CHAPTER ONE

INTRODUCTION

1.0 Background to the study

The human race has been able to make vigorous efforts to develop and lead an improved life throughout history. They did this by examining the past and using the feedback from this examination to improve their living conditions. The ancient fabrication and use of spears and clubs as weapons made from wood, stone and clay, conditioned man to better appreciate metal as having unique properties in terms of potential uses for weapons and other tools.

Before the development of written records, man was able to preserve his daily occurrences using land markings, paintings, clay tablets and so on in addition to oral traditions.Prehistoric man preserved and conveyed successful hunting of a wild animal to posterity by keeping the hide or skull of that animal to demonstrate his brave achievements.

The practice of sympathetic magic with respect to painting and engraving of imagery during the prehistoric era has indirectly provided evidence of animals that were then in existence but arenow extinct; a clear example is the now extinct mammoth elephant.

The Bible for instance gives account of so many places that were named in connection with man's activities; information which was transmitted through oral tradition until the development of written records. These names were associated with various events and

experiences; therefore, there is always astory behind a name and as long as the name remains, the story is also preserved. A clear example of such a name is Jacob, a man in the Bible (KJV;Genesis 28:19)[1]who named a place 'Bethel' to remember and preserve his experience(dream) at that place. To him, any time he heard 'Bethel' his mind went back to his earlier experience. In this particular incident, a land mark was able to preserve a particular event for centuries through oral tradition and written records.

Throughout ancient time to the present, mere symbols have been used to convey history of particular events, places, societies, groups or persons. The sight of the 'swastika' alone brings Adolph Hitler's Nazi regime and its influence in the Second World War to the memories of many. In the same vein, the crucifix as a symbol carries memories of Jesus Christ's death at Golgotha. Irrespective of written documents, these symbols engrained in people's consciousness are bound to preserve the names of these people and events perpetually.

The need to record and preserve history is a fact that can never be ignored. This is so because the history of a person, a society or acountryis the yardstick by which they are judged. When records of the past areexamined thoroughly and lessons are learnt, mistakes are avoided and development is promoted.

1.1 Statement of motivation

According to Fynn (1991)[2] much is known about the ancient Egyptian society than most other ancient cultures because they developed a system of recording and preserving their history. This system, called picture writing (hieroglyphics) is the source of some of the historical facts available to the present generation.The same can be said about Assyrian,

Medo-Persia, Greek and Roman empires. Archeological findsof their arts especially engravings executed patiently on wall surfaces, clay slabs and on vases, and other imagery and symbols on coins have given much evidence and facts about their cultures.

The Asantekingdom is one of the famous and surviving kingdoms in Sub-Sahara Africa. The kingdom's rich history has been largely preserved in cast pieces and in written documents on paper and in recent times, on computers, compact disks and other drives. A reflection on the ancient ways of recording events and its application in contemporary times, using the history of the Asante kingdom as a test case, would be an interesting and a challenging venture. Ametalmural depicting the chronological development of the Asante kingdom using symbols and pictorial imagery would serve as a universal alternative to written documents in covering historical facts about the Asante kingdom. Metal can also stand the test of time just as ancient Egyptians engraved hieroglyphics on rock and marble surfaces to preserve their culture for hundreds of years.

1.2 Objectives of the project

1. To explore the history of the Asante kingdom from the 16th to the 21st century, recording and encoding the salientfacts about its transformational developments in a visual document.

2. To transferthe visual document made up of symbols and pictorial imagery onto a metal sheet using Repoussage technique.

1.3 Research Questions

1. (a) Can visual elements communicate information?

    (b) Is it possible to document the salient facts of the chronological development of the Asante kingdom on one surface?

2. (a) Can intricate visuals be transferred unto a copper sheet by using Repoussage technique?

    (b) Can the Asante story be told in a universal language appreciable to all,

irrespective of the language barriers?

1.4 Research Methodology

Descriptive and studio-based research methods were used.

1.5 Research Instruments

Interviews and observation were the main research instruments for data collection.

1.6 Delimitation

The thematic area of the project was limited to:

1. The chronological development of the Asante Kingdom with emphasis on events relating to the individual kings from the 16th to the 21st century

1.7 Limitation

The following were the limitations encountered by the researcher in the execution of the research project.

a. Lack of funds- The major materials for the project (copper sheet, asphalt and metal tray) were very expensive. This caused a delay in the execution of the research project.

b. Availability of copper sheet- The required size and thickness of the metal was very scarce on the local market. In the end, the researcher had to import through an agent which resulted in a delay of the project.

c. Lack of tools and equipment- The absence of a sizable metal pot for pitch preparation cost a lot of inconvenience to the researcher. Pitch had to be prepared in bits to fill a metal tray of 90 inches length, 30 inches breath and 3 inches deep.

1.8 Significance of the project

1. The use of symbols and pictorial imagery constitute a universal language that would be appreciated globally and serve as the greatest gift to posterity.

2. The project will enable Ghanaians appreciate the ancient way of documenting and preserving historical facts. It will be a good sample of contemporary artefact that relies on an ancient methodology.

3. For the visual art industry in Ghana, this project can potentially revive and highlightthe indigenous metal working techniques which now appear dormant.

4. It will serve as a store of knowledge that will stand the test of time.

1.9 Definition of terms

- **Annealing**- This is a heat treatment process which renders a metal softer and workable in the end. In this process, a metal is heated to its annealing temperature and cooled by subsequent quenching.

- **Archaeology**- This is a field of study that examines ancient cultures through their material remains such as buildings, graves, tools and artefacts. These remains are usually dug up from the ground.

- **Chasing-** The process of defining a repoussé design or an intaglio impression on the front side of a metal surface by striking a hammer against a punch. Chasing is a complementing technique to repoussage.

- **Emboss-** This is to decorate a surface with a slightly raised design or pattern by depressing in a mould.

- **History-** Facts and evidence of the past that can affect the present. These facts can be either good (positive or favorable) or bad (negative or unfavorable).

- **Metal-** A material that is normally hard, opaque and shiny with other unique properties that are useful to man's development.

- **Mural-** An impression that is made directly on a wall or made on a different medium which is later fixed onto a wall. A mural that is made from a different medium is fixed to form part of the wall completely.

- **Oxidation-** This is a defect on a surface of a metal that is mainly caused by heat treatment. Exposure or contact of a metal to certain chemicals can also result in the decolouring of its' surface.

- **Pickling-**In this process, the surface of a metal especially after heat treatment process is treated by dipping in a diluted acid solution to clear oxide or fire stains.

- **Preserve-** To keep and maintain the value of something for a long time as much as possible without deformation or distortion.

- **Record-** To capture something as evidence for the future through various means.

- **Relief-** The elevation of designs from a flat surface of a material in order to give it a three dimensional effect.

- **Repoussage-** The process of making raised designs on a metal surface by hammering the reverse side of the metal with special punches.

- **Symbol-** Anything in a form of a shape, a sign or an object which can represent something else. The representation can be a belief, an idea, a quality, an expression or an aspiration.

- **Technique-** The skill that is specifically adopted in the execution of a particular task.

1.10 Organisation of text

- Chapter one presents the synopsis of the project.

- Chapter two presents the related literature concerning the project.

- Chapter three covers the materials and methods used to design, fabricate and finish the project.

- Chapter four talks about the tests, results and evaluation.

- Chapter five is the final chapter which presents the summary, conclusion and recommendation about the project work.

References

1. The Holy Bible, King James Version, Hilson Publishers, Page 26

2. Fynn, Addo-Fening and Anquandah (1991) History for Senior Secondary Schools, Accra, Ghana, Page 23

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

Thischapter presents the views of different authors on the topic under the following variables.

1. Concept of history

2. Asante Kingdom

3. Concept of symbols and symbolism

4. Mural

5. Repoussage technique

2.1.0 Concept of History

The human race lived on earth for thousands of years without any written records of their activities.Amenuke (1991)[1] regards all these years of man's life without written records as prehistoric. This literally means before written records and it is between 80,000 and 5000 BC (Before Christ). Even though there probably was no rational intention of man to preserve his history in a written manner, his visual arts notably painting, engraving and sculpture indirectly has become a source of some of the historical fact about man's life.

Schultz(2013)[2], comments that societies, without written records, also preserve their history through stories and myths which are passed orally from one generation to another. This remembered narrative however disappeared when a society died out. Besides, there is a high probability of distortion in facts as time goes by.

Fynn (1991)[3] writes that the term 'history' is derived from the Greek word 'historia' which means 'inquiry'. The subject began to develop in the 5th century BC as a result of an effort to understand and explain the human past in a rational way.

Like-wise, according toPearsall(1996)[4], history is also the study of past events especially human affairs in a chronological or systematic manner.

It can probably be said that man will not embark on or payattention to an occurrence without any direct or indirect benefit. Issues of the past canbe either positive or negative. No matter how it may be, past information is important to both the development of the individual and the society.

Answers.com (2012)[5], acknowledges that history provides information about ancestors in terms of lifestyle, occupation, customs and traditions, religious beliefs, social and political systems and cultural patterns. It also gives account of the problems, aspirations as well as the achievements of earlier generations.

Fynn (1991)[6] writes that history teaches valuable lessons of every kind, whether moral, political, social or economic. It can inspire the individual citizen to pursue objectives

which are noble and avoid act which are disgraceful.It offers young people an opportunity to learn through the examples of others to become patriotic, law-abiding and devoted to the cause of the country.History is just as important as capital and technology. It can help a country to identify its heritage in order to build upon it. Besides, it can encourage the youth of a country to take pride in the political, cultural and technological achievement of their ancestors as they will be willing and be able to resist the temptation to imitate foreigners and also will be able to appreciate their values when past knowledge is examined in a rational manner.

Crabtree (2001)[7] adds that he who controls the past controls the future. Our view of history shapes the way we view the present, and therefore dictates what answers we offer for existing problems.

Achampong (2008)[8] interestingly acknowledges that the Ghanaian society especially the Akans have a proverbial saying *'sankofayenkyi'* which suggests that it is not prohibitory to look back to history. Going back to our roots will reveal to us the basic principles of right and wrong behaviour and the differences between good and evil.

The researcher's deduction from the above is that the subject history is an important and a valuable asset to mankind. Man's very lifestyles and developmental patterns are moulded by history.

2.1.2 Sources of historical facts

Fynn (1991)[10] classifies the sources of history into two categories. The first is documentary (written) source and examples are; journals, private letters, minutes of meetings, party manifesto, government official records and reports of commissions of enquiry. The second category is non-documentary and examples includeinformation perceived from archaeological findings, oral tradition, linguistic, ethnography and art history.Traditionally, historians have recorded events of the past either in writing or by passing on an oral tradition. They have attempted to answer historical questions through the study of written documents and oral accounts.

From the beginning, historians have used sources as monuments, inscriptions and pictures. The researcher's deduction from the above suggests that sources of historical knowledge can be separated into three categories. These are; what is written, what is said (oral tradition), and what is physically preserved (archaeological findings and so on).Historians often consult all the three sources but a written document is the marker that separates history from what comes before (thefreeonlinedictionary, 2012)[11].

By examining sources of history, Fynn (1991)[12] adds that archaeology has contributed more than any other discipline to the knowledge of the rich material culture of African civilizations such as Zimbabwe, Republic of Sudan and Ancient Ghana, now Republic of Mali.

The deduction made from the many excavations at various parts of Africa is that African societies had attained high level of development and civilisation long before they came

in contact with Europe in the fifteenth century.Archaeology has been one of the resourceful ways of gathering past knowledge and it is probably a seal to written documents. This is because it comes to affirm whatever that has been put into writing and the history of OkomfoAnokye is an example.

