowls with traces of botanical remains inside.

I093: Pet-Amen*Assigned Birth and Death: 1378-1338**Assigned Family: 2*

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 141, 142, 147

802) Individual 093 is estimated to be a female aged 35-50 years old with a height of 158.7 cm (5'2 ½").

803) There were LEHs that indicated I093 experienced periods of childhood stress at the ages of 2.1-2.2 years and 5.6 years old.

804) I093 had periostitis of the distal end of the right tibia.

805) The 12th thoracic and 1st lumbar vertebrae had Schmorl's nodes.

806) Several of I093's bones showed symptoms of a dietary deficiency, possibly rickets. I093's ribs were compressed and misshapen and sacrum was extremely curved.

807) There was DJD of the right shoulder and both hips.

808) I093 had moderate, uniform tooth wear.

809) I093 was buried in a pit with I087 (2.5 years), I090 (25-35 year old female), and I091 (3.5 years). The grave had been robbed in antiquity. I093 was wrapped in a greeed mat coffin.

810) There were potsherds and a shallow dish in the grave.

I071: Sobek*Assigned Birth and Death: 1388-1343**Assigned Family: 8*

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 124-125, 147, 194, 215, 242, 703, 768

811) Individual 071 is estimated to be a male aged 35-45 years with a height of 155 cm (5'1").

- 812) I071 had LEHs indicating a period of childhood stress at the ages of 4.6-4.7 years old.
- 813) I071 had a healed, misaligned fracture of the left ulna's distal end.
- 814) There was significant spinal trauma to I071's vertebrae.
- 815) I071 had osteophytosis of the vertebrae.
- 816) I071 had nine Schmorl's nodes.
- 817) There were compression fractures to the 1st-3rd vertebrae.
- 818) I071 had periostitis on both fibulae.
- 819) There was DJD on all postcranial joints.
- 820) All of I071's mandibular dentition was lost antemortem.
- 821) There were two abscesses near the left maxillary 1st molar.
- 822) I071 had severe, uniform tooth wear.
- 823) I071 had been pulled out of the grave and left on the surface, nearby was an empty grave, robbed in antiquity. There were pieces of textile and painted plaster from a wooden coffin.
- 824) A piece of faience ring and a shard of Mycenaean pottery were found in the grave, suggesting that the robbers may have had a rich haul from I071's grave. The Mycenaean culture was in Greece and was contemporaneous with Akhetaten, they are the people in Homer's Iliad who invade Troy. They had "sea going ships... vigorous art, thriving trade, and bronze foundries" (Saggs 1989). There was communication that shows trade and diplomacy between the Mycenaean's and the court of Akhenaten found in the Amarna letters. Oils, meat, and pottery were their primary exports to Egypt, and their goods were not restricted to the elite, their pottery has been found even in the Workman's Village at Akhetaten (Kemp 2012).

I114: Merit

Assigned Birth and Death: 1376-1337

Assigned Family: 5

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142, 147, 171, 351, 427

825) Individual 114 is estimated to be a female aged 35-45 years old with a height of 162.1 cm (5'4").

826) I114 has LEHs that indicate periods of childhood stress at the ages of 2.9 years, 3-3.1 years, 4.3 years, and 5.01 years old.

827) There was mild DJD post-cranially including the cervical and lumbar vertebrae.

828) I114 had a healed fracture that occurred at the proximal end of the humerus, which shortened and rotated the bone, and created bony lipping at the humeral head.

829) There is evidence of possible scalp injury on the left parietal that resulted in a mild bacterial infection.

830) I114 suffered from TMJ.

831) The right mandibular 2nd and 3rd molars, the left 1st, 2nd, and 3rd molars were lost antemortem.

832) Two carious lesions were found on the left maxillary 2nd molar and a single carious lesion on the right 1st molar.

833) Tooth wear was moderate and uniform.

834) I114 had hair in long plaits.

835) I114 was buried with I112 (2.5 year old) in an unrobbed grave. She was wrapped in textile and then a tamarisk mat coffin.

836) A steatite, cowroid bead decorated with a wedjat eye (39449) was found in the palm of I114's left hand.

I102: Iritis

Assigned Birth and Death: 1379-1342

Assigned Family: 7

See notes 1-14, 45, 46, 49, 51, 53, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 124-125, 147, 534-535, 657

837) Individual 102 was estimated to be a male aged 35-45 years old with a height of 158.1 cm (5'2").

838) I102 had evidence of healed to healing puncture wounds to the scapulae.

839) There was trauma to the left leg that healed and fused the knee joint (femur, patella, and tibia).

840) I102 had DJD of the left shoulder, the pedal phalanges of the left foot, and the thoracic and lumbar vertebrae.

841) The maxillary left and right 3rd molars were lost antemortem.

842) I102's teeth had uniform, moderate wear.

843) I102 was buried singly in a grave that was robbed in antiquity. He was wrapped in textile and then a gereed mat coffin.

844) A stela (39396) and potsherds were found in the grave.

I188A: Buto*Assigned Birth and Death: 1369-1340**Assigned Family: 1*

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 114, 116, 118, 141, 142, 147, 236, 242, 253, 351, 768

845) Individual 188A is estimated to be a female aged 35-45 years old with a height of 162.6 cm (5'4").

846) I188A had LEHs indicating periods of childhood stress at 3.1 years and 3.6 years old.

847) There was DJD on the postcrania as well as the thoracic and lumbar vertebrae.

848) I188A had a compression fracture of the 2nd thoracic vertebra.

849) There was a well-healed fracture to the distal right ulna with pseudarthrosis (false joint).

850) Slight and healed periostitis was found on the left femur and left tibia.

851) I188A had osteochondritis dessicans on the right femur's distal condyle.

852) Moderate to severe, uniform tooth wear.

853) I188A was buried with 188B (2.5 years old) in a grave that was badly robbed. There was no trace of textile, but both were buried in a wooden coffin.

854) Three scaraboid hippopotami beads (as described in notes 231 and 232) were found in the coffin.

I106: Senbu*Assigned Birth and Death: 1381-1338**Assigned Family: 7*

See notes 1-14, 45, 46, 49, 51, 53, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 124-125, 147, 215

855) Individual 106 is estimated to be a male aged 35-45 years old with a height of 166.7 cm (5'5 ½").

856) There was DJD to all postcranial joints.

857) Osteophytosis was seen on the C2-L5 vertebrae.

858) There was periostitis on the distal tibiae and fibulae, possibly indicating a soft tissue bacterial infection.

859) The sacrum is fused to the os coxa.

860) I106 was buried singly in a grave that was slightly disturbed. Traces of textile were seen but highly degraded. I106 was placed in a gereed mat coffin.

861) There were potsherds in the grave.

I345: Schent

Assigned Birth and Death: 1380-1337

Assigned Family: 2

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 141, 142, 147, 171, 215

862) Individual 345 was estimated to be a female aged 35-45 years old with a height of 166.2 cm (5'5 ½").

863) I345 had LEHs that indicated periods of childhood stress at 2.3-2.6 years, 3.1 years, 4.4 years, and 5.9 years old.

864) There were healed fractures to the left clavicle, an unsided pedal phalanx, and an unsided digital phalanx.

865) There was a healed fracture of the left fibula with associated ossification of muscle attachments.

- 866) Periostitis was found on I345's tibiae.
- 867) There was subchondral bone destruction of C3-C7.
- 868) I345 had osteophytosis and OA on all of the vertebrae.
- 869) There was DJD/OA lipping on both hands.
- 870) DJD was found on both patellae, feet, and femora.
- 871) A possible gall or kidney stone was found in the grave.
- 872) The right and left mandibular 2nd molars were lost antemortem.
- 873) Carious lesions were present on all left maxillary molars, both mandibular 3rd molars, the left lateral and central mandibular incisors.
- 874) I345 had moderate to severe, uniform tooth wear.
- 875) I345 was buried singly in a grave that was robbed in antiquity. She was wrapped in textile and then placed in a greeed mat coffin.
- 876) There was evidence of a possible cairn on the grave.
- 877) Two small pairs of tweezers were found in the grave.
- 878) Tweezers and razors, along with other grooming tools have been found in the graves of both men and women from throughout ancient Egypt, including Deir el Medina. Hair removal may have been done for ritual, aesthetic purposes, or both (Meskell 2005). Some scholars have argued that perhaps most people removed body hair, however depictions in art and also some of the bodies recovered from the STC seem to contradict this theory.

I194: Aiemapt*Assigned Birth and Death: 1379-1335**Assigned Family: 16*

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98-101, 104-108, 118, 124-125, 147, 190, 194, 657

879) Individual 194 is estimated to be a male aged 35-50 years old with a height of 161.4 cm (5'3 ½").

880) No LEHs were noted but 13 teeth had been lost.

881) There was a fracture to the left femoral neck, which led to extensive DJD of the left hip.

882) I194 had fractures to the right 10th and the left 5th ribs, as well as to both ulnae.

883) There was spondylolysis of the 5th lumbar.

884) I194 had DJD of the vertebrae.

885) Enthesial changes to the hand bones suggest possibility that I194 did work or a repetitive activity that put stress on hands.

886) Thirteen teeth were lost antemortem.

887) Abscesses were seen near the maxillary left central incisor and mandibular right canine.

888) Tooth wear for I194 was moderate to severe.

889) I194 was buried single in a grave that was robbed in antiquity, he was wrapped in textile and then placed in a tamarisk mat coffin.

890) There was a possible cairn, a stela {39938} that could belong to either this grave or one nearby, and potsherds found in the disturbed grave fill.

I015: Anat*Assigned Birth and Death: 1390-1340**Assigned Family: 14*

See notes 1-14, 45, 46, 49, 51, 53, 55, 63, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142, 147, 194, 215

891) Individual 015 was estimated to be a female aged 40-50 with a height of 156.9 cm (5'2").

892) The left proximal phalanx of the thumb had a healed fracture.

893) I015's 2nd and 3rd cervical vertebrae were fused, possibly in reaction to an injury to the base of the skull or neck.

894) There were osteophytes on the thoracic and lumbar vertebrae.

895) I015 had DJD of the shoulders and hips.

896) The six maxillary molars were lost antemortem.

897) There were four abscesses at the roots of both sides of maxillary premolars.

898) The left maxillary 1st premolar had a carious lesion.

899) I015 had extreme tooth wear.

900) I015 was buried singly in a mud brick chamber that was robbed in antiquity. She was wrapped in textile and placed in a gereed mat coffin.

I117: Imhotep*Assigned Birth and Death: 1393-1346**Assigned Family: 1*

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 124-125, 147

901) Individual 117 was estimated to be a male aged 35-50 with a height of 166.5 cm (5'5 ½").

902) Had LEHs that suggested periods of childhood stress at the ages of 3.1 and 3.5 years old.

- 903) I015 had DJD of the feet.
- 904) The right maxillary 2nd premolar was lost antemortem.
- 905) There were carious lesions on the maxillary 1st premolar, left 2nd premolar, and the left 2nd and 3rd molars.
- 906) I015 had uniform, severe tooth wear.
- 907) The mandibular canines were rotated and the anterior mandibular teeth displaced.
- 908) I015 was buried singly in a badly robbed grave, possibly in a decorated wooden coffin.
- 909) There was a plaster stela {39448} and the grave may have been covered with a mortared cairn. Potsherds were found in the grave fill.

I028: Sekhmet

Assigned Birth and Death: 1396-1349

Assigned Family: 8

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 141, 142, 147, 242

- 910) Individual 028 was estimated to be a female aged 40-50 years old with a height of 142.2 cm (4'8").
- 911) There were seven healed rib fractures: the left 3rd-5th and the right 3rd-4th and two unsided.
- 912) There was a fracture to the right 2nd metacarpal.
- 913) I028 had six Schmorl's nodes on four vertebrae: two unknown thoracic, the 11th thoracic, and the 5th lumbar.
- 914) There is a compression fracture of the 5th lumbar vertebra.
- 915) I028 had moderate bilateral cribra orbitalia.
- 916) There was periostitis of the left tibia, both fibulae, and the diaphysis of the right femur.

917) The lunate and the trapezius of both hands had fused together.

918) Twenty-three teeth were lost antemortem.

919) The maxillary right lateral incisor had a carious lesion.

920) I028 had severe tooth wear.

921) I028 was buried in a grave that was robbed in antiquity, wrapped in textile and then placed in basketry type mat coffin. I028 was one of two excavated burials that were buried in a contracted position.

922) Pieces of a mud brick superstructure for this or a nearby grave were found in the fill. There were potsherds from a New Kingdom amphora with a blackened interior that may have been a lamp, as well as charcoal and mammalian bones that were possible offerings left on the surface of the grave.

923) In ancient Egypt there was a belief that those who died violently, prematurely, or were not buried properly would return as *mwt*, or the malevolent dead. These spirits could cause “disasters in all forms from miscarriage and crop failure to disease and premature death” as well as nightmares, mental illness, and emotional distress (Harrington 2013). There were various rituals and offerings that could appease or banish these spirits. One of these rituals involved writing a request to the spirit on a bowl, filling the bowl with a food offering for the *ba*, or spirit, when the *ba* ate the offering it was hoped they would see and fulfill the request (Meskell 2005).

I317: Ba-akh

Assigned Birth and Death: 1378-1340

Assigned Family: 10

See notes 1-14, 18-25, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 114, 118, 124-125, 147, 171, 194, 215, 242, 457, 657

924) Individual 317 was estimated to be a male aged 30-55 years old with a height of 162.2 cm (5'4").

925) I317 had LEHs that indicated periods of childhood stress at ages 3.9 years, 4.1 years, and 5.1 years.

926) Had healed cribra orbitalia in the right orbit.

927) I317 had bilateral avulsion of the distal humeri with associated osteochondritis desiccans to the proximal ends of the ulnae.

928) There were healed fractures with depressions to I317's nasal bones, skewing the bones to the left.

929) Patterned bilateral healed rib fractures to the right ribs 2, 3, and 5-10 and left ribs 4, and 7-9.

930) I317 had healed fractures to the left fibula with osteitis, the left 2nd metatarsal, and the left radius, which is misaligned and rotated.

931) There was a compression fracture of the 5th lumbar vertebra.

932) I317 had TMJ.

933) There was periostitis on the left femur, left tibia, and the fibulae.

934) I317 had an extra sacro-iliac articulating surface on the left sacral alae and left ilium.

935) There was DJD on the sternal ends of the clavicles, both feet, and a right digital phalanx.

936) I317 had osteophytosis of the cervical, thoracic, and lumbar vertebrae.

937) A Schmorl's node was present on the 8th thoracic vertebra.

938) The maxillary right canine was lost antemortem.

939) There were abscesses on the maxillary right 1st and 2nd molars and the right lateral incisor.

940) I317 had moderate to severe, uniform tooth wear.

941) The mandibular dentition was misaligned.

942) I317 was buried singly, the skull had been moved and the grave disturbed by water run-off.

He was wrapped in textile and then a gereed mat coffin.

943) There were traces of a beard on I317's mandible.

I043: Renenet

Assigned Birth and Death: 1381-1340

Assigned Family: 8

See notes 1-14, 45, 46, 49, 51, 53, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 141, 142, 147, 194, 242

944) Individual 043 was estimated to be a female aged 40+ years old with a height of 154.2 cm (5' ½").

945) There were Schmorl's nodes on the 1st thoracic, T5-12, and the 1-4 lumbar vertebrae.

946) I043 had a compression fracture of the 1st lumbar vertebra. Had a healed parry type fracture of the right ulna that developed significant DJD of the olecranon fossa due to rotation during healing.

947) I043 had DJD on all vertebrae, and all of the postcrania.

948) There was periostitis of the tibiae.

949) I043 had signs of osteoporosis.

950) Osteoporosis is "a condition of reduction of total bone mass... [it can have several known causes] such as bone changes in sudden immobilization... several endocrinopathies...[and] age related bone loss without obvious etiology" (Aufderheide and Rodriguez-Martin 1998).

951) I043 had lost the mandibular right 2nd and 3rd mandibular molars, the mandibular central incisors, the mandibular left 2nd premolar and 1st molar antemortem.

952) There was an abscess at the mandibular left canine.

953) There were three carious lesions to the mandibular left 3rd molar, the mandibular right lateral incisor, and canine.

954) I043 had severe tooth wear.

955) I043 was buried singly, in a gereed mat coffin, in a grave that was robbed in antiquity.

I344: Rahmose

Assigned Birth and Death: 1376-1339

Assigned Family: 11

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 124-125, 147, 171, 190, 194, 242, 457

956) Individual 344 was estimated to be a male aged 30-40 years old with a height of 159.9 cm (5'3").

957) I344 had LEHs indicative of periods of childhood stress at the ages of 3.6 years and 4.03 years.

958) I344 had a compression of the cervical 3rd vertebra.

959) Schmorl's nodes were found on the 12th thoracic and 3rd lumbar vertebrae.

960) There is spondylolysis of the 4th lumbar vertebra.

961) There was lipping around the tubercles of the right 3rd-7th ribs and the left 3rd-6th and 8th ribs.

962) I344 had an enlarged iliac tubercle on the right os coxa.

963) I344 had DJD/OA of the right and left 5th metatarsals.

964) There was a healed fracture of the left 1st metatarsal.

965) The mandibular left 2nd molar had been lost antemortem.

966) Carious lesions were found on the maxillary left 3rd molar, mandibular right 1st and 3rd molars, the mandibular right 2nd premolar, mandibular left 2nd premolar, and mandibular left 1st molar.

967) I344 had an abscess near the mandibular right 2nd premolar.

968) I344 had moderate, uniform tooth wear.

969) There was malocclusion of the mandibular anterior teeth.

