
Religion, Disease or Artistic style:

Why did the art style change during Akhenaten's reign?

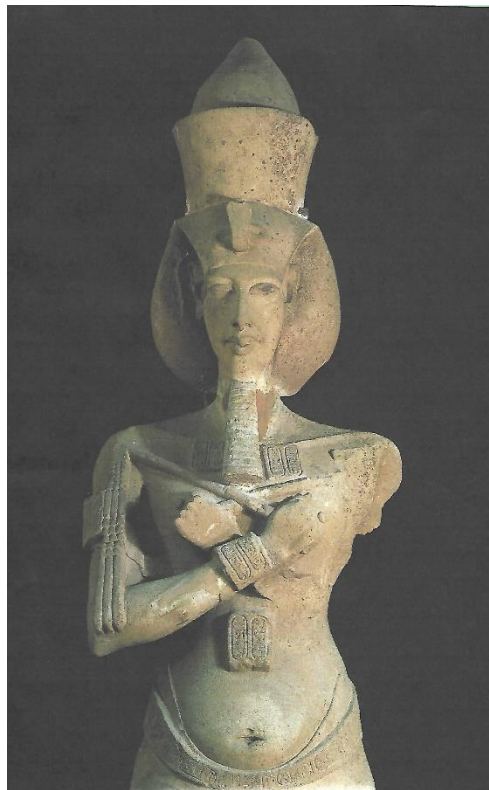


Figure 1: A colossal statue of Akhenaten
from Karnak, after Malek 2003

Eleanor Jane Lockwood

Dissertation submitted in partial fulfilment of a B.A. (Hons.) in
Archaeology of Egypt and the Near East

University of Wales Trinity Saint David

May 2018

DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted for candidature for any degree

Signed..... (candidate)

Date.....

STATEMENT

This thesis is the result of my own investigation, except where otherwise stated.

Other sources are acknowledged by explicit references and a Reference List is appended.

Signed..... (candidate)

Date.....



Undergraduate Dissertation coversheet & feedback form

PLEASE COMPLETE THE TOP SECTION OF THIS FORM AND SUBMIT ONE COPY WITH YOUR DISSERTATION

<i>For completion by student:</i>		
Student Name: Eleanor Lockwood		
Student University Email: 1501326@student.uwtsd.ac.uk		
Module code: AHSK6002	Student ID number: 1501326	Educational support needs: Yes/ No
Dissertation title: Religion, Disease or Artists style? Why did the art style change during Akhenaten's reign?		
Supervisor: Katharina Zinn	Word count: 10,743	
I confirm that this is my original work and that I have adhered to the University policy on plagiarism. Signed		
<i>For completion by the first marker:</i>		
Comments:		
First Marker's Mark:	Date:	
Signature:		
<i>For completion by the second marker (if appropriate):</i>		

Comments:

Second Marker's Mark:

Signature:

Date:

NB. All marks are provisional until confirmed by the final examination board.

For completion by the External Examiner:

Comments:

Proposed Mark:

Signature of External Examiner:

Final Agreed Mark:

Acknowledgements

I am extremely grateful for the support and guidance that I have had from my supervisor Katharina Zinn, for whom without the advice and encouragement this dissertation would not be complete. I would also like to thank the Neues Museum in Berlin for allowing me access to the artefacts which were needed to complete my research and for allowing me to sketch the artefacts first hand within the museum complex itself. I would also like to show my gratitude towards the Metropolitan Museum of Art in New York and the Egyptian Museum in Cairo for housing such artefacts, which has helped me gain an understanding of the Egyptian art.

I am truly indebted and thankful for Zena Sheikh who has helped proof read and edit certain texts throughout this paper. I am also grateful for the constant reassurance and the assistance received from Rachel Billington throughout this entire research process. These acknowledgements would not be complete without expressing how thankful I am towards my parents and my Nan. I am truly grateful for all the encouragement and positivity they have provided over the last 3 years and without that I would not have finished this dissertation.

However, I dedicate this research and final paper to my late Grandad, Derek Crowe, who has always encouraged me into doing what I love and who has always taken an interest in the archaeological world.

Table of Contents

Acknowledgements	i
Abstract	ii
List of Illustrations	iii
Introduction: An Overview of Akhenaten's Reign	1
Chapter 1: Theory behind the art	4
Chapter 2: Disease	12
Chapter 3: Religion	16
Chapter 4: Culture	22
Chapter 5: Discussion: Religion, Disease or Culture?	29
Conclusion	34
Bibliography	38

Abstract

The Egyptian art during the Amarna period is causing controversial discussion within the field of Egyptology. For this reason it is important to understand the change in artistic style in relation to the pharaonic differences shown through Amenhotep III and Akhenaten's interpretation of kingship. Drawing together the different discussions, and the development of scientific analysis, there is still no concrete evidence to support the reasoning behind the change in art style during the Amarna period. This paper reviews three main topics which have been considered the source of the artistic revolution, comparing my own artistic skills with that of the Amarna artists and the artefacts displayed in various museums. The museums used within this paper are the Neues Museum in Berlin, Metropolitan Museum of Art in New York and the Egyptian Museum in Cairo. This paper explores the different academics thought processes and the 20th century ideas which have since been ruled out via 21st century technology. Through this research process this paper aims to understand the development of technology and the ideas of modern Egyptologists while also making a clear statement of which of the three main theories I have discussed, could be the answer to the long debate within Egyptology.

List of Illustrations

Figure 1: A colossal statue of Akhenaten from Karnak in the Cairo Museum, after Malek 2003 pg. 174-175

Figure 2: Map showing Akhetaten in relation to Upper and Lower Egypt, after Stewart 1971, ill 5

Figure 3: Upper part of a colossal statue of Akhenaten from the Cairo Museum, after Kemp 2012 pg. 97 © Eleanor Lockwood

Figure 4: Nose and lips of Akhenaten from the Metropolitan Museum of Art in New York, 26.7.1395, after Seyfried 2012a pg. 229 © Eleanor Lockwood

Figure 5: Sketch of a Model head of Akhenaten from the Neues Museum in Berlin, ÄM 21351, after Lockwood 2017

Figure 6: Akhenaten's hand from the Metropolitan Museum of Art in New York, 1985.328.1, after Arnold 2012 pg. 151 © Eleanor Lockwood

Figure 7: The bust of Nefertiti from the Neues Museum in Berlin, ÄM 21300, after Seyfried 2012a, fig 17. pg. 187 © Eleanor Lockwood

Figure 8: Sketch of a standing Figure of Nefertiti from the Neues Museum in Berlin, ÄM 21263, after Lockwood 2017

Figure 9: Sketch of a Head of a Princess from the Neues Museum in Berlin, ÄM 21364, after Lockwood 2017

Figure 10: Sketch of a Foot from the Neues Museum in Berlin, ÄM 20672, after Lockwood 2017

Figure 11: Relief study of foot from the Neues Museum in Berlin, ÄM 20672, after Lockwood 2017

Figure 12: Akhenaten's hand while sacrificing from the Metropolitan Museum of Art in New York, 1985.328.1, after Seyfried 2012a, pg. 151

Figure 13: CT scan of upper and lower parts of skeleton found in KV55, after Hawass and Saleem 2016, fig 31. pg. 85

Figure 14: Coronal CT scan of the upper part of Skeleton from KV55, after Hawass and Saleem 2016, fig 32. pg. 86

Figure 15: Relief portrait of king Akhenaten from the Neues Museum in Berlin, ÄM 14512, after Lockwood 2017

Figure 16: Shrine stela: Akhenaten, Nefertiti and 3 daughters beneath the Aten from the Neues Museum in Berlin, ÄM 14145, after Lockwood 2017

Figure 17: Bust of Nefertiti from the Neues Museum in Berlin, ÄM 21300, after Malek 2003, pg. 190-191

Figure 18: Head of King Akhenaten from the Neues Museum in Berlin, ÄM 21351, after Lockwood 2017

Figure 19: Portrait of the royal couple Nefertiti and Akhenaten from the Neues Museum in Berlin, ÄM 21348, after Lockwood 2017

Figure 20: Family Tree of the Amarna period, after Seyfried 2012b, pg. 192 © Eleanor Lockwood

Figure 21: Showing head of Amenhotep III wearing the blue crown, after Seyfried 2012a, Fig 164. pg. 222

Figure 22: Head of a statue of Queen Tiye with double crown from the Neues Museum in Berlin, ÄM 21834, after Lockwood 2017

Figure 23: Showing a person's foot with Marfan syndrome, after Brier 1997 © Eleanor Lockwood

Figure 24: Showing a person's hand with Marfan syndrome, after Brier 1997 © Eleanor Lockwood

Figure 25: Head of a statue of a princess from the Neues Museum in Berlin, ÄM 21223, after Lockwood 2017

Figure 26: CT scan and 3D reconstruction of Tutankhamun, after Hawass and Saleem 2016, Plates 33a-b.

Figure 27: CT scan and 3D reconstruction of Tutankhamun's feet, after Hawass and Saleem 2016, Plates 34a-b.

Figure 28: Showing a sketch of Akhenaten's pot belly from a Karnak Colossal statue, after Malek 2003. pg. 174-175 © Eleanor Lockwood

Figure 29: Standing-Striding figure of Nefertiti from the Neues Museum in Berlin, ÄM 21264, after Lockwood 2017

Figure 30: Standing-Striding figure of Tutankhamun from the Neues Museum in Berlin, ÄM 21836, after Lockwood 2017

Introduction: Overview of Akhenaten's reign

So, why did the artistic style change? Amenhotep IV, formally known as Akhenaten became Pharaoh in the 18th dynasty during the New Kingdom. Amenhotep IV ruled as Pharaoh for 17 years after his father Amenhotep III's '38 year reign, during 1391-1353 BC' (Kozloff, 1992: 3). During the transition between the two pharaohs the Egyptian culture began to shift, showing different approaches within their religion and artistic style.

My aim is to focus on the artistic style used during Akhenaten's reign and to discuss the theories behind why this change occurred. It is important to investigate the change in style as academics such as, Brier (1997), Kemp (2012) and Arnold (1996a) have applied various theories to this question without accurately solving it. Religion, disease and culture are the only three theories that I will be concentrating on, showing the thought process behind why the art style changed during the Amarna Period. The purpose of this dissertation is not to answer the question of why the art style changed, but to show a new approach to these theories from a 21st century perspective and to narrow down the possibilities that the theories might have on answering this question.

In a 1997 documentary, Bob Brier explains that the Pharaoh Akhenaten was shown as misshapen with an elongated face, fingers and toes, breasts, wide hips and swollen thighs. This has not been seen before in Egyptian art and only occurs during Akhenaten's reign. Egyptian art was not made to be seen as representing the reality due to the powerful connotations which revolved around the pharaoh. The representation of reality would have made the impression that the pharaoh was weak and therefore change was avoided. However, unlike in today's culture where the artistic style changes every day, the change in style during the Amarna period had shocked both the Egyptians and modern day academics. While exploring the theories of religion, disease and culture I will also be comparing artefacts from the Neues Museum in Berlin, the Egyptian Museum in Cairo, and the Metropolitan Museum of Art in New York. To do this I have conducted some sketches of the Amarna artefacts to understand the artistic style first hand and to gain an insight into how the artefacts were created. This will help to

aid the discussion in all three chapters drawing together the theories involved and the practicality of such objects. The limitations of this research topic consist of the research question being unanswered, as the academic literature only examines a limited number of theories which the academics themselves have debated the same question of the artistic change. For the purpose of this study I will be conducting my literature review throughout my dissertation drawing together my own ideas against academics throughout Egyptology.