In Ghanaian historical perspective, much has been said about OkomfoAnokye. Perhaps the most powerful traditional priest the Asante people have ever had. It is acclaimed that he commanded the Golden Stool from the skies and that he could fetch water with a basket without having the water drained out. A sword that was planted by him on the grounds of the presentOkomfoAnokye Teaching Hospital, Kumasi has come a long way to somehow testify to the oral tradition and written records about him and the Asante Kingdom.

Fetzer (1995)[13] affirms the importance of history by opining that today, students all over the world study history in school chiefly from text books but also through such activities as field trips to historical sites and museums.

2.2.0 Asante Kingdom

According to Osei (2004)[14] the Asantes were among the group of people called Akans who migrated from Mesopotamia to Africa and were part of the Ancient Ghana Empire. They moved southwards in search of arable land to farm, to free themselves from inter-empire wars and also to have religious freedom.

Amenuke (1991)[15] says that the Akans as a tribe of Sub-Saharan Africa had many beliefs; belief in God, ancestor, spirits, animism, sorcery, witchcraft and rites of passage.

Osei (2004)[16] continues to say that the Akans were made up of twelve individual groups; Akwamu, Guan, Fante, Denkyira, Brong, Akyem, Kwahu, Sefwi, Wassa, Asante, Akwapim and Assin. They first settled in the present Northern Ghana in Gonjaland around the 13th century. Later they migrated southwards into the thick forest along river valleys. There is a myth that Asantes originated from a hole at Asantemanso and that some also descended from the skies. However it has been explained that at that time some lived on trees whiles others lived in caves and under the buttresses of mighty tress. It might be that the myth was built around the fact that they were always seen coming down from the trees and from the caves and buttresses every morning.

2.2.1 The formation of Asante kingdom

According to the account of Osei (2004)[17],the early ancestors of the Asantes lived in clans:Oyoko, Bretuo, Aduana, Asona, Asene, Ekuona, Agona and Asakyiri. Due to their matrilineal system of inheritance, people of the same clan claimed to be children of one woman (ancestor). Intermarriage created an indirect alliance among the clans. However the Denkyira state took advantage of the petty wars among other states to conquer the Asantes. Asantes therefore became slaves to Denkyira state and was mandated to pay regular tribute in the form of gold dust, firewood, plantain fiber and red clay. Nana ObiriYeboa who was the chief of Kwaman, now Kumase and others made an effort to free themselves from their overlord but was not successful.

Sarpong (1971)[18] shares the view that Osei Tutu I succeeded his late uncle ObiriYeboa whiles OkomfoAnokye also succeeded his late brother OkomfoYamoa. Nana Osei Tutu together with his spiritual advisor OkomfoAnokye were able to convince the other states to unite as one in order to fight for their common liberation from their overlord. This brought about the formation of the Asante confederacy.

Agyeman-Duah (2007)[19] accounts that through rituals and human sacrifices which were prescribed by OkomfoAnokye, the Asantes fought and won their independent from the Denkyira in the battle of Feyiase. NtimGyakari, the king of Denkyira was captured and beheaded.

2.2.2 Asante Kings

Information gathered from the Manhyia palace museum indicated that the Asantes had a succession of kings who reigned during the transformational periods. The tabular list of their reign is as follows:

NAME OF KING	TIME OF REIGN
1. Nana Osei Tutu I	1695-1719
2. Nana Opoku Ware I	1720-1750
3. Nana KusiObodum	1750-1764
4. Nana Osei Kwadwo	1764-1777

5. Nana Osei Kwame	1777-1797
6. Nana OpokuFofie	1797-1799
7. Nana Osei Tutu Kwame AsibeBonsu	1799-1824
8. Nana Osei Yaw Akoto	1824-1834
9. Nana KwakuDua I	1834-1867
10. Nana Kofi Karikari	1867-1874
11. Nana Mensa Bonsu	1874-1883
12. Nana KwakuDua II	April – May 1884
13. Nana Prempeh I	1888-1896 and 1926-1931
14. Nana Osei AgyemanPrempeh II	1931-1970
15. Nana Opoku Ware II	1970-1999
16. Nana Osei Tutu II	1999-?

Figure 1:*Successive kings of the Asante kingdom*
Source: Manhyia Palace Museum (2013)

2.2.3 The Golden Stool

Sarpong (1971)[20] acknowledges that a stool is a wooden seat in the Akan culture. Before the introduction of chairs by the Europeans, every Akan had many of these seats for use at home. Apart from its real use as a wooden seat, the word '*stool*' is used to denote the office of a chief or a king just as the word '*throne*' for the Europeans.

Osei (2004)[21] adds that the Golden stool of the Asante is the symbol of the Asante Nation. In a meeting of the individual chiefs who agreed to Nana Osei Tutu's idea of unity, the legendary priest OkomfoAnokye invoked the gods and the Golden Stool (figure 2) descended from the sky. It found comfort on the lap of Osei Tutu which made him the first Asantehene. After many rituals, Osei Tutu and the other chiefs took the oath of allegiance to the stool. In addition, OkomfoAnokye made a solemn announcement that the spirit, strength, and bravery of the nation depended on the safety of the Golden Stool. The day of the emergence of the stool was Friday, hence it was named 'Sika Dwa Kofi'.

Sarpong (1971)[22] concludes that the Golden stool rests on its side on top of its own stool or on the skin of a leopard and that, it is a taboo for it to come in direct contact with the ground.

Figure 2:*the sacred Golden stool of Asante on its own chair.*
Source: Manhyia Palace Museum (2013)

2.2.4 Asante and battles

Agyeman-Duah (2007)[23] accounts that the name of the kingdom '*Asante*', was adopted as a result of the purpose of their formation. *'Esantifo'*, which means those who had become one because of war.

Photius (2004)[24] shares that the Asantes fought many wars for two major reasons; to extend the nation's territorial boundaries and also to get slaves for sale and service. The Asante kingdom grew rapidly through wars and by 1820 had become the strongest power in West Africa. Figure 3 shows the extent of expansion and domination of the Asante kingdom under successive reigns. The kingdom governed a territory as large as modern-day Ghana and was challenging the coastal states for control of the coast, where European traders had established a network of post. Even though the Asante army lacked cavalry, they achieved numerous victories because they possessed an outstanding military make up comprising musketeers, bowmen and spearmen. The armed force formation included scouts, an advanced guard, a main guard, the king's guard, a rear guard, and left and right flanks. In addition was a medical corps that treated the wounded and removed the dead from the battlefield.

The Growth of Asante Nation
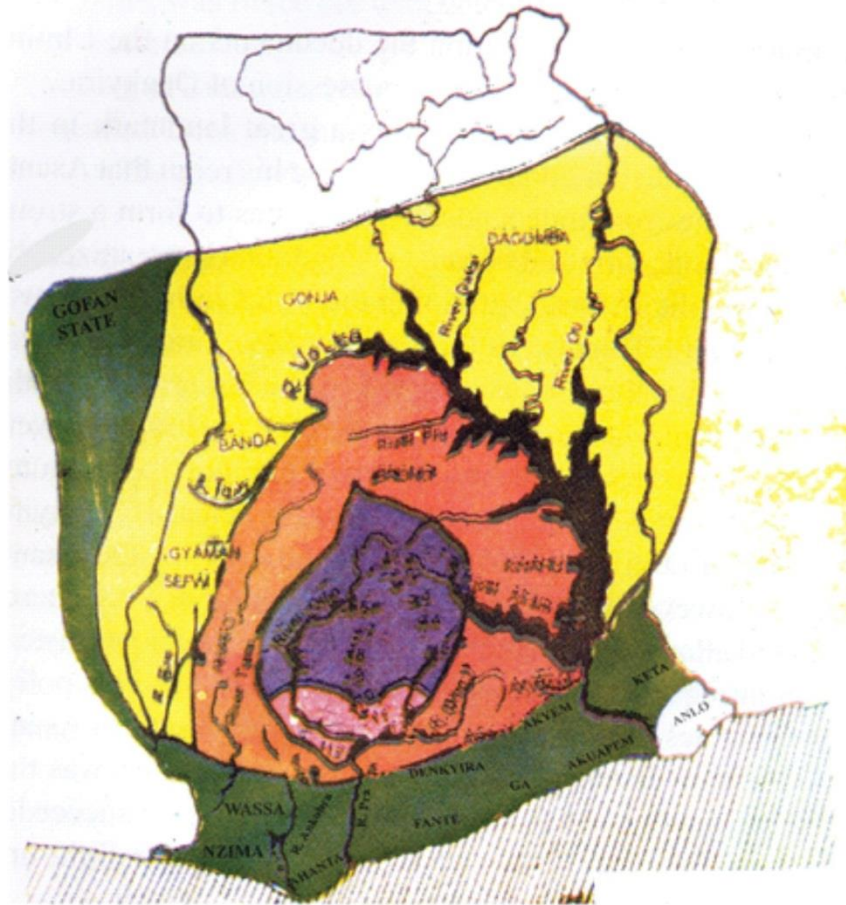
Key

	Individual Asante States which formed the first Asante Confederacy
	States which were added to the Confederacy during Nana Osei Tutu's time
	Areas which became part of Asante during Nana Opoku Ware's reign
	Areas which became part of Asante during Nana Osei Kwadwo's reign
	Areas which became part of Asante during Nana Osei Asibe Bonsu's reign

Figure 3:*a map showing the growth of the Asante nation*

Source: Osei (2004)

Claridge (1915)[25] adds that the Asante's determination to preserve their kingdom by holding on to power at the coastal borders of Gold Coast was a threat to the British's interest to also control the Coast for strategic, political and economic reasons.

Osei (2004)[26], claims that the British and the Asantes fought in many battles, majority of which favored the Asantes. In one of the British military campaign lead by the Gold Coast Governor Mr. William Maxwell, the king Nana Prempeh was seized in 1896 together with some relatives and servants and exiled for 30 years.

Agyeman-Duah (2007)[27] claims that a war occurred in 1900 in the absence of Nana Prempeh and that was the YaaAsantewaa war. It came about as a result of the British effort to possess the Golden stool, symbol of Asante's power and independence. The British, however, survived this and defeated the General (YaaAsantewaa) and her men. The British were able to formally and finally annexAsante kingdom as a British possession.

Figure 4 shows the extent of expansion by 1831 and the extent of decline by 1874 after the defeat by the British.