970) I344 was buried singly in a grave that was robbed in antiquity. He was wrapped in textile and then a gereed mat coffin.

971) I344 had traces of a beard found on the mandible.

I069A: Maya

Assigned Birth and Death: 1395-1345

Assigned Family: 1

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 110, 118, 141, 142, 147, 242, 768

972) I069A was estimated to be a female aged 40-49 years old with a height of 151.8 cm (5'0").

973) I069A had LEHs that indicated periods of childhood stress at the ages of 1.6 years, 2.3-2.7 years, 3.9 years, 4.7 years, 5.9 years old.

974) There were healed fractures to the left 2nd and 3rd ribs, the right 1st metacarpal, and the right ulna's distal end.

975) The break of the ulna meets the requirements for diagnosis of a parry fracture, this type of injury is usually caused when a person raises their arm to protect their head or face from an act of violence perpetrated by another individual. These injuries have been documented in other ancient Egyptian populations in Tombos (Buzon and Richman 2007; Judd 2008) and the Dakleh

Oasis (Wheeler *et al* 2013) close in contemporaneity to the site of Akhetaten, it is usually associated with domestic violence in modern populations around the world.

The ulna had no pseudarthrosis or non-union of the break and it had healed in a manner suggestive of the arm being stabilized and/or immobilized during the recovery period. There are other cases of parry fractures at Akhetaten where the fractures did not heal properly and several instances of pseudarthrosis, or a false joint, it might be a sign of Maya's status that she either had a healer treat the break or she was in a position where she wasn't required to work or use her arm in a way that would have impeded proper recovery.

976) Maya's fractures were all fully healed and remodeled; making it likely they had happened years before her death.

967) DJD was found on most of the postcranial joints.

978) As Maya grew and her bones fused together, the acromion processes of both scapulae failed to fuse, which is known as bilateral Os Acromiale. This can cause pain and limit shoulder movement range, it is unknown if it was congenital or traumatic (Barbier *et al.* 2013).

979) Both patellae show significant surface deterioration.

980) There was a compression fracture of the 1st thoracic vertebra.

981) I069A had osteophytosis of all vertebrae.

982) There were Schmorl's nodes on the 10th-12th thoracic vertebrae.

983) Seven teeth were lost antemortem.

984) There were carious lesions on the maxillary left 2nd molar, left canine, both mandibular 3rd molars, and the left 1st premolar.

985) Abscesses were found near the mandibular left 1st premolar, maxillary right 1st molar, left 2nd molar.

986) I069A had severe, uniform tooth wear.

987) I069A was buried singly in a grave that had been robbed in antiquity. She had been wrapped in textile and placed in a decorated wooden coffin. There was a possible intrusive burial of I069B (11.5 years).

988) I069's coffin was highly fragmented due to robbers and termites, but it still had a beautiful carving of her face. Most of the wood used to construct the coffin was ficus sycamorous with tamarisk dowels holding the pieces together. There were scenes of people mourning Maya's death and making offerings to her. A single eye of Horus was painted on the coffin and in a spell she asks for: "food, water, wine, and the breath of the north wind" (Kemp and Stevens 2008). There is an illumination of Ra, who is associated with the sun, but no mention of the Aten.

989) Anthropomorphic coffins "copied the appearance of the mummy and symbolically provided an alternative 'body' for the deceased's spirit" (Wilkinson 1994) with the eye of Horus being both protective and allowing the deceased to see.

990) Plaster window grille fragments were found in the grave, as well as mud or brick, possibly from a superstructure. An intact pottery vessel with botanical remains was found in the grave. There were patches of textile with green staining suggestive of a metallic object being buried in the grave at one point.

I056: Efankh

Assigned Birth and Death: 1390-1340

Assigned Family: 4

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 124-125, 147, 190, 534-535

991) Individual 056 was estimated to be a male aged 40+ years old with a height of 166.6 cm (5'5 ½").

992) I056 had an LEH that indicated a period of childhood stress at the age of 5.04 years.

993) I056 had a poorly aligned healed fracture of the right clavicle.

994) I056 had spondylolysis of the 5th lumbar vertebra.

995) There was evidence of sharp force antemortem trauma to both scapulae.

996) There was DJD to both shoulders and the right elbow.

997) The maxillary right 2nd molar was lost antemortem.

998) I056 had severe and uniform tooth wear.

999) I056 was buried singly in a grave that was robbed in antiquity. He had been wrapped in textile and possibly a gereed mat coffin.

1000) There were intrusive fragments with blue pigment from a wooden coffin.

I127: Heket

Assigned Birth and Death: 1386-1341

Assigned Family: 6

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142, 147, 194, 202, 215, 351, 768

1001) Individual 127 was estimated to be a female aged 40-45 years old with a height of 155.7 cm (5'1 ½").

1002) There was a lesions posterior to the foramen magnum.

1003) I127 had a healed fracture to the distal end of the right ulna.

1004) I127 had TMJ.

1005) There was osteophytosis on all vertebrae.

- 1006) There were twenty Schmorl's nodes on the vertebrae.
- 1007) I127 had DJD to the left shoulder, elbow, and hip.
- 1008) There was a bony spur on the left calcaneus' navicular articular surface.
- 1009) I127 had spina bifida of the 1st sacral element.
- 1010) The maxillary left 3rd molar was lost antemortem.
- 1011) I127 tooth wear was severe and uniform.
- 1012) I127 had a carious lesion on the maxillary right 3rd molar.
- 1013) There were three abscesses found near the maxillary left canine, and the left and right mandibular 1st molars.
- 1014) I127 was buried singly in an unrobbed grave. She was wrapped in textile and then placed in a gereed mat coffin.
- 1015) There was a small, carnelian frog charm that had a "star-like" line pattern incised on its underside and a hole drilled through for a chord, held in I127's left hand. Potsherds were also found in the grave.
- 1016) The frog had many meanings in ancient Egypt and was associated with several deities. It was "a symbol of creation, fertility, birth, and regeneration...The four male gods... who ruled before the creation of the world and... were thus frog-headed...The frog was sacred to Heket, the goddess of childbirth...The frog was also associated with the Nile god Hapi... a source of fecundity symbolized by the waters of the Nile" (Wilkinson 2011). The frog could also be seen as a symbol of sexuality and rebirth (Wilkinson 1999).

I216: Itchut

Assigned Birth and Death: 1395-1350

Assigned Family: 3

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 124-125, 147, 194, 242, 703

1017) Individual 216 is estimated to be a male aged 40-44 years old with a height of 166.8 cm (5'5 ½").

1018) I216 had LEH that indicated a period of childhood stress at the age of 3.8 years.

1019) There were three healed depression fractures to I216's skull.

1020) I216 had compression fracture of the occipital facets and a possible ring fracture injury.

1021) Ring fractures "of the base of the skull are rare and almost uniformly fatal injuries... If the patients survive, they are usually disabled... Ring fractures of the skull base involve the petrous temporal bones bilaterally, the clivus, and the posterior part of the foramen magnum. Often one or both of the occipital condyles can be involved... They are usually detected... in fatal cases of road traffic accidents... Other causes include falls from a height or a severe vertical blow to the head" (Gan *et al.* 2002).

1022) There was a compression fracture of the 3rd cervical vertebra and all of the lumbar vertebrae.

1023) Schmorl's nodes, some healed and some active, were found on the 6th-12th thoracic and the 1st and 5th lumbar vertebrae.

1024) There was DJD of all vertebrae, the elbows, and the left foot.

1025) Fractures were observed on the right 5th metacarpals, left 4th-7th ribs, the left 3rd and right 2nd pedal phalanges.

1026) I216 had carious lesions on the maxillary left 1st and 2nd molars.

1027) There are abscesses near the maxillary right 1st and 2nd molars.

1028) I216 had moderate to severe tooth wear, more on the right side.

1029) I216 was buried singly in a grave that was robbed in antiquity in either a gereed or tamarisk mat coffin.

I175: Nehemtawy

Assigned Birth and Death: 1393-1343

Assigned Family: 9

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 114, 116, 118, 138, 141, 142, 147, 253

1030) Individual 175 was estimated to be a female aged 40-50 years old with a height of 159.1 cm (5'2 ½").

1031) I175 had DJD in all vertebrae, the left shoulder, and left hip.

1032) There was a Schmorl's node on the 11th thoracic vertebra.

1033) I175's right femur had periostitis and osteochondritis dessicans.

1034) A maxillary right molar and the mandibular right 1st premolar were lost antemortem.

1035) There were carious lesions on the maxillary right 2nd molar, the left 2nd premolar, and the mandibular right 2nd molar.

1036) I175 had moderate tooth wear.

1037) I175 was buried singly in an unrobbed grave that had suffered from water damage. She had been wrapped in textile and placed in a tamarisk mat coffin.

1038) I175 wore or held a scarab with the cartouche of *Neb-maatre* (39932) and eight faience flattened spheres (39949 and 39953) which may have been intrusive.

1039) *Neb-maatre* was one of the names for Akhenaten's father, Amenhotep III (Reeves 2002).

I267: Khnum

Assigned Birth and Death: 1388-1340

Assigned Family: 15

See notes 1-14, 45, 46, 49, 51, 53, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 114, 118, 124-125, 147, 194, 215, 220, 346, 534-535

1040) Individual 267 was estimated to be a male aged 45-50 years old with a height of 167.7 cm (5'6").

1041) I267 had LEHs that indicated periods of childhood stress at the ages of 2.4 years, 3.4 years, and 3.9 years old.

1042) There were fractures to the nasal and zygomatic bones, extensive fractures to the left and right ribs that were poorly aligned.

1043) I267 had sharp force trauma to the scapulae.

1044) There was DJD/OA on both elbows, hips, right knee, and all of the vertebrae.

1045) There was osteochondritis dessicans of the right femur patellar surface.

1046) There was a cyst on the femur's intercondylar fossa.

1047) The 6th cervical and the 4th and 5th lumbar vertebrae had subchondral bone destruction.

1048) There were Schmorl's nodes on the 2nd, 4th-12th thoracic and 1st-4th lumbar vertebrae.

1049) The 2nd lumbar vertebra had a compression fracture.

1050) There was osteophytosis and OA of all vertebrae.

1051) The 8th and 9th thoracic vertebrae were almost completely fused.

1052) I267 had lost 16 teeth antemortem.

1053) There were carious lesions on both maxillary canines, the mandibular right 2nd molar.

1054) I267 had abscesses on near the maxillary right 1st molar, right 2nd premolar, right canine, left lateral incisor, and mandibular left lateral incisor, left canine, and left premolar.

1055) I267's tooth wear was severe and uniform.

1056) I267 was buried singly in a grave that had been robbed in antiquity. He was wrapped in textile and placed in a greeed mat coffin.

I204: Dsjot-Khons

Assigned Birth and Death: 1391-1334

Assigned Family: 17

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 141, 142, 147, 194, 215, 768

1057) Individual 204 was estimated to be a female aged 40-60 years old with a height of 153.7 cm (5' ½").

1058) I204 had DJD throughout the postcrania.

1059) Periostitis is visible on the tibiae.

1060) There were antemortem fractures to the ulnae, the 6th and 7th right ribs, and two proximal phalanges of the right foot.

1061) I204 had osteophytosis of all vertebrae.

1062) I204 had TMJ.

1063) The maxilla was edentulous and the I204 had lost nine mandibular teeth antemortem.

1064) There was an abscess at the mandibular left lateral incisor.

1065) I204 had moderate to severe, uniform tooth wear.

1066) I204 was buried singly in a grave that was robbed in antiquity. Textile might have degraded, but I204 was buried in a tamarisk mat coffin.

1067) Potsherds were found in the grave.

I227: Achen*Assigned Birth and Death: 1395-1335**Assigned Family: 7*

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 110, 118, 141, 142, 147, 242

1068) Individual 227 was estimated to be a female aged 40-60 years old with a height of 157.2 cm (5'2").

1069) I227 had an LEH that indicated a period of childhood stress at 2.6 years of age.

1070) I227 has healed fractures to right ribs 3,4, and 7.

1071) There was a compression fracture to I227's 11th thoracic vertebrae.

1072) I227 had DJD of the vertebrae, the right knee- with eburnation of the distal femur and patella, the left ulna, and the right scapula, which has lipping.

1073) Seven of I227's teeth were lost antemortem.

1074) There is a carious lesion on the mandibular left 3rd molar.

1075) I227 had severe, uniform tooth wear.

1076) The mandibular right canine was rotated and displaced.

1077) I227 was buried singly in a grave that was robbed in antiquity. She was wrapped in textile and placed in a gereed mat coffin.

1078) There were potsherds in the grave.

I134: Ta-ei*Assigned Birth and Death: 1428-1350**Assigned Family: 2*

See notes 1-14, 45, 46, 49, 51, 53, 66-69, 77-78, 82-84, 86-90, 98, 104-108, 116, 118, 141, 142, 242

1079) Individual 134 was estimated to be a female aged 50+ years with a height of 162.3 cm (5'4").

1080) I134 had compression fractures to the 12th thoracic, and the 1st and 2nd lumbar vertebrae.

1081) There was DJD to all vertebrae and all postcranial joints.

1082) There was a possible greenstick fracture to the right tibia with associated periostitis.

1083) The right femur is bowed anteriorly, which might be related to the injury to the tibia.

1084) I134's maxilla and mandible were edentulous (all teeth lost antemortem).

1085) I134 was buried singly in a grave that was robbed in antiquity. She was wrapped in textile and then placed in a tamarisk mat coffin.

I358: Ruba-Ta

Assigned Birth and Death: 1420-1343

Assigned Family: 14

See notes 1-14, 45, 46, 49, 51, 53, 55, 66-69, 74-75, 77-78, 82-84, 86-90, 98, 104-108, 118, 141, 142, 147, 215, 242, 253, 351, 703

1086) Individual 358 was estimated to be a female aged 50+ with a height of 151.4 cm (4' 11 ½").

1087) I358 had LEHs that indicated periods of childhood stress at the ages of 2.6-2.8 years, 3.1-3.3 years, 3.5-3.7 years, 4.3-4.4 years, and 5.3 years old.

1088) I358 had a depression fracture of the left parietal.

1089) There were fractures to I358's left ulna and the left 5th metacarpal.

1090) There were compression fractures of the 1st and 2nd thoracic vertebrae.

1091) I358 had a Schmorl's node on the 11th thoracic vertebra.

1092) I358 had DJD of all vertebrae, the left shoulder, and both knees.

1093) There was osteophytosis of all vertebrae and OA to the 1st(atlas) and 2nd(axis) cervical vertebrae.

1094) I358 had TMJ.

1095) Three of I358's 3rd molars were congenitally absent.

1096) The mandibular right 2nd molar and 2nd premolar and the left 2nd molar were lost antemortem.

1097) There were carious lesions on the maxillary right lateral incisor, 1st premolar, the left incisor, left 1st and 2nd molars, and the mandibular central incisors.

1098) I358 had severe, uniform tooth wear.

1099) Not many reached old age in ancient Egypt, but when people did become elderly they had to rely on family to provide for them (Janssen and Janssen 2007). Women who became widows or were left by their husbands could become homeless (Meskell 2002). At Deir el Medina, there are records of people building small out buildings or sheds that were left to destitute relatives, often women who were without homes (McDowell 2001). Some people, mostly men who had done work for the Pharaoh, would receive old age pensions after giving up their positions. Since the majority of women hadn't had such employment opportunities they were vulnerable in their old age, with many ancient Egyptian texts mentioning the plight of widows or that people should show kindness to widows (McDowell 2001).

1100) I358 was buried in a pit, which had been robbed in antiquity, with I357 (a female aged 20-35 years) and I359 (a male aged 17-23 years). I358 was wrapped in textile and placed in a tamarisk mat coffin.

1101) There was a small, blue faience scarab with I358 and a small, cowroid bead with a lizard design.

Appendix D

Linear Enamel Hypoplasia measurements calculations to determine age of periods of stress for Individuals using equations established by Goodman and Rose 1990. Teeth from both left and right sides used. This method is currently being tested and improved, but for this paper this technique was employed for estimation of age during periods of stress. Each individual is listed with the teeth on which LEHs were observed and measured and the age at time of stress as determined using the regression equations.