This paper will consist of 5 chapters. Chapter one will outline the theory behind the art discussing my own opinions against other academics ideas, while also exploring the concept of experimental archaeology. Chapter two will focus on the possible disease that Akhenaten may have had which is known as 'Marfan syndrome, which damages the connective tissue' (Brier. 1997). Through this chapter I will explore the DNA of Akhenaten's family and whether there was a chance that anyone else may have inherited it. Chapter three centres on the religion during the 18th dynasty, discussing what changed due to Akhenaten's demands and why the religion influenced the art style so drastically. Through analysing these theories I will be taking a scientific approach by looking into Akhenaten's heritage and exploring the hereditary hazards that have been caused through the Egyptian culture. This will be done by looking at the DNA of the Royal family from Akhenaten's mother Queen Tiye and father Amenhotep III to Tutankhamun. The underlying research which will be explained in chapter 4 will included CT scans of the pharaohs to give a clear understanding of the malformations within the family. To conclude my research, I will include a chapter where I shall discuss all three theories together and discuss my findings in the light of the literature and experience while also thinking about how to take this research forward.

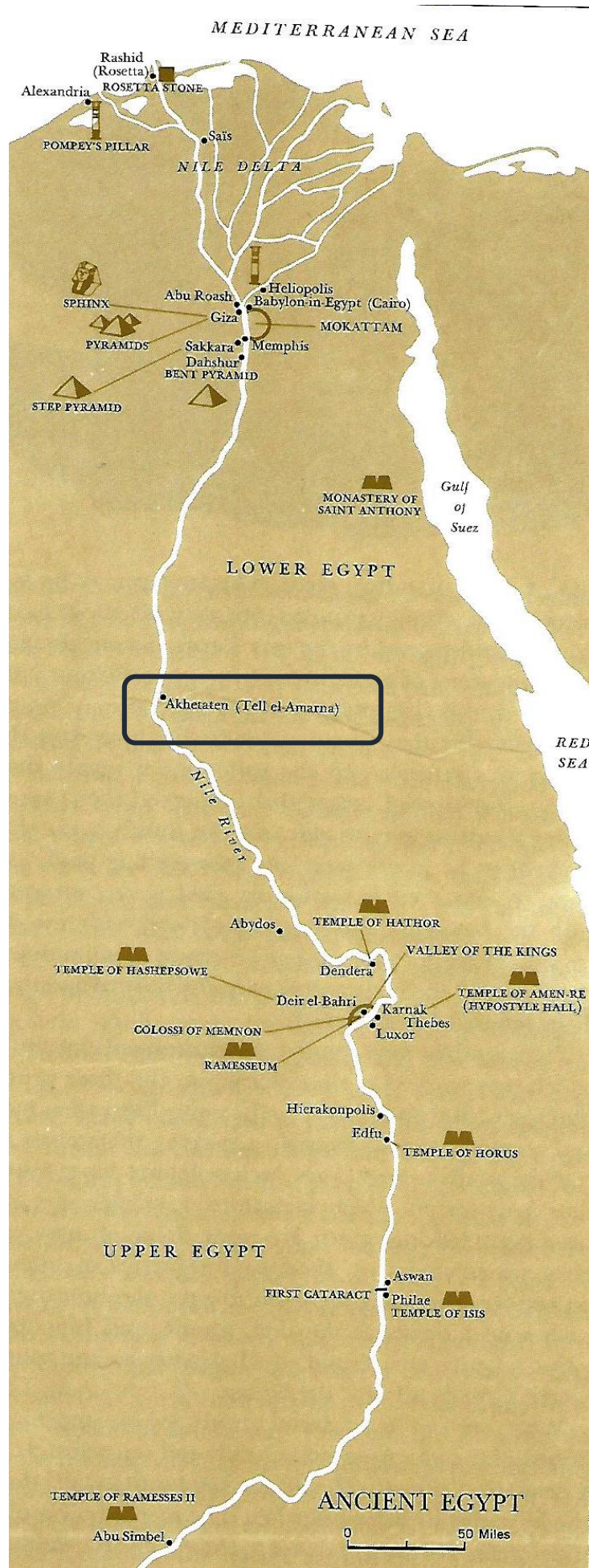


Figure 2: Map showing Akhetaten in relation to Upper and Lower Egypt, after Stewart 1971, ill 5

Chapter One: Theory behind the Art

The Amarna period is known for the artistic and religious revolution put forward by Akhenaten during the 18th dynasty in Egypt. The Amarna period 'lasted barely two decades' (Wilkinson. 2007: 188) and yet brought about revolutionary changes and controversy to the Egyptian people and to academics alike. Akhenaten ruled Egypt for at least 17 years 'ca. 1353-1336 BC' (Allen. 1997: 128) building a new capital, Akhetaten, known today as Tell el-Amarna and transforming Egyptian society. It is believed that before Akhenaten became pharaoh he was already married to Nefertiti, who later became his great royal wife. During the 6th year of Akhenaten's reign he changed his name from Amenhotep IV to Akhenaten to show his alignment with the sun god, Aten. At this time Nefertiti followed in her husband's footsteps also changing her name to 'Nefernefruaten-Nefertiti' (Green. 1996: 9). Through their companionship both Nefertiti and Akhenaten were portrayed as being equal, therefore Egyptologists today struggle with identifying portraits which can be seen as both Akhenaten and Nefertiti. During the course of Egyptian history Akhenaten had been forgotten deliberately, but his re-emergence has since been a captivating source of knowledge that has been studied endlessly generating a new image each time. However, through the various studies conducted on Akhenaten not one answer surfaced on why the art style changed so drastically. Budin (2014) explains that art is a manifestation of an idealized reality, which in Akhenaten's case was a concept practiced to ensure power. Egyptian art was not a representation of reality but a creation in which the Egyptians designed to display religious statements put forward by the pharaoh, according to Robins (1997a) you have to understand the way in which the elites saw the world to understand the art.

From the previous statement made by Robins many Egyptologists focus their research with this thought process in mind, trying to connect why the art style changed to who Akhenaten was as a king. The art style that Akhenaten chose was very specific in showing a completely different side to the Pharaoh, portraying an elongated face with an egg shaped head towards the back of the skull, long fingers and toes, breasts, a pot belly, and wide hips. Egyptologists such as Bob Brier (1997) were convinced that the reason behind why Akhenaten was presented in this way was due to a disease called

Marfan syndrome. Marfan syndrome is a genetic disease which damages all the connective tissue within the body and causes problems in growth and development (Brier. 1997). To understand this theory further, Brier (1997) attended a social science group in New York, where he spoke to the members who showed signs of Marfan syndrome. He asked the group about any similarities between them and the Pharaoh to gain a clearer picture of Akhenaten's physical being. Brier's theory of Marfan syndrome has since been ruled out by Kozloff (2012). She analyses Akhenaten's skeletal remains and discards the theory of Marfan syndrome, which through scientific analysis and CT scans has been disproved as a theory in why Akhenaten was portrayed abnormally. This was also proven by Dr. Zahi Hawass and Saleem (2016) explaining the theory that Marfan syndrome was doubtful or of low diagnostic precision. Considering the physical prerequisites needed to diagnose Marfan syndrome, they were not present in the findings of the CT scans of Akhenaten. However Hawass (2016) also points out that diagnosing Marfan syndrome does not become fully clear on CT scans, which is why it is ideal to examine the other possibilities within this area of research.

To understand the Amarna art, we need to understand the concept which Akhenaten himself had created. The primary phase of Akhenaten's religious revolution was in regnal year 4, 1361 BC (Hanus. 2012: 34). From this, Wilkinson (2007) believes that the story of the creation god and the divine triad sparked the revolutionary changes to the imagery. The divine triad normally consisted of a group of three gods, in this case referring to the Creator God and his two offspring Shu and Tefnut. These influential changes from the divine triad saw the appearance of Akhenaten becoming of an androgynous form, due to the Creator God creating two gods of each gender, Shu and Tefnut. Wilkinson (2007) saw a connection between the triad comprising of the Creation God, Tefnut and Shu, against the Aten, Akhenaten and Nefertiti, as Aten was the new creator god and Akhenaten and Nefertiti were his children. Aten was the principal god during Akhenaten's reign, however other gods within the public's private religion are known to have existed during the Amarna period. The disappearance of the Amun triad and the other gods names are known to have been chiselled out to create the concept of monotheism within the Egyptian society. Arnold (2012: 146) agrees with Wilkinson (2007: 198) by assessing that the reason why the statues of Akhenaten had no genitalia was due to the representation of the creator god. Arnold (1996a: 99) previously mentions this concept in his earlier book where it is evident that the creator

god is of an androgynous nature, therefore Akhenaten adopts this perception in which to present himself. The different elements of Akhenaten's representation can all be linked to previous Egyptian gods within the old pantheon. By analysing Akhenaten's features separately we can distinguish the particular gods in which Akhenaten was trying to portray. However, Robins (1997a) believes that the representation of many statues of Akhenaten correspond to female proportions rather than male proportions. This is shown by the representation of Akhenaten's breasts and pot belly, which were characteristics of fertility that were usually portrayed by the goddess Hathor (Robins. 1997b: 85).

Robins (1997a: 12) explains that the statues provide a place where deities could manifest themselves linking into the characteristics in which Akhenaten portrays. Evidence from the archaeological record has Wilkinson (2007), Robins (1997a: 150) and Arnold (1996a: 99) convinced the reason why the artistic style changed during the Amarna period was due to the religious revolution. This concept helps to understand the relationship between the religion and the art style, giving an insight into Akhenaten's thought process and directing this line of research towards the Egyptian pantheon and the characteristics which Akhenaten gained from the Egyptian gods.

The last area of research we should consider is the Egyptian culture in general, and within that more specifically, the heritage of Akhenaten's family and the artists themselves. Arnold (1996b: 55) explores the theory of hereditary hazards alongside her theory of religion. She explains that some archaeologists suggest a pathological explanation whereas others assume that the shape of the royal family heads have been artificially deformed in earlier years. Arnold carries on and suggests that Akhenaten's features were 'overemphasised hereditary traits' (1996b: 55) exaggerating their importance on society. This theory fits into why the entire family were portrayed in this way and also links in with Hawass and Saleem's (2016) discussion on the CT scans of the Amarna royal family. Hawass and Saleem (2016) compare the physicality of Marfan syndrome and the hereditary traits that Akhenaten may have had, and suggested that the elongated skull is more likely the cause of the exaggeration of family traits. These malformations could also be caused by the incestuous relationships that the Egyptians had. Many Egyptologists believe incest is the reason Tutankhamun had a clubbed foot and an 'incomplete cleft palate' (Hawass & Saleem. 2016: 93). Incest was a common practice among the royal family however it had several consequences. These

consequences consisted of genetic defects within the skeletal structure causing various malformations within the leg structures, spinal cord and an increased infant mortality rate which is evident via the foetuses found in the tomb of Tutankhamun (Hawass & Saleem. 2016: 107).

Hawass and Saleem (2016) examine the body of Tutankhamun to understand how he died and what he inherited from his father. Hawass (2016: 103) explains that relationships between siblings are likely to burden progeny with twin copies of deleterious genes, leaving them vulnerable to a variety of genetic defects. These deleterious genes which have been caused via incestuous relationships, can then be inherited if both parents carry the faulty gene. This is why Kozloff (2012) combines both hereditary traits and the consequences of incestuous relationships under one category. This concept of combining both hereditary traits and incestuous relationships under one category, allows for the understanding of certain genes that have been passed down and how they have formed in a specific way. Alongside the science of understanding why the art style had changed, we need to consider the artists themselves and what effect it had on their career. It is possible to suggest that the reason why the art style changed was due to the employment of new artists with different skills. The chief sculptor during Akhenaten's reign, Bek, was the successor to his father, Men, who was the chief sculptor under Amenhotep III (Wilkinson. 2007: 203). Bek was the artist responsible for the teaching of the new style at the early stages of the Akhenaten's reign. However there has been some debate on whether the new artists were trained in foreign countries gaining a new artistic skill and bringing something new to the Egyptian civilisation. This has brought the origin of the head sculptor Bek under controversial discussion, arguing the evidence of whether Bek was of Egyptian origin or foreign. Arnold (1996c: 20) briefly mentions that in the early years of Akhenaten's reign the artists were *still* Egyptian, which is evident from Wilkinson (2007: 203) explaining the Egyptian origin of the chief sculptor Bek. This suggests that with the new style of art conducted via Bek, he also brought new foreign artists to be trained in the new art style. In a later book Arnold (2012) questions whether the art style is evidence of hybrid features, further suggesting the influence of foreign design. Furthermore Brier (1997) suggested that all the craftsmen and artisans were out of work due to the changing style. This may have been because the foreign artists were replacing the Egyptian artists, however this theory has not been proven.