THE DECLINE OF ASANTE NATION
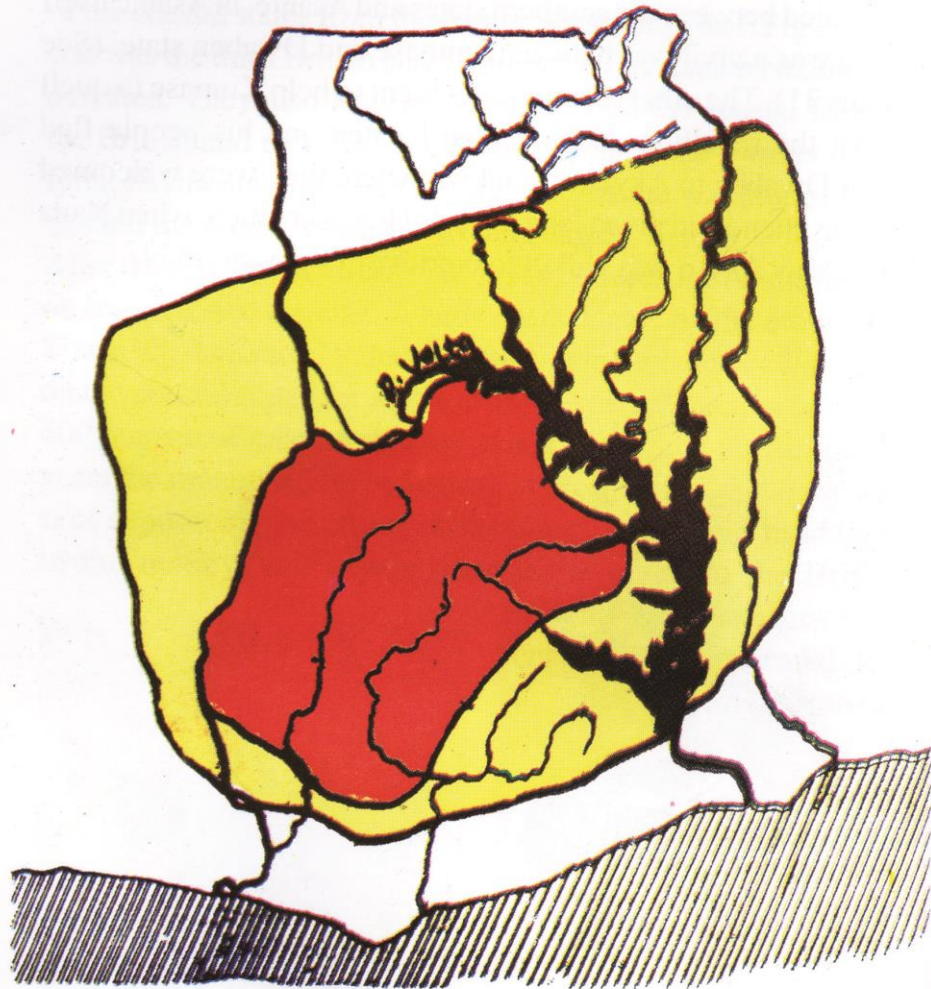
	Boundaries of Asante Nation After 1831
	Asante Nation After 1874

Figure 4:*a map showing the decline of Aante nation*

Source: Osei (2004)

2.2.5 Asante today

Osei (2004)[28] comments that Asante was reduced into a region during the regime of Dr. Kwame Nkrumah who became the first president of a new born country Ghana, formerly the Gold Coast. Kumase as the region's capital is the second most populated city in Ghana. The present Asante king is Nana Osei Tutu II who is a direct matrilineal descendant of the first king Nana Osei Tutu I. He made his people know on his enstoolment that much as they no longer engage in physical battle like before, they still had common enemies: illiteracy and poverty. He swore to them that he is going to fight these enemies through education. This made him establish the Otumfuo Education Foundation which now supports hundreds of students in his domain and even beyond. Even though the Asante were affected in regional division there are traditional states outside the region that still hold allegiance to the Golden stool.

Figure 5 shows the size and borders of the Asante Region in modern Ghana.

Figure 5:*Ghana map showing the area of Asante demarcated in red*

Source: Manhyia Palace Museum (2013)

Figure 6 shows the picture of the present king, Nana Osei Tutu II in full regalia and riding in a palanquin.

Figure 6, *Nana Osei Tutu II, present king of Asante*
Source: Manhyia Palace Museum (2013)

2.3.0 Concept of symbols and symbolism

Pearsall (1996)[29] defines a symbol as a thing which is conventionally regarded as typifying, representing or recalling something especially an idea or a quality. It is also a mark taken as the conventional sign of some object, idea, function, or process.

Answers.com (2012)[30] agrees with the above definition that a symbol may be represented graphically (example is the Red Cross) or representational (example is a lion representing courage). They may involve associated letters (example; C for the chemical

element Carbon), or they may be assigned arbitrarily (example; the mathematical symbol ¥ for infinity). Symbols are devices by which ideas are transmitted between people sharing a common culture. Every society has evolved a symbol system that reflects a specific cultural logic. Symbols tend to appear in cluster and to depend on one another for their accretion of meaning and value.

To the researcher, symbol may come with a lot of definitions but in all, a common phrase can be deduced, *'a thing representing something else'*. The question is what is this *thing*? It can be a shape, image, figure, colour, line, sign, gesture, mark, numeric, letter or a word and so on. But should have the tendency to represents *something else*: an idea, an expression, a value, a belief, a quality, an aspiration and so on.

Brown (2001)[31] suggests that the use of symbols (symbolism) is the oldest form of communication. All forms of writing use the idea of symbolism or in other words the efficacy of writing lies in symbolism.

According to Karal (2010)[32] the first known writing came on the stage about 5500 years ago as a matter of necessity, compelling the ancient agricultural towns and cities to record stored and distributed goods, animals and other commercial procedures. Writing systems are classified into four categories- pictographic, hieroglyphic, cuneiform and alphabetic script. Most of the writing systems were initially pictographic, suggesting that symbols were used to represent words and ideas.

Brown (2001)[33] suggests that the most common set of symbols is the alphabet. Each character is a symbol which represents a different sound in speech. Alphabets date back to the Phoenicians and evolved from drawings used to represent real-life objects.

Achampong (2008)[34] adds that in many cultures, alphabets are used to stand for sounds and the combination of alphabet for words and the combination of words for an idea and the combination of ideas to narrate a story, an action or to explain an event. The researcher thinks alphabets are able to do the acclamation by Achampongdue to its symbolic nature.

Brown (2001)[35] adds that the ancient Egyptians developed a system of writing known as hieroglyphics. They were symbols which were treated in a special way to keep track of trade and other events. The system of writing consisted of two types of symbols-ideogram and phonograms. Ideograms evolved from pictographs and were symbols of both object and ideas. For example, the symbol of water followed by a picture of a man pointing to his mouth stood for the idea 'thirst'. Phonograms were symbols that stood for sounds. An example of this is the symbols of a bee and a leaf could be put back to back to represent the word 'belief'. Ideograms and phonograms could be used together in the same recording which made reading a skill possessed by only the scribes.

Wikipedia (2012)[36] also claims that hieroglyphs were called 'the words of God' by the Egyptians and were used mainly by the priests. These painstakingly drawn symbols were great for decorating the walls of temples but not for conducting day to day

business.Hieroglyphs are written in rows or columns and can be read from left to right or vice versa. One can distinguish the direction in which the text is to be read because the human or animal figures always face towards the beginning of the line. Also the upper symbols are read before the lower. Hieratic was also another script which used symbols. This was a handwriting in which the picture signs were abbreviated to the point of abstraction. Figure 7 gives an example of Egyptian hieroglyphs.
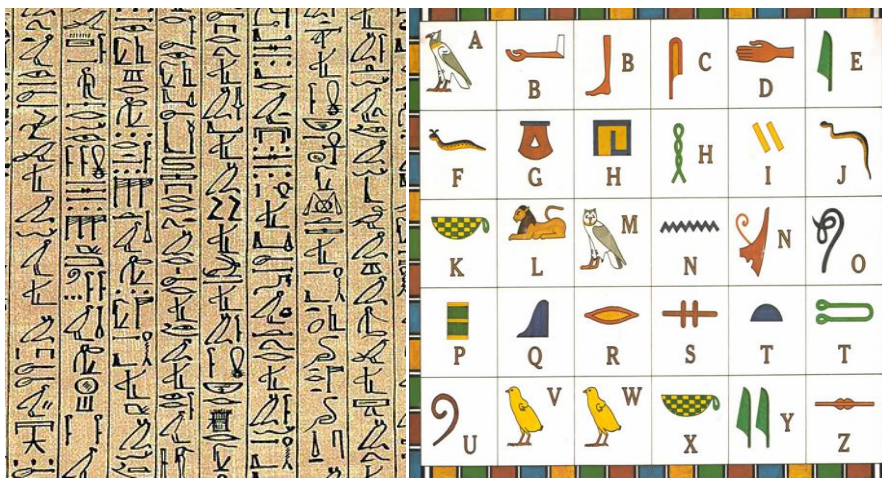
Figure 7:*Egyptian Hieroglyphs*

Source: http://www.wikipedia.org/wiki/hieroglyphicsRetrieved 15th March, 2011

From the above paragraphs,the researcher's deduction is that symbols can be grouped into three according to their representative nature. These are pictograph, ideograph and phonogram.

Redmond (2008)[37] saysthat pictographs are symbols that represent or resemble the things that they look like in nature.Example of a pictograph, it can be reasoned,could be the image of a dog representing a dog.

In the case of ideograph, Hanks (1998)[38], writes that it is a character symbolising the idea of a thing without indicating the sounds used to say it.Giving examples to this, it can be reasoned that the picture or image of a dog may stand for adultery andpromiscuity while a ceremonial sword may stand for power or authority but not for the mere sword itself. Body gestures are also examples.

In addition, phonogram is defined by Encarta Word Dictionary (1999)[39] as a symbol that represents a word, part of a word or an individual speech sound. Example is the alphabetic characters which individually are symbols and can be combined in an almost infinite variety of words.

2.3.1 Significance of symbolism

According to Tetteh (2012)[40] symbols express various themes that relate to the history, beliefs and philosophy of a people. For instance, the Adinkra symbols of the Asante have rich proverbial meaningswhich depict historical events, human behaviour and attitudes, animal behaviour, plant life, forms and shapes of objects(Figure8).

Figure 8: *Some Adinkra Symbols*

Source:http://www.adinkra.org/htmls/adinkra-index.htmRetrieved 1st September, 2012.

Shepherd (1992)[41]says that organised symbols and imagery have been used to present historical facts of ancient cultures. These symbols and pictorial imagery were created using techniques such as painting and engraving on walls,carvings in wood and embroidery on fabric. Figure 9 shows an example of embroidery on fabric telling a story.

Figure 9: *embroidery of symbols and pictorial imagery on linen telling the story of Normans invasion of England.*

Source: Shepherd (1992)

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Terry (2012)[42] maintains that the need for safety signs and symbols is not only a necessity of life but also a meaningful course of action required in today's rapid world of industrial development and computerised technology. Society will be in danger in the absence of safety signs and symbols to direct our actions, reinforcing guidelines and maintaining order in both our professional and personal lives. It is also required by law that commercial businesses, organisations and public places use specific signs and symbols for health and safety purposes. These safety signs and symbols (figure 10 and 11) can communicate all manner of instructions, whether using words or pictures and have proven very beneficial.

Figure 10:*safety symbols*

Source:http://www.clarionsafety.com/safety-symbolsRetrieved 1st September, 2012.

Figure 11:*Transportation Symbol*
Source: http://www.vectoforall.comRetrieved 1st September, 2012.

Weaponscombact.com (2011)[43] observes that signals are widely use in military operations with the common ones being arm-and-hand, flag and ground-to-air signals. These sets of symbols are standardised among combat groups and because of that, communication is easy and reliable in the event of a combat situation (figure 12).

Unit	BlueFor	OpFor	Unit	BlueFor	OpFor	Unit	BlueFor	OpFor
Infantry			Supply			Air Defense		
Mechanized Infantry			Medical			Artillery		
Cavalry/Scout			Maintenance			Self Propelled Artillery		
Mechanized Cavalry			Transportation			Anti-Armor		
Armor			Engineers			Anti-Armor Artillery		
Airborne Infantry			Chemical			Rocket		
Air Assault			Signal			Helicopter, Attack		

Figure 12:*Some Military Symbols*

Source: http://www.axisandallies.wikia.com Retrieved 1st September, 2012.

Taylor (1992)[44] also notes that, not all is fortunate enough to be able to communicate by the spoken word. In the case of deaf and damp, a system of hand and body movement (gesture) known as signed English has been developed to help these people to communicate (figure 13).

Figure 13:*Hand and finger gestures*

Source: Taylor (1992)

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The researcher's deduction is that the significance of symbols is felt in all aspect of life-transportation, education, music and entertainment, politics, military, marketing, religion and so.