Regression Equations for estimation of age at Linear Enamel Hypoplasia Formation:

Tooth	Formulae
Maxillary Teeth	
I1	Age= $-(.454 \times Ht) + 4.5$
I2	Age= $-(.402 \times Ht) + 4.5$
C	Age= $-(.625 \times Ht) + 6.0$
Pm1	Age= $-(.494 \times Ht) + 6.0$
Pm2	Age= $-(.467 \times Ht) + 6.0$
M1	Age= $-(.448 \times Ht) + 3.5$
M2	Age= $-(.625 \times Ht) + 7.5$
Mandibular Teeth	
I1	Age= $-(.460 \times Ht) + 4.0$
I2	Age= $-(.417 \times Ht) + 4.0$
C	Age= $-(.588 \times Ht) + 6.5$

Pm1 Age= $-(.641 \times \text{Ht}) + 6.0$

Pm2 Age= $-(.641 \times \text{Ht}) + 7.0$

M1 Age= $-(.449 \times \text{Ht}) + 3.5$

M2 Age= $-(.580 \times \text{Ht}) + 7.0$

Individuals:

I9:	Max R. C: 4.5 y	Max L. C: 4.4 y
I12:	Max R. I1: 3.1 y	Max L. I2: 3.1 y
	Max R. I2: 3.9 y	
	Max R. I2: 3.6 y	
	Max R. P2: 5.4 y	
	Max R. M2: 5.5 y	
	Man R. I1: 2.8 y	Man L. I2: 3 y
	Man R. I2: 2.4 y	Man L. C: 5.2 y
	Man R C: 5.2 y	Man L. C: 4 y
	Man R. C: 4.7 y	Man L. P2: 5.1 y
		Man L. M1: 2.8 y
		Man L. M2: 5.5 y
I17:	Man R. C: 4.5 y	
I28:		Man L. P2: 5.4 y
I34:	Max R P2: 5.4 y	Max L. I2: 3.3 y
	Man R. I2: 3.1 y	Max L. C: 5.2 y
	Man R. C: 5.3 y	Max L. P2: 5.6 y

Man L. I2: 2.8 y

Man L. C: 5.1 y

I41: Max R I2: 3.2 y

Max L. I2: 3.3 y

Max R C: 3.5 y

Max R. P1: 4.6 y

Max R P2: 5.3 y

I42: Max R. C: 4.9 y

Max L. C: 5.9 y (This # blurred on paper)

Max L. C: 2.4 y (This # blurred on paper)

Man R. I2: 2.3 y

Man L. I2: 2.7 y

Man R. C: 4.4 y

Man L. C: 4.6 y

I51: Man R C: 5 y

Man L. C: 4.9 y

Man R P1: 4.3 y

Man L P1: 4.1 y

I56:

Man L. C: 5.04 y

I57: Mand R C: 3.03 y

Man L C: 3.08 y

I68: Max R. C: 4.2 y

Max L P2: 5.4 y

Max R. P1: 6.6 y

Max L. M1: 2.4 y

Max R. M2: 5.8 y

Max L. M2: 5.8 y

Man R. I1: 2.3 y

Man L. I2: 3.3 y

Man R. I2: 2.8 y

Man L. P1: 4.6 y

Man R. C: 5.3 y

Man L. P1: 4.4 y

Man R. C: 3.9 y

Man R. P1: 4.7 y

Man R. P1: 4.6 y

I69A: Man R. I1: 2.3 y	Man L. I1: 1.6 y
Man R. P1: 3.9 y	Man L. I2: 2.7 y
	Man L. C: 4.7 y
	Man L. P2: 5.9 y
I71: Max R. C: 4.7 y	Max L. C: 4.6 y
I90:	Man L. C: 3.8 y
I92: Max R. I1: 1.3 y	Max L. I1: 2.2 y
	Max L. I1: 1.4 y
Man R. P2: 6.1 y	Man L. C: 3.9 y
Man R. M2: 6.2 y	Man L M2: 6 y
I93:	Max L. P2: 5.6 y
Man R. I1: 2.2 y	Man L. I1: 2.1 y
I99:	Max L I1: 1.2 y
I100: Max R. C: 4.8 y	Max L. C: 4.7 y
Max R. P1: 5.3 y	Max L. C: 3.8 y
Man R. C: 5.5 y	Man L. C: 5.1 y
Man R. P1: 4.7 y	Man L. P1: 4.6 y
I109: Max R. I1: 3.1 y	Man L. I1: 3.9 y
Max R. I1: 2.4 y	Max L. I1: 3.2 y
	Max L. I1: 2.4 y
	Max L. I2: 4.1 y
I111: Max R. M2: 6.5 y	Max L. I2: 3.6 y
	Max L. P1: 4.6 y

	Max L. M1: 2.8 y
I114: Max R. I1: 2.9 y	Max L. I1: 3 y
Man R. C: 5.01 y	Man L. I2: 3.1 y
	Man L. C: 4.3 y
I117: Max R. M1: 3.1 y	Max L. C: 3.5 y
I124: Max R. I1: 2.6 y	
Man R. I1: 2.3 y	Man L. I1: 2 y
Man R I2: 2.3 y	Man L. I2: 2.6 y
I129: Max R. I2: 3.6 y	Max L. I2: 3.8 y
Max R. I2: 2.8 y	Max L. I2: 3 y
Man R. I1: 2.4 y	Man L. I2: 3.1 y
Man R. I2: 3.03 y	Man L. I2: 2.5 y
I137: Max R. C: 3.7 y	
Man R. C: 3.9 y	Man L. C: 4.1 y
I149: Max R. I1: 3.5 y	
I150: Man R. C: 4.4 y	Man L. C: 4.4 y
I153:	Max L. C: 4.4 y
I154: Max R. C: 4.4 y	Max L. C: 4.5 y
Man R. C: 5.6 y	Man L. C: 5.3 y
Man R. C: 4.8 y	Man L. C: 4.5 y
I166:	Man L. C: 4.6 y
	Man L. I2: 1.6 y
	Man L. I1: 1.6 y

I170: Man R. I1: 2.6 y

Man R. I2: 2.6 y

Man R. C: 4.9 y

I171: Max R. I1: 2.97 y

Max R. I2: 3.5 y

Max R. C: 5.2 y

Max R. C: 4 y

I176: Max R. I1: 3.2 y

Max R. I1: 2.2 y

Man R. I1: 2.8 y

Man R. I2: 2.9 y

Man R. C: 5.2 y

Man R. C: 3.8 y

I188A: Max R. I2: 3.6 y

Max R. I2: 3.1 y

I198: Max R. I2: 2.5 y

Man L. I2: 2.9 y

Man L. C: 5.1 y

Max L. I1: 2.99 y

Max L. I2: 3.3 y

Max L. C: 5 y

Max L. C: 2.7 y

Max L. P1: 5 y

Max L. I1: 2.9 y

Max L. I1: 1.6 y

Max L. I2: 3.4 y

Max L. C: 5 y

Max L. C: 4 y

Man L. I1: 2.7 y

Man L. I2: 2.9 y

Man L. C: 5.4 y

Man L. C: 4.9/5 y

Man L. C: 5 y

Man L. C: 4.6 y

Max L. I2: 2.3 y

Max L. I1: 3.7 y

I199A: Max R. M2: 5.5 y

Max R. M1: 2.25 y

Max R. C: 3.7 y

Max R. I2: 3.2 y

Man R. P2: 5.3 y

Man R. P1: 4.6 y

Man R. C: 4.4 y

I200: Max R. I2: 2.3 y

Max R. I2: 1.6 y

Max R. C: 2.6 y

Max R. C: 2.11 y

Max R. C: 1.4 y

Man R. I1: 2.3 y

Man R. C: 4.3 y

Man R. C: 3.4 y

Man R. P2: 5.2 y

Man R. M1: 3.2 y

Man R. M2: 6 y

I201: Max R. P2: 5.3 y

Max L. I1: 3.2 y

Max L. M1: 2.1 y

Max L. C: 3.6 y

Max L. I2: 3.3 y

Max L. I1: 2.2 y

Max L. C: 4.6 y

Max L. C: 4.1 y

Max L. C: 3.2 y

Man L. I1: 2.7 y

Man L. I1: 2.3 y

Man L. I2: 2.2 y

Man L. C: 4.01 y

Man L. C: 3.1 y

Man L. C: 2.6 y

Man L. M1: 3.1 y

Man L. M1: 2.4 y

Max L. P1: 5.3 y

Max L. M1: 2.1 y

I216:	Max L. I1: 3.8 y
I219: Max R. I2: 2.2 y	Max L. I1: 1.8 y
Max R. M2: 5.8 y	Max L. I1: .88 y
Man R. I1: 2.6 y	Man L. C: 5 y
Man R. C: 4.5 y	
Man R. M2: 6.9 y	
Man R. M2: 6.4 y	
I223: Man R. C: 3.9 y	
I227: Max R I1: 2.6 y	
I230:	Max L. I1: 2.6 y
Man R. I1: 2.1 y	Man L. C: 4.5 y
Man R. I1: 1.6 y	Man L. C: 4.4 y
	Man L. C: 3.5 y
I233: Max R. I1: 2.4 y	Max L. I1: 2.3 y
Max R. I1: 1.8 y	Max L. I1: 1.8 y
Max R. I2: 3.4 y	Max L. I2: 2.5 y
Max R. I2: 2.6 y	Max L. C: 3.7 y
	Max L. C: 3.7 y
I267:	Max L. I1: 3.9 y
	Max L. I1: 3.4 y
	Max L. I1: 2.4 y
	Man L. P1: 4.7 y
I278: Max R. I1: 3 y	Max L. I1: 3 y

	Max R. I1: 2.1 y	Max L. I1: 2.1
	Max R. I1: 1.01 y	Max L. C: 3.69 y
		Max L. C: 2.9 y
	Man R. C: 5.1 y	
I295:	Max R. I1: 3.3 y	Max L. C: 3.9 y
I314:	Max R. C: 3.9 y	Max L. C: 3.7 y
	Max R. I1: 1.04 y	Max L. I1: 2.2 y
		Max L. I1: 1.2 y
I317:	Man R. C: 3.9 y	Man L. C: 5.1 y
		Man L. C: 4.1 y
I331:	Max R. I1: 2.1 y	Max L. I2: 3.7 y
	Max R. C: 4.4 y	
	Max R. C: 2.8 y	
	Man R. I2: 2 y	No L Man. Teeth
	Man R. C: 5.7 y	
	Man R. C: 4.9 y	
	Man R. C: 3.8 y	
I344:		Man L. C: 4.03 y
		Man L. C: 3.6 y
I345:	Man R. C: 5.9 y	Man L. I1: 2.6 y
	Man R. C: 4.4 y	Man L. I2: 3.1 y
		Man L. I2: 2.3 y
I356:	Man R. C: 5.1 y	Man L. I2(?): Illegible

	Man R. C: 4.3 y	Man L. I2: 2.2 y
		Man L. C: 5.4 y
		Man L. C: 4.9 y
I357:	Max R. I1: 3.4 y	Max L. I1: 3.6 y
	Max R. I1: 2.8 y	Max L. I1: 2.9 y
	Max R. C: 5 y	Max L. I2: 3.7 y
	Max R. C: 4.1 y	Max L. I2: 3.1 y
		Max L. C: 4.8 y
		Max L. C: 3.8 y
I358:	Max R. C: 4.4 y	Max L. C: 4.3 y
	Max R. C: 5.3 y	Max L. C: 5.3 y
	Max R. I1: 2.6 y	Max L. I2: 3.3 y
	Max R. I1: 3.1 y	Max L. I2: 3.7 y
		Max L. I1: 2.8 y
		Max L. I1: 3.5 y
I359:		Max L. C: 3.98 y
		Max L. C: 3.1 y
		Max L. I2: 2.59 y
	Man R. C: 5.1 y	
	Man R. I2: 1.87 y	
I362:	Max R. C: 4.6 y	

Max R. C: 3.6 y	
Man R. C: 4.9 y	Man L. P1: 5 y
Man R. P1: 4.9 y	
I367: Man R. C: 6.2 y	Man L. C: 5.8 y
Man R. C: 5.1 y	Man L. C: 5.2 y
	Man L. P1: 5.3 y
	Man L. P1: 4.8 y
	Man L. P2: 6.6 y
	Man L. P2: 5.9 y
I377: Max R. C: 3.2 y	Max L. C: 3.1 y
Max R. C: 1.9 y	Max L. C: 1.9 y
Man R. C: 5.4 y	Man L. C: 5.3 y
Man R. C: 4.4 y	Man L. C: 4.7 y
Man R. C: 4 y	Man L. C: 4.1 y
	Man L. I2: 1.5 y
	Man L. I1: 1.6 y
	Man L. I1: 2.4 y
	Man L. I1: 3.03 y

Individuals with no linear enamel hypoplasias: I15, I25, I61, I121, I131, I141, I147, I159, I160

Individuals whose teeth were unobservable: I39, I43, I45, I59, I87, I91, I97, I106, I107, I110, I120, I123, I127, I134, I155, I157, I175, I180, I181, I188B, I191, I192, I194, I199B, I204, I205, I221, I229, I329, I353, I361

Appendix E

Physical descriptions of all adults based on measurements, descriptions, notes of pathologies, and photographs when available. Children's descriptions are based mainly on indicators of health and information on what the population looked like for this period.

- 1) I207- Pabas: Died at 7.5 months, a sickly child with large eyes and a tendency to cry.
- 2) I199A- Sety: Lived to age 15, died three months pregnant. She grew to be 5'1 tall, and was a small and slightly plump woman. She had no caries and all her teeth, which she showed off with her wide, lovely smile. Large brown eyes, a short, small nose, and delicate features in a heart shaped face. Suffered back pain.
- 3) I229- Yuny: Twelve years old in the first year of the city. Starting to go through a growth spurt, long and gangly. Square jawed, prominent cheekbones, and aquiline nose. Broke both feet at one point and had a muscle pull in the ribs.
- 4) I078- Isi-oe: Not born in the first year and only lived to 7 to 18 months old.
- 5) I166- Hoh: Eleven years old during the first year. Rounded jaw and all of her teeth. Soft curved face, with rounded nose and eyes slanted like a cat. Hair in braids with curled bangs. Average height of 5'2", thin and muscular body.
- 6) I057- Thoth: Nine years old in first year. Full lips, sharp nose, and squints his eyes when thinking. Eats dates and has teeth that bother him. Jaw pops when he chews. Lower back pains him, especially when he lifts heavy objects.
- 7) I060- Satia: Not born in the first year. Was a chubby baby initially with a tendency to be fussy, grew thin and then died.
- 8) I176- Gararai: Two years old in the first year, she likes to dance and she's very pretty.

- 9) I359- Geb: Two years old in the first year, becomes ill and is treated by Achen and Schent. Adores grandfather. Stocky body.
- 10) I181- Bata: Not born in first year. He was a sickly boy with feather-fine hair and weepy, brown eyes.
- 11) I150- Mehi: She was eighteen years old during the first year. She had dark, elongated eyes. A determined jaw, white, healthy teeth, flaring cheekbones, overall a proud face. Was considered tall for a woman. Has shoulder length braids framing her face but longer hair down her back.
- 12) I009- Gengen-Wer: He is sixteen years old during the first year. Downturned eyes, large nose with a wide bridge. His features often lend him a sad or confused appearance. His back and legs bother him, sometimes he even gets tingles or loses feeling in his legs.
- 13) I087- Osiris: Not born in the first year. Lives to 2.5 years, is a happy, quiet boy whose hair stands up in spikes.
- 14) I205- Kafy: Is twenty-five years old during the first year. She has large eyes and fine features. Small at 5', has lost two teeth, and has knees that bother her.
- 15) I121- Unnefer: Is fourteen years old in the first year. Sisters tease him for having mandibular canines like hippopotamus tusks. His face is strong and thin, the jaw square and chin prominent. Has his hair in short braids decorated with beads. Back aches and he suffers from periodic fevers.
- 16) I188B- Layla: Not born in the first year. Chatty girl with large eyes.
- 17) I377- Imentet: She is eleven years old in the first year. Rounded, slightly up-turned nose and small, pouty mouth make her seem younger than her years. Hurts her back carrying water during her daily chores.

- 18) I123- Nefu: He is eight years old during the first year. Small for his age, he has a lively, expressive face, with disingenuous eyes and arched brows.
- 19) I221- Benipe: Was born only a month before the story begins. His eyes are slanted like his mother's but he has his father's earnest face. Grows to be an exceptionally muscular and wiry 2.5 years before he dies.
- 20) I201- Eopei: She is twenty-five in the first year. Her teeth ache and bother her. She carries things on her head, which causes her neck to bother her. Pulls a muscles attached to her left ribs from hard work and her right foot bothers her now and again. Wears her hair in a long, single braid. Very short and small at 4'11", is sometimes mistaken for a child or younger woman when seen from behind, but face is fierce, with eyes like a jackal and sharp cheekbones.
- 21) I141- Aka: He is eighteen in the first year and is considered very tall. He's muscular and broad in the shoulders. His face is saturnine and wears an easy-going expression that belies his daredevil nature.
- 22) I353- Rabiah: Is not born in the first year. She was a small baby who was often too ill and tired to even cry.
- 23) I061- Zahra: She is twenty-two years old in the first year. She has a broad, plain face and a kind nature. She works carrying water, her back and neck bother her but she doesn't complain.
- 24) I171- Lateef: He is three years old in the first year. Doesn't like the water even though his dad works on a boat. He has a short, somewhat flat looking nose, small, slanted eyes, and thick lips.
- 25) I091- Anqt: Isn't born during the first year. Has a face that seems too thin, long fingers, and a cadaverous appearance that is especially unsettling in a child, but she has a bright smile and loves to play with bread dough.

- 26) I068- Iihersu: She is twenty-seven in the first year. She has a full face with round eyes that suffer from an ailment. She is average height.
- 27) I278- Hotep-Ui: He is nine years old during the first year. He was a sickly baby but is now growing into a thin, wiry strong boy. He has medium length braided hair. Thin and fragile looking, with deep-set eyes and hawk-like nose, he is often thoughtful, quiet, and resolute.
- 28) I097- Pakhet: Not born in year one. Cute with curls, nose already prominent, takes after his father Tebu.
- 29) I090- Milt: She is newly married at eleven years old during the first year. She has a flat, wide face and kind, bright eyes. Her right arm is weak and useless, she does everything left-handed or using her legs, feet, chin, or mouth to manipulate certain objects to compensate. Hurts back carrying heavy loads.
- 30) I042- Unsu: He is twenty years old in the first year. Has tingles in his legs when he sits a certain way, as well as lower back pain. Little bit taller than average height. Has large rounded nose like his brother Sobek, although his brow isn't as thick and his eyes wider.
- 31) I180- Ja: Not born in year one. Chubby with too much charm. Has squinting eyes and infectious laugh.
- 32) I100- Hunra: She is seventeen in the first year and pregnant with her second baby, the first was stillborn two years before and she has struggled to get pregnant since. Had a hard childhood- her mother died when she was three and her father, a poor farmer, raised her. There were times in her life when she went hungry. Strong forceful features, stark but handsome face for a woman.