To evaluate the possible theories above I embarked on creating first and second hand sketches of the Amarna style art which was on display in the Neues Museum in Berlin and the Metropolitan Museum of Art in New York. Replicating such art work allows for the connection between the gestures I have drawn, with that of the features displayed on the sculptors. This links the expression behind the artists themselves and the sketches, resulting in the understanding of how such art work was devised and what the purpose may have been to create these artworks. The purpose of these experiments represented the skill behind the art work and links the theories which have been discussed below into one image. These sketches will result into further modern interpretations of the development of the artistic revolution put forward by Akhenaten. Experimental archaeology is an important aspect within archaeology, allowing us to reconnect with the past in different ways. Ingold (2013:1) explains that by watching, listening and feeling, by paying attention to what the world has to tell us, we can learn. Using experimental archaeology in this way can bridge the gap within academia, exploring 'relationships between behaviour and the observable material' (Graves-Brown. 2015: xi). Ingold (2013) uses this concept in which he explored the different mediums available, questioning himself about the various outcomes of the experiment. These questions allowed Ingold (2013) to explore why the objects were made in a certain way; what he was feeling at the time and how this could relate to other historians.

Analysing figure 3 and figure 5 show two different approaches within the art style in displaying Akhenaten's face. Figure 3 was slightly more difficult to draw than figure 5 as the proportions in figure 3 are slightly elongated and abnormal. The term *abnormal* is used here in opposition to the Egyptian art system used before the Amarna period. This is opposite to figure 5 which was easier to draw due to the *normal* human proportions presented throughout the entire Egyptian civilisation. To Egyptologist, figure 3 is the most iconic statue of Akhenaten during his reign and it can only be assumed that figure 5 was created earlier in Akhenaten's reign considering the difference between the facial characteristics. These two images of Akhenaten portray the change in artistic style during the Amarna period and conform to the theory of the religious revolution. Robins (1997b: 82) explains that people are not shown as individuals however are made to conform to certain ideals. Akhenaten's religious ideals changed the way he was portrayed and ultimately perceived as an individual. This continues to show in figure 6

with the suggestive positioning of the hand which is similar to the hands on the sun disc (figure 16). However, the hand of Akhenaten sparked the theory of Marfan syndrome as the positioning of the hand cannot be applied to a normal hand, unless they are double jointed. Drawing this hand took several attempts as the simple yet difficult design, had to be accurate enough to show the deformity of his hand. Analysing Akhenaten's features in this way allows us as archaeologists to understand the skills that were needed in order to produce this style of art.

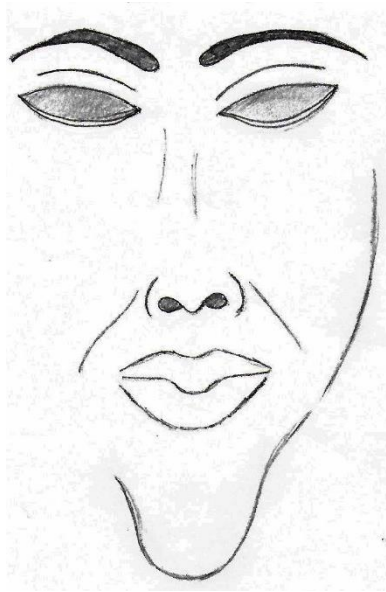


Figure 3: Upper part of a colossal statue of Akhenaten, after Kemp 2012 © Eleanor Lockwood

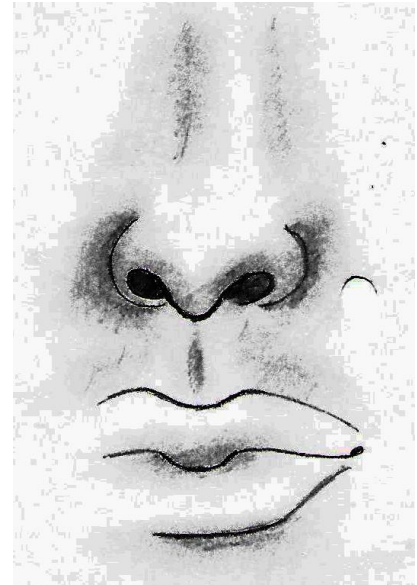


Figure 4: Nose and lips of Akhenaten from the Metropolitan Museum of Art in New York, after Seyfried 2012a © Eleanor Lockwood



Figure 5: Model head of Akhenaten from the Neues Museum in Berlin, ÄM 21351, after Lockwood 2017

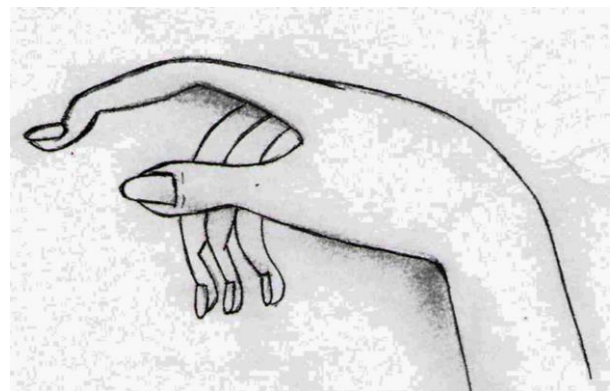


Figure 6: Akhenaten's hand from the Metropolitan Museum of Art in New York, 1985.328.1, after Arnold 2012 © Eleanor Lockwood

While analysing Akhenaten's art style we have to also consider Nefertiti. Figure 7 shows a sketch of the most famous bust of Nefertiti which was found in a workshop in Amarna. Seyfried (2012b: 189) comments saying that Nefertiti was and still is an icon of beauty with well-proportioned facial features, slim neck and perfectly worked details. Recreating this iconic image proved difficult as the facial features show perfect symmetry, and the angles of her cheek bones, jaw line and neck are all clean cut lines. This shows that the face had to be perfect and no mistake could be made, however this image only applies to the artists theory as there is no drastic features that suggest religious revolution or otherwise. Comparing the face of Nefertiti to the body of Nefertiti which is shown in figure 8, shows a completely different side of her. Figure 8 portrays Nefertiti as old and fragile, with a rounded stomach and rounded shoulders, some archaeologists might describe this piece as portraying the *truth*. Kemp (2012: 30) describes Akhenaten as the *Prince of truth* portraying what they looked like in reality. It is unsurprising that with images such as figure 8 portraying a woman ageing with no adjustments needed and all her imperfections shown, that Egyptologists concluded something was wrong with Akhenaten. Rather with two polar opposites being displayed side by side it was evident that nothing was wrong with the appearance of Nefertiti, but the appearance of Akhenaten was too abnormal.



Figure 7: The bust of Nefertiti from the Neues Museum in Berlin, ÄM 21300, after Seyfried 2012a
© Eleanor Lockwood

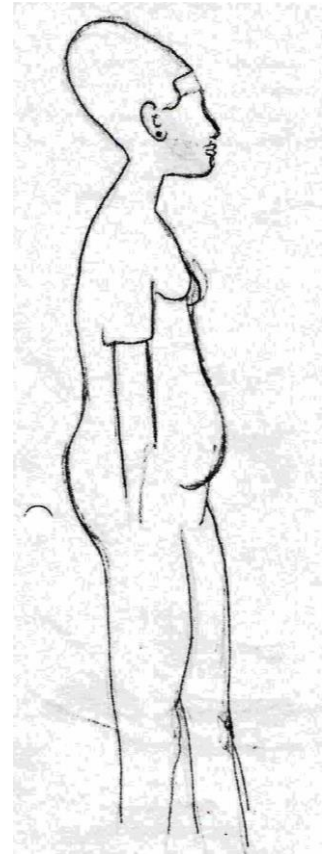


Figure 8: Standing Figure of Nefertiti from the Neues Museum in Berlin, ÄM 21263, after Lockwood 2017

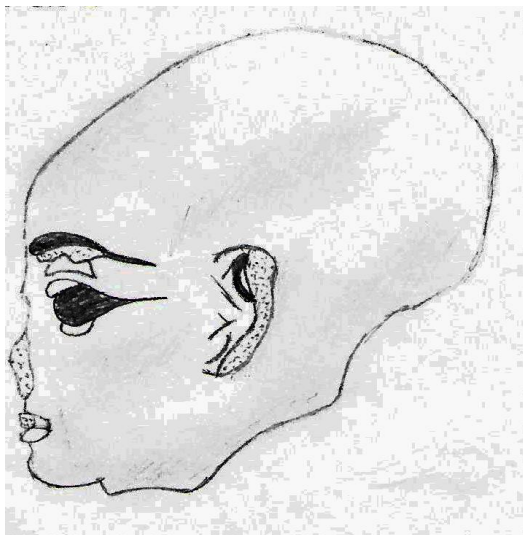


Figure 9: Head of a Princess from the Neues Museum in Berlin, ÄM 21364, after Lockwood 2017

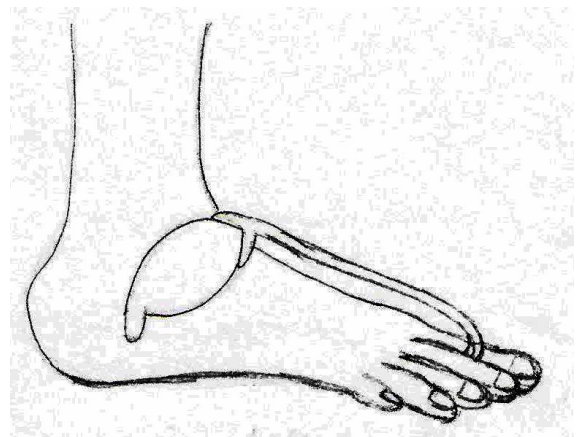


Figure 10: Study of a Foot from the Neues Museum in Berlin, ÄM 20672, after Lockwood 2017

Chapter Two: Disease

There has been some contradictory evidence about the identification of the body in Tomb KV55 found near the tomb of Tutankhamun. Hawass (2016) has suggested that the identity of the body in Tomb KV55 was that of Akhenaten, after revealing that the CT scans conducted on the body proved the male to be much older than previous suggestions. Comparing the mummy found in Tomb KV55 with the symptoms of Marfan syndrome has proven difficult and therefore has since been ruled out due to the lack of scientific evidence. Even though this theory has been ruled out, it is important to still consider why Egyptologists thought that Akhenaten was suffering from a disease.

In 1997 Bob Brier conducted research on Akhenaten and the symptoms of Marfan syndrome by interviewing leading researchers and people who suffer with the disease. The only evidence Brier had to compare with his findings were artistic reliefs which showed Akhenaten to be long limbed and misshapen. Dr Jessica Davis who was a leading researcher in New York hospital explained to Brier (1997), that if Akhenaten had been a patient she would be analysing the elongated face. However the face does not necessarily mean that they have the syndrome and she would have had to examine other physical features (Brier. 1997). The main characteristics that Brier was focusing on were the long limbs, specifically the fingers and toes of Akhenaten (figure 11 and 12). The group that Brier went to speak to compared their own symptoms with that of the reliefs and agreed that they were very similar. Rather they realized that Akhenaten's features were an exaggeration of reality, which led to more Egyptologists believing that Akhenaten suffered with a genetic disease.