2.3.2 Symbolism in communication

Redmond (2008)[45] defines communication as the process of sharing ideas, information, and messages with others in a particular time and place. Communication media includes writing and talking, as well as nonverbal communication (such as facial and body expressions), and visual communication (the use of images or pictures). However, written communication began much earlier in the form of drawings or marks made to indicate meaningful information about the natural world.

Lester (2006)[46]asserts that a child grows and he is able to pronounce a word or say a sentence because of the foundation he had with pictures. By learning the alphabet song- 'A for Apple, B for Bell', a child soon matches up concrete nouns with images for each letter in the song. Soon a child learns that combinations of these letter-pictures mean more complicated things. For instance, when the drawings 'A-P-P-L-E' is combined, they form another picture which he learns stands for the name of the fruit. To a child, there is no difference between words and pictures, as they are all the same.

Brown (2001)[47] is of the opinion that our modern world relies on our ability to communicate with each other. Much of this communication is based on the use of

symbols. It is made possible because the sender and the receiver of the message understand the representative nature of the symbols. For example, if a person is given a mathematical problem and did not know that the plus sign (+) is the symbol for addition, he would not be able to complete the problem.

Lester (2006)[48] notes that psychologists have found that concrete nouns are much more effectively remembered and aid recall than abstract ones. Giving names to objects enhances the memory of those objects. He adds that, studies conducted by Jerome Bruner, an educational psychologist of New York University show that persons only remember 10% of what they hear, 30% of what they read, but about 80% of what they see and do. Information which is communicated visually is retained up to six times greater than information which is communicated by spoken word alone.

Hewlett (2012)[49] supports the idea that visual communication can be more powerful than verbal communication. According to him, in many instances, people learn and retain information that is presented to them visually much better than that what is only provided verbally.

Sehlhorst (2006)[50] agrees with the view that symbolic reasoning is an incredibly efficient process. It permits us to create representational views of the world that allows us to process much more information than our brain has evolved to handle. Memory improvement techniques teach us to create associations that allow us to remember much more. A trick for remembering people's names is to create an association between their

name and some characteristic about them, or about how you met them. By creating associations, we are able to retain much more information. A symbol is an accelerator for knowledge retention. We live in an age of symbolic reasoning and we use symbols to communicate complex ideas with a minimum of prose. Symbolic reasoning is a double edged sword and makes communication more efficient.

Frey (2009)[51] shares the well-known adage that a picture is worth a thousand words, and as such what takes one thousand words to explain correctly can be described much more easily using a simple picture.

The researcher's deduction is thatcommunication is a live-wire that connects the world as one. It is important in the home, business, education and in any other situation where people encounter each other.   None the less symbolic communication is efficient since there is a created connection that aids in the storage and retrieval of facts as compared to words or speech.

2.4.0 Mural

Jonsson (2013)[52]claims that a mural is a large scale painting which is executed directly on walls, ceilings, and many other large flat surfaces. It is presumed to be the oldest human art form, as cave paintings at numerous ancient human settlements suggest, and can be found all over the world. A mural is usually commissioned by a patron, a corporation, a government or an institution, because it obviously represents a costly endeavor. For this reason, murals are often found in places like public and private

schools, government buildings, and on the outside of buildings in urban, suburban and rural areas. Murals and the people who create them often become well known, due to the large scale and themes. Some famous muralists are Leonardo da Vinci, Diego Rivera and Michelangelo.

Hulick(2012)[53] says that murals held an important place in Greek, Roman and Egyptian art. Egyptian tombs dating from around 3150 B.C. often contained wall art depicting gods, goddesses and royalty. Religious murals have also been found in China and India.

Fetzer (1957)[54] adds that most murals are public art which are meant to be seen and understood by a broad audience.

Traditionally, murals were done directly on walls but now they can be done on a different surface and fixed later on a wall surface. Artists have created murals by using several techniques which includes fresco, oil painting and carving (figure 14).

2.5.0 Repoussage technique

Untracht (1985)[55]defines repoussage as a method of using the quality of plasticity in metal to shape sheet metal with punches and hammer by degrees to form a relief. In this process, there is no loss of metal as it is stretched locally. It has a complementing technique which is chasing.

Brepohl (2001)[56] admits that the terms repoussage and chasing are often confused and not without good reason since the two techniques are often worked together. In general we might think of repoussé as primarily a relief and chasing as more often an intaglio.

Wikipedia(2009)[57]acknowledges that '*repoussé*' is a French word meaning '*push up*', ultimately from Latin *'pulsare',* which means 'to push. Repoussage is actually the correct noun to refer to the technique, with repoussé being the adjective referring to a piece to which the technique has been applied. The technique of repoussage dates from antiquity and has been used widely with gold and silver for fine detailed work and with copper, tin and bronze for larger sculptures.

Untracht (1985)[58]says that the noun *'chase'* refers to a prolonged hollow, groove, furrow, channel or indentation and from it comes the technique chasing. The adjectival form is chased, and the technique is the companion process of repoussage. Both repoussage and chasing are relatively slow techniques but one of the basic processes that

every jeweler should master. By observation, in repoussé work, the sheet metal is given form mainly by stretching, incidentally thinning the metal outward from the reverse side. In chasing, forms are outlined, modeled, refined, undercut and textured mainly by pushing the sheet back from the obverse side. Besides, repoussagetools create relief effects while as chasing tools create intaglio effects. The two normally alternate on the same piece of work.One unique quality of these techniques is that the direct contact of the tool is usually visible in the result, a condition not always apparent in other techniques, where all evidence of the working method is eliminated. Figures 15 and 16 show example of Repoussé works.

Figure 15:*Repoussé wall plaque (relief and intaglio effect)*
Source: http://www.pinterest.comGuinn (2013).

Figure 16:*Repoussé trunk (relief and intaglio effect)*
Source: http://www.katiadecarvalho.blogspot.com ,Carvalho (2013).

2.5.1 Repoussage tools

Wikipedia (2009)[59] accounts that punches of varied tips are used in repoussage and chasing. They can be made from a straight piece of tool steel, brass or bronze rod. However, steel punches are preferred to brass and its likes because their alloys are relatively soft, wear easily and do not keep their shapes. Repoussage and chasing punches are similar in form and function and to some degree are inter-changeable, depending on the scale of work. Even though catalogs list them all as chasing tools,repoussework tools are heavier and blunter to facilitate the stretching of the metal. On the other hand, chasing tools are smaller, finer and exist in more varied working end shapes. These punches may be purchased from a supplier but unavailable shapes can be gotten when they are made by the craft man.

Untracht (1985)[60]asserts that a punch (figure 17) is a one piece tool with three parts: a striking end, a shank and a working end. The shank is held in position whiles the striking end is struck to force the working end to move the metal. The length of this tool should be about 10cm-12.7cm and with a cross section of about 3.9mm-6.3mm square. To form the taper, the stock is annealed to dull red and forged down to its basic shape with forging hammer on an anvil. The shape is refined by draw filling and it is followed by finer files. Shank edges are rounded with files. The working end is shaped in a particular form and dimension desired. Ends with hollow faces are drilled out with burs. The working end is then smoothed with progressively finer grades of abrasive cloth. It is only the working end that is given a high polish. The shank is unpolished in order to prevent the fingers from slipping during work.Finally the working end of the tool is hardened and tempered at dark yellow.
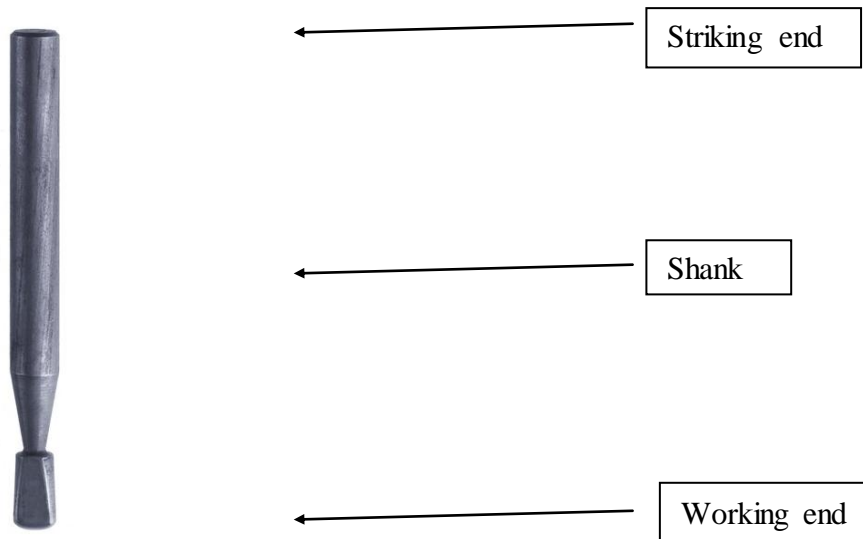
Figure17:*A chasing tool with labeled parts*
Source: http://www.piehtoolco.comPieh (2013).

In addition, Wikipedia (2009)[61] writes that the end of the tool which is to be hammered should be beveled to allow for expansion of the metal from repeated hammering. Some of the main styles of the tool include liners, planishers, matting and doming. Liners have thin tips which are slightly rounded. If they are too thin they will cut the metal. They are used in the initial marking of the design and in the finishing stages to refine any thin outlines. Planishers on the other hand have smooth and flat tips which are used for pushing out large and flat areas of metal. Matting tools have patterns cut into them and are used to provide detail to areas of the design. Besides, doming tools push out rounded areas of metal and can either be round or oval, quite pointed or almost flat.

Again, Untracht (1985)[62]says that repoussage and chasing punches are used to do linear work, embossing, modeling, outlining, detailing, patterning and leveling. Their edges and points are generally rounded so that they do not unintentionally puncture the metal. The liner, also called a tracer punch is probably the most important chasing tool. It is blunt-ended, round-cornered and shaped like a chisel. They are used from the front surface to delineate an outline in the form of a narrow groove, called a trace. Tracers are also visible at the back of the metal and can therefore be followed when later bulging forms. They are also used to refine and undercut forms and for flat chasing in which the design is worked flat from the front only in a linear pattern. Curved tracers have a curved working end of uniform thickness and are used to follow a small curve in chasing and inlay work.Planishing punches have an oval or round, relatively large flat faces. They are used to level, smooth, condense, toughen, texture or polish surfaces of finished raised shape.Matting punches are punches with broad-flat working faces that are

engraved with various textures or small patterns in endless variations. Impressions from matting punches are placed side by side or in overlapping arrangements, repeated without limit to fill an area, often a background to a figural design. These punches create a dulled, lusterless surface contrast to a polished raised area.Doming punches are also called bossers, domers, dapping or ball punches. They have a round, ball-shaped end and are made in many graduated sizes. These punches are used to form depressions or raised parts from either side of the metal. Primarily they are used in conjunction with the matching shaped and sized hemispherical depression in a dapping block.