- 33) I092- Dhouti: Twenty-eight years old in the first year. Long, sad face, projecting chin. Has limp that favors his left leg. Broke toes and ribs when working at quarry. Suffers from back pain. Is slightly taller than average.
- 34) I361- Tefnut: Not born in year one. Thin, stomach always bothers her. Large round eyes, reminds her mother of a baby bird.
- 35) I110- Mesta: Twenty-one years old in the first year. She is short and thin with delicate features. Breaks her ulna, high up the bone, while helping build a house when she falls from the roof. The work she does impacts her lower back.
- 36) I099- Nane: Nineteen years old in year one. Has a knock-kneed gait and his back hurts him. He has small eyes and a large nose and chin. Taller than average, husky build.
- 37) I025- Sam-Ta: Not born in year one. Small, thoughtful eyes. Can be sullen and quiet, trails after her brother.
- 38) I120- Nehimeou: Fifteen years old in the first year. Very small and pretty with her hair in a long braid down her back. Had an abusive husband who broke her jaw, it still aches after a year, bothers her sometimes when she eats, talks, or clenches her jaw in anger. Self-conscious about how she thinks it makes her look, checks herself in her mirror, and one side does look slightly raised along jawline.
- 39) I107- Chons: Is thirty years old in first year. Wide, lazy-lidded eyes and high forehead. Extremely tall for an Egyptian. Has weak chin he tries to hide with a beard and prominent cheekbones. Short, dark hair. Falls from scaffolding and breaks a rib, right clavicle, and left radius. Has pain in several teeth. Body aches everyday from climbing scaffolding and moving body at awkward angles.

- 40) I045- Hatmehyt: Is born in the first year. Broad faced girl who grows up to have her dark hair in braids with a ring and an ear pierced. Is playful and happy, loves boats and the water.
- 41) I147- Ehe: Is seventeen in the first year. Diminutive and walks with a slight limp after breaking her knee while running three years before. The knee aches in the cold of winter. Has plain, flat face and stern expression because of the pain.
- 42) I131- Tebu: Is thirteen in the first year and has been married for two years. His hair is short and dark. His face has a sharp chin and cheekbones, hawk-like nose, and heavy brow.
- 43) I192- Krr: Not born in first year. Bright eyes, upturned nose, and wide smile. One pierced ear with a wooden stud. A mischievous boy who loves running, jumping, and swimming. Has too much energy, but one day starts acting listless and tired.
- 44) I154- Akusaa: Is thirteen years old in the first year. Suffers injuries to both legs and has back problems. Has soft-curved face and dark, thoughtful eyes. Is average height.
- 45) I137- Ma-Mai: Is twenty-one in the first year. Short and stocky. Broke his left metatarsal but Imhotep set it. Injured neck while working. Had problems with his tempromandibular joint. Back ached. Flat, broad face, high cheekbones and narrow nose.
- 46) I314- Pna: Is seven and a half years old in the first year. A thin little girl with her hair in braids that have rings in them. Face still chubby with baby fat, light brown eyes and a pointed nose. Can be a little vain and spoiled but also silly and sweet.
- 47) I198- Ty: Ten years old in the first year. Slave of Efankh. Small, unobtrusive, and fearful. Nose broken the year before. Did work so strenuous it tore her muscles. Hyperflexion of elbow. Made to do work too hard for her tiny body. Subluxated her left hip. Her back hurts. High cheekbones, full lips, nose somewhat rounded and crooked, cat-like eyes. Suffers from malaria.

- 48) I153- Ra: Is sixteen in the first year. Dies of malaria. Back ached. Tall and was constantly having to kneel or squat while he worked in the bakery which caused pain to his knees. Narrow face with angular cheekbones and bulbous nose, thin lips, and pointed chin.
- 49) I124- Ra-Men-Ankh: Not born in first year. Sickly child, weak and no energy. Sad eyes and pronounced cheekbones make him look older than his years. Sometimes has neck pain or numbness in legs and arms.
- 50) I219- Phut: Thirty-two in the first year. Hurt back working as a farmer's daughter. Had one child. Problems with TMJ and pain in teeth. Left-handed work caused aching in her hand. Hips and feet sometimes bothered her. Small face with large eyes, looked almost child-like.
- 51) I191- Apophis: Is fourteen in the first year. Average height. Back seriously injured from work. Is caught and beaten by police, also had broken foot. Short, curly, dark hair. Thin, almost delicate features, a beautiful man. Face can seem very expressive but his eyes tend to be cold, emotionless unless causing pain and embarrassment to another, then gleeful.
- 52) I129- Aper: Is five years old in the first year. Bowlegged, thin, and hunched. Quiet and fearful girl.
- 53) I356- Tayet: Is ten years old in first year. Is short, spindly, and meek. Somewhat plain but has startlingly beautiful pale amber eyes. Works as a weaver and is already experiencing aches to back, hips, and knees. When she's older husband breaks her rib and left fifth metacarpal. Lost some teeth and they hurt.
- 54) I200- Sos: Is twelve years old in the first year. Diminutive for a man, large bright eyes, big nose, and round chin. Worked very hard, carried heavy burdens, apprentice baker. Broke arm when he tripped.

- 55) I109- Sed: Not born in the first year. Small, tries to be inconspicuous. Has hawk-like nose of his family and angular cheekbones. Tends to be sullen and silent and then says something insightful or cutting.
- 56) I357- Nub-Em-Het: Sixteen in the first year. Average height. Small eyes and mouth, pointed nose, always looks irritated. Suffered from fever and lower back pain. Right mandibular second and third molars lost from cavities.
- 57) I295- Mose: Is fifteen years old in the first year. Is extremely tall at 5'7". Worn down teeth, wide bridge of flat nose and large lips gets him sometimes compared to a frog behind his back. Is punished with scapular wounds for crime. Injured left humerus. Had back pain. Was choked to death.
- 58) I041- Ouei: Is one year old in the first year. Small and sickly with crooked teeth. An ordinary face but sweet eyes. Adores father and always tries to be helpful.
- 59) I276- Bentmut: Is twenty-eight in the first year. On the short side of average height. Pretty but face lined from bitterness and pain, wore hair in elaborate braids. Broke bones in feet, left fingers, and two ribs. Knees ached and suffered back problems.
- 60) I223- Pthah-mes: Was twenty in first year. Large eyes and round, button nose. Narrow mouth and long face. DJD of the arms and back. Had mastoiditis, presenting as swelling and tenderness behind ear. Had problems with his teeth. Had plaited hair and simple expression on gaunt face. Falls from chariot. Knees ached from sitting and kneeling in work as scribe.
- 61) I111- Ruty: Not born in the first year. Angry and protective of his siblings, cousins, and mother. Fears his father. Sharp features and heavy-lidded eyes. Often mumbles and hunches around his father. Bold and courageous when facing down bullies around his own age.

- 62) I329- Weret: Is twenty-four in the first year. Face is striking with pronounced cheekbones, wide set eyes, and rounded nose. Had shoulder length, thick braids. Gap between her maxillary incisors. Works as a dancer.
- 63) I230- Har-Bai: Is fourteen in the first year. Blind, thin, and prone to illness throughout childhood. Beautiful singing voice and plays instruments.
- 64) I149- Kek-T: Is nine years old in the first year. She is a thoughtful, gentle girl just coming to adulthood. Has a shaved head and sometimes wears a wig, but doesn't worry much about her appearance. Dark brown eyes, thick rounded nose, large mouth with kind smile. Can be stern looking when unhappy.
- 65) I362- Shentayet: Is twenty-five in first year. Heavy lidded eyes, sensuous lips, sultry manner. Dancer with back problems, breaks a finger doing acrobatics with another dancer. Loses left second premolar and first molar of mandible.
- 66) I233- Enna: Is thirty-five in the first year. Heavy brow, hooked nose, rounded cheeks somewhat sunken due to absence of cheek and mandibular teeth. Blunt chin and overbite. His jaw, hands, feet, and back ache. Was punished with scapular wounds. Not very bright, is a farmer who feels life is unfair, takes out his anger and frustration on the people around him. Tends to drink heavily.
- 67) I331- Iah: Not born in the first year. Gangly and awkward child. Just reaching manhood, eager and a bit of a clown. Somewhat buck-toothed.
- 68) I012- Nena: Is thirty-seven in the first year. Has broken nose from childhood when playing too rough with brother. Neck twinges from carrying water. Has child-like round face with wide eyes and wide bridge of the nose. Appears innocent and slow but is actually quick-witted. Short hair framing her face.

- 69) I367- Ouonsou: He is fifty-one in the first year. A thin but muscled old man, still has an air of vital strength and endurance and a stern dignity. He is of average height but his personality makes him seem large. A quiet man with sad, soulful eyes, a large, crooked nose, and a shaved head. Missing a left lateral incisor from a fight. High cheekbones. Skin tan and weathered. Suffered from periods of hunger from the age of four until he was fourteen. Father was a workman and mother a professional mourner. His father died when he was five. His mother worked hard to feed the family, but as a widow her and her children had difficult lives. Ouonsou, at age seven, became the lookout for a group of robbers his father used to work with at night while working as an errand boy during the day. Has sweet tooth, loses teeth. Back, right shoulder, face, and collar often ache from lifting heavy loads. Works with donkeys. Has ribs and left ulna broken in a beating. Shoulder blade pierced as punishment in 1345. Dies of heart attack in 1338. He snores and breathes heavily in his sleep because of a deviated septum.
- 70) I159- Seteta: Is a baby in the first year. Pouty and incorrigible. Becomes impudent but lovely in early teens. Tries too hard and can be a bit clumsy. Has short curls, heavy lidded eyes, and a thin nose.
- 71) I017- Ranpu: She was twenty-nine in the first year. She had small and delicate features except for her nose. She was vain about her hair with bangs and elaborate braids. She had sharp cheekbones and her nose was thick at the bridge and she thinks it's too long. She has a stern jaw and smirking lips. Experiences problems with tingling in her legs. Her right shoulder and elbow and back bother her from time to time. Has steatite scarab she keeps for protection. Has pain near maxillary right canine.
- 72) I039- Amenemef: Is twenty-seven in the first year. Was an army scribe and travelled, which took a toll on his body. Entered the Amen priesthood and started working as a tax

collector for the temple. Suffers aches and pains. Thin man with a drinking problem. Puffiness under his eyes and broken veins in blunt round nose. Looks more petulant than sinister, but enjoys power over others. Often complains about his life and aches and pains. Brown, slightly protuberant eyes with a flat expression. Later is beaten and has scapulae pierced in 1342. Dies in 1338 of cirrhosis.

73) I170- Ket-Ket: Not born in the first year. Often ill, has a tendency to sarcasm and face looks pinched and sallow from being in pain. Liked sweets and had pain in the mandibular second premolar and first molar. Face thin and harsh featured.

74) I034- Hapentmat: Is thirty-three in the first year. Her mother broke her arm when she was five. Shoulders, elbows, and left wrist ache, as well as her back. Her teeth were worn down and pained her. She had large eyes in a thin face. Short, dark, curly hair. Small in stature but tough.

75) I059- Bakennifi: Is forty-one in the first year. Had few teeth, small, wide apart eyes with an intense glare, and thick nose. Didn't attend the barber regularly, head would be shaved but then he had a tendency to let it grow. Brow-ridge made him seem pensive. He suffered multiple injuries over the course of his life as a soldier. Once shot in the pelvis because it was exposed area his shield didn't cover it healed, but he was later shot in the same place. Tall at 5'5". Parry fracture from blocking a spear, He had four different rib injury events. Nose was broken before death in attack that would lead to his eventual death. Ate dates regularly and had five abscesses and thirteen carious lesions.

76) I051- Kit: Not born in the first year. Child suffered maladies and had problems walking. Small with round face jutting nose and slanted eyes.

77) I093- Pet-Amen: Is twenty-eight years old in the first year. She had an odd walk and trouble breathing sometimes. Her body shape seems off somehow, especially in the region of her

chest, she's shy about it and wears linen tunics or dresses. She's a little taller than average. She endured starvation as a child. Her shoulders and hips bother her. She has a sweet face, pouty lips, and large eyes though a little close together, pointed and small nose. Weak rounded chin. Good teeth and large, warm smile.

78) I071- Sobek: Is thirty-eight in the first year. Short for a man at 5'1". Stocky and strong with sun darkened skin. His wide face has squinting eyes and lines from looking at the sun's reflection off the water. His smile deepens the creases. Large rounded nose and heavy brow. Rowing his boat and loading and unloading his boat took a toll on his back. Broke his left ulna when he was rowing and hit a sandbank, jarring his arm. Had a parasite from wading in the river, but didn't realize it. Had lost his mandibular front teeth.

79) I114- Merit: She was twenty-six years old in the first year. She was a weaver slave with a handsome face, a bump in the arch of her nose, thin lips, a determined jaw, heavy lidded eyes filled with ill-concealed resentment, often looks down to hide her feelings. Her face is a broader, rougher version of her sister's more delicate features. Broke her left arm as a teenager and now has limited use of it. Her jaw bothers her and she sometimes feels like it's locked when she clenches it or wakes up some mornings. Is beaten and gets a scalp injury that becomes infected and kills her.

80) I102- Iritis: Is twenty-nine in the first year. Of average height with a rugged face and a long chin. High cheekbones and a large nose and good teeth. He was kicked in the leg by a donkey when he was a teenager, it healed bent because he couldn't straighten it after break. He survived the infection of the break. His back, left shoulder, leg, hip, and feet bother him. Had schizophrenia, but people thought he could see and hear ghosts, gods, and demons because he

was the wise-woman's son. Drinks heavily to deal with the pain and silence voices. Is punished with scapulae piercing.

81) I188A- Buto: Is seventeen in the first year. She was tall for a woman. Had a stress fracture to her right ulna from housework. She had an infection to the left femur and tibia. Her back ached. Her face was interesting but not beautiful with broad cheeks, a small rounded nose, large and serious eyes. Eyebrow arches when she's irritated or skeptical. She had wide, full lips, small round nose, serious eyes. Often wears a thoughtful expression, which makes the times she smiles seem all the more bright and ebullient, making it rare and precious.

82) I106- Senbu: Is thirty-one in the first year. Face seems stern with prominent cheekbones. The missing left maxillary incisor gives her smile a shy quality. Gentle, slightly downward tilted eyes. Wide-bridged, large nose. Is wiry thin with her muscles and sinews standing out. Gets an infection in her tibiae and fibulae. Her back is painful to her.

83) I345- Schent: Is thirty in the first year. Is small with strong face, flaring cheekbones, and slightly crooked, pointed nose. Her lower lip is fuller than her upper lip and she had a small pointed chin. Her face was like a desert fox with clever and expressive features. When she's angry her eyes widen, the brows draw together, the jaw juts forward. When smiling her upper teeth were visible and her eyes bright. When she laughs she throws back her head and laughs almost silently, with soft, gasp-like chuckles. Line along right eyebrow near nose when thinking or mildly irritated. Her neck and back bothered her, sometimes causing her severe pain. Gets bad migraines. She broke her clavicle as a little girl when she was running down a hill. Broke a finger in her right hand. Broke her left fibula. Had gallstones. Legs and feet hurt, she takes medicine for the pain.

84) I194- Aiemapt: Is twenty-nine in the first year. Average height. Isn't handsome, has rakish features. Mischevious, lop-sided grin, large sparkling eyes with lazy lids. Had a blunt nose and weak chin. Has a way of making people feel like the most important person in the world to him. Constantly flirts with women, even ones he has no interest in. Treats men with indifference or sarcasm when they're in positions of authority to him. Overly obsequious when he's trying to charm someone he thinks would be helpful to him. His hands are starting to bother him, along with his left hip. He is beaten by the men in his neighborhood for sleeping with so many women.

85) I015- Anat: Is forty in the first year. Of average height. Has a small, round face with softened cheekbones, and wide, thin lips, large eyes. Side of face swollen from infected tooth. Breaks left thumb in the first year. Hurt neck as a child when trying to carry water on her head, fell with water jar breaking against her neck, and ever since has had problems moving it. Her face is wrinkled with lines bracketing her nose and mouth. There's a deep crinkles extending from each eye, the rare occasions she smiles. Brow has deep lines as if chiseled in limestone.

86) I117- Imhotep: Is forty-two in the first year. Broad face with a rounded high-bridged nose. A wide mouth with thin lips. The gaps between the mandibular incisors visible when he smiles. Small eyes, often squinting in thought or in the glare of the sun. Often has a calm, unreadable expression, but when happy or angry, eyes are expressive. Lines bracket mouth and etch his forehead and there is a fan of lines from each eye, as if time had flowed over his face like the rare floods over the desert cliffs. His feet bother him from his constant walking to projects and patients. Short, graying, curly hair.

87) I028- Sekhmet: Is forty-six in the first year. A slave who was very short with a face aged by tragedy. Had large sad eyes sometimes filled with hopelessness and suppressed rage. Large, wide nose, cheeks sunken showing the loss of all but four maxillary and two mandibular teeth.

Both hands have grown stiff, especially in the wrists. Has always been a little clumsy, but it's exacerbated when she's nervous. Aka, her owner, says she looks like a kicked dog. Is often covered in cuts and bruises. Back aches. Had broken ribs and her right hand was also broken.

88) I317- Ba-Akh: Is twenty-eight in the first year. Heavy lidded eyes and a high, sharp, and crooked nose. High forehead, slanting cheekbones, and thick lips. Had short, straight hair. Tall and muscular from herding, caring for, and butchering cattle. Handsome man deeply in love with his wife, she's the best part of his hard life. He suffered several injuries because of his job: his nose was broken by a bull, his arms almost pulled out of the sockets when he was a child holding the rope on a cow, and he'd been kicked in the chest, and stepped on by cattle. His jaw aches and locks up and he had carious lesions on his right first and second molars.