Marfan syndrome is a genetic disorder that affects the connective tissue in the body. Marfan syndrome is triggered by a mutation in the gene that transmits a message to the body on how to make fibrillin-1 (Marfan foundation. 2014). This then increases the protein called transforming growth factor beta (TGF- β) (Marfan foundation. 2014) which causes problems for the connective tissues within the body. The disorder causes problems within the bones, joints, blood vessels, eyes, heart, lungs and the skin, however the symptoms do not necessarily display themselves straight away (Hawass & Saleem. 2016: 124). The chances of inheriting it from a parent is '50/50 and 1 in 5000

people are born with it' (Marfan foundation. 2014). If Akhenaten showed symptoms of Marfan syndrome then there should be evidence within his family.



Figure 11: Relief study of foot from the Neues Museum in Berlin, ÄM 20672, after Lockwood 2017



Figure 12: Akhenaten's hand while sacrificing from the Metropolitan Museum of Art in New York 1985.328.1, after Seyfried 2012a

Hawass (2016) examines the claims in which some features of Marfan syndrome have been identified within other family members from the Amarna period. However, due to scientific analysis the findings have either showed this to be uncertain or of low diagnostic precision. Within other academic research there has been no evidence to suggest that other members of Akhenaten's family suffered with Marfan syndrome, which suggests that the abnormalities present is evidence of hereditary traits that I will expand upon in chapter 4. If we examine the family history of Akhenaten and analyse the archaeological evidence, we can acknowledge that each person had their personal malformations which could have been mistaken for Marfan syndrome. Yuya, who is Queen Tiye's father shows no signs of skeletal malformations, whereas his wife and mother of Queen Tiye, Thuya, shows signs of 'severe kyphoscoliosis' (Kozloff. 2012: 118). Within the Amarna family different types of Scoliosis seems apparent, connecting this with the symptoms that Marfan syndrome show alongside the images of Akhenaten, such as figure 3 portraying the Pharaoh in a specific way, the chances of Marfan syndrome being accepted is more likely. Scholars have suggested that Marfan syndrome is evident in the archaeological remains of Tutankhamun, who has been identified as Akhenaten's son and heir. This was suggested by the evidence of the deformed bones within his skeletal structure which researchers have identified as a 'brachycephalic skull' (Hawass and Saleem. 2016: 94) and the fracture in his leg along with the clubbed foot. Hawass and Saleem (2016) explain that these features were evident at birth, however the theory of Marfan syndrome within Tutankhamun's body

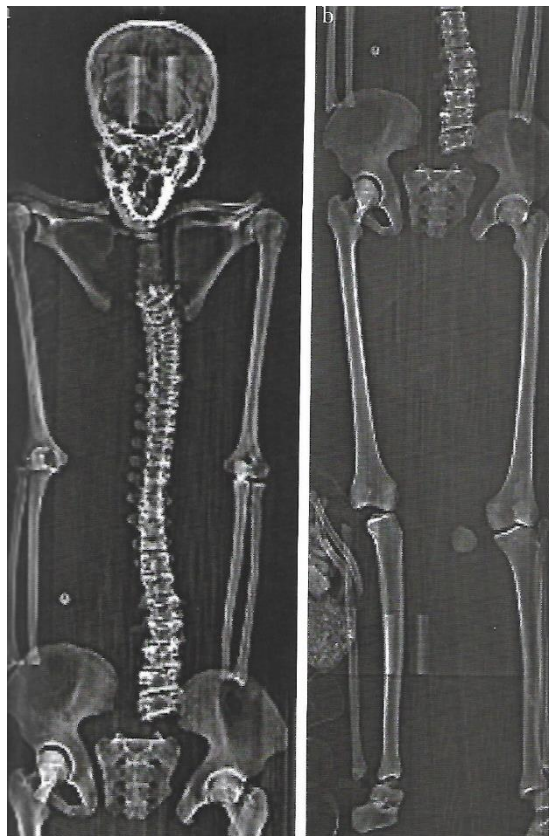


Figure 13: CT scan of upper and lower parts of skeleton found in KV55, after Hawass and Saleem 2016, fig 31



Figure 14: Coronal CT scan of the upper part of Skeleton from KV55, after Hawass and Saleem 2016, fig 32

has also been denied. Hawass (2016) explained that the cause of these malformations was more likely the brother-sister relationship that Tutankhamun's father and mother had, rather than evidence for Marfan syndrome. Looking back at Akhenaten's facial features, figures 3 and 15 show wide slim eyes, a protruding chin, long face and big lips, features that have been often found within Marfan syndrome patients. These are the iconic features of Akhenaten within his artistic style that explain the possible reasoning behind the suggested disease. Nevertheless, the features that were so iconic to Akhenaten including the pot belly, breasts, wide hips and other facial features were all different representations of portraying the pharaoh within religious or political aspects. Akhenaten's facial features are also shown in his father's imagery, such as the 'uniquely bulbous chin and long slanted eyes' (Kozloff. 1992; 128), suggestive of family traits. Referring back to Brier's (1997) work with the Marfan syndrome social group, it is apparent that the height of the skeletal structure itself is lanky, considering the elongated structures of the limbs which would have been a symptom of the disease. Comparing this to Hawass and Saleem's (2016) examinations of the skeleton in KV55 they explain that the skeleton is only 160 cm, which is approximately 5ft 3inches, which is very short for someone who is suffering from Marfan syndrome.

Figure 13 shows CT photographs of the body in KV55 and shows no signs of malformations, however Kozloff (2012) discusses that Akhenaten had a cleft palate and scoliosis. The evidence shown in figures 13 and 14 show no signs of severe scoliosis, which demonstrates that scoliosis was not inherited. In the case of Akhenaten, Marfan syndrome can not only be diagnosed via forensic analysis of the skeletal structure, but would need soft tissue evidence. We therefore do not have enough evidence to conclude this disease for Akhenaten in addition to the otherwise inconclusive indicators. This reason is most likely why some researchers had ruled the diagnosis out. Arnold (1996c: 55) also clearly states that other pathological explanations for the Amarna art work had failed to take into consideration the predominant concept of Egyptian art and that of its symbolic meaning rather than the representational character.

With the new technology such as CT scanning, archaeologists can examine skeletal remains to gain specific information about the person's health and life events. With this, it is now easier to rule out such theories such as Marfan syndrome on the knowledge that there is a lack of scientific evidence shown within the CT scans and on the body itself. Marfan syndrome is known to affect the way in which a person develops however, this is not evident within the archaeological evidence. Nonetheless hereditary traits are visible and due to the belief system in Egypt, the hereditary traits could have been caused by incest which could have portrayed similar symptoms to Marfan syndrome. The skeletal abnormalities that can be traced through Akhenaten's predecessors show that Brier's (1997) theory is now outdated, but it also shows the development that has occurred since then and the new evidence that we as archaeologists are trying to understand about ancient civilisations.



Figure 15: Relief portrait of king Akhenaten from the Neues Museum in Berlin, ÄM 14512, after Lockwood 2017

Chapter Three: Religion

The religious revolution is one aspect of the Amarna period in which Akhenaten is famous for other than his choice in artistic style. The relationship between the Pharaoh and the gods underwent a complete reconstruction and the Egyptian religion prior to the Amarna period was abandoned. In Akhenaten's fourth regnal year, the religious revolution became fully developed and the sole worship of Aten began. However academics such as Baines (2001: 279) believe that the religious revolution was gradual and that the first appearance of the solar god appeared during the reign of Amenhotep III. Furthermore, Hari (1985: 5) explains that the solar disc was evident during the reign of Akhenaten's grandfather Thutmose III. The image of Aten was portrayed with a falcon head but changed during Akhenaten's fourth regnal year (Allen. 1996: 3) to the image of the sun disc. Allen (1996) explains that the message behind Akhenaten's worship was not purely the portrayal of the deity but of the light emanating from the sun disc itself, with the light representing life. This is portrayed in the Amarna iconography of the Royal couple worshipping the Aten, while the Aten offers the couple its rays containing Ankhs on the end, offering life eternal (figure 16). Aten has to be differentiated from Re-Horakhty-Aten' (Hanus. 2012: 34), and was now the sole focus for the Egyptian elites. Like Christianity, 'Atenism was a monotheistic religion' (Hari. 1985: 3), however the Aten was only worshipped by that of the royal family and only behind closed doors, as Akhenaten 'claimed he was the only one who had full knowledge of who and what the god was' (Baines. 2001 :287). Along with the religious revolution, Akhenaten knew that his new religion would not be taken lightly and therefore tolerated the private religion within people's houses of the old Egyptian pantheon.



Figure 16: Shrine stela: Akhenaten, Nefertiti and 3 daughters beneath the Aten from the Neues Museum in Berlin, ÄM 14145, after Lockwood 2017

In order to understand the representation of Akhenaten we first have to interpret the representation of the Aten. According to Hoffmeier (2015) the solar god was a representation of a fusion between Re, the sun god, Horus of the horizon and Nut, the sky goddess. Akhenaten incorporated the features of other Egyptian gods into the description of Aten, which is why the old pantheon disappeared. Rather, because of this fusion of gods, Akhenaten portrayed himself with androgynous features. This is portrayed in the colossal statues which were once held at Karnak (figure 1), this represented the 'king, naked and asexual' (Hari. 1985:13).

The concept of the androgynous features was taken from a principle of the trinity, which like most religions, the Egyptian religion created. The divine triad during the Amarna period was represented by the Aten, Akhenaten and Nefertiti, which in contrast to earlier triads consisted of a main god/goddess and their child. However the new divine triad had the Aten as the overarching god with the royal couple as the divine pair. Within Akhenaten's iconography he represented himself with a 'universal male-female principle' (Hari. 1985:13), showing that the strange depiction that he had opted for was not a representation of reality. Instead it was a 'stylistic reflection of his identification with the god Aten' (Hawass and Saleem. 2016: 125).

The way in which gender is associated today is not perceived in the same way as that of the ancient Egyptians. Johnson (2010) explains that gender is culturally constructed and varies on the culture to how they express themselves. Gender can be *performative* which is an important idea when thinking about ancient Egypt. Performative gender can help understand identities and the meaning behind daily rituals for men and women, however this can be manipulated and therefore is difficult to determine. Robins (1997b:

83) explains that the pharaoh's image was power, and male figures had to conform to one of two ideals; the first was a man in the prime of his youth, and the second was a mature fuller figure with rolls of fat. Comparing this to the iconography of Akhenaten shown in figures 1, 15 and 16, provides the same question of why he chose to be portrayed in this way. If Robins' explanation was the norm for male figures then gender and religion must have had a huge impact on Akhenaten's choices.

The artistic style Akhenaten adopted was considered to be of androgynous form with statues representing Akhenaten both with male and female features. Many scholars have argued that some statues represent Nefertiti rather than Akhenaten himself, as the gender on the statue was evidently not masculine. This androgynous concept was taken from the aspect of Shu and Tefnut as they were considered the 'first cosmic creations that Atum had created' (Hoffmeier. 2015: 133). The concept of both female and male equivalents originating from the same god allowed Akhenaten to represent both male and female aspects within his iconography. With the discovery of the first creation, it allowed archaeologists to understand the colossi at Karnak (figure 1). Due to this narrative, Johnson (2001: 92) explains Akhenaten's role with the creator god Atum was expressed via Akhenaten's physical characteristics portraying both Shu and his inherent female twin Tefnut. This representation of the pharaoh explored a religious statement that showed the relationship between the king and the other deities. Through the tale of Shu and Tefnut, the divine triad was adapted to fit the religious revolution that Akhenaten had devised. With the new divine triad created, the asexual characteristics became the norm. Both 'Akhenaten and Nefertiti signified the generative force of the male and female ideologies of the universe' (Robins. 1997a: 149), nonetheless the representation of Akhenaten was still distinct from the other female figures.