2.5.2 Repoussage hammer

Untracht (1985)[63]claims that,the tool that strikes the repoussage and chasing punches is usually a hammerwhich is normally called a chasing hammer. A metal bar or a flat surfaced hardwood stick can alternatively be used. It has an unusually large, circular, flat, polished face at one end in diameters of about 2.4cm-3.2cm. The striking face is tempered, therefore will not be dented when striking the punch. With such a broad striking surface, the task of making contact with the small punch head becomes simple and can be done automatically and mindlessly. The hammer has a long hardwood handle which emerges from the head as a round, slender rod and has resiliency and springs in action. The handle's diameter gradually swells towards the other end and flows into an oval or round shape which is comfortable to hold (figure 18).
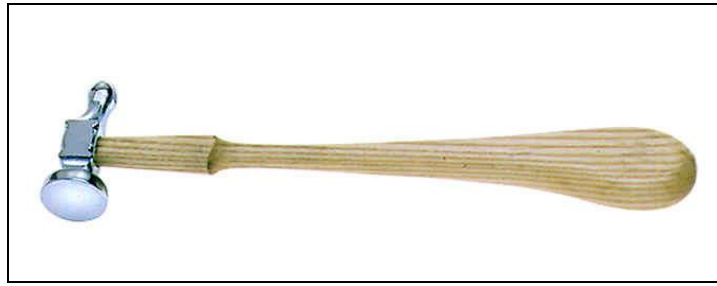
Figure 18:*A chasing hammer*
Source: http://www.piehtoolco.comPieh (2013).

Lewis (2008)[64] adds that a chasing hammer is intended to allow the user to concentrate on the effect the punch is having on the design while ignoring the rise and fall of the hammer. It should not ricochet off the punch or cause the user's arm to grow tired and sore after hours of hammering. Conventional chasing hammers come with either a ball-shaped or revolver-grip handle. The handle is normally very long to achieve a whipping action during hammering. The working face of a chasing hammer can be either curved or flat. On the opposite end is a ball peen face useful for hammering directly on the metal. Chasers often make use of more than one weight of hammer depending on the stage of the process. For instant, the initial repoussé stage can call for high impact hammering in order to achieve maximum movement of the metal. A larger hammer can withstand the force of the blows. Using a lighter hammer for this purpose will result in splitting the thin neck of the handle.

Meek (2012)[65] also shares his opinion that every other hammer is intended to contact the work directly, so the most important parts of it are the faces on the head. The handle is just there to help hold onto it. Chasing hammers on the other hand are intended simply to be the driving force behind the chasing punch that is doing the actual work. In that

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sense, the nature and shape of their heads is largely irrelevant to the work. Strangely, the most important part of a chasing hammer is the handle. Most hammer handles are made of hickory, a very strong, stiff, tough wood. However, craftsmen can make their chasing hammer handles from fruit woods such as apple or pear. These woods are neither strong nor stiff. What they are is 'springy', which is exactly what is needed in a chasing hammer handle.

2.5.3 Repoussage working supports

According to Untracht (1985)[66] the metal which is being worked should be supported wherever the tool strikes it and in the absence of a support the effect of the process will be uncontrolled. The work is therefore place on a surface that has the necessary degree of resiliency. The supporting surface answers the blow when the metal is struck. In the presence of a support, a metal emits a higher sound from a blow more than unsupported ones which sounds hollow and dull. Materials for support can be leather, wood, lead block or pitch depending on the work.Pitch composition can be placed into a pitch bowl or any other container having sufficient weight such as a rectangular pan made of heavy metal. It can also be spread on a hardwood board or tray of any size in a thickness of at least 1 inch.

Horth (1905)[67] claims that the traditional support for repoussage and chasing is the chaser's pitch which is usually a composition combining three substances: pure pitch, filler (stiffener) and an emollient (softening agent). This surface provides a solid base to work on whilst allowing the metal to be pushed out and shaped without obstruction. The

pitch is best worked on in a pitch bowl or pitch board. The pitch bowl is a cast iron bowl which sits on a bag stuffed with sand or a rubber ring specifically made for this purpose. This allows for greater stability, rotation and angling. A pitch composition can be re-used indefinitely if used and stored properly.

Untracht (1985)[68]again explains that pure pitch is a form of asphalt which ranges in consistency from hard and brittle to soft. It melts when heated and burns with much smoke eventually to an ash. It is insoluble in water but soluble in petroleum products such as gasoline and the oleoresin product turpentine. Refined pitch is generally too soft for use in repoussage and must be combined with filler to give it the desirable degree of resilience-resistance.Fillers are therefore additive substances used to control the degree of stiffness of the composition. These can be plaster of Paris, powdered pumice or brick dust pulverized from old brick.Emollients are also used to soften the consistency of the pitch composition. These may be linseed oil, vegetable oil, tallow, petroleum jelly or the superior Venice turpentine.The ratio of these constituents to each other determines whether the result is hard, medium or soft. However, medium and soft compositions are used for repoussage, with the softer for work that must be done in greater depth. Figure 19 shows types of pitch and their components.

Type	Pitch	Filler	Emollient
Hard	3 parts	3 parts	0.1 parts
	7 parts	7 parts	0.5 parts
Medium	5 parts	10 parts	3 parts
	6 parts	8 parts	2 parts
	7 parts	10 parts	1 parts
Soft	5 parts	3 parts	1 parts

Figure 19: *Typical Pitch Repoussage Compositions*

Source: OppiUntracht(1985)

Brepohl (2001)[69] also shares the view that pitch is used all over the world by goldsmiths and silversmiths to hold metal in place while working it with hammers, punches or chisels. The pitch should be hard enough to fill the requirements of the chasing work done on it. Most chasers will therefore have several harnesses available, a soft one for deep forming, a medium for regular work and a hard for planishing on. It may even be necessary for chasers to prepare working pitch according to a particular weather condition. However, the petroleum-based pitches are considered potential dermatitis-causing materials, as well as some evidence of their being carcinogenic.

Untracht (1985)[70] suggests that pure pitch should be melted under a low heat in a thick cast iron pot that will distribute the heat evenly until it becomes viscous. The filler material is added a little at a time, consequently stirring it in with a stick. After all the

filler is mixed with the pitch, the emollient is added and stirred uniformly as well. The composition is then poured into a pitch bowl or onto a tray or a board. The surface is leveled with a spatula and smoothens by passing a flame over it. After this has been done, the composition is allowed to cool and solidifies. In working, the pitch must be in complete contact with the underside of the metal worked in order to fully support it and no air pockets should be allowed. Repoussage process goes through the following; preparing metal, bedding the metal to the pitch composition, transferring design unto metal, lining-in the outline, reversing the metal, repoussage, grounding, chasing and finishing.

2.5.4 Safety

Lewis (2008)[71] suggests that during the processes of repoussage and chasing, the neck has to be always protected by practising good posture. The head must not be bent over the pitch bowl during working because this can lead to chronic spinal disk problems in time. A human skull weighs about 11 pounds and is too heavy to be supported solely by the disks at the base of the neck. This can be avoided easily by lowering the work chair and or raising the pitch bowl and donut up so that the eyes focus on the work with the head in an upright position on the spine. Also the hammering armmust be protectedby keeping the elbow in a lowered position. If one plans to do many consecutive hours of chasing, wearing a tendon brace prevents the onset of 'tennis-elbow'. This is a feeling of a shooting pain that travels from the elbow to the fingertips in the course of picking up something.

Wikipedia (2013)[72] also suggests that when working with the pitch, one should make sure he or she is working with gloves, safety glasses and in a good ventilated environment. There should also be in place an appropriate fire extinguisher close by.

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CHAPTER THREE

MATERIALS AND METHODS

3.0 Introduction

This chapter presents the design, fabrication and finishing processes of the project. The chapter is therefore arranged under the following headings.

   a) The Design data

   b) The Encoding Process

   c) Organization of the Working Drawing

   d) Fabrication Process

   e) Finishing

   f) The key

   g) Cost of Materials

3.1.0 The Design Data

According to Wikipedia (2013)[1] a primary source of history is more reliable than a secondary source, likewise a secondary more reliable than a tertiary source. In view of this, data from the Manhyia Palace Museum was considered more relevant to the project even though the researcher made comparism with data from other sources.

The book titled 'An Outline of Asante History' by Osei (2004) was chosen by the researcher as the main source of data to be used to compose the visual documentation about the Asante kingdom in a chronological order. Below are the reasons for selecting that book;

i.   The author has been acknowledged as one of the historians for the Asante kingdom whose work has been compiled in a broader meaningfully chronological way.

ii. He has also made references to other authors with related contributions in his book. Example is Claridge (1915) whose work largely concentrates on the battles fought between the Asantes and the other tribes and also the whites.

iii. His book is the most recommended by the Asante kingdom because of its credibility of facts and its sequential nature of presentation.

However, during the course of data scrutiny, the researcher saw some controversies in the period of reign of some kings as suggested by Osei against that of other authors. But as Wikipedia (2013)[2] opined, the credibility of a message is strongly increased if a number of independent sources contain the same message. For this reason, the dates suggested by Osei were considered more reliable.

3.2.0 The Encoding Process

Based on the data from Osei's book, the researcher made a chronological summary that highlighted the historical facts of the Asante kingdom. This summary was divided into two major categories;

a) Events before the formation of the kingdom.

b) Events after the formation of the kingdom.

Later, the chronological summary under each category was itemised and each item was encoded into visuals using symbols and imagery. The following chart indicates the icons assigned to the major events in the Asante story.