89) I043- Renenet: She is thirty-one in the first year. Her hair is shoulder length and lightened with by time and the sun. Has large eyes under a heavy brow that makes her often appear thoughtful or annoyed. Is actually rather flighty and spends time daydreaming, causing Hunra and Sekhmet to have to do her chores. Her back bothers her, when she does work she puts a great deal of effort into her tasks. She often volunteers to get the water because she likes the walk and the gossip with the women down at the well or river. Her right elbow bothers her the most. Her father broke her ulna when she was a teenager. Lost several teeth and some are bothering her. Starts to get osteoporosis.

90) I344- Rahmose: He is twenty-six in the first year. Long face, wide eyes, protruding chin, and hooked nose. His feet and back bother him, he broke his foot several years before by dropping a jar of unguent on it. Often has a querulous expression on his face. Average height.

91) I069A- Maya: She is forty-six in the first year. Her face has pouty lips, elegant cheekbones, straight and thin nose, luminous eyes. Even as she ages her serenity and loving heart

attracts people to her. Her life has been hard but it hasn't tainted her. Has suffered a broken arm, broken ribs, and a pierced scapula. Had weaver's knees from her time as a weaver slave before she was given to the swnw Imhotep and he fell in love with her and married her. She is short and delicate and moves with grace even though she feels pain in her hands and legs. Has tooth pains and is embarrassed by her lost teeth in her mandible and is afraid of losing more.

92) I056- Efankh: Is forty in the first year. A tall man with a large beer gut, but strong arms and legs. Round face with plump cheeks. Long rough and red nose, angular jaw. Is beaten in 1342 and suffers a broken clavicle, ribs, and scapulae piercing.

93) I127- Heket: Is thirty-six in the first year. She is the average height. She has a pointed, long chin and narrow cheekbones. She fell from a height feet first when she was younger and ever since drinks beer and takes medicine to help with the pain. Her eyes are often glazed and clouded by pain. Her face has a sunken and careworn appearance. Only seems happy when caring for children. Broke right ulna in her fall. Has TMJ disease, tooth pain, pain in her left shoulder, elbow, foot, and hip.

94) I216- Itchut: Is forty-five in the first year. Works as a stonemason. Falls and dies from his injuries. Had fallen a shorter distance two years before and broke bones in his hands, ribs, and feet. Small eyes and cheekbones, large head and bulbous nose give him almost foolish mien.

95) I175- Nehemtawy: Is forty-three in the first year. Average height. Round face, pointed chin, small nose, and sharp cheekbones. Had back, especially neck, problems from carrying water and loads on her head. Works making beads and faience. Aged well with only fine lines on her face.

96) I267- Khnum: Is thirty-eight in the first year. Small face with flaring cheekbones, a badly broken nose somewhat flattened on the right side of the bridge making his large nose skew to the

left. Large eyes often filled with sadness or bitterness. Had a rough life, often got into fights and was punished by the police with a beating and pierced scapulae and broken ribs. His elbows, hips, back, and right knee pain him. Almost half of his teeth were missing and those he still had were worn, broken, or had carious lesions.

97) I204- Dsjot-Khons: Is forty-one in the first year. Is of average height. Has a prominent brow, narrow eyes, straight nose, and had started losing her teeth. Her face heavily wrinkled and aging rapidly. Suffered pain in all her joints and had grown weary, becoming almost obsessed with death and being free of pain. Worried about her son. Broke her arm shortly before her death.

98) I227- Achen: Is fifty in the first year. Low forehead with a thick brow, hooded, keen eyes, sharp nose, and pointed chin. Lost several of her teeth and her lips and cheeks appeared sunken. She had pain from her back, right scapula, left ulna, and right knee. Her ribs were broken when she was young by her abusive dead husband.

99) I134- Ta-ei: Was seventy-eight in the first year. Used to be taller but became hunched and stood at 5'4". Lost all of her teeth and had to eat gruel, looked cadaverous. Face sunken and lined she seemed ancient. Fell and broke her tibia, it grew infected and killed her.

100) 358- Ruba-Ta: Is seventy in the first year. A short, stooped woman seemingly kept alive by sheer force of will and fiery temper. Still has quite a few teeth. Her back, neck, knees, and left shoulder bothered her. Had carious lesions. Round, lined face with strong chin and sharp nose. Small, sparkling eyes. Suffered broken bones from beating by grandson.

101) Maatnofret (F-Amalgam): Nine years old in the first year. Short and thin with a round face with a small nose. Her eyes are wide and light, mottled green and brown color. Her teeth are growing in crooked. Dark, thick hair in braids and ears pierced.

102) Fai-Nofre-Bai (M-Amalgam): 32 in first year. Tall and thin stonemason. High cheekbones and long, straight nose. Nervous with brow lined from constant expression of worry. Slightly downward tilted eyes.

103) Pasupti (M: Amalgam): 23 in first year. Average height. Long thin face with easy-going smile. Small, dark eyes and a curved nose. Hair cut short and face shaved.

Appendix F

Timeline

1355 – Akhenaten becomes Pharaoh under the name Amenhotep IV

1350 – Now renamed Akhenaten, Pharaoh holds ceremony on the 13th Day of the Egyptian season of Peret in the month of Ermouthi, coinciding with our month of March, announcing the founding of the city of Akhetaten. First set of stone stelae marking the boundaries of the city with the King's proclamation erected.

1349 – Second set of stelae marking the boundaries of the city erected.

1348 – An early version of the city's main center roughly finished building.

1347 –

1346 – The capital and administration officially moved to Akhetaten, Akhenaten marries a second wife known as Kiya.

1345 – Akhenaten starts a program removing the names of other gods, primarily Amen, from monuments and temples.

1344 – Kiya dies or disappears from the record.

1343 – There is a big celebration marking the 12 years of Akhenaten's reign, it is the last time the entire royal family is depicted. Mention of a plague is found in letters from countries diplomatically linked with Egypt and in their own records. Members of the royal family begin disappearing from monuments.

1342 – Death of Akhenaten's second eldest daughter Meketaten at 12 to 13 years old.

1341 –

1340 – Nefertiti either renamed or disgraced.

1339 –

1338 – Akhenaten dies, succeeded by Smenkhkare and Akhenaten's eldest daughter Meritaten.

1337 – Meritaten and Nefertiti die, Smenkhkare ill.

1336 – Tutankhaten crowned Pharaoh, marries Ankhesenpaaten, Akhenaten's third daughter. Smenkhkare dies.

1335 – Tutankhamen and Ankhesenpaaten renamed, move back to Waset (Thebes) with court and administration.

1334 – The city has very few people left living there.

1333 –

1332 – Almost completely abandoned.

1330 – The city has been abandoned.

Theories and Hypotheses concerning the royal family that I am using for consistency:

- 1) Smenkhkare is Akhenaten's younger brother or half-brother.
- 2) Tutankhamen is Akhenaten's son by Kiya.
- 3) Kiya is Mitannian.
- 4) 1344-1336 is the height of the death toll or period with the highest rate of illness from an undetermined disease process, most likely a virulent form of malaria.
- 5) Ankhesenpaaten wrote the letter to the Hittites when Tutankhamen dies.
- 6) Ay is related to Nefertiti and her daughters.

Appendix G

Notes for Osteoethnography

Nehimeou

- 1) The first day of the narrative is the day before Akhenaten's ceremony announcing the dedication of the site to the Aten and the building of a city. This day is known from the boundary stelae that mark the outer perimeter of the city (Kemp, 2012, 34).
- 2) Aur was the name Egyptians gave the Nile (Degefu, 2003). The ancient Egyptians were able to live and develop their complex civilization in the largely arid environment due to the Nile and its inundations, "from south to north carrying the waters of Lake Victoria more than 3,000 miles to the Mediterranean Sea...Along most of this course the Nile has scoured a deep wide gorge in the desert plateau, and then built on its floor a thick layer of rich dark silt...The heavy summer rains in Ethiopia swell enormously [the river] and sweep down them a heavy load of sediment, rich in minerals...[in ancient times it was sufficient to flood the Egyptian valley and delta...as the current was checked some of the silt settled on the land and was left behind when the waters receded in October and November]" (Kemp, 2007, p.10) This allowed crops planted to grow during the fall and winter, ready to harvest in the spring, and then drying and aerating the land in summer, these different periods formed the ancient Egyptian seasons "Akhet (inundation), Peret (growing), and Shemu (drought)" (Kemp, 2007, p. 10). The Pharaoh's main purpose was to intercede with the gods and ensure that this cycle continued, as this was part of ma'at- the natural order of the universe.
- 3) Egyptians believed that supernatural beings interacted with humanity, for good and ill. Mwt were dangerous ghosts of the restless dead (Pinch, 2006, p. 45)

- 4) The concept of ma'at was “central to Egyptian religion and thought... {It was} the embodiment of truth and the... balance of the universe” (Brewer & Teeter, 1999, p. 86).
- 5) “An epithet employed by Akhenaten from the very start of his reign is *ankh em ma'at*, which translates as ‘living on truth’ but might be better understood as ‘living according to the proper order’. This is the underlying theme of the king’s 17-year rule... Akhenaten’s version of ma'at placed particular emphasis on actuality and the here and now” (Reeves, 2001, p. 139).
- 6) The ancient Egyptians, before Akhenaten, believed that gods and goddesses could inhabit statues made for them. They used precious materials to create the images and treated the idols as living beings. They were kept in temples where they were hidden from most people; only high ranked priests had access to them. The priests cared for and saw to the needs of the god or goddess, with baths, perfumes, incense, and offerings of food and drink three times a day. Akhenaten believed that there was only one god, the sun- Aten, who had created everything and that was visible to all humans, so there was no need to make an idol for the god to inhabit. Priests were also unnecessary since Akhenaten was the chosen representative of the Aten on earth (Teeter, 2016, p. 41-51).
- 7) Wood was a rare commodity in the desert and so wood was considered an expensive material to make items (Kemp, 2002, p. 73-74).
- 8) “Some thirty-three centuries ago, perhaps 20,000 Egyptians, or maybe twice that number, followed their king to what was then an empty stretch of desert beside the Nile and built a city. To their king, Akhenaten, the land was a part of a sacred territory called ‘The Horizon of the Sun’s Disc’ (or Akhetaten)” (Kemp, 2012, p. 17).
- 9) Waset was the Egyptian name for the city of Thebes and it “was a primary royal residence and the home of the predominant cult of Amun-Ra presided over by a powerful and

wealthy priesthood... Amenhotep IV began building temples to Aten near the cult center of Amun {Karnak} and during the fifth year of his reign things took a drastic turn. The pharaoh changed his name to Akhenaten ('spirit of the sun-disc') and moved his court many miles north, far away from existing political and religious centers. A new capital, built on undeveloped land on the Nile floodplain, was called Akhetaten" (Ryan, 2010, p. 102-104)

10) Akhenaten and Nefertiti had six known daughters: Meritaten, "born no later than Year 1, Meketaten...probably born Year 4, Akhesenpaaten... born before the end of Year 7... Neferneferuaten-the-younger, probably born by Year 8... Neferneferure, born before Year 10... And Satenpenre, born before year 10" (Tyldesley, 1998, p. 52).

11) Divorce was not uncommon in ancient Egypt, "if a woman was not found guilty of adultery she could ideally expect one-third of the conjugal property" (Meskell, 2002, p. 101).

12) General Rahmose (or Ramose, depending on the scholar) was an actual general and courtier of Akhenaten's court and had a house and tomb at Akhetaten (Aldred, 1988, p. 22 and 89).

13) Pharaohs traveled their kingdom and actually spent quite a lot of time on a special boat built specifically for the king. The people of Egypt relied on boats utilizing the Nile as the primary means of traveling throughout the kingdom of Egypt (Mertz, 2008, p. 240-245).

14) The Nile was not only important for transport, it's rising and falling- or inundations, brought the thick black soil that allowed for Egypt to have rich farmland. It was also spiritually important, it was considered to lead to the afterworld the Egyptians believed in called the Duat, and the river itself also was a god or gods known as Hapy (Pinch, 2002, p. 136-137).

15) Sailors were adept at navigating the Nile (Ryan, 2010, p. 11-12).

- 16) Ancient Egyptians had several different kinds of healing practitioners but “the majority of doctors were designated simply as *swnw*” (Nunn, 2006, p. 116).
- 17) May is another courtier of the Pharaoh Akhenaten who had a tomb at Akhetaten (Murnane, 1995, p. 143-147).
- 18) Queen Tiye and her husband Amenhotep III were the parents of Akhenaten. She was a very strong and powerful queen who had unprecedented powers during both her husband and son’s reigns. Amenhotep III and Tiye started identifying themselves with the solar gods and goddesses. “During Amenhotep’s reign... there appeared the first evidence of an actual cult of the Aten, which was based at Heliopolis (Iunu) in Lower Egypt and had its own temple and priesthood” (Fletcher, 2000, p 61). “Amenhotep II and his son Tuthmosis IV had begun the process of regenerating the ancient solar cult...of the Old Kingdom. The steps Tuthmosis had taken to distance the throne from the Karnak clergy of Amun and so curtail the growing powers were taken much further by Amenhotep III, who skillfully manipulated the Amun cult for his own ends while promoting the sun god Ra in the form of the Aten” (Fletcher, 2000, p. 162).
- 19) See boats in Mertz, 2008, 240-245.
- 20) Linen was the main material for clothing in ancient Egypt (David, 1998, p. 290-292).
- 21) Akhenaten was an avid chariot driver and made his chariot rides with his family a focus and spectacle for his people; he is often depicted in tombs and temples riding his chariot with his wife and daughters. A special road was built mainly for the King’s chariot. The King’s chariot is also mentioned in the royal proclamation carved on the boundary stelae (Kemp, 2012, p. 34).
- 22) Wigs were worn by both men and women and varied in styles. Other people from ancient Egypt styled their natural hair (Mertz, 2008, p. 84-87).

- 23) Nehimeou is Individual 120 who was found buried with a mirror, see Osteobiographical profiles in Appendix C.
- 24) Mirrors were made of polished bronze for a reflective surface. They were used to apply make-up and style hair. Mirrors also possibly had religious connections, most likely to the goddess Hathor since she is often depicted on mirrors and images of priestesses of Hathor with mirrors have been found. “Possessing a mirror indicated a certain degree of status” (Szpakowska, 2008, p. 69-72).
- 25) Hathor was “one of Egypt’s greatest goddesses...Mother or wife of Horus... {the} goddess restored the sight of Horus after his eye had been injured by Seth... Sky goddess... Wife or daughter and ‘eye’ of Ra: Hathor was closely connected with the sun god Re whose disk she wears... Cow goddess... Goddess of women, female sexuality and motherhood... Mother or wife of the king... Goddess of foreign lands and their goods...Goddess of the afterlife...patron deity of the Theban necropolis, where she protected and nurtured royalty and commoners alike, either in the form of a cow or as the anthropomorphic ‘mistress of the west’... Goddess of joy, music, and happiness” (Wilkinson, 2003, p. 139-145).
- 26) Priestesses of Hathor are often depicted with mirrors, sistrum, a musical instrument, and menat (or menit) “a beaded necklace with an elaborate key-shaped counterpoise that produces a sound when shaken” (Teeter, 2016, p. 27-28).
- 27) Tents and grass huts were used as temporary shelters in ancient Egypt, tents were on the pylons of the Ramesseum showing “Ramesses II’s encounter with the Hittites at Kadesh” (David, 1998, p. 235). Evidence of mat and wooden structures, like the ‘Aten is Content’ located near the Great Aten Temple at Akhetaten have been found by archaeologists (Kemp & Bertram, 2018, p. 3-6).

- 28) Slaves were a part of ancient Egyptian society by the 18th Dynasty, “most slaves were owned by the state... but private persons, some of them pretty low in the social scale themselves, might also have a slave or two. Although these unfortunates could be bought and sold or rented out like any other piece of property, they were in some ways better off than the ordinary peasant. They were entitled to food and lodging, clothes and ointment, and those who worked in great households might rise to positions of considerable importance...some were emancipated, and others even married into the families of their owners” (Mertz, 2008, p. 150).
- 29) Wet-nurses were used when a mother did not want or could not feed her child (Robins, 1993, p. 89)
- 30) Doctors in ancient Egypt would describe their ability to treat or not treat an illness or trauma with variations on the phrase “to be contended with”, if it was a fatal case or something beyond the doctor’s powers it “could not be contended with” (Nunn, 2006, p. 114).
- 31) Fasting was often used for rituals and ceremonies such as funerals (Harrington, 2013, p. 103)
- 32) Mosquitos carry serious diseases, such as malaria, which may have had a serious impact on the health of the people of Akhetaten (Smith-Guzman, 2015, p. 1-12).
- 33) Most ancient Egyptians wore jewelry; those with higher status had access to better quality materials (Meskell, 2002, p. 164-165).
- 34) Feasting often occurred after rituals and ceremonies. Feasts often involved large amounts of food and alcoholic beverages and there is actually a depiction of a feast, which shows a woman inebriated to the point of vomiting (Mertz, 2008, 110).
- 35) Medjay was originally a term applied to Nubian nomads who, during the start of the New Kingdom, fought as mercenaries for the Egyptians against invaders known as the Hyksos. The

Medjay settled in Egypt and intermarried in local communities and worked as security guards.

“A well-regulated, hierarchical police structure soon developed and more and more native Egyptians joined the force, the term Medjay quickly lost its original ethnic meaning. Now the Medjay were employed by the state to patrol the towns, deserts and frontiers of Egypt and to act as royal bodyguards (Tyldesley, 2000, p. 48).