The role of Amarna women in general during the 18th dynasty, saw the equal rights between them and the men within Egyptian society. This showed that women were responsible for their individual actions allowing them to own property and to attend court independently (Robins. 1997b: 80). Comparing this to the role of the royal Amarna women, it is evident that Akhenaten surrounded himself with female figures (Wilkinson. 2007: 195), however the women elites during the 18th dynasty did not have the privilege of equal rights as that of the common Egyptian women (Robins. 1997b: 82). During Akhenaten's reign, femininity was highly important and is seen within his

statues, as expressed in figure 1. Examining figure 1, it is apparent that Akhenaten's figure is very thin, with a pot belly and elongated face. Hoffmeier (2015) explains that if the figure was unclothed, the genitalia would not have been shown, displaying the androgynous concept further. This suggests Akhenaten holds all the power representing his alignment with the Aten. Akhenaten and Nefertiti portrayed themselves as Shu and Tefnut to make a political statement that they were living gods on earth, because of this Nefertiti was considered the female counterpart to Akhenaten and attended religious ceremonies alongside her husband. Through the abolishment of the old Egyptian gods Akhenaten used their features mixing them with his own creating a new divine image.

Archaeologists who have analysed the pot belly in figure 1 explain that this represented the aspect of the fertility gods, both in the old religion and the new. With the new divine triad and the creative power that Akhenaten had hold of, he could display fertility in a new reflected style within the Amarna art. The portrayal of the mixed features within Akhenaten's self-image allows archaeologists to consider the concept of metaphors. Kemp (2012) discusses the concept of apparent truths representing metaphors which can be linked into Akhenaten's iconography. These metaphors and symbols are natural forms of human expression and religion allows this to be expressed. The asexual identities which are being portrayed were variable in the past, therefore as archaeologists examine the metaphors and symbols within the Amarna art work it is evident they cannot rely on the archaeological record nor can they assume from the evidence that it shows.

Examining the art style that Akhenaten had adopted we can see the characteristics which have been used to represent the divine triad, for example in figure 17 where Nefertiti is shown with a flat topped headdress which had been previously seen on the iconography of Tefnut (Wilkinson. 2007: 198). This adaptation of the headdress on the Queen proves to her followers that she is part of the divine triad, a living god on earth. The features represented in the famous bust of Nefertiti ÄM 21300 which is now in the Neues Museum in Berlin, shows characteristics of the Amarna art style that does not appear in other imagery especially that of Akhenaten in figure 18. Arnold (1996c) explains that many sculptures of gods and goddesses incorporated the pharaohs facial features, it has been suggested that Nefertiti also incorporated Akhenaten's characteristics into her representation to display the importance of the relationship between the Aten and Akhenaten. Figure 19 shows two busts representing Akhenaten

and Nefertiti, which portray a different style of Amarna art to that of the other art styles shown previously. However similarities between the two busts and other forms of iconography during the Amarna period can be identified. Arnold (1996c) explains that Nefertiti never used to look like the king however, it was not until the new style had been adopted that this change occurred. The representation of the same facial features between Akhenaten and Nefertiti links into the adaptation of the divine triad, and the tale of Tefnut and Shu and how they both were created by one god. With Akhenaten taking different characteristics from the old religion and mixing that of his own, Kozloff (1992) discusses the evidence for the same concept in Amenhotep III's reign. This indicates Amenhotep III adopting some of the physical aspects of pregnancy in his representation as he was shown with enlarged breasts, rounded belly and swollen thighs. This shows the main concept of the Egyptian religion of birth and rebirth, and some scholars have agreed that as Akhenaten adopted this concept he himself completed the rebirth cycle.

From the analysis above it is more likely that the religious revolution that Akhenaten had devised was the sole reason behind the new artistic style. Imagery was power and being portrayed with godlike features was considered to be a huge political statement, as well as a religious one. The divine triad which had been adapted during this time saw elements of incest which for the royal family was a common practice. The tale of Amun, Tefnut and Shu perhaps added to the concept of the divine triad making Nefertiti and other family members portray Akhenaten's facial features within their own.

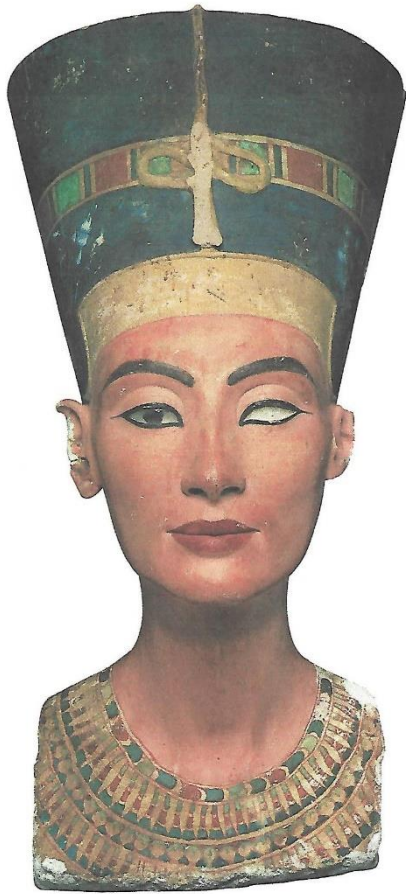


Figure 17: Bust of Nefertiti from the Neues Museum in Berlin, ÄM 21300, after Malek 2003

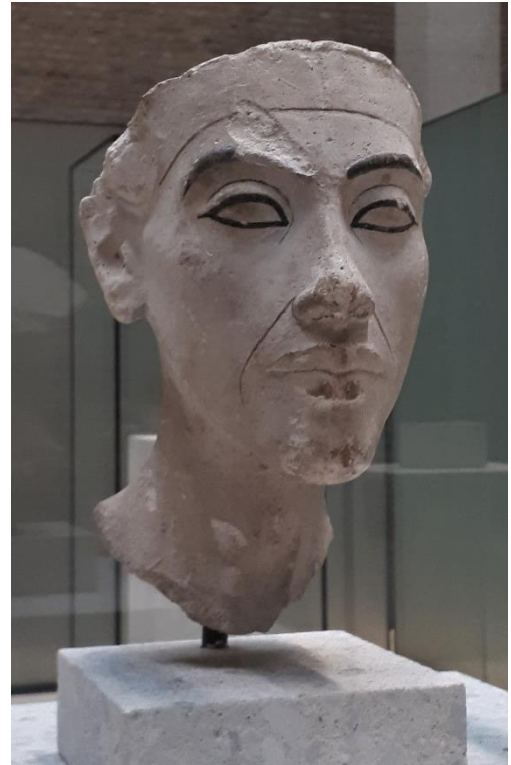


Figure 18: Head of King Akhenaten from the Neues Museum in Berlin, ÄM 21351, after Lockwood 2017

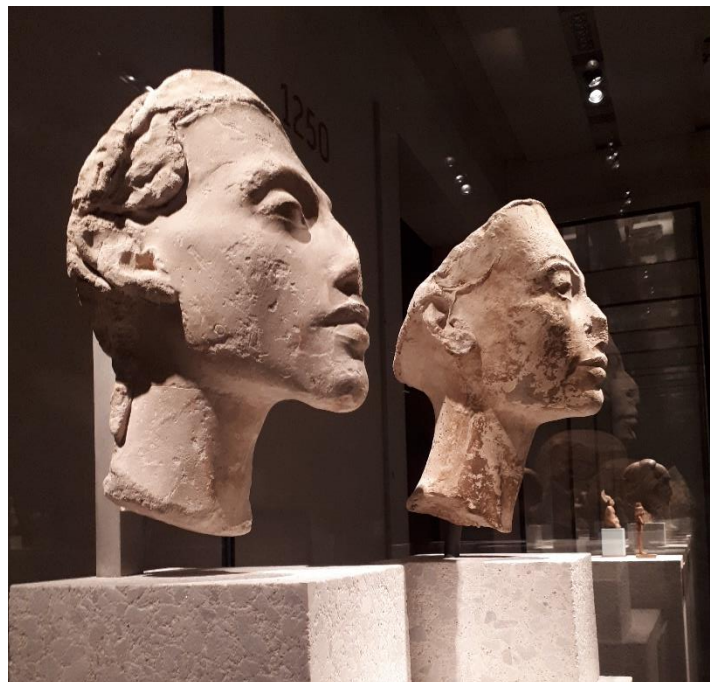


Figure 19: Portrait of the royal couple Nefertiti and Akhenaten from the Neues Museum in Berlin, ÄM 21348, after Lockwood 2017

Chapter Four: Culture

Examining Akhenaten's hereditary traits cannot be overlooked, nonetheless we have to consider the artists themselves and what effect they may have had on the art style. Researching Akhenaten before he became Pharaoh had proven difficult due to the fact that very little is known about the birth of Amenhotep IV (Akhenaten). This is because In Brier's (1997) opinion Akhenaten was not portrayed in any royal portrait when he was younger and was not mentioned in any royal record. To Brier this was considered to be significant in explaining whether something was wrong with Akhenaten as a child. However Kozloff (1992: 43) explains that royal sons, unlike royal daughters are rarely associated with the king in statuary and other reliefs during the 18th dynasty. This is why there are no accounts of Akhenaten with his father Amenhotep III. Brier (1997) however, took this representation as an indication that Akhenaten had been shunned as a child due to deformities. Due to this representation and the lack of facts regarding his childhood knowledge, archaeologists have to start analysing the generation after Akhenaten. This would identify the hereditary traits and other influences, which had been adopted due to incestuous beliefs that had been taken from the Egyptian religion and the purpose of keeping the royal blood line pure.

Incest became a common practice within the Egyptian royal family however, this practice became consequential to the offspring later on in life. The practice of incest was not necessarily perceived in the same way as our society perceives it today, but the practice of incest had a huge impact on the religious tales, and is portrayed in most religious stories. The ancestry of the Egyptian gods explores this concept of incestuous relations by procreating with other members of the divine family. An example would be that of Shu and Tefnut who I mentioned earlier, who were brother and sister but also husband and wife. From Shu and Tefnut this specific family line continues with their offspring Geb and Nut (Louv. 2017), who also became husband and wife bearing children of their own. Kozloff (2012: 194) explains that the royal families procreated with siblings to assert claims to divinity within the royal household, this also explains that the practice of incest was genuinely avoided within mortal households. During the Amarna period incest had a huge impact on the quality of life and brought consequences for all people involved. Hawass and Saleem (2016: 103) explain in their

DNA analysis that procreation between siblings are more likely to burden progeny with twin copies of deleterious genes, leaving them vulnerable to a variety of genetic defects. With the previous statement in mind the offspring of Akhenaten and that of Tutankhamun were affected by this. Even though Akhenaten and Nefertiti were related, it was Akhenaten and the '*younger lady*' in KV35 who proved procreating with siblings came with genetic defects. The '*younger lady*' has been proven to be Tutankhamun's mother and the daughter of Queen Tiye and Amenhotep III' (Hawass and Saleem. 2016: 80). With the union of Tutankhamun's mother and father, Tutankhamun was born with a 'flat arch in his right foot and CT scans also revealed a left clubbed foot deformity' (Hawass and Saleem. 2016). These malformations caused problems throughout Tutankhamun's young life, and also was seen when he married his sister Ankhesenamun. With this union 'two female fetuses aged 5 - 7 months' (Hawass and Saleem. 2016: 107) were found in the tomb of Tutankhamun. Archaeologists have suggested that these tragic losses were the result of incestuous relationships between the royal families. Both these fetuses were shown with 'multiple congenital anomalies of Sprengel's deformity, spinal dysraphism and scoliosis' (Hawass and Saleem. 2016: 108). Due to these genetic defects, it is questionable to place Amenhotep III in this category of incestuous relations. Academics such as Kozloff (2012) has suggested Amenhotep III was also born with a clubbed foot, which suggest that Akhenaten came from a long line of incestuous relationships, and therefore his abnormalities were a result of hereditary hazards.