The iconic chart on events before the formation of the Asante kingdom
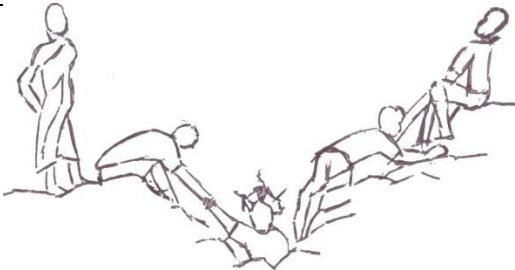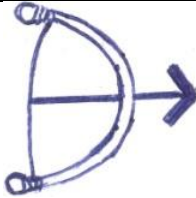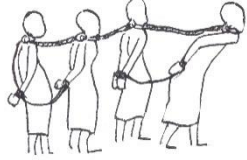
Major Events	Code (Symbol or Imagery)
The migration of the Asantes from Mesopotamia to Africa.	
A belief that the Asantes emerged from a hole at Asantemanso.	
ObiriYeboa, OkomfoYamoa and DwamenaAkenten united into a force to fight for their liberation from the Denkyira.	
Battle	
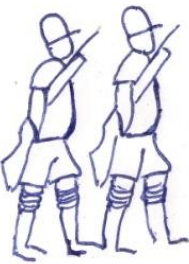
Figure 20:(2013) *codes for category 'a'*
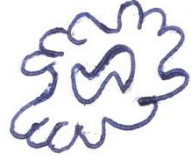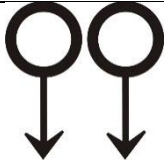
The iconic chart on events after the formation of the Asante Kingdom
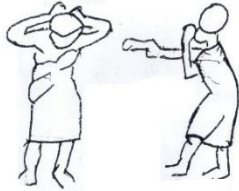
Major Events	Code (Symbol or Imagery)
The durbar during which the Golden stool descended from the skies and landed on the laps of Otumfuo Osei Tutu I which made him the first king.	
OkomfoAnokye who was the spiritual adviser to the king and through whose directions, came the formation and the liberation of the Asante kingdom.	
Asante kingdom or Asante army	
Execution by the Asante kingdom	
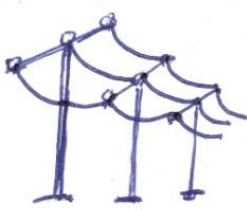
Oath swearing as a ritual for enstooling a new king. Some of the kings swore to their subjects concerning their agenda or mission. Example is Nana Opoku Ware I who sworn to his people that his mission was to expand the kingdom through war.	
Ebirimoro, chief of Sefwi invaded Kumase and took many women and children as captives in the absence of the king and his army. After the king defeated and freed his people, he created the Ankobea front (home guard) as part of the Asante Battle formation	. Ebirimoro **ANKOBEA**
The directions and extent of expansion of the Asante kingdom.	
Castle or Fort	
Islamic faith	
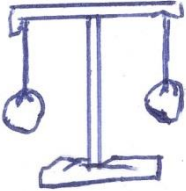
Circumstantial changes that brought improvement and transformed a system. Nana Osei Kwadwo made changes in his administration and also Nana Osei AgyemanPrempeh II did tolerate the emerging political interference during his time.	
A newly created traditional administrative office (chieftaincy).	
Nana Osei Kwame was a lad when he became the king. Due to this, Kwame Pete was appointed to be the regent.	
Some chiefs conspired to destool Nana Osei Kwame because he disliked war and human sacrifice.	
The chiefs who conspired to destool Nana Osei Kwame were executed in their failed attempt.	
Nana OpokuFofie brought 5,000 prisoners to Kumase after winning a battle which lasted for 15 months.	
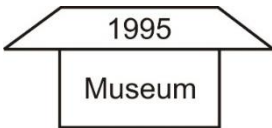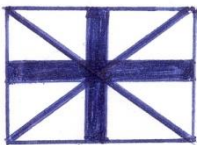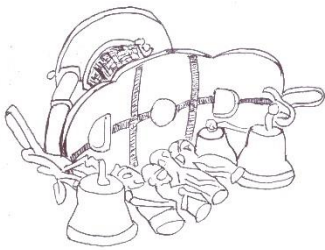
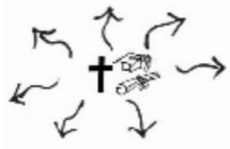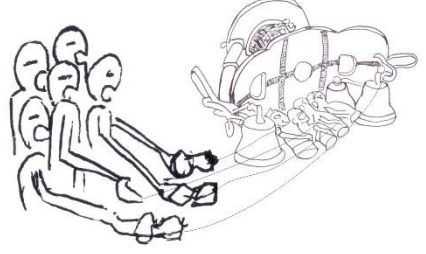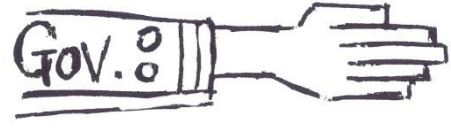|	
Nana OpokuFofie is acknowledged as the king who never saw peace during his reign	
After defeating the coastal forces, Nana Osei Tutu Kwame Asibe possessed the documents covering the forts.	
The Fantes refused to give out two Assin chiefs (Otibu and Aputae) to the King for punishment. This lead to the battle in which the British supported the coastal force against the Asantes.	2 Assin Chiefs 'Otibo & Aputae' Fante Land
Nana Osei Tutu Kwame Asibe added Bonsu (whale) to his name after defeating the coastal forces and swimming in the sea.	
The Asante kingdom refused to trade with the British to protest against the British unwillingness to punish the coastal states.	
British mobilised force or army.	
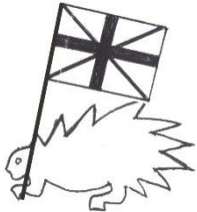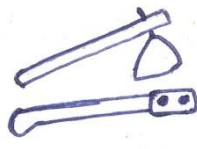
Death of a king (transition)	
After the Asantes lost to the British in the battle of Dodowa, they were bound to observe peace with the other states. Nana Opoku Ware II also did tolerate and lived in peace with other states.	
As part of the peace treaty, two royals were to be sent to the castle to have Western education.	
KwasiGyanin kept a found gold nugget instead of giving it to the King. He sought refuge from the governor but this in the end lead to a war between the British and the Asantes.	
The people of Dwaben together with their chief sought refuge in AkyemAbuakwa after losing a fight against the state. KwasiGyanin also sought protection from the Governor in Cape Coast Castle.	

Prior to the Sir Garnet Wolseley war, popularly known as 'Segrenti' war, the kum tree fell down, which to the kingdom suggested a bad omen.	
Houses in Kumase were burnt down when they lost to the British in the 'Segrenti war'.	
Some kings were destooled with their accusers leveling charges against them.	
Nana Mensa Bonsu used arms to bring theGyaman state and the Banda state into the Asante kingdom.	
Nana KwakuDua I mediated and brought peace between the Nkoransa state and the Gyaman state.	
Nana Prempeh sent a delegation to the Queen in England to explain his stand for not accepting colonial rule.	

Nana Prempeh and others were seized by the orders of Governor Williams Maxwell.	
Directing of strength and attention on something or delegation of powers.	
Construction of railway lines in the kingdom. Nana Prempeh also returned to Kumase by train.	
There was jubilation in the kingdom when Nana Prempeh returned to his people and also when Nana AgyemangPrempeh II was installed as the Asantehene.	
Introduction and expansion of electricity in the kingdom.	

Establishment of Kumase Airport or traveling abroad.	
Establishment of OkomfoAnokye Teaching Hospital.	
Establishment of Asante Kotoko Football Club	
Nana Opoku Ware II was a lawyer and was appointed as an ambassador to Italy but his appointment was cut short because he was chosen as the successor to the late king.	
The Anglican church on two separate occasions conferred two titles on Nana Opoku Ware II inrecognition of his tolerant nature.	

Nana Opoku Ware II elevated some selected stools (chiefs) to paramount status.	Chief Paramount
Nana Opoku Ware II converted the old palace into a museum after putting up a new palace.	1995 Museum
The country Britain	
An action on or an action taken by a king	
Nana Prempeh I returned to his people as a Christian and a literate.	
The Golden Stool is the symbol of the Asante nation. The legendary priest, OkomfoAnokye invoked the gods and the Stool descended from the sky and landed on the laps of Nana Osei Tutu I.	

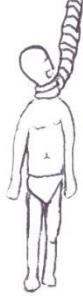|	
This marked the period when Asante officially accepted the British flag (rule).	
Construction and expansion of roads in the kingdom.	
The kingdom stopped engaging in wars but rather focused on other lucrative ventures.	
The people of the kingdom directed their attention to agriculture and trade and this made them rich.	
Introduction and propagation of Western education and Christianity.	
Seniagya and four others stole some ornaments on the Golden Stool. The kingdom was able to handle this serious issue diplomatically and imprisoned them instead of outright execution.	
The Governor demanded for the Golden Stool at a meeting with the leaders of the kingdom but they refused. This brought about the YaaAsantewaa war.	
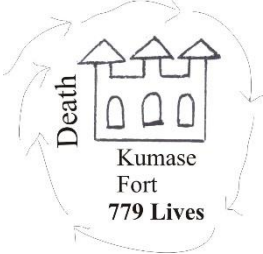
YaaAsantewaa and her men captured the Kumase fort, and held 779 lives hostage for almost 3 months. Some of them died as they run out of food and medical supplies.	
Bantamahene who was part of the YaaAsantewaa force was hanged to death in Kumase whilst YaaAsantewaa and 31 others were imprisoned.	

Figure 21:(2013) *codes for category 'b'*

These were done so that the visual document will in the end have the same chronological format like that of the written document.

3.3.0 Organisation of the Working Drawing

Having established the codes, they were organised into events which were then linked to each other in chronology to get one full working drawing. The segments were demarcated with brickwork borders bearing two openings or doorways of transitional entry and exit, marked by footprints indicating directions of movement. The final design for the project measured 229 centimeters by 61 centimeters. Figure 23 to figure 25 show

the final working drawing in a split of three for clarity. The split was done according to the plan below.

Figure 22: (2013) *the split plan for working drawing*

Figure 23:(2013) *working drawing in first split*

Figure 24:(2013) *working drawing in second split*
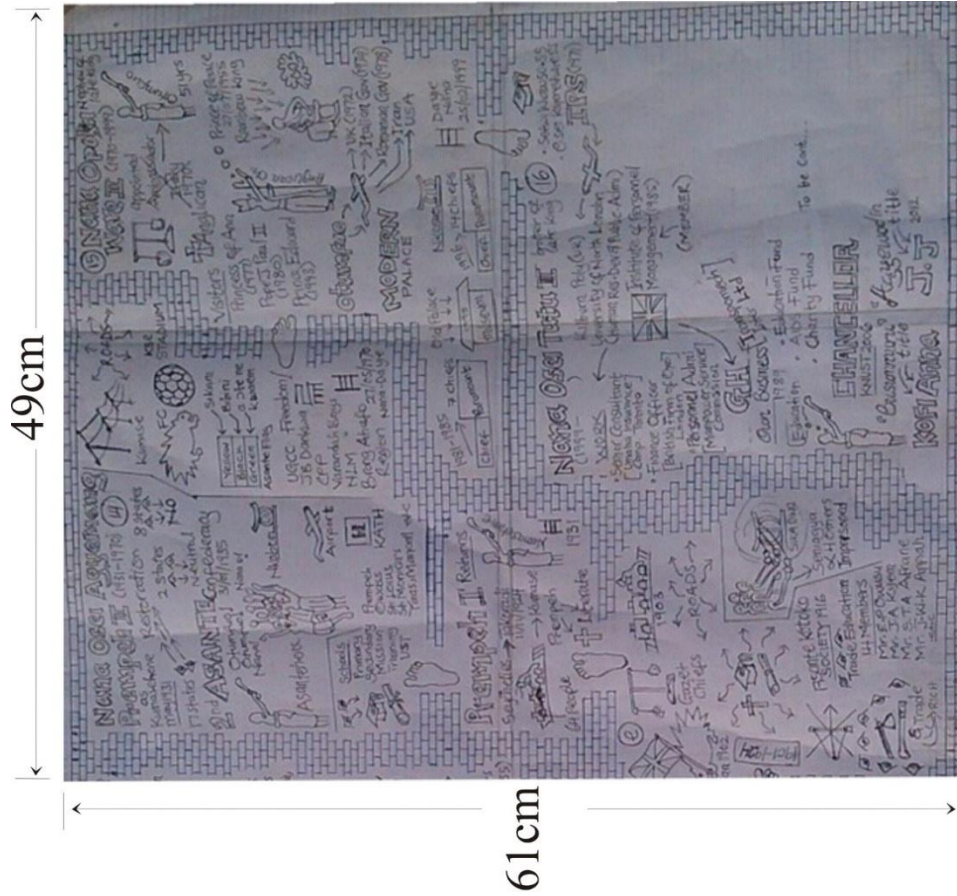
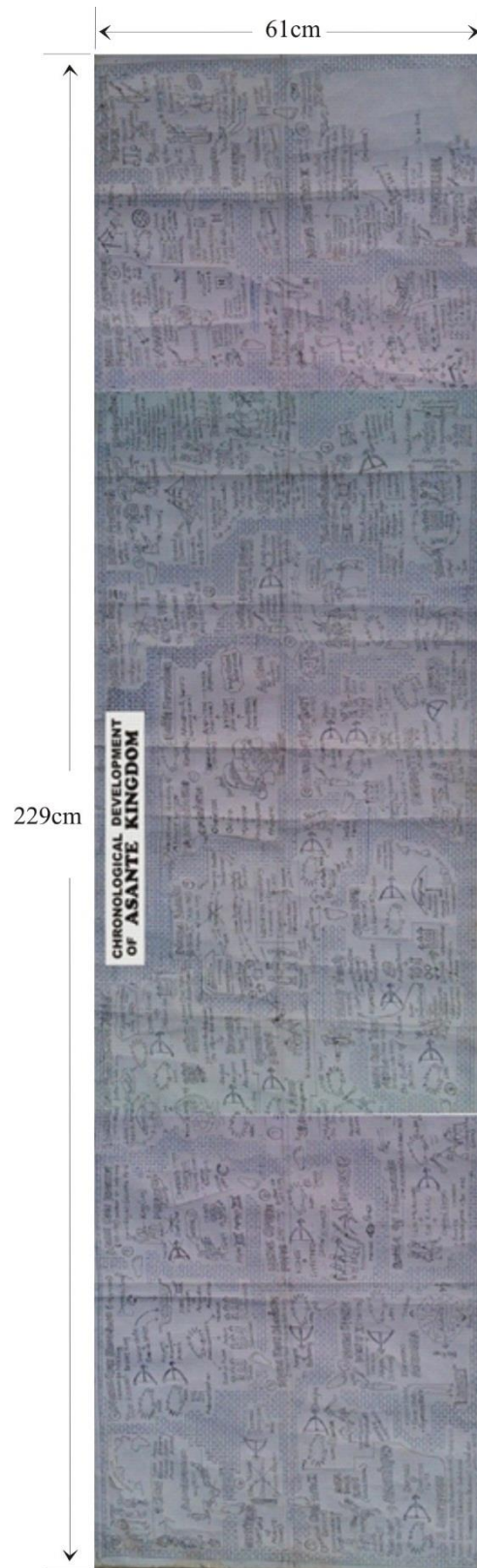**Figure 25:**(2013) *working drawing in third split*

Figure 26:(2013) *working drawing in full.*

3.4.0 Fabrication Process

Fabrication process looks at the tools, materials and techniques employed to complete the project work. It is captured under the following sub headings;

   i.   Tools and materials

   ii.   Pitch preparation

   iii.   Bedding the copper sheet

   iv.   Transfer of working drawing onto metal sheet

   v.   Chasingand Repoussage

   vi.   Finishing

   vii.   Oxidation

   viii.   Framing and Spraying

3.4.1 Tools and materials

The main tools for the project were repoussage tools, chasing hammer and pitch trays, shears, pliers, blow torch, furnace and tongs. The main materials for the project were copper sheet, asphalt, plaster of Paris, white glue and vegetable oil.