36) Electrum was “a natural or artificial alloy of gold and silver... considered more valuable than gold” (David, 1998, p. 305).

37) One of many ancient Egyptian myths about the sun is that it is a divine boat carrying the sun god Ra (or Re) with a retinue that includes all dead Pharaohs and several gods and goddesses, on a journey across the sky during the day and then through the Duat, or Underworld, during the night. While the sun is in the Underworld, Ra and his boat must overcome the embodiment of chaos, a snake called Apophis, who is intent on destroying all life and returning the universe to a state of primeval chaos that Ra emerged from and then created the world. It is a myth important to Egyptians because it is about the triumph of divine order, a form of ma'at, over chaos (Pinch, 2002, p. 107).

38) Akhenaten is believed to be the author of the Hymn to the Aten, found written on the walls of tombs (Lichtheim, 1976, p. 96-100)

39) In tomb scenes from Amarna, people are shown bowing or kneeling with their faces down when the King and the royal family are present, see the recreations of tomb wall images in Norman de Garis Davies: The Rock Tombs of El Amarna 1905.

40) Incense, animal sacrifices, and other offerings were made to the gods and goddesses to please them. Akhenaten and Nefertiti are often shown in religious ceremonies performing the duties of priests making offerings to the Aten (Kemp, 2012, p. 96).

- 41) “Lector priests were distinguished by their ability to read, and their main duty was to recite the specialized religious texts in both temple and mortuary rituals. The lector wore a distinctive sash” (Teeter, 2011, p. 22).
- 42) A censure was an incense burner (David, 1998, p. 111).
- 43) *Hem Netcher* is a priestly title meaning “God’s Servant” it was their responsibility to “care for the materials used for the daily offering ritual. This function gave them considerable economic power...The *hem netcher* priests were divided into escalating ranks of Fourth through First Priest (Teeter, 2011, p. 26-26).
- 44) Panehsy was a priest of the Aten and had two houses and a tomb at Akhetaten (Kemp, 2012, p. 95).
- 45) The speech the pharaoh gives was recorded during the ceremony and was carved into the first set of Boundary Stelae (Aldred, 1988, p. 44-50).
- 46) Ancient Egyptians believed for thousands of years that the way to the Duat, or Underworld, lay in the west. Many of their cemeteries, including the famous Valley of the Kings, are located on the west bank. This was linked to the idea of the dying of the sun as it sank in the west and rebirth when it rose in the east. Hathor, the goddess believed to protect the realm of the dead, had as one of her titles “Lady of the West” or “Mistress of the West” (Pinch, 2002, p. 92-94).
- 47) Kemet, which means “Black Land” and Ta-Mery, which means “Beloved Land” were the two names ancient Egyptians called their kingdom (Ryan, 2010, p. 6).
- 48) The stonemason who as fallen is Itchut, Individual 216, who died of injuries that were most likely sustained in a fall. See the Osteobiographical Profiles in Appendix C.

49) Rekhet means knowing or wise woman. These women appear to have been magical practitioners who did everything from exorcise demons to treating the sick (Pinch, 2006, p. 56).

50) There was a “force called the bau that Egyptians understood as a sign of the god’s anger, intended to direct or redirect human action. The bau could be manifested as a sense of guilt, a spell cast on the individual to cause him or her to act, or something vaguely evil, but in all instances, the bau is negative, an indication of the god’s displeasure” (Teeter, 2011, p. 112).

Achen

1) Rekhet or “ta rekhet, ‘the woman who knows’, is mentioned in several ostraca from the village of Deir el- Medina, and seems to have been able to identify the gods which brought misfortune, look into the future, and diagnose illness. Such women were consulted by both men and women... such women had a deep knowledge of the realms between the living, the gods, and the deceased and in one text the wise woman is consulted concerning the cause of death of a child” (Graves-Brown, 2010, p. 80).

2) Clay dolls or figurines were used in heka, the Egyptian word for magic. Spells were often spoken over them, personal materials like hair or other items could be used in the manufacture of the figurines, and sometimes the figurines were marked or destroyed in rituals (Pinch, 2006).

3) Senbu is a member of a laundry crew that cleans clothes for the town. This was a position for men and could even be dangerous work for those who used the Nile to clean. “The state provided laundrymen for the village, each of whom did the washing for up to eight households per day. Laundry was either collected by them or delivered to the riverbank (McDowell, 1999, p. 59-61).

- 4) Brother and Sister were terms used that could mean friend, lover, or wife and has led to some confusion for Egyptologists concerning how common brother and sister marriages were outside of the royal family (Mertz, 2008, p.66).
- 5) An adze was a common tool that “has an angled wooden haft with a metal blade bound on to the vertical head with a tough cord or leather thong. It was used with a chopping motion to shape and plane wooden surfaces. Narrower blades were used for more delicate work” (Wilson, 1997, p.129). The adze was also a ritualistic tool used in the Opening of the Mouth ceremony during funerals (Harrington, 2013, p. 15).
- 6) See hairstyles in Mertz, 2008, p.84-87.
- 7) Stonemasons were artisans who worked making everything from statues to monuments to buildings (Wilson, 1997, p. 45-51). Fai-Nofre-Bai and Itchut were working carving one of the Boundary Stelae, with the speech of the king and depictions of him, his family, and the Aten, some of the stelae are located in places that would have made carving them very difficult and dangerous and would have required scaffolding (Kemp, 2012, p. 32-40).
- 8) The akh was the “transfigured deceased in his entirety who had attained the status of an ancestor” (Harrington, 2013, p. 7-10).
- 9) Baskets were woven of grasses and reeds and used to store or carry everything from domestic to industrial objects, basketry techniques were also used to make sandals, mats, coffins and more (David, 1998, p. 297-299).
- 10) Women and men, but specifically women, are depicted as wailing or crying with mouths open in funeral scenes (Mertz, 2008, p. 370). “Lamenting is associated with the goddess Isis, whose cries awoke her husband Osiris” (Harrington, 2013, p.109).

- 11) Gods “were revered, but they were also seen in practical terms as patient problem solvers and mediators who could be counted on for help as long as they were revered, maintained by offerings, and shown the proper respect (Teeter, 2011, p.76).
- 12) Ghosts, being formerly human, still had many of the thoughts, desires, and motivations they had in life. They could be venerated ancestors who had successfully transitioned to the afterlife (akh) or the twisted, monstrous spirits of evildoers bent on malevolence against the living (mwt) (Harrington, 2013).
- 13) Demons were creatures of the Duat, they could be fantastical and like deities being amalgamations of humans, birds, insects, animals, and even unidentified creatures. They often carried weapons or threatening items, had alarming names “not intrinsically evil...[but often] dangerous to humanity” possessing desires and needs that were strange and inhuman- for example eating feces or drinking blood (Pinch, 2006, p. 34-35).
- 14) Heka was the magical force of the universe, originally used by the creator deity of the universe “to make and maintain the world...most acts of magic could be seen as a continuation of the process of creating and protecting ma’at” (Pinch, 2006, p.10).
- 15) Magicians seemed to have differed from priests because clients paid them, though some Egyptologists debate whether there were any people actually designated as magicians as an occupation. Magic was intrinsic in the belief system of the people and everyone from the Pharaoh to slaves could perform certain magical acts like charms, spells, and protective gestures. There do seem to be people believed to have more magic or who were better able to wield it. In ancient Egyptian stories there are depictions of magicians, sometimes even famous people who had died, who are characters in stories and given the title of magician and they perform amazing magical acts that increased their fame (Pinch, 2006).

16) Priest was a title held by people of different statuses, there were many different kinds of priests who performed particular duties relating to temples, shrines, and tombs or associated mortuary temples. Religion “impacted upon all aspects of culture” including the state. Both men and women could be priests and positions were usually passed down father to son, mother to daughter. Being a priest could have many benefits including rights to offerings after they’d been given to the gods (Brewer & Teeter, 1999 p.75-77).

17) Ra was a sun god, possibly one of the most important deities in ancient Egypt, as is the way in ancient Egyptian religion, he became associated or part of several other deities including Horus and Atum. In the Heliopolitan ideas, Ra created everything after emerging from the primeval waters, he created gods and humans (from either his tears or semen depending on the story). His journey in the solar barque across the sky and the underworld is to maintain the ma’at or orderly good forces, his nemesis is Apep/Apophis, the snake god of chaos that wants to destroy everything and return the universe to how it was before creation (Wilkinson, 2003, p.205-209).

18) Grain was of vital importance in ancient Egypt, it was the primary food source, it was made into the Egyptians favorite beverage beer, and it was the basic currency workers were paid in and items were purchased with (Ryan, 2010, p.10, 17-18).

19) Pests were a problem in a society that relied so heavily on grain, mice and insects could wipe out not only a person’s diet but all their ‘wealth’ in the form of grain, this is one reason the cat was so important to ancient Egyptians (Mertz, 2008, p. 42).

20) Purity was important for religious practioners and “was mainly an acquired transient physical state achieved by washing” (Teeter, 2011, p.32-36).

- 21) Mainly during the Middle Kingdom of ancient Egypt “apotropaic wands” sometimes made of hippopotami tusks, shaped not unlike throw-sticks that were used in hunting and were also linked with warding off demons and evil spirits in the afterlife, were used in magical practices. These wands were carved with figures of gods and protective creatures and symbols that were used for magic. The ivory wands are usually associated with protecting the “marriage bed, pregnant women, or mothers with young children. Abrasions on the pointed ends of some wands suggest that they were used to mark out lines, possibly a protective circle. The wands also tend to be worn in the middle where they were gripped. Some have been carefully mended after breaking in the middle, suggesting frequent use” (Pinch, 2006, p.78-79).
- 22) Aha are “fighters who avert evil” and good animals, spirits, or deities who protected and lent their power to the magic to the magic practitioner (Teeter, 2011, p.166-167).
- 23) “Lamps were an image of magical protection... Lamps consisting of a wick floating in a bronze bowl of oil were used in divination” (Pinch, 2006, p. 80).
- 24) Flies are ubiquitous in Egypt; you cannot truly appreciate the numbers or persistence of these creatures until you have lived in Egypt for a few days to a month in the summer.
- 25) The soul in ancient Egypt belief was very complex and made up of several components, including the shadow. The shadow “took on great importance in death, and shared with the ba the responsibility of fetching food for the corpse. The akh was said to possess a shadow... the shadow has a solar connection... in Amarna beliefs, the shadow was a visible expression of solar energy... extermination of the shadow leads to the annihilation of the entire being” (Harrington, 2013, p.11).
- 26) “Loose and disheveled hair of mourners depicted on...coffins and New Kingdom tomb walls...an aspect of the chaos created by death” (Harrington, 2013, p.110-112).

27) Worshipping the gods could be a very complex ritual, but it could also be very straight forward, the offering of food, drink, incense, and reverent prayers and praises were believed to please gods. Calling on the gods for help and protection could sometimes be a kind of negotiation (Teeter, 2011).

28) Bes was a god who protected women and children in childbirth especially. Also a god who could “improve sex life and fertility” (Pinch, 2002, p.118-119). Depicted as a giant dwarf with a lion-like face, usually mouth opened or tongue out, lion mane, large genitals, fighting snakes or holding knives or playing instruments (Pinch, 2002, p.118-119).

29) Tawaret was a hippopotamus headed goddess, with heavy breasts and pregnant belly, sometimes “equated with Isis... [or] Hathor” (Wilkinson, 2003, p.185-186). She is often shown carrying the ankh, which represents life and the sa symbol, which means protection. She was a popular household goddess though she doesn’t seem to have had a “formal cult” (Wilkinson, 2003, p.185). She was a goddess of fertility and childbirth, she was also associated with protection in general and also the water (Wilkinson, 2003, p.186).

30) Idols were a way of interacting with deities, see note 6 from Nehimeou’s chapter.

31) See note 40 about offerings, including incense in Nehimeou’s chapter. Incense was also burned in domestic rituals, evidence has been found in homes that were used not only to smell good, but in particular in offerings to household gods and ancestors (Harrington, 2013, p. 84).

32) Beer was the most important drink aside from water. Egyptian beer was “made from partially cooked or stale barley bread or emmer wheat... known... as henket...During fermentation dates, honey, and spices are added, which speeds fermentation and gives a distinctive flavor. This beer is alcoholic, but will not induce drunkenness unless taken in excess, it [was]... served to children as part of their daily diet” (Booth, 2008, p.131).

33) Amulets were a form of magical protection and power, they could protect from dangers such as snake bites, animal attacks, illnesses, demons, ghosts, drowning, et cetera; they could imbue someone with particular protections from specific deities or grant similar powers of those deities, they could associate a person with a god or goddess; they could heal; they could be used to induce actions on others such as love charms, increased fertility, or harm. They were used by all Egyptians and could be as simple as knotted strings where each knot was formed as part of a spell to elaborate jewelry made from precious materials (Pinch, 2006; Mertz, 2008).

34) The goddess Weret Hekau “‘great of magic’...was usually shown in cobra form... she was the power immanent in the royal crowns. The snake-shaped wands and staffs used by magicians probably represent her” (Pinch, 2006, p.11)

35) “The common amulet known as the ‘Eye of Horus’ is usually green because of positive connotations with that color as an expression of healing and well-being associated with the eye” (Wilkinson, 1994, p.108). The amulet symbolized the magic eye, or lunar eye, restored to Horus by Thoth, Hathor, or Isis depending on the myth, after his uncle Seth, whom he fought, blinded him (Pinch, 2002, p. 131-132). An amulet that was mainly meant for healing and protection.

36) Isis was the sister-wife of Osiris, she created the first mummy when she found all the pieces of her husband Osiris after he was torn apart by his jealous brother Seth. She brought him back with her magic but he was made into the king of the underworld. She was the mother of Horus. She is often shown as wise and even wily, kind, a great healer, and a powerful wielder of magic, she is also presented as a mourner because of the loss of her husband. She is possibly the most popular goddess of the Egyptians (Wilkinson, 2003, p.146-149).

37) The Duat was the Underworld or Netherworld- the afterlife most Egyptians wanted to become a part of when they died. If they passed the Judgment of the Dead they would live a life

similar to the one they had known in this world. The ba and the shadow components of the human soul could travel from this world to the Duat in order to get offerings and consume them.

The Duat was inhabited by gods, other ghosts, and demons (Assman, 2001, p.64-68).

38) The spell Achen is speaking is known as 177 from the Ancient Egyptian Book of the Dead, it is a spell for “raising up a spirit and causing a soul to live in the realm of the dead” (Faulkner, 1972). Spells could be written, spoken, or even willed into things like knots on a thread. They were used for many different purposes, but most of the spells that have been preserved are ones dealing with death and the Duat or Afterlife, what has commonly become known as the Book of the Dead was called the Amduat by Egyptians and were painted or carved on tomb walls, coffins, and written on papyri to be used to ensure the dead made their way through the afterlife successfully and had everything they needed (Multiple sources: Mertz, Harrington, Assman, Wilkinson, Pinch, Teeter).

39) Nut was the goddess who was “the personification of the vault of the heavens” (Wilkinson, 2003, p.160-163) She is the daughter of Shu and Tefnut {god and goddess of air and moisture} and a member of the Heliopolitan Ennead.

40) The blue and red eyes of Horus refer to the moon and the sun (Pinch, 2002, p. 131-132).

41) The Judgment of the Dead happened after death, the soul of the deceased went before the gods, with Osiris seated as Pharaoh. The deceased person’s life was read aloud, all good and bad acts, the heart of the deceased- Egyptians believed the heart was the source of the soul and what modern day people think of as the mind, it contained both thoughts and feelings- was placed on a scale opposite the feather of ma’at, or truth and order. If the deceased’s heart weighed more than ma’at, the deceased was found guilty, their heart was thrown to be eaten by a monster that squatted beside the balance and their soul was sent to burn in an eternal lake of fire. If the heart

weighed the same as the feather, the deceased was allowed to enter the Duat, and sometimes, if they were a truly great personage, they were allowed to travel in the sun barque with Ra (Mertz, 2008, p. 377-389).

42) The Ennead of Heliopolis was made up of the first nine deities of the Heliopolitan creation myth: Shu, Tefnut, Atum, Geb, Nut, Isis, Osiris, Seth, Nephthys (Pinch, 2002, p.128).

43) Min was the god of male sexual procreativity and one of Egypt's oldest deities (Wilkinson, 2003, p. 115).

44) Divination was practiced by rekhets, magicians, and priests. Lamps, bowls of water, and dreams were some of the ways the past, present, and future were discerned by these magic practitioners (Pinch, 2006).

45) For more on preparations for a funeral see notes in Tebu, or see Harrington, 2013 and Teeter, 2011.

46) The dead were considered vulnerable before internment (Harrington, 2013, p.104).

47) The most common coffins in the South Tombs Cemetery were woven mats wrapped around the body, sometimes the body would be wrapped in a linen sheet first. In the case of I216, known in the story as Itchut, there was no evidence of linen wrapping in the grave. I216 was wrapped in a gereed- palm mid-rib, or tamarisk coffin (See Appendix C).

48) There were five types of coffins found at the South Tombs Cemetery: "the most common was a mat that had been wrapped around the body and bound with rope. It was usually made of palm mid-rib (gereed) or tamarisk sticks, or less often of palm leaf, halfa-grass, reed, or sedge. There is evidence for the use of pottery coffins... and a single example of a mud coffin, for an infant. Forty wood coffins were also encountered. Twenty take the form of simple undecorated boxes... twenty graves showed evidence of having contained painted wooden coffins... most

coffins were painted black... at least eight were anthropoid... most of the eight better preserved examples falls into two broad groups: those that continue the pre-Amarna tradition, utilizing Book of the Dead spell 151 and assimilating the deceased with Osiris, and those in which these elements are replaced by figures of humans undertaking ritual activity (Stevens, 2018, p. 4).