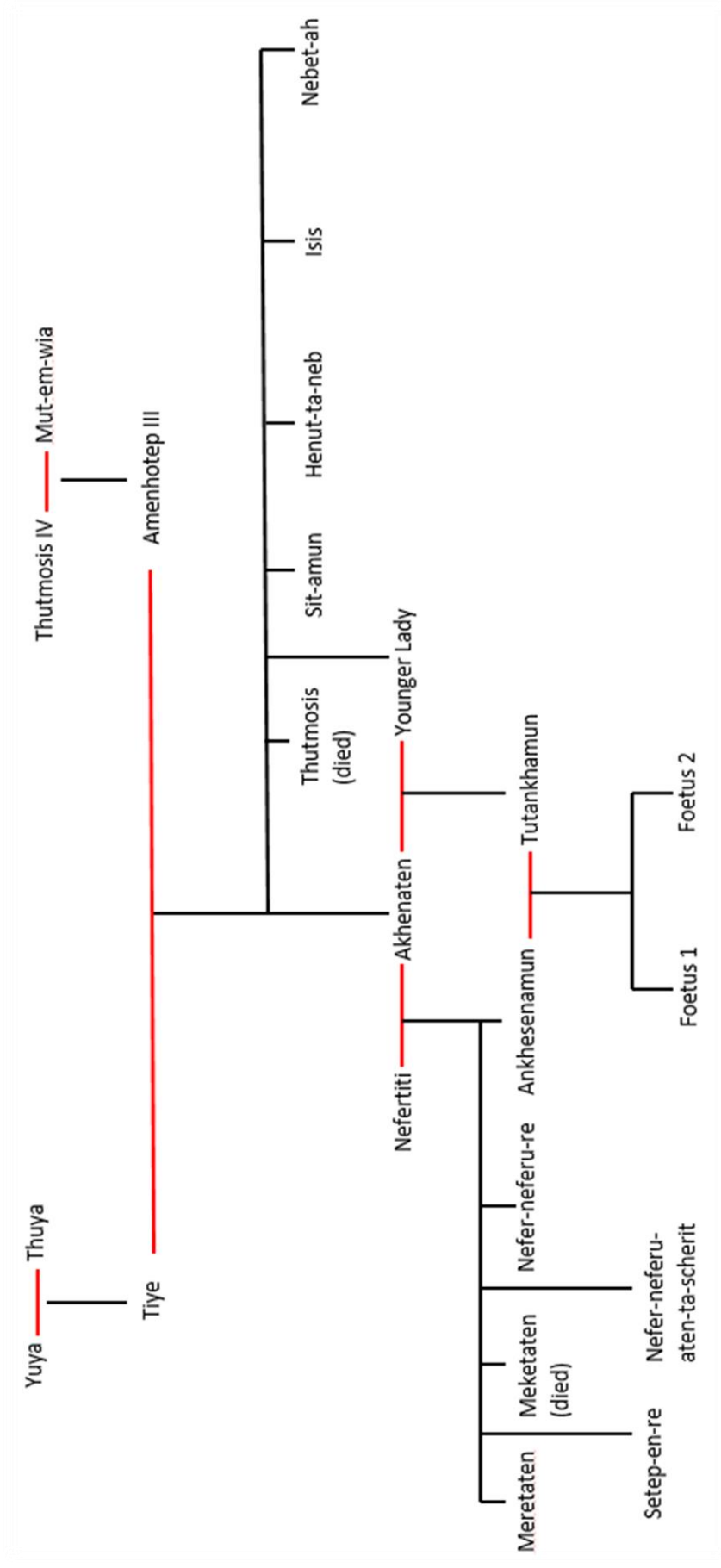


Figure 20: Family Tree of the Amarna period, after Seyfried 2012 © Eleanor Lockwood

The hereditary hazards that may have been caused by incestuous relations are seen throughout Akhenaten's family. However these malformations were not displayed in any royal portrait, as the pharaoh had a role of being the almighty power. Analysing the facial features of Akhenaten, Kozloff (2012) suggests that he did not resemble that of his father (figure 21) and Akhenaten's features were remarkably southern with a broad nose and thick lips (figure 18). These southern features would have been imprinted into the royal family's representation until the end of the 18th dynasty. The marriage of Queen Tiye (figure 22) and Amenhotep III represented a political alignment, which introduced the southern features that later became imprinted on the Amarna period. Thuya's features are similar to that of Akhenaten with the wide set eyes, high cheekbones, and elongated mouth which suggests that Akhenaten's features were not added due to religion, but were an exaggeration of the family traits. Comparing the images of figure 18 with that of figure 21 and 22, we can show that Akhenaten's features were more comparable to that of his mother's, however the elongated face does not appear in any other royal's portrait. CT scanning of Akhenaten's body revealed evidence that Akhenaten 'suffered from a cleft palate and scoliosis' (Hoffmeier. 2015: 132). The evidence of scoliosis can sometimes be due to the embalming process and the way that the spine has set during mummification (figure 13-14). However according to Kozloff (1992) there is scientific analysis to determine that Queen Tiye showed mild scoliosis and according to Hawass (2016: 125) Thuya, Queen Tiye's mother, was affected significantly with more than a 20° angle on her spine. Apart from the evidence above there has been no scientific analysis to carry the suggestion of scoliosis to other members of the Amarna royal family. To the Egyptian people deformity in any royal household was considered to be less divine and the representation of the pharaohs did not incorporate their malformations (Kozloff.2012: 186). As with generations today, deformities can skip a generation, which could be the case with Akhenaten, suggesting he inherited characteristics from his grandparents.



Figure 21: Showing head of Amenhotep III wearing the blue crown, after Seyfried 2012



Figure 22: Head of a statue of Queen Tiye with double crown from the Neues Museum in Berlin, ÄM 21834, after Lockwood 2017

Through the pharaoh's journey of gaining power, it was important to align Egypt with countries that were surrounding Egypt's borders to decrease the threat of war. Egypt's main way in which to gain trust with other cultures was through political marriage arrangements between two royal families. This was seen through the Amarna period, but was a common practice throughout the entire pharaonic period. Amenhotep III was the main source of international marriages during the 18th dynasty, as he was familiar with 'Nubian and African influences including their religion and ancestors' (Kozloff. 2012).

There has been some discussion amongst academics trying to work out where Queen Tiye originated from. Egyptologists such as Kemp (2012) suggest that she came from Upper Egypt in a place called Akhmim, and others say she was Nubian. The southern influences showed that Queen Tiye was 'highly intelligent, multilingual and politically adapted' (Kozloff. 2012: 100). With the international relations the pharaoh could exploit all resources that were available to him. This is shown within the Amarna letters, as Kozloff (2012) explains that Queen Tiye was close with the Mitanni court. This suggests that she was an interpreter for Amenhotep III, and this close relation with other cultures is also shown with the second marriage with Amenhotep III and a Mitanni

princess. The international relations during this time would have allowed for the importation of foreign artists, this showed wealth and power over other cultures causing a hybrid image. However, Johnson (2001) explains that there are trademark styles of regional workshops and art schools throughout Egypt, and this may account for some variation within artistic style. Arnold (1996a) states that in the early years of Akhenaten's reign, the artists were *still* Egyptian and in search for untried forms which would serve in previous periods in order to express the different and the abnormal. The word *still* in the previous sentence suggests that later in Akhenaten's reign the artists were no longer Egyptians and that they were of other cultures. Arnold (1996a) later suggests that the different styles of art work were due to the new group of artists being trained differently. This statement could link in with Brier's (1997) comment, suggesting that all the craftsmen and artisans were out of work due to the new style being introduced. However, Akhenaten was known to have only taken two main artists to Amarna, Bek and Thutmose. The number of artisans that would have been required for such extensive projects would suggest that artisans prior to Akhenaten's reign were not made redundant.

The gradual change within the art style that was evident within Amarna, was not necessarily seen in the rural villages of Egypt. Rather the development in the artistic style for the rural villages developed rapidly, this was shown in the tomb of Ramose in Thebes, TT55. Chandler (2018) discusses the artistic development in relation to the tomb of Ramose in TT55, and explains that Ramose was the commander and chief of the army under Amenhotep III and Akhenaten. This suggests that his tomb in Thebes underwent a complete redesign as he had already started the interior decoration during Amenhotep III's reign. This is evident via the artistic style which is displayed on the tomb walls portraying Ramose and his life on earth (Chandler. 2018). The redesign saw the progress of the new Amarna art against that of the previous artistic style, creating the illusion of fast developing techniques.

In conclusion the international relations could have affected the artistic style to show the power and political alignment between two cultures. However, there is little evidence about the artists themselves, and archaeologists cannot know for sure who the artists were and what happened to them. With all this information archaeologists do need to consider the skills of the artists, as Ingold (2013) explains drawing is a way in which we can tell, and the artists during the Amarna period need to be considered in a new light.

Disease, Religion or Culture?

From the evidence above archaeologists can now close the gap between the different outlined discussions to answer the question of why the art style changed during Akhenaten's reign. Since the disease theory has been disproved we can focus on the religion and the culture of the royal family during the Amarna period. The theory of Akhenaten and other members of the royal family showing symptoms of a disease was a 20th century thought, which at the time, with little evidence of any other theory seemed a logical idea. Analysing Akhenaten's features of an elongated head, narrow face and long limbs, had left Akhenaten with the diagnosis of Marfan syndrome. This diagnosis was completed by comparing his features against other people in the 20th century who showed symptoms of the same disease. It was Brier's (1997) opinion that Marfan syndrome was the answer to why Akhenaten portrayed himself in this alienated way. With the development of scientific analysis, Egyptologists can now determine the skeletal condition of Akhenaten and compare this with the evidence of Marfan syndrome. Since the 20th century, Hawass and Saleem (2016) have recognised that with the 21st century technology, Akhenaten does not show any physical signs of Marfan syndrome. It is understandable to believe that Akhenaten had inherited a genetic disease however, even from the scientific group that Brier's spoke to in 1997 showed evidence of doubt on this theory. This is shown in figures 23 and 24 showing two different people from that same scientific support group Brier's saw in 1997. These images show themselves comparing their symptoms of Marfan syndrome to that of Akhenaten's characteristics. With this method it proved that Akhenaten had little evidence of himself carrying the faulty gene. The foot shown in figure 23 is similar to that shown in figure 11 of Akhenaten's foot however, figure 24 shows someone's hand trying to imitate the same position in which Akhenaten is holding his hand in figure 12. This is proving difficult to achieve by the volunteer and proves that not all of Akhenaten's physical characteristics show true symptoms of Marfan syndrome. Marfan syndrome was also suggested due to the facial features shown within Akhenaten's daughters and the shape of the Amarna family heads. Considering Marfan syndrome has a 50% chance of being inherited, Egyptologists believed that his daughters may

have inherited the faulty gene, due to all the royal family portraits being portrayed with elongated heads (figure 25). The shape of the elongated heads were proven to be an exaggeration of the family traits, due to CT scanning of the skeletal remains and evidence explaining that the 'skull shape does not match that of any other royal portraits' (Hawass and Saleem. 2016). Rather the stylistic representation of the elongated heads was a fashionable statement among the royal family. According to Green (1996: 10), art historians have argued about the Amarna art style which shows overemphasised physical traits of a perfectly normal character for stylistic reasons.



Figure 23: Still from Brier 1997, showing a person's foot with Marfan syndrome, after Brier 1997 © Eleanor Lockwood



Figure 24: Still from Brier 1997, showing a person's hand with Marfan syndrome, after Brier 1997 © Eleanor Lockwood



Figure 25: Head of a statue of a princess in the Neues Museum in Berlin, ÄM 21223, after Lockwood 2017

The overemphasised hereditary traits, is a theory which has not been explored enough within Egyptology. Through researching Akhenaten's family tree, which is shown in figure 20, we can see certain family characteristics which are traced through the entire 18th dynasty. With international relationships came new physical traits which were identifiable through different cultures. These *foreign* traits became characteristic to the Egyptians culture however, were not necessarily seen through portraits. Examining figure 21 and 22 shows the features of two individuals who come from different cultural backgrounds. As I have mentioned in the previous chapters, figure 18 represents southern characteristics which are similar to that of Queen Tiye in figure 22. This can also be seen in the drawing of figure 4 and the Nubian style big lips and nose that had been portrayed on many of Akhenaten's statues. These characteristics could have been taken from his mother who had ties with the south. These southern features were remarkably characterised to foreign features and according to Arnold (1996a: 20) foreigners and other people living outside Egyptian society were depicted abnormal. This could suggest the influence of other cultural artists or that of other cultural characteristics inherited from previous family members.