The repoussage tools are specially made metal punching tools with varied shaped ends which are used to create relief designs on metal surfaces (figure 27).

Figure 27:(2013)*Repoussage tools with varied working ends*

3.4.1.1 Chasing hammer

Chasing hammer is a special broad-faced hammer that is used to strike the repoussage tools(figure 28).

Figure 28:(2013) *Chasing hammers*

3.4.1.2 The Pitch Tray

The pitch compound was poured into the pitch tray which was made of aluminium sheet with a shallow depth (figure 29).

Figure 29:(2013) *pitch tray*

3.4.1.3The copper sheet

Copper is a reddish-brown metallic element that is ductile and malleable with a high electrical and thermal conductivity. It was the main surface for the visuals. Figure 30 is a picture of a copper sheet.
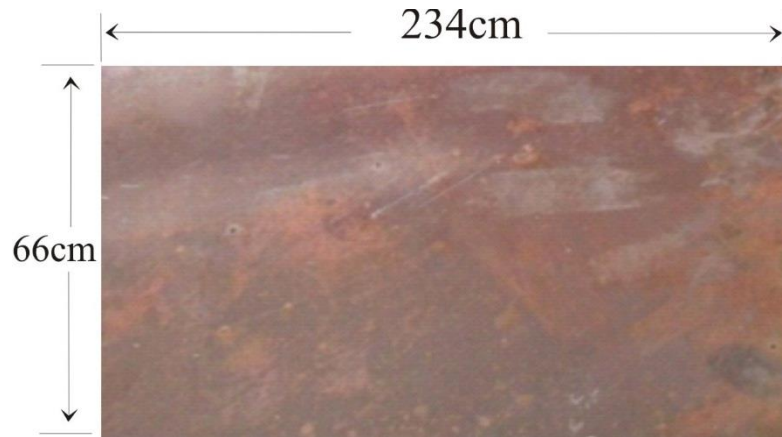

Figure 30:(2013) *Copper sheet*

3.4.1.4 The Asphalt

Asphalt is a sticky, black and highly viscous liquid or semi-solid, composed almost entirely of bitumen that is present in most crude, petroleum and in some natural deposits. The asphalt was the main component in the pitch compound which served as the support base for the metal during the repoussage process (figure 31).

Figure 31:(2013) *Asphalt*

3.4.1.5 The Plaster of Paris

Plaster of Paris is a hemihydrate of calcium sulfate, made by calcining gypsum that

hardens when moistened and allowed to dry; used to make casts, moulds and sculpture.

The Plaster of Paris was used as the filler additive to control the degree of stiffness of

the pitch composition (figure 32).

Figure 32:(2013) *Plaster of Paris*

3.4.1.6 The vegetable Oil

Vegetable oil refers to any oil produced from plants such as corn oil, olive oil, palm oil and sunflower oil. The vegetable oil was used as the emollient to soften the consistency of the pitch composition(figure 33).

Figure 33:(2013) *vegetable oil*

3.4.2 Pitch preparation

Pitch is a dark, sticky and extremely viscous compound that hardens when allowed to cool. A hard pitch composition was prepared usingthe composition and processes proposed by Untracht (1985). That is 7 parts of asphalt, 7 parts of plaster of Paris and 0.5 part of emollient. The asphalt was first melted and the filler material (plaster of Paris) was added little at a time, while stirring. Finally, the emollient (vegetable oil) was also added and stirred into it to form a uniform consistency (figure 34).
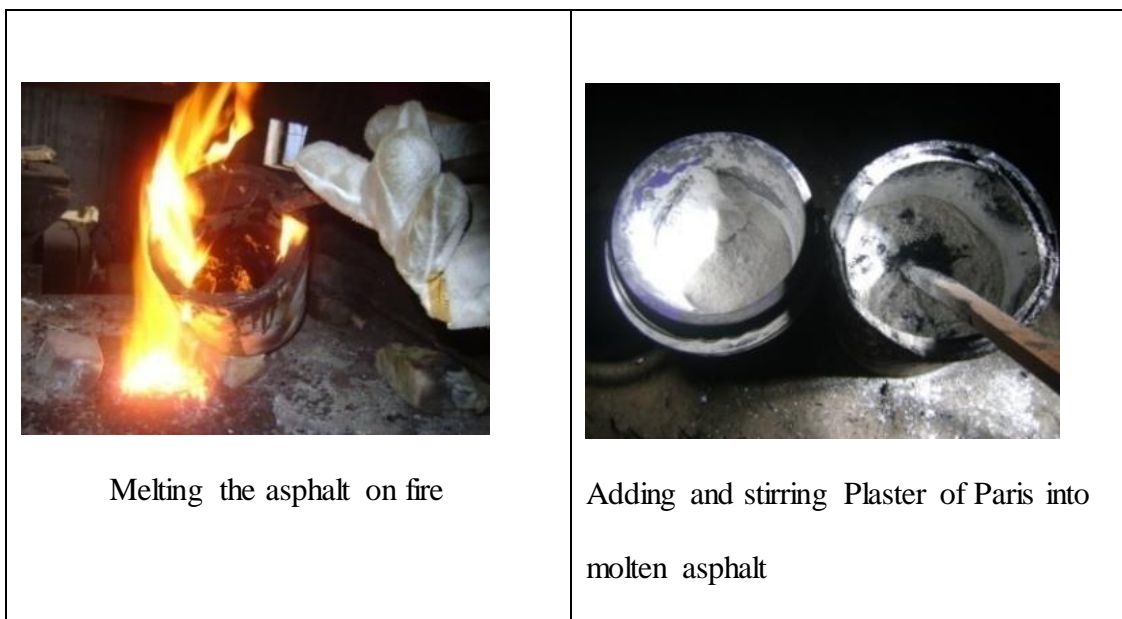
Melting the asphalt on fire	Adding and stirring Plaster of Paris into molten asphalt

Figure 34:(2013) *Preparation of pitch compound*

The prepared slurry pitch compound was then poured into a pitch tray with the aid of tongs (figure 35).

Figure 35:(2013) *Pouring of the prepared pitch compound into metal tray.*

The process was repeated until the tray was almost full as seen in figure 36.

Figure 36:(2013) *Prepared pitch compound for the project*

3.4.3 Bedding the copper sheet

The copper sheet was annealed by heating it to red-hot on a furnace in order to render it

soft and make it suitable for the chasing and repoussage processes (figure 37).

Figure 37:(2013) *Annealing of metal.*

A pickle solution of 10 parts of water to one part of nitric acid was prepared by adding the acid to the water in a container (figure 38).

Figure 38:(2013) *A container of a pickle solution.*

Normally, pickling is done by immersing the material in the solution for some time, followed by removal and rinsing. But in this case, due to the size of the work, a piece of foam was soak in the pickle and the acid smeared on the metal surface and rinsed after some time (figure 39).

Figure 39:(2013) *Rinsing of metal after pickle.*

A margin of 1.5cm was marked along the edges of the sheet metal, serrated with a shears and the resulting 'fingers' bent at 90° with a plier to provide firm grips onto the pitch compound(figure 40).
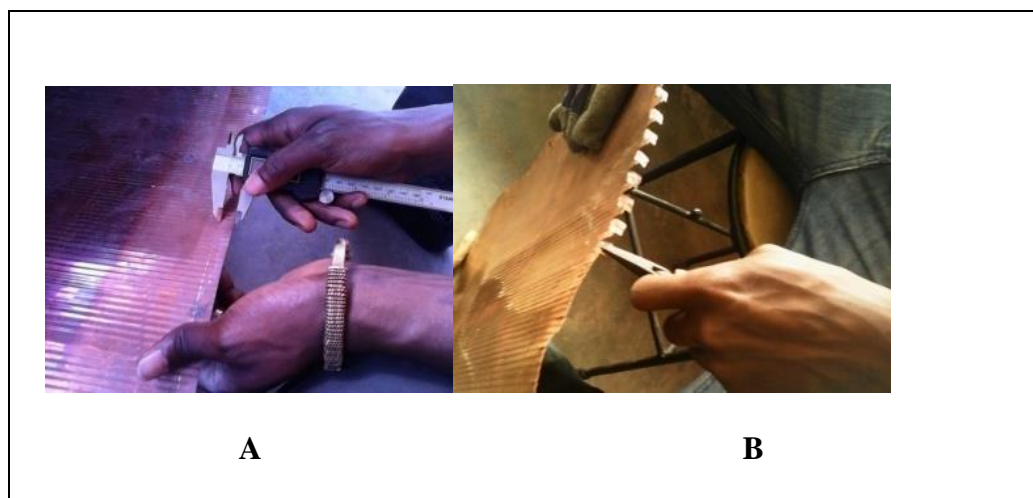

Figure 40:(2013) *cutting and bending of metal grip 'fingers'*

The bending was achieve by first placing the pitch tray on the floor. The copper sheet was positioned onto the pitch with a wooden board backing to help maintain its position in the pitch tray. Extra controlled pressure was applied by stepping on the wooden board and forcing it to be in perfect contact with the pitch while heating with a gas torch. As the copper sheet got hotter, the contact surface and serrated edges sunk into the pitch. This was controlled to a reasonable level before taking off the heat. The pressure was however maintained until the pitch had cooled down, solidified and anchored the sheet copper (figure 41).
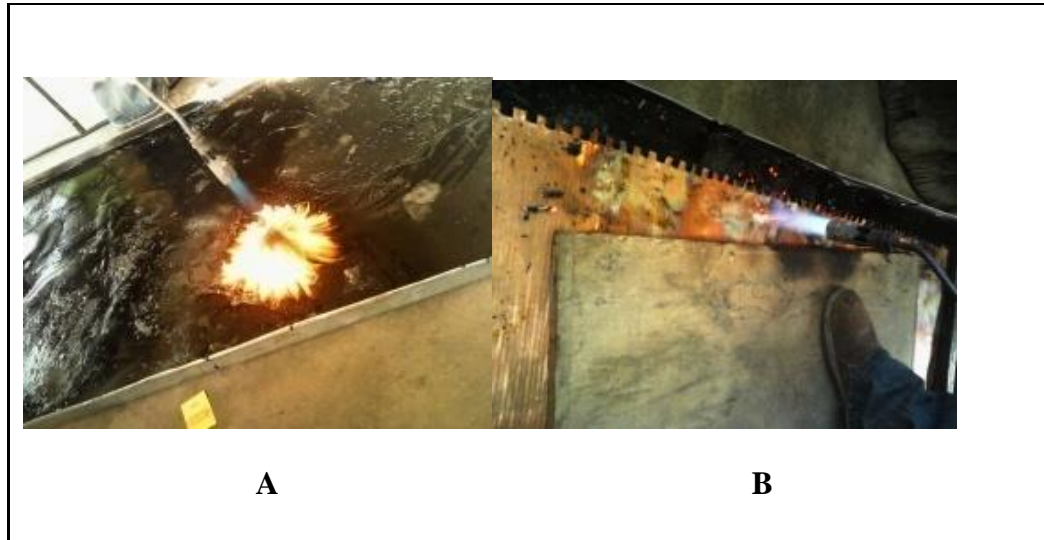
A	**B**

Figure 41:(2013) *fitting of metal to the pitch compound*

3.4.4Transfer ofworking drawing to copper sheet

White glue was applied with a brush onto the surface of the sheet metal. The working

drawing measuring 229cm by 61cm was gently spread into position over the copper

sheet and, rubbed across to effectively cause the working drawing to adhere to the metal

surface (figure 42).