49) “Widows... were considered a disadvantaged group in society, along with orphans, the hungry, and the naked” (Robins, 1993, p.73).

50) The South Tombs Cemetery was located in a Wadi or “desert valley behind the southern group of rock tombs” (Kemp, 2012, p.227).

51) Though there were no sewers in Amarna, houses did have bathrooms and sometimes a kind of toilet, with a seat with a hole and a space underneath for some form of vessel that must have needed to be emptied. There are no latrine pits located so far. People probably relieved themselves outside while they were working. Most poor people probably just had a pot they used and emptied regularly, possibly into the Nile (Kemp, 2012, p.204-206).

52) “Honey was the main sweetener [used], sugar being unknown” (Mertz, 2008, p.109)

53) “‘Red things’, which symbolized evil” because red was the color of blood, fire, and was associated with the god Seth, Osiris and Horus’ nemesis (Wilkinson, 1994, p. 106-108).

54) The Pyramids of Giza were built over a thousand years before the founding of Akhetaten (Kemp, 2009).

55) The backwards-faced demon is known from depictions and mentioned in protective spells (Mertz, 2008; Pinch, 2006).

56) Songs were sung in ancient Egypt, we have written copies of lyrics, such as love songs and laments. Harpers were professional singers that have been depicted in temples and tombs and musical instruments have been recovered archaeologically (Mertz, 2008, p.110-111).

Tebu

- 1) Donkeys were used to carry burdens, much as they are today. People could lease, rent, or buy donkeys and they were especially useful to water-carriers and laborers. Some farmers used donkeys to plow their fields when they couldn't afford cattle. There were many legal disputes because often donkeys were loaned between friends and acquaintances, and also most donkeys were left loose and wandering around to graze, which meant people would take them without informing the owner (McDowell, 1999, p.85-90).
- 2) There were people who worked as support staff for the Pharaoh's workers at places like Deir el Medina. They were paid by the Pharaoh and were made up of water-carriers, woodcutters, fishermen, laundrymen, gardeners, flour grinders, potters, coppersmiths, basket-makers, and generalized workers, not just the artists, stonemasons, furnishing makers, guards, and more that made up the Pharaoh's monument and tomb workers (Lesko, 1994, p.12).
- 3) Scorpions were one of many dangerous creatures the ancient Egyptians had to contend with, often they only cause an extremely painful bite or sting, but for children, the elderly, people with compromised health, and people allergic to the venom they can be deadly, it can also depend on the size of the scorpion. The ancient Egyptians had the priests of Serqet, specialized priests/doctors whose whole practice was the treatment of bites and stings (Nunn, 2006, p. 99-100)
- 4) A *cippi* or *cippus* were "statue-stelae in which the figure of Horus is carved in three dimensions. Horus is shown as a naked child trampling on one or more crocodiles and gripping snakes, scorpions and [other dangerous animals]... A head of Bes usually appears above Horus... Some were set up in temples. Others come from houses or tombs... The dual purpose...was to repel actual [dangerous creatures] and to cure those who had been bitten"

(Pinch, 2006, p.101-102). Horus in a myth/spell story was bitten by a scorpion and healed. By touching, reading the spells on cippi, or even pouring water on the cippi and then the bitten drinking that water, or the bite being washed with the water were all ways to interact with this magical object.

5) See Rush and Basketwork for mats (David, 1998, p.297-298) and notes 47-48 of Achen.

6) Graves were found closer to what would become the city and even in the city, some were made as the city was being abandoned when people seem to have given up on going out to the graveyard, but there is some evidence that early graves were closer to where the city was built and in some cases had buildings built on top of them, suggesting some people may have lived in an earlier settlement or the first workers didn't want to go far out into the desert to bury their dead in the early days of the city's founding (Stevens, 2017, p.11-12).

7) Discussions of Osirian funeral rituals can be found in several sources: Mertz, 2008, p.305-389; Harrington, 2013; Teeter, 2011, p. 119-137; Baines, 2010; Hays, 2010; Assman, 1990.

8) For an analysis of Akhenaten's thoughts/beliefs about death see Kemp, 2012, p.255-256.

9) The role Tebu is being asked to perform is that of the Sem priest of a Royal member's funeral, or the duties fulfilled by the oldest son, this was why having sons was considered very important in Egyptian society. It was the responsibility of the oldest son to maintain the offerings and rites to care for their deceased parents and ancestors. Horus was the son of Osiris, so in the funeral, the deceased becomes Osiris- with the power to be resurrected into the afterlife, and the Horus who would perform the Opening of the Mouth ritual, is the one giving Osiris life/offerings/protection/dominion in the afterlife (Teeter, 2011, p.140-143).

10) Ruba-Ta and the women of Ouonsou's family are professional mourners; this is one job that was entirely female as far as the evidence has shown. They cried, wailed, and walked behind the funeral throwing dirt on their heads, rending their clothes, wearing their hair down and loose, and striking the pose of the hand or clenched fist to the forehead (Mertz, 2008, p. 370; Harrington, 2013, p.109-112).

11) Isis was the chief mourner of her husband and her sister Nephthys walked with her to support her. In Osirian funerals, people were acting out the funeral of Osiris to identify the deceased with that god and hopefully ensure resurrection into the afterlife. As Itchut's wife, Kafy is automatically Isis to Itchut as Osiris, Ruba-Ta is taking the role of Nephthys, Isis' sister and supporter, in order to comfort her granddaughter and because as the oldest professional mourner in the family, she has the most experience (Hays, 2010, p.4).

12) The role of Thoth, or the lector priest, who read the spells and liturgy for the ceremony.

13) For royal or wealthy funerals there were not only the elaborate rituals but also elements such as sarcophagi and coffin, statues, expensive sacrificial animals such as cattle, furnishings and personal items for the afterlife, and more, that the average to poor Egyptian couldn't afford, but they knew and witnessed the rituals and had an invested belief in their religion. Though they could not afford the same trappings, there is evidence that the non-elite practiced a form of Osirian funerals, buried their dead with items precious from that person's life, protective amulets for the journey through the afterlife, food and drink provisions for the afterlife, and practiced making offerings and caring for ancestors in their homes (Harrington, 2013; Mertz, 2008; Teeter, 2011; Meskell, 2002; Goulding, 2013; McDowell, 1999; Baines & Lacovara, 2010).

14) Ancestor busts or stelae "provided a means by which the lower or non-elite could access the divine without recourse to intervention by royalty or priests... [these busts in related cultures

like the Yoruba] are believed to become the essence of the deceased individuals whom they represent (Harrington, 2013, p.49-50) While Harrington argues for the busts and stelae as objects of remembrance, Meskell believes such busts were a way of the dead becoming subsumed into a generalized group of 'the ancestors' and therefore the busts were 'objects of forgetting' (Meskell, 2002, p.120-121). I argue similar to Harrington, it may be more appropriate to think of them as objects of interaction and family memory, but that could also depend on the family/caretaker of the bust. Usually the oldest son of the family kept the bust and cared for it.

15) Though technically it was the eldest son's duty to care for the ancestors and deceased parents of the family, more often it appears as though women may have been the ones maintaining the ancestor bust and making offerings to the ancestors and household gods (Harrington, 2013, p.33).

16) Flowers, food offerings, sacrifices, incense, and more were all part of the ceremony (Harrington, 2013; Mertz, 2008; Teeter, 2011).

17) Apophis is named after the snake that wants to devour creation (Wilkinson, 2003, p.221-223)

18) Amenhotep III was Akhenaten's father and would have passed away five or so years prior depending on whether there was a prolonged co-regency as some Egyptologists argue and Thoth saw his funeral procession, which would have been a large and extravagant affair that effected everyone in Egypt (Fletcher, 2000, p.160-163).

19) Statues and a Sixth Dynasty Tomb show evidence of men having undergone a religious ceremony performed by a priest that included circumcision and may have been a rite all boys went through to become adults (Janssen & Janssen, 2007, o.76-77).

- 20) Priests in ancient Egypt were part of an elaborate hierarchy, at the lowest levels there were the non-elites performing priestly duties for a certain time every year and then going back to their daily lives, as one was higher in the hierarchy their position might be lifelong, a position they could even pass down to their children, this is the type of priest Amenemef was, his level was known as a Lector priest because he was a scribe as will be discussed later, but this meant he could read and write and knew spells and liturgy of the Amen priesthood he used to serve (Teeter, 2011, p.16-22).
- 21) Ancient Egyptians lined their eyes with green malachite or gray galena, these cosmetic touches were both medicinal and aesthetic, protecting against flies and eye diseases (Nunn, 2006, p.198-199; Mertz, 2008, p.93).
- 22) Amenemef is dressing as an elite would with the pleated kilt and the very expensive leather sandals; most Egyptians went barefoot or settled for papyrus sandals (Mertz, 2008, p.79-80).
- 23) Senet was a strategy board game that could have one or two players; it had religious meaning as well, as it represented making a successful journey to the afterlife (Szpakowska, 2008, p.114).
- 24) Wine was a luxury, usually drunk by the elite, the middle-class often drank pomegranate wine as a substitute (Wilson, 1997, p. 9).
- 25) Seals were used “as instruments of administration, sealing letters, jars, doors, boxes, and so on with a distinctive design” (Kemp, 2009, p.142).
- 26) Ouonsou is a grave robber, his son Tebu doesn't know this, but Amenemef, who Ouonsou has been bribing, does. Tomb and grave robbers have been said to practice the second oldest profession (Dr. Rose, personal communication). In Egypt it could be very dangerous and

very complex being a grave robber, there were crooked officials like Amenemef who expected a share in the valuables stolen while also pretending to protect and look after the interests of the dead, a famous court case has been preserved of the arrest, interrogations, and judgments passed on the large tomb robbing ring that was caught stealing from the Valley of the Kings, this has inspired Amenemef and Ouonsou's story (Tyldesley, 2000, p.127-139).

27) For the elite, bodies were preserved through mummification, the non-elites, for the most part did not. At Akhetaten's South Tombs Cemetery evidence shows: "the deceased was wrapped in textile and enclosed in a roll of matting, or occasionally in a coffin...there was probably no attempt to preserve the body other than through wrappings. Finds of pottery vessels, sometimes with botanical remains, suggest offerings to sustain the deceased in the afterlife. Other grave goods were rare, comprising mostly amulets and jewelry (Stevens, 2017, p.4)

28) "Corresponding in length to the annual period of obscurity of the stars just south of the ecliptic, the ritualized process of embalming and mummification is usually stated as lasting seventy days. First purification of the corpse was conducted over a period of about three days in in a tent called the jbw or zh-ntr" (Hays, 2010, p. 5). The non-elite didn't practice mummification usually, so it is more likely that they had a shorter period of time- probably similar to the time allocated for purification of three days at most due to decomposition, that would have allowed for time to gather what was needed, prepare the body, inform family and friends and arrange the funeral, but getting the deceased buried before decomposition became too advanced. There is evidence that at least one woman named Ta-hanu from Deir el Medina was buried after only two days (Teeter, 2011, p.135-136).

29) Attendance lists were taken of workers and if people needed time off for any reason it was recorded by the scribe and was reported to the overseer, a few of these lists have been found and translated (McDowell, 1999, p.219).

30) For in-depth examination of the process of the funeral, see Harrington, 2013, Teeter, 2011, and Hays, 2010. Hays identified “seven major complexes” that made up the majority of the ritual from the tomb of Rekhmire, (though he says it varied depending on the period), these are: “1) Procession to the Necropolis, 2) Procession to the Embalming Place, 3) Embalming and Mummification, 4) Post embalming rituals, 4) Procession to the Tomb, 5) Opening of the Mouth, 6) Mortuary service” (Hays, 2010, p.2-3). I believe the evidence from several graves, especially I045, shows some evidence of Osirian funeral rituals. I045 was buried with several artifacts but the important ones are a boat paddle or model of a paddle and an adze, which may have been used in an Opening of the Mouth ceremony (Stevens, 2008). The Opening of the Mouth Ceremony allowed the deceased to eat, talk, breathe, and drink in the afterlife, if the non-elites perhaps practiced a version of the Osirian rituals, this may have been the focal point of the ceremony for them- it was the essence of the ritual and it could be done affordably, as it were, while still granting the deceased the ability to continue to exist in the afterlife. For descriptions of Osirian funerals and of the Opening of the Mouth, see Teeter, 2011 and Harrington, 2013.

31) Men, women, children, and infants have all been depicted in funeral scenes showing it wasn't just a family event but a community event, a display of social solidarity. “Communal wailing/lamenting served to remind the funeral attendees of shared loss, and to inform the bereaved wife that she was not alone” Death was seen as a departure or journey and written laments plead with the dead not to leave (Harrington, 2013, p.109-110). The Lament sung by

Kafy is a 14th Dynasty lament written(?)/performed by a woman named Merytre for her husband Neferhotep, I altered the translation slightly from Graves-Brown, 2010, p.94.

32) Women of the immediate household had bands of blue cloth around their heads (Meskell, 2002, p.92).

33) The image was important in the survival of the soul, it was the ht-body or physical appearance, this is one reason why statues of the Pharaohs and elites were made and so important, just as gods could inhabit and interact with humans through idols, akh, or the transformed dead, could be interacted with through their statues. The non-elites couldn't afford statues for each person they lost, so the ancestor busts kept by the non-elite was their way of interacting with their dead besides festival feasts at graves (Harrington, 2013; Lesko, 1994; Meskell, 2002; Teeter, 2011).

34) The role of the priest who stood in the role of Anubis at elite funerals was the embalmer and person who moved the body. Since Ouonsou is holding the coffin and positioning it, he is in the role of Anubis though Itchut wasn't mummified. To see the positions the people at funerals took, especially those in the roles of different gods and goddesses, see Harrington, 2013, p.107.

35) Milk was sprinkled in front of the oxen drawing the sledge that had the sarcophagus with the coffin and body inside. Since this is a more humble funeral, Tebu sprinkles the milk in front of the donkey (Teeter, 2011, p.138).

36) The South Tombs Cemetery "lies in a desert valley behind the southern group of rock tombs. As many as 3000 people (possibly more) are likely to have been buried there" (Kemp, 2012, p.227).

37) Ropes wrapped around the mat coffin not only bound the body but also were used to carry it (Rose, 2017, personal communication).

- 38) Nine people, usually friends and family, were designated to accompany/carry the body or pull the ropes of the sledge that had the coffin; nine represented the “followers and sons of Horus” (Teeter, 2011, p.138).
- 39) The mummy/coffin was stood up and faced south to absorb light to allow Ra to bless/restore the deceased (Teeter, 2011, p.139).
- 40) Women were often shown in depictions by the ancient Egyptians, and in writings, as being more emotional and showing their emotions at funerals, men were expected to grieve but be more reserved (Meskell, 2002, p.189-193).
- 41) The Opening of the Mouth was perhaps the most important part of the ceremony, it allowed the deceased and his/her statue representation to be able to receive offerings, and to eat, drink, breathe, and speak. Parts were about rebirth and bestowing energy or life force, I used five main sources, and a few supporting, for the depiction of the scene: Teeter, 2011, p.137-147; Harrington, 2013, p.103-145; Hays, 2010; Baines & Lacovara, 2010; Meskell, 2002, p.178-207; Mertz, 2008, p.305-389; Pinch,2006, p.147-160; Stevens, 2017; Stevens, 2018.
- 42) The statue had to be identified with the deceased so that they could be interacted with the living through the image (Teeter, 2011; Harrington, 2013).
- 43) Dancing at the funeral, for elites involved professionals called muu-dancers, they acted out the journey to the underworld for the deceased and were thought to help “ferry the deceased across the waters of the afterlife” (Teeter, 2011, p.144-145).
- 44) Breaking pots, especially red pots, was thought to scare off ghosts and evil spirits/demons (Teeter, 2011, p.144-145).
- 45) Feasting with the dead, both at the funeral and at festivals throughout the year, was a way to keep the dead a part of the family and acknowledge and honor those who had gone to the

Duat, it was also a way, perhaps, to appease the dead, and to keep the akh family members willing to fight for and protect the living (Harrington, 2013).

46) Depictions of the elites Feast with the dead include harpers, and harper's songs were sometimes written on the walls of tombs (Meskell, 2002, p.177).

Hotep-Ui

1) "A guardsman's baboon is clutching the thigh of a young man (or thief?) in a comical scene" of the marketplace in the tomb of Tepemankh II in Saqqara (van de Beek, 2016, p. 33). Given that this is a rare scene, it was probably uncommon for baboons to be used as police animals. The baboon was believed to represent and be an emissary for the god Thoth, the cult center of Thoth was Khmun, known now more commonly by the name Hermopolis (Mertz, 2008, p. 263). Tuna el Gebel not far from Akhetaten is the site of a cemetery linked to the temple of Thoth with thousands of ibis and baboon mummies.

2) "Fruit, including dates, figs, melon, and grapes, was popular" food for all status groups (Mertz, 2008, p.109).

3) "When considering the Egyptian evidence we may distinguish between entirely private offenses which might be settled outside the court system, civil offenses which might be resolved by private action through the court, and criminal offenses- crimes against the king or the state which would certainly be prosecuted by the authorities... Private rather than state matters, were settled informally by the families or communities concerned" (Tyldesley, 2000, p.10)

4) The five open wounds, most well known from a decree by Seti I, were a form of punishment in ancient Egypt (Tyldesley, 2000, p.72). This may have included the piercing of the scapulae, which has been noted in several individuals from Akhetaten (Dabbs & Zabecki, 2015).