Furthermore the traits that were so characteristic to the Egyptians could have been due to the incestuous relationships between the families, with the exception of the occasional international marriage. Examining Tutankhamun's body in figure 26 we can see that there is no physical abnormalities that link this skeleton with that of figure 13 and 14. However, if we look at figure 27 we can see that the incestuous relationships had caused Tutankhamun to have been born with a clubbed foot, which is evidence towards the theory of hereditary hazards. Family traits does not necessarily mean you inherit characteristics from your parents, but you can also inherit traits from higher in the family line. This is evident from Tutankhamun and Amenhotep III which is shown in figure 27 and the appearance of Tutankhamun's clubbed foot.

The idea that the art style was based around the exaggeration of family traits showed the difference between the divine and mundane, which was important to the royal family. The exaggeration alongside the incestuous relationships were in order to claim their relationship with the god Aten and claim their divine rights. The artists themselves however should be taken into consideration when examining the artistic style during the Amarna period. As there is little evidence on the people themselves, Egyptologists have to understand the archaeological record via what they have left behind, such as

the art work and workshops. The debate which has been going on within Egyptology has been questioned on whether the artists were Egyptian or foreign. The idea of having foreign artists was to show wealth and power and that the pharaoh had control of the chaotic outsiders. The problem with this, is that we have to then consider the theory of hybridization which is caused when two cultural components come together and create a new art style from the two they had. The hybridization of two cultures was a common occurrence during the ancient east Mediterranean world however, due to the religious revolution Akhenaten had created, the new art style seemed to have shocked the locals more than intended. The cultural influence that is shown in Akhenaten's art style does not necessarily suggest which culture they had shared connections with. Rather we have to compare this to other relationships within the Egyptian history to see where the cultural influences started. The evidence from the international marriages for political purposes and the evidence within the art style during Amenhotep III's reign, showed the influences from either Nubia or the Mitanni culture. As Queen Tiye was a powerful woman in her time, it was more likely the impact of the southern Egyptian culture to have influenced the art style through the artisans themselves and the influences of the family traits.

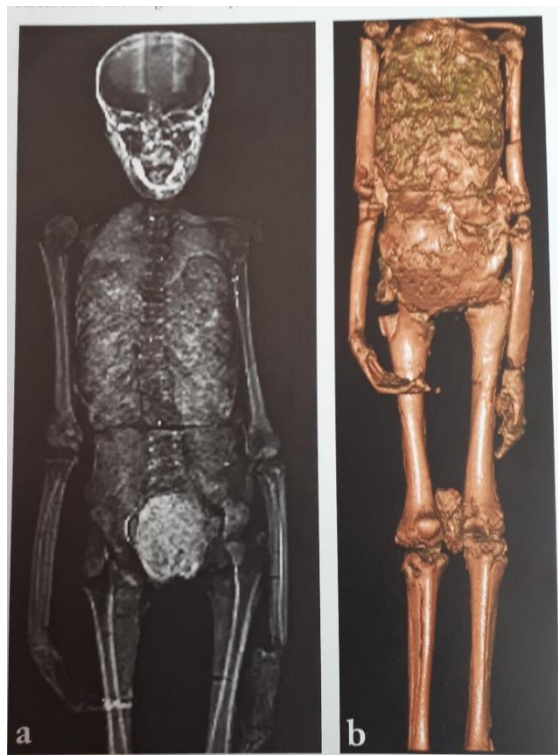


Figure 26: CT scan and 3D reconstruction of Tutankhamun, after Hawass and Saleem 2016

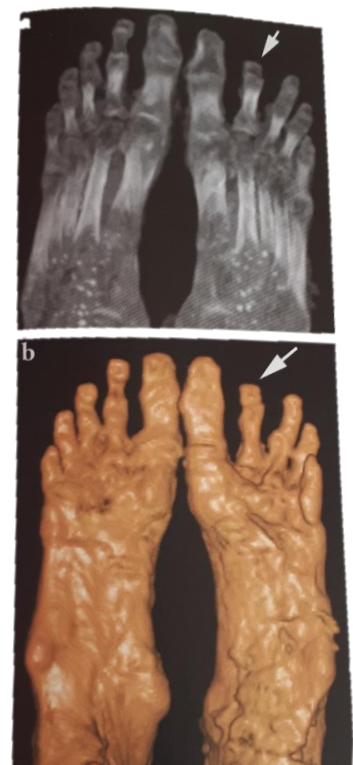


Figure 27: CT scan and 3D reconstruction of Tutankhamun's feet, after Hawass and Saleem 2016

Alongside the new evidence of hereditary hazards and influential family traits, religion was the main theory behind why the art style changed during the Amarna period. To modern day Egyptologists such as Wilkinson (2007), Arnold (1996a) and Robins (1997a), the religious revolution was the spark which ignited the new style of art to portray meaning and political messages. Akhenaten took it upon himself to portray both female and male connections within his own depiction, this connected the old gods and the new religion in a concept that the Egyptians saw as routine. This new style of representation was also shown within Queen Nefertiti's portraits and showed 'Nefertiti representing Tefnut' (Hoffmeier. 2015: 133). The divine triad as mentioned above was the new connection between Aten, Akhenaten and Nefertiti, 'even the new religion could not ignore the double principle of the divine father-son relationship and that of the female counterpart' (Hari. 1985: 15). However the new depiction of Nefertiti saw scholars such as Arnold (1996a; 1996b) describe her as ugly and the representation was more fitting to an old woman than to a queen (figure 29). The religious revolution was so important to the royal family that Nefertiti's statues imitated characteristics of that which her husband portrays, which can be seen in figure 19. With the involvement of the new divine triad and the representation of androgynous features, Akhenaten adopted the most important concept the Egyptians believed in, which was fertility and rebirth, this concept can be seen in figures 1 and 28 via the pot belly. The representation of fertility can also be symbolized by that of Akhenaten's other statues, which represent himself with wide hips and breasts. This can be seen carried on through the early years of Tutankhamun's reign in figure 30, until Tutankhamun changed the religion back to the old religion.

As well as Nefertiti and Akhenaten's facial features being combined within royal statuary, statues which were commissioned during the Amarna period were done in such a way that the faces combined both the god's features and that of the ruler. This was a common notion through the Amara period and 'started with Amenhotep III' (Kozloff. 2012: 121), representing the divine connection between the pharaoh and the gods. Examining the CT scans of both Akhenaten (figures 13 and 14) and Tutankhamun (figures 26 and 27) it is suggestive that none of the religious influences were from the physical abnormalities. This shows that the representation during the Egyptian period was an important aspect of the Egyptian culture, and the Egyptologists have identified that art is not separate from politics or religion.

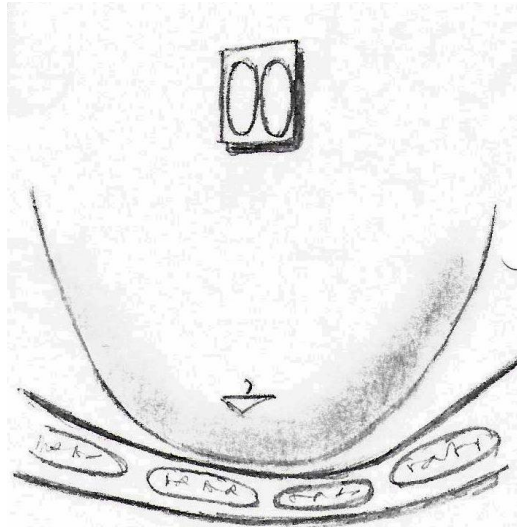


Figure 28: Showing a sketch of Akhenaten's pot belly from a Karnak Colossal statue, after Malek 2003 © Eleanor Lockwood

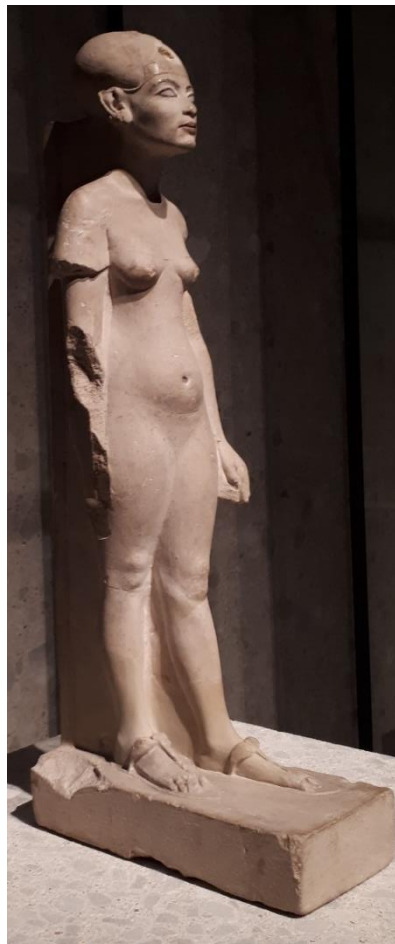


Figure 29: Standing-Striding figure of Nefertiti from the Neues Museum in Berlin, ÄM 21264, after Lockwood 2017

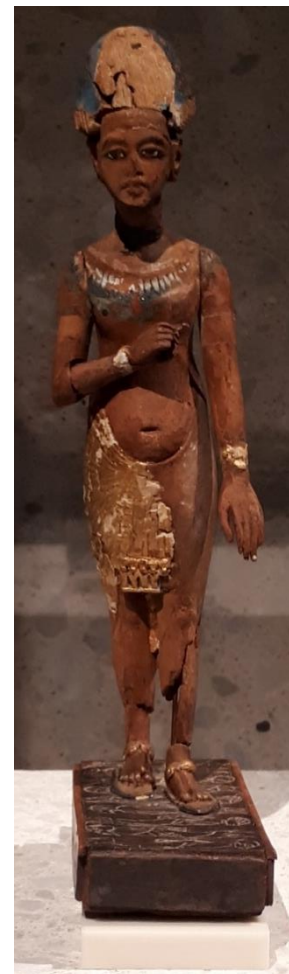


Figure 30: Standing-Striding figure of Tutankhamun from the Neues Museum in Berlin, ÄM 21836, after Lockwood 2017

Conclusion

In conclusion, through researching all three topics of disease, religion and culture within the royal family at Amarna, archaeologists can reconsider the question of why the artistic style changed during Akhenaten's reign. The research that has been carried out highlights the differences between 20th century and 21st century thought, with Brier's (1997) being the main Egyptologist critically analysed throughout this text for his 20th century philosophies. Comparing the academics in this way allows the public to recognise what thought processes have been behind the long standing debate of what influenced the Amarna art. This comparison has been achieved via detailed analysis of Amarna artefacts from various museums, which have been compared against each other in order to understand the different theories through experimental archaeology, which was put forward by Ingold (2013). This allowed the theories to be examined in a new light allowing a deeper connection within a 21st century mind. The importance of this research was to understand different academics philosophies which could be summarised into one text, allowing future generations to understand the intellectual development within the academic field and the importance to separate 21st century perspectives from the ancient world.

The question, why did the artistic style change during Akhenaten's reign has still been left unanswered. However, from the analysis of these three main theories, the gap within the research topics has been reduced. Due to the variety of art styles used during Akhenaten's reign it is plausible to suggest that the main concept behind the influenced art style was the religious revolution. The key findings within the research has highlighted that the concept of Egyptian art was not a representation of reality and linking this alongside the theories used, allows archaeologists to determine which theory is more relatable then others. From researching this question the detailed analysis of Marfan syndrome has allowed the 20th century theory to be ruled out via scientific analysis from CT scans completed by Hawass (2016) and his team. Just like in today's culture there are certain criteria that a person has to fit into to determine whether they can be diagnosed with a condition or not. Through these conditions Akhenaten was fortunate to not fit within the criteria to be diagnosed with Marfan

syndrome. Nonetheless it has widened the understanding of modern disease diagnosis to ancient bodies such as that of Egyptian mummies. With Marfan syndrome being disproved, hereditary hazards was the next plausible concept when researching the cause of change.