- 5) “From the simple reed shelters erected by the poorest peasants to the magnificent royal tombs and temples, the builders of Egypt demonstrated their ingenuity and great technical skill in working with a wide range of materials, using only the most primitive of tools” (Wilson, 1997, p.51).
- 6) “The shaduf was introduced in the New Kingdom, had a bucket on one end of a rope that was lowered into the river [or well]; this was counterbalanced by a weight at the other end of the device” (David, 1998, p.68).
- 7) An innovation that Akhenaten or one of his advisors came up with to speed up his building project were “blocks of modest and identical size that could be carried and laid by one reasonably strong man... The size of the new standardized blocks was set at one cubit in length, by (ideally) half that in width, and a height of roughly 23 cm” (Kemp, 2012, p.60) These are what are commonly known as talatat blocks.
- 8) Two maps of Akhetaten that are useful: main map with overview of whole city in (Kemp, 2012, p.46); and with the area where the main Medjay barracks, the Northern Palace and the Great Aten Temple are shown, the barracks are still questioned, it is the building located west of the stables for horses and has a large well on the northeast side (Kemp, 2012, p.38).
- 9) These are two names for different baboon gods in Egypt (Wilkinson, 2003, p.196; Pinch, 2002, p.113-114).
- 10) “That wrestling was popular appears evident from various small three dimensional groups from the Middle Kingdom. The sport is also pictured on a New Kingdom Deir el-Medina ostrakon” (Janssen & Janssen, 2007, p.49).
- 11) “There is no distinct word for ‘artist’ in the Egyptian language, the nearest equivalents being ‘scribe of the drawings’ and ‘draughtsman’. The word meaning ‘to write’ was also used for

the verbs ‘to paint’ and ‘to draw’. An appreciation of this close association between writing and drawing is essential to a comprehension of the nature of Egyptian art... The beautiful painted and carved scenes in tombs and temples were created for a very specific purpose... [they were mainly drawing in tombs for the dead] idealized views of the sort of life the tomb-owner hoped to enjoy for eternity” (Wilson, 1997, p.142-164 for overview on ancient Egyptian artists).

12) A deben “is equivalent to .91 grams of copper. One deben, for example, is equivalent to a sack of emmer wheat” to see common commodity prices, the main form of ‘currency’ in ancient Egypt being grain, can be found Ryan, 2010, p.10.

13) There was a temple quay, the two royal quays attached to the Great Palace, and several quays in front of the government goods storage and manufacture, since this would have been essential for having ships dock to unload materials for building the city, this most likely would have been one of the first projects at the building site and this is where I have Enna working. You can see the reconstruction of the quays in an interactive map on amarnaproject.com, the official website for the archaeological site and all current research.

14) “Training must have been by the apprentice system, and a boy’s best teacher was his father” (Mertz, 2008, p.147).

15) “An almost proverbial expression runs: ‘A boy’s ear is upon his back; he hears when he is beaten’” (Janssen & Janssen, 2007, p.64).

Hunra

1) Slaves “included various categories such as Egyptian peasants, convicted criminals, and, in later times, prisoners of war brought back from foreign campaign” (David, 1998, p.322).

2) “Sekhmet was the most important of the leonine deities. As with many Egyptian goddesses, she had two distinct aspects to her personality- on the one hand a dangerous and

destructive aspect, and on the other a protective and healing aspect” (Wilkinson, 2003, p.181).

She was the goddess of plagues, but she could also ward off plagues and heal.

3) “The river... serve[d] as a highway... Its natural flowing course allows watercraft to travel easily with the current from south to north. Fortuitously, the prevailing winds of Egypt blow from the opposite direction, the north, allowing boats to raise their sails and make their way upstream. Watercraft of all sizes and function...small fishing skiffs made from bundles of papyrus to large wooden barges capable of transporting immense blocks of stone. In between are a variety of vessels, including domestic ferries, naval ships and commercial boats sailing off on missions with trading partners in the eastern Mediterranean” (Ryan, 2010, p.31-32).

4) Akhetaten’s broader periphery, marked by the Boundary Stelae “is poorly understood and now largely lost under fields, but likely included a substantial population, partly comprising farming communities that existed before Akhetaten itself” (Stevens, 2017, p.2).

5) There are several ways that archaeologists/Egyptologists have figured out household sizes and composition, one is by looking at tomb art depictions of families, another was wills, and we also have a census from Deir el-Medina, the Workman’s Village where the artisans and tomb builders lived (McDowell, 1999, p.51-52).

6) Renenet had a healed parry type fracture to the distal end of her right ulna, while the bone was healing, the way she held it or the way it was secured left the arm rotated so that in her adult life she had severe Degenerative Joint Disease of the elbow of her right arm. This would have made using the arm painful to her. See note 946 in Appendix C.

7) The belief in the Evil Eye existed in ancient Egypt, people who had the power of the Evil Eye were the closest thing Egyptians had that was comparable to the malevolent witches found in several other cultures (Pinch, 2006, p.57-58).

- 8) When a woman gave birth to a baby and for a period of time after giving birth, she and the new born were isolated to protect them because they were particularly vulnerable, paintings in specific rooms of houses in Deir el Medina and Amarna of Tawaret and Bes may mark those rooms (Robins, 1993, p. 83; Janssen & Janssen, 2007, p.4). The room may have also been decorated with Convolvulus, a flower shown in several scenes of women giving birth or suckling their children (Pinch, 1983, p.407; Janssen & Janssen, 2007, p. 4). The mother has her hair in a distinctive style (Janssen & Janssen, 2007, p. 6).
- 9) Women squatted on birth-bricks that had spells and pictures on it meant to protect the mother and child and assist with labor (Mertz, 2008, p. 7-8) They were associated with Meskhenet, the goddess of childbirth and destiny, depicted with a uterus on her head (Wilkinson, 2003, p.153).
- 10) There is a legend that concerns a woman named Reddjetet who was chosen by Ra to give birth to three future kings of Egypt at the same time. Ra sent the goddesses Isis, Nephthys, Hekat, Meskhenet, and the god Khnum to help her deliver the children safely. They arrived at Reddjetet's house in disguise as dancing girls with Khnum as their porter. The positions that they stand in and the way they hold up Reddjetet informed part of the scene of Hunra giving birth (Mertz, 2008, p.6-7).
- 11) The descriptions of what Hunra is physically feeling are based on an interview with Sarah Sovey, who underwent labor without the benefit of pain medication.
- 12) The two of the spells Achen speaks, the one starting: "My arms are over this child" and the one starting: "Protection by night, protection by day" are translations found in Robins, 1993, p.86-87 which also discusses on the same pages evidence of the use of wands like the one

possessed by Achen, the picture of the wand in Robins is also similar to the designs on Achen's wand.

13) The spell starting: "Come down, placenta, come down, come down!" Is a translation found in Janssen & Janssen, 2007, p.8.

14) Use of amulets during labor and just after; see Robins, 1993, p.85.

15) "Births fell into three categories: satisfactory, htp; difficult, bnd; and protracted, wdf" (Meskell, 2002, p.69)

16) Blue "could represent the heavens as well as the primeval flood... in both ways it functioned as a symbol of life and rebirth" It could also represent fecundity and fertility (Wilkinson, 1994, p.107).

17) Identifying the mother in labor with Hathor and Isis was supposed to ensure the help of goddesses and gods in protecting the mother and child (Robins, 1993, pg.82).

Thoth

1) For descriptions of soldiers' equipment and uniforms see Darnell & Manassa, 2007, p. 81-83, soldiers running barefoot in battle, on page 82. A description of military units in ancient Egyptian armies, focused on Chariotry and the role of the Pehreru are on pages 63-64.

2) "Maryannu, elite equestrians who first fought for the Hurrian kingdom of Mitanni in northern Mesopotamia... an important class of [Hurrian] 'knight'" so admired and feared by Egyptians and others that they purposely would adopt the dress and hairstyles of maryannu out of respect (Darnell & Manassa, 2007, p. 64-65).

3) For descriptions of chariots see David, 1998, p.260-261.

- 4) The character of Bakennifi is based on the skeleton of I059, an individual who has the wounds described in the story, he was a man who served in the military and had been through several battles. His information is listed in Appendix C and there is also an in-depth look at his injuries and the evidence pointing to him being a soldier in the article: “Akhenaten’s Warrior? An assessment of traumatic injury at the South Tombs Cemetery” Dabbs & Schaffer, 2008.
- 5) “During the Amarna period, the Egyptian military fought relatively few major campaigns...Egyptian military remained a significant element...Outposts were needed to defend against restive Libyan tribes to the west” (Darnell & Manassa, 2007, p.188).
- 6) Aiemapt experiences what was thought of as Village justice, one known incident of a man being beaten by other men in the village for infidelity is recounted in a letter from Deir el-Medina (Robins, 1993, p.70).
- 7) Divorce was not uncommon in ancient Egypt, many times it stemmed from infidelity. In divorces where the woman was not in the wrong (hadn’t committed adultery) she had the right to “one third of the conjugal property” (Meskell, 2002, p.101).
- 8) Military camps were divided into quadrants with two streets that crossed at the center and were highly organized (Darnell & Manassa, 2007, p.85-90).
- 9) The city of Akhetaten had aspects that were planned out, but it appears that the way the city ended up forming had to do with the non-elites arranging their housing around wealthy employers/patrons in clusters that created neighborhoods connected to specific people (Kemp, 2012).
- 10) Amenhotep III, Akhenaten’s father, had built an elaborate palace at Malqata, for details see Fletcher, 2000, p.128-134.

- 11) Akhenaten, before he changed his name, built a temple to the Aten at Karnak known as the Gempaaten (Aldred, 1988, p.69-85)
- 12) Hatshepsut was Akhenaten's great, great, great, step-grandmother. She had reigned as a Pharaoh, even wearing a fake beard at times. Her reign was largely peaceful and prosperous, with the famous expedition to Punt and the building of the Deir el-Bahri as her greatest achievements (Bryan, 2000, p.241-243).
- 13) Details of a scribe's work and tools, see Wilson 1997, p.75-96.
- 14) "Horus was the celestial falcon and the embodiment of kingship" (Pinch, 2002, p.143).
- 15) Deir el Medina "in Pharaonic times the royal tomb-builders called their settlement Pa Demi" (Tovari-Viitala, 2011, p.1).
- 16) Workers could be 'gifted' by the Pharaoh to favored courtiers or people who had done the Pharaoh a service, so Ma'atnofret's father, though not a slave, had his work services given to a new patron to reward that courtier based on tomb scenes.
- 17) Most of the people who could read and write in ancient Egypt appear to have been men, however, there is some evidence, mainly from Deir el-Medina that some women may have been able to read or write, though possibly "to a limited degree", at Deir el-Medina, 14% of all letters recovered so far were "sent by, or addressed to, women" (Meskell, 2002, p.9-10).
- 18) There were two types of writing in ancient Egypt: hieroglyphs and a 'cursive' version that was a fast way of making the symbols known as hieratic script, and there were "hundreds of different hieroglyphic signs" (Mertz, 2008, p.125). For a look into the language, see Mertz, 2008, p.128-140.
- 19) Examination of the skeletons recovered from the South Tombs Cemetery, many of whom are from the 'middle to lower middle status', shows that people who were not accustomed to

heavy labor were doing work that impacted their skeletons, the current theory is that every available person at Akhetaten, even unskilled laborers like women and young children, were being put to work to build the city as soon as possible (Dr. Rose, personal communication).

20) Wedjat eye represented the miraculous Eye of Horus, torn out by his uncle Seth and then healed by either Thoth, Isis, or Hathor depending on the myth, the eye became a symbol of healing and protection and was one of the most popular amulets of the ancient Egyptians (Pinch, 2006, p.27-29).

21) The abomination of Montu was mentioned in a letter about adultery, possibly written by a woman. The saying has “been suggested [to mean] that this god had himself been deceived by his divine spouse so that adultery was especially repugnant to him” (McDowell, 1999, p. 49). “Montu was a falcon headed war god” (Wilkinson, 2003, p.203).

22) For descriptions of children’s games that have been depicted or named see Janssen & Janssen, 2007, p.47-56.

23) Hunting was a popular motif in art and tomb paintings, King Tutankhamen has many images of him hunting, there are also images of families hunting together (Mertz, 2008, p.118-119)

24) “The Egyptians also imported vessels from the Mycenaean world and from Cyprus” (Kemp, 2012, p.214). An olive pit was found in one of the graves at the South Tombs Cemetery, though there was some question as to whether it was intrusive, however, given proof of contact with the Mycenaeans, it would not be unheard of for the Egyptians to have access to olives.

Amenemef

1) This is a quote of a spell written on a tomb wall, the full line is: “There is nothing kept secret from me in the writings of the house of the god’s books, for I am a keeper of secrets”

(Strudwick,2005, p.289). These kinds of spells and writings would have been available for Amenemef as a lector priest of Amen.

- 2) Both Maanakhtef and Parennefer had tombs at Akhetaten (Murnane, 1995, p. 141 & 177).
- 3) Ancient Egypt was a highly bureaucratic society, the Pharaoh had many officials, advisors, scribes, and administrators serving under him, and many often contrived to attain as many titles and duties as they could to make themselves indispensable to the King, but also to bolster their own reputations, to add to the fame they would advertise in tombs and to their descendants (Mertz, 2008, p.145-149).
- 4) The city had some planning, though not on a level with modern cities. There were certain things that would have needed to be in place in order for the building of the city to run smoothly, Egyptians were masters of building temples, monuments, and tombs. They were organized and knew what was needed. Many of the details of the city planning in the meeting come from Kemp, 2012.
- 5) A quarry near Akhetaten was dedicated/owned by Akhenaten's mother, Queen Tiye (Aldred, 1988, p.57).
- 6) This refers to the tax system in ancient Egypt, one of the ways to pay taxes was to give certain items that could be useful to the state or to promise to have workers manufacture something for the state (David, 1998, p.95-97).
- 7) Letters and bureaucratic documents were stored in administration buildings, one of these stockpiles of documents was found in Amarna and is the source of the famous Amarna Letters, that give insight into government relations between different kingdoms, as well as some of the people involved in running the country, and diplomatic tactics (Moran, 1992).

8) “The modern world is used to religion being expressed primarily in words. In the ancient world, buildings and images counted for much more. How the Aten was to be conceived was, in large part, defined by its temples and the landscape in which they were set...[We might ask why fill the temple] with tables to support gargantuan quantities of food offerings? ...The enchantment of architecture, the allure of grand performance within it, and of beneficence through overseeing the inward and outward flow of the god’s food, remained prominent in [Akhenaten’s] mind” (Kemp, 2012, p.79).

9) Excavations at the Great Aten Temple revealed a mat structure had stood near the site that was later taken down and replaced in the course of building. This structure was named ‘The Aten is Content’ and included a small throne room and possibly a temporary shelter for Akhenaten to stay in during his visits in the first few years of building (Kemp & Bertram, 2017-2018).

10) “The one resource in short supply was wood... A country which relied heavily, if not entirely, on boats for all its transport needs clearly had to have a good and dependable source of serviceable timber... The Palermo Stone records the arrival in Egypt of boatloads of timber, some of which was used in monuments built by the kings of the First Dynasty onwards. Control over the ports through which the wood was exported, if not over the forests themselves, was a pressing concern for kings of all eras, since a supply of timber was essential to so many aspects of Egyptian life” (Wilson, 1997, p.8).

11) One document that shows the legal rights of Egyptians and complicated family relations is from Deir el Medina, a woman named Naunakhte’s will in which she has disinherited several of her children for neglecting her (McDowell, 1999, p.38).

12) “Scribe May of the city of Assuit to the Scribe Meh: Write! Please issue gypsum for the House of Sehetep-Aton, life, prosperity, and health, and the House of Nebmare (Amenhotep III) life, prosperity, and health” (Wente, 1990, p.96). This is a letter asking for gypsum to be used in building from the Scribe who is in charge of regulating it whose name is Meh.

13) People could share slaves, sometimes because the state would assign slaves to do work for several people, or the owner of a slave might loan out their slave for a payment, a favor, or out of friendship (Mertz, 2008, p.150).

14) For description of making flax into linen, weaving, and weaving technology see David, 1998, p290-292. I069, known in the story as Maya, has osteoarthritis on her bones, but it is severe in her knees, hands, and vertebrae; she had suffered a parry fracture that had signs it had been treated or that the arm was able to be immobilized, it healed well. Though evidence on her skeleton indicates she had a troubled life when young, she came into wealth in maturity based on her being buried in a decorated wooden coffin (See Appendix C).

15) Truth and Falsehood is an ancient Egyptian story or allegory that follows the plot Ma’atnofret describes (Lichtheim, 1976, p.211-214).

16) “Set your heart on books!” Comes from an ancient Egyptian wisdom text often referred to as the Satire of the Trades- it tells of the hardships of the various jobs one can have in Egypt, except for being a scribe which brings great rewards and a happy life (Wilson, 1997, p.79).

Ma’atnofret

1) For information on doctors, disease, and the treatment of disease in ancient Egypt, two books contain invaluable information and were used throughout the paper: Nunn, 1996 and Strouhal *et al.* 2014.

- 2) Corveé labor was used to do labor throughout Egypt, it could be work one was sent to do as punishment, it could also be work that people were expected to do as their duty to the state, with harsh punishments for trying to avoid one's allotted period of service, usually the elite were allowed to send any of the farmers or peasants who worked for them in their place, the non-elites did not have this luxury (Tyldesley, 2000, p.42).
- 3) The ba as a bird (Harrington, 2013, p.3-7).