The hereditary hazards that have been examined show that the Egyptians were not that similar to that of our own society. The procreating of siblings explained by Kozloff (2012) showed genetic defects which caused problems within quality of life, suggesting that hereditary traits was the cause behind the change of artistic style. However, associating the hereditary hazards with the statement of Egyptian art not representing reality, made the understanding of family traits and hereditary hazards an overemphasized artistic style. This showed the royal family to be more important, which eventually became a characteristic which connected the family and the divine power. The religious revolution which was examined via the divine triad and the representation of androgynous features can be seen as the answer to the question for this debate. Unfortunately there is not enough evidence to suggest this and to rule out other possibilities. The Egyptian religion was not separate from that of the Egyptian art and the political power, therefore the archaeologists have found that the combination between all three aspects allows a deeper understanding into the Egyptian culture and the different influences that occurred within Egypt during that time.

Due to the political statement of the pharaoh representing himself as the different forms of gods, the suggestion from Arnold (1996c) of Akhenaten portraying himself with both female and male dualities seemed logical. The idea that the pharaoh was claiming his divinity in a representational way was the norm for the Egyptians, but the new extreme to which Akhenaten had taken it was considered irregular. Considering the theories of physical deformity, examining the artists themselves proved difficult. There is little evidence concerning who the artists were and if it was their influence that brought about the new change. The evidence which has been examined explains that the artisans might not have been Egyptian, and that they were foreign artists trained in a specific way. Robins (1997a) explained that artistic skills were gained through the schooling of artist's workshops and via different institutions, it was from this that the experimental archaeology developed.

The experimental archaeology allowed the analysis of different aspects of facial features which represented the difficulty of such precision. The elements within drawing such artefacts by hand, showed the skill involved within the creation of such artworks. The purpose behind the change in art style was of high importance, therefore conducting experiments of my own allowed for the comparative analysis between both Amarna art works and that of my first hand drawings. As a result of this experiment, it has allowed me to understand the thought processes involved when producing such designs. These thought processes include the accurate representation of the Pharaoh, alongside the skills required to obtain the abnormal features, as well as that of the symmetrical characteristics.

The recommendation to further this research, would be to formally announce the disproved theory of Marfan syndrome and any other genetic diseases that have been put forward by other Egyptologists, and to focus on the genetics. Examining the genetics in greater detail using the skeletal remains and modern technology, will allow Egyptologists to determine different DNA analysis alongside the varied characteristics that have been inherited and by whom. The focus of the skeleton found in KV55 should at this point be identifiable and not just suggestive. The next step in research would be to identify the human remains of the Amarna family tree, including that of the mummy found in KV55 and create a diagram to allow the public to understand how the Amarna family relate to one another. Although this has been tried several times, most recently by Hawass (2010), it is still imperative to continue moving forward with the development of the new scientific technology. Exploring the artists themselves would also be beneficial, and finding out who they were as individuals and how they became the artists who influenced history. The artists would then link in with ethnicity and could then determine the origin of the artists who worked at Amarna during Akhenaten's reign. The last area that needs to be considered is the comparison between different time periods throughout Egypt, comparing Akhenaten's representation of religious aspects through statuary, to that of other pharaohs understanding of the same concept. This would allow archaeologists to understand if this concept of divine representation was a constant notion or one that had developed over time.

So, why did the artistic style change during Akhenaten's reign? This question was the limitation of this research topic as it has still not yet been answered. However, with the evidence collected and examined it is important to understand that the gap within this field is now closing in, and eventually with the right technology this question will in due course be answered. The development between the different thought patterns from the 20th century and the 21st century is encouraging and sets the sights for future scientific research to be carried out. To summarise, the religious revolution put forward by Akhenaten was the most likely to have influenced the art style according to the link between the political, religious and artistic aspects of the Egyptian culture. Therefore the transition between Amenhotep III and Akhenaten is easier to understand and is less of a mystery within Egyptology.

Bibliography

- Allen, J. 1996. The Religion of Amarna. In. Arnold, D. & Metropolitan Museum of Art, 1996. *The royal women of Amarna: images of beauty from ancient Egypt*. New York: Metropolitan Museum of Art
- Allen, J. 1997. The celestral realm. In. Silverman, D. (eds) *Ancient Egypt*. New York: Oxford University Press
- Ancient Egyptians: Akhenaten*. 1997. P. Spry-leverton. New York. Discovery Communication [DVD]
- Arnold, D. 1996a. Aspects of the Royal female image during the Amarna period. In. Arnold, D. & Metropolitan Museum of Art, 1996. *The royal women of Amarna: images of beauty from ancient Egypt*. New York: Metropolitan Museum of Art
- Arnold, D. 1996b. The workshop of the sculptor Thutmose. In. Seyfried, F., Ägyptisches Museum und Papyrussammlung & Staatliche Museen zu Berlin. Papyrus-Sammlung, 2012. *In the light of Amarna: 100 years of the Nefertiti discovery*. Petersberg: Imhof
- Arnold, D. 1996c. An Artistic revolution: The early years of King Amenhotep IV/ Akhenaten. In. Seyfried, F., Ägyptisches Museum und Papyrussammlung & Staatliche Museen zu Berlin. Papyrus-Sammlung, 2012. *In the light of Amarna: 100 years of the Nefertiti discovery*. Petersberg: Imhof
- Arnold, D. 2012. From Karnak to Amarna: An artistic breakthrough and consequences. In. Seyfried, F., Ägyptisches Museum und Papyrussammlung & Staatliche Museen zu Berlin. Papyrus-Sammlung, 2012. *In the light of Amarna: 100 years of the Nefertiti discovery*. Petersberg: Imhof.
- Baines, J. 2001. The dawn of the Amarna Age. In. Cline et al. *Amenhotep III: perspectives on his reign*. Ann Arbor: University of Michigan press
- Budin, L. 2014. *Images of women and child from the Bronze Age: reconsidering fertility, Materiality and gender in the ancient world*. New York: Cambridge university press.
- Chandler, C. 2018. *Akhenaten, Ramose and Atenism*.
Available from: <http://qdl.scs-inc.us/2ndParty/Pages/5678.html> [Accessed 09/05/2018]
- Graves-Brown, G. 2015. Introduction: Building bridges experiential and experimental. In. Graves-Brown, G. Goodridge, W. (eds) *Egyptology in the present: Experiential and experimental methods in archaeology*. Swansea: The classical press of wales.
- Green, L. 1996. The royal woman of Amarna: who was who. In. Arnold, D. & Metropolitan Museum of Art, 1996. *The royal women of Amarna: images of beauty from ancient Egypt*. New York: Metropolitan Museum of Art

Hanus, C. 2012. Before and after Amarna. The beginnings and consequences of the cult of the Aten. In: Seyfried, F., Ägyptisches Museum und Papyrussammlung & Staatliche Museen zu Berlin. Papyrus-Sammlung, 2012. *In the light of Amarna: 100 years of the Nefertiti discovery*. Petersberg: Imhof.

Hari, R. 1985. New Kingdom Amarna Period: The great Hymn of Aten. In: Van Barren, P. et al. *Iconography of religions*. Netherlands: institute of religious iconography state university Groningen

Hawass, Z. Gad, YZ. Ismail, S. et al. 2010. Ancestry and Pathology in King Tutankhamun's Family. *JAMA* 303(7):638–647. Available from: <https://jamanetwork.com/journals/jama/fullarticle/185393> [Accessed 09/05/2018]

Hawass, Z. Saleem, S. 2016. *Scanning the Pharaohs: CT imaging of the new kingdom royal mummies*. Egypt: The American university of Cairo press.

Hoffmeier, J. 2015. *Akhenaten and the origins of Monotheism*. Oxford university press. New York.

Ingold, T. 2013. *Making anthropology, archaeology, art and architecture*. London. New York: Routledge.

Johnson, W. 2001. Monuments and monumental art under Amenhotep III: Evolution and meaning. In: Cline et al. *Amenhotep III: perspectives on his reign*. Ann Arbor: University of Michigan press

Johnson, M., 2010. *Archaeological theory: an introduction* (2eds). Chichester: Wiley-Blackwell.

Kemp, B. 2012. *The city of Akhenaten and Nefertiti: Amarna and its people*. London: Thames & Hudson

Kozloff, A. 2012. *Amenhotep III: Egypt's radiant pharaoh*. New York. Cambridge University press.

Kozloff, et al. 1992. *Egypt's dazzling sun: Amenhotep III and his world*. Cleveland: Bloomington

Lockwood, E. 2017. *Sketch of a model head of Akhenaten*. ÄM 21351. Neues Museum: Berlin

Lockwood, E. 2017. *Sketch of a standing figure of Nefertiti*. ÄM 21263. Neues Museum: Berlin

Lockwood, E. 2017. *Sketch of a head of a princess*. ÄM 21364. Neues Museum: Berlin

Lockwood, E. 2017. *Sketch of a foot*. ÄM 20672. Neues Museum: Berlin

Lockwood, E. 2017. *Relief study of foot*. ÄM 20672. Neues Museum: Berlin

Lockwood, E. 2017. *Relief portrait of King Akhenaten*. ÄM 14512. Neues Museum: Berlin

Lockwood, E. 2017. *Shrine Stela: Akhenaten, Nefertiti and 3 daughters beneath the Aten*. ÄM 14145. Neues Museum: Berlin

- Lockwood, E. 2017. *Head of King Akhenaten*. ÄM 21351. Neues Museum: Berlin
- Lockwood, E. 2017. *Portrait of the royal couple Nefertiti and Akhenaten*. ÄM 21348. Neues Museum: Berlin
- Lockwood, E. 2017. *Head of a statue of Queen Tiye with double crown*. ÄM 21834. Neues Museum: Berlin
- Lockwood, E. 2017. *Head of a statue of a princess*. ÄM 21223. Neues Museum: Berlin
- Lockwood, E. 2017. *Standing-striding figure of Nefertiti*. ÄM 21264. Neues Museum: Berlin
- Lockwood, E. 2017. *Standing-striding figure of Tutankhamun*. ÄM 21836. Neues Museum: Berlin
- Louv, J. 2017. Incredible Family Tree of the Egyptian Gods and Goddesses. *ULTRACULTURE*. Available from: <https://ultraculture.org/blog/2015/11/23/incredible-family-tree-egyptian-gods/> [Accessed 09/05/2018]
- Malek, J. 2003. *Egypt: 4000 years of art*. Phaidan press limited
- Marfan Foundation. 2014. What is Marfan syndrome?. The Marfan syndrome. Available from: <https://www.marfan.org/about/marfan> [Accessed 22/03/2018]
- Robins, G. 1997a. *The art of ancient Egypt*. Cambridge. Mass: Harvard university press
- Robins, G. 1997b. Women in Egypt. In. Silverman, D. *Ancient Egypt*. New York: Oxford University press
- Seyfried, F., Ägyptisches Museum und Papyrussammlung & Staatliche Museen zu Berlin. Papyrus-Sammlung, 2012a. *In the light of Amarna: 100 years of the Nefertiti discovery*. Petersberg: Imhof.
- Seyfried, F. 2012b. Nefertiti: What remains but beauty. In. Seyfried, F., Ägyptisches Museum und Papyrussammlung & Staatliche Museen zu Berlin. Papyrus-Sammlung, 2012. *In the light of Amarna: 100 years of the Nefertiti discovery*. Petersberg: Imhof
- Stewart, D. 1971. *The pyramids and the Sphinx*. London: The reader's digest association
- Wilkinson, T, 2007. *Lives of the Ancient Egyptians*. London: Thames & Hudson