Figure 42:(2013) *Copper sheet with pasted working drawing*

The work was allowed to dry, followed by the removal of pockets of trapped air in between the paper and the sheet metal. This was done by cutting across the spots with a sharp utility knife (figure 43). The cut areas were then glued back.
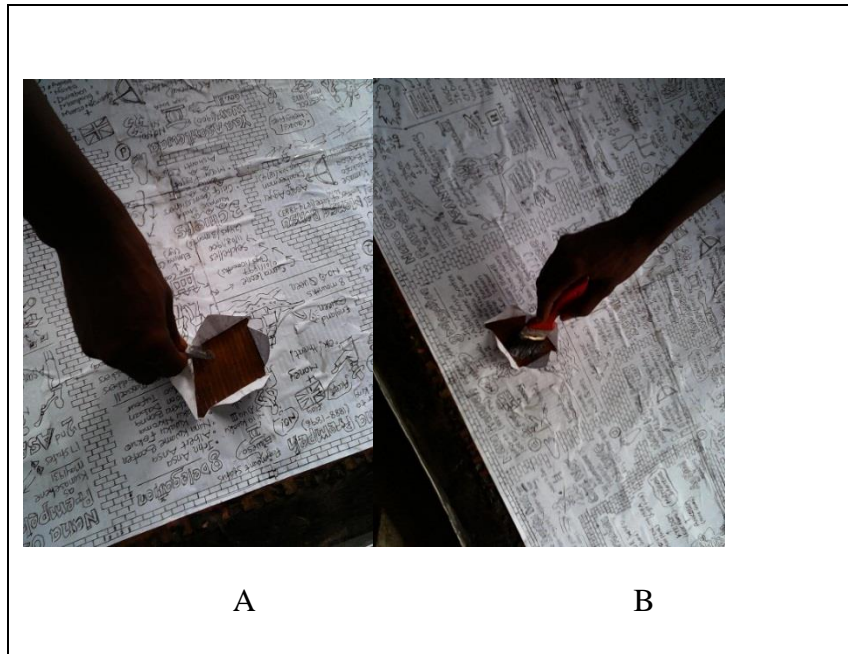

| A | B |

Figure 43:(2013) *Eliminating trapped air*

3.4.5 Chasing and repoussage

After a thorough drying, liners were used to trace and chase the working drawing onto the copper sheet (figure 44). The registered impressions made it possible to work the metal from both sides.

86

A   B

Figure 44:(2013) *Tracing out design with liners*

Having completed the first round of tracing, the copper sheet was removed from the pitch, annealed, pickled, rinsed thoroughly and wiped dried. The serrations at the edges were then bent alternatively at 90° in the opposite direction to again provide firm grips onto the pitch compound (Figure 45).

Figure 45:(2013) *bending of metal grips*

The surface of the pitch compound was made even and reconditioned with the aid of a blow torch. The right side of the work was embedded onto the pitch compound using aforementioned techniques. This was to permit the working out of details from the reverse surface of the sheet which at this stage, bore the effects of the chased tracing (Figure 46).

Figure 46:(2013) *some effects of the chasing at the reverse side of the metal.*

The portions of the design that were to have varied relief effects were repoussagedon the reverse side with punches of varied tips (Figure 47 and 48). More details were worked into the outlines of icons and images used, giving more definition to the details.
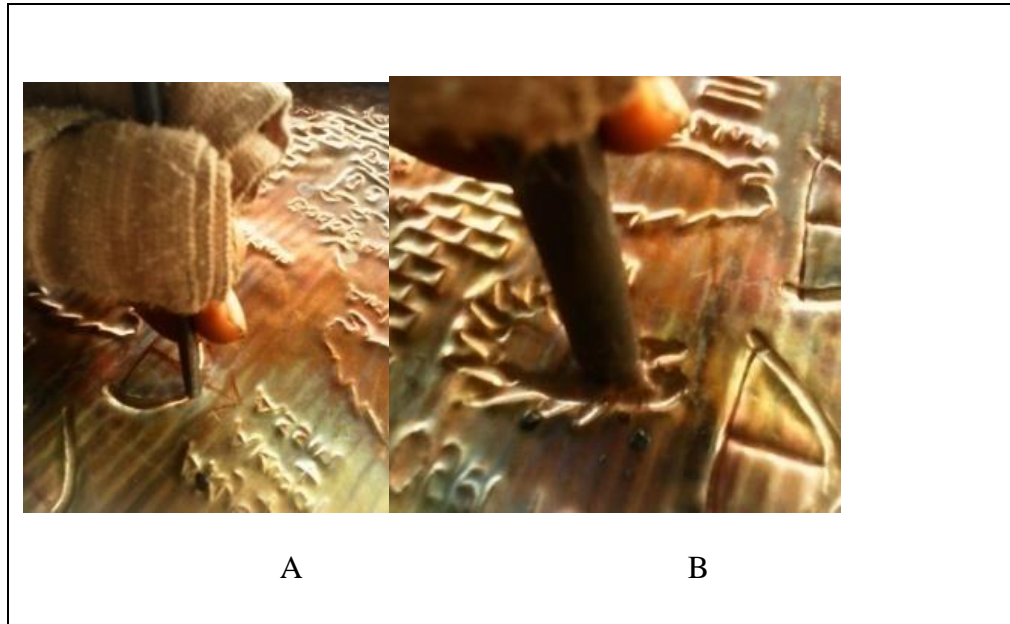
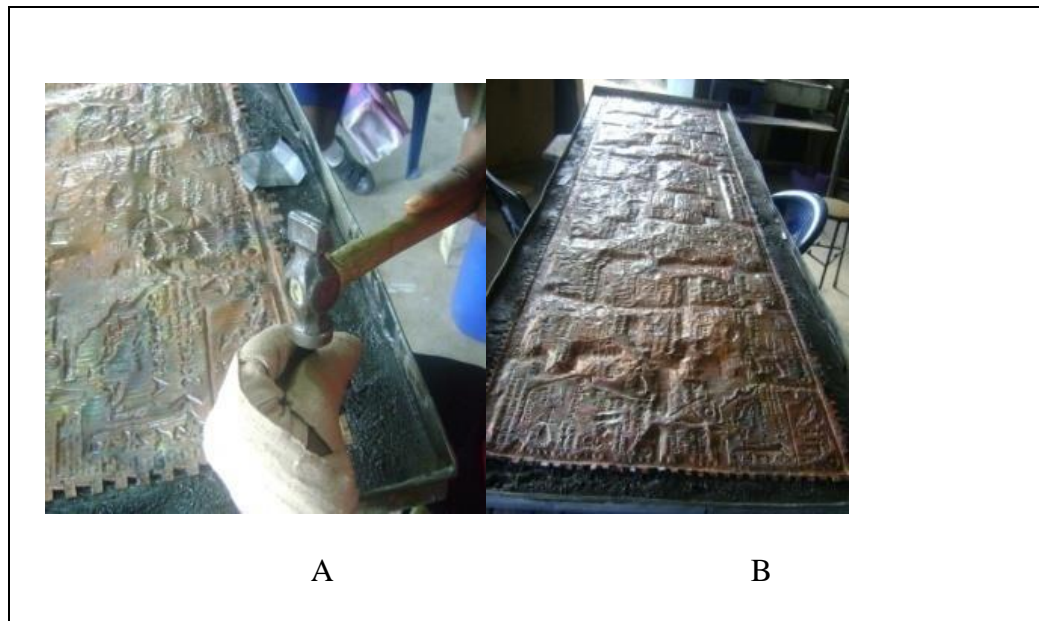**Figure 47:**(2013) *creating varied relief effects from reverse side of metal*

Figure 48:(2013) some *effects of the repoussage*

After working the entire surface, the sheet metal was again removed from the pitch, annealed, pickled, rinsed with clean water and wiped dry (Figure 49 to 51).

Figure 49:(2013) *taking metal off from pitch compound*

Figure 50:(2013) *Annealing of metal*

Figure 51:(2013) *Rinsing of metal after pickling.*

It was time again to work at the right side of the sheet metal. Prior to this however, the serrated edges were bent at right angles in the reverse directions. Depressions on the reverse surface were also filled with pitch (Figure 52) before embedment onto the pitch (Figure 53).
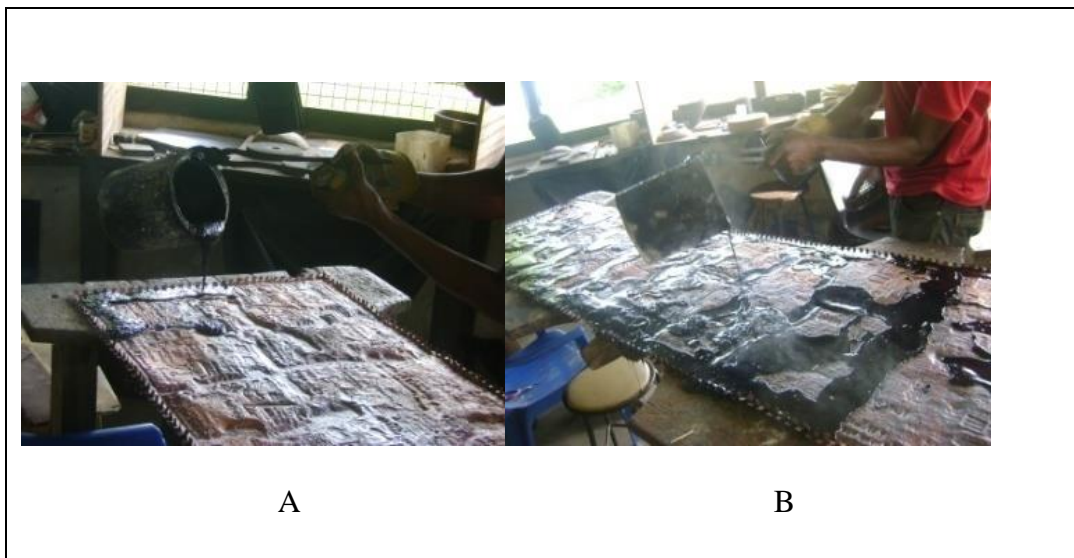

| A | B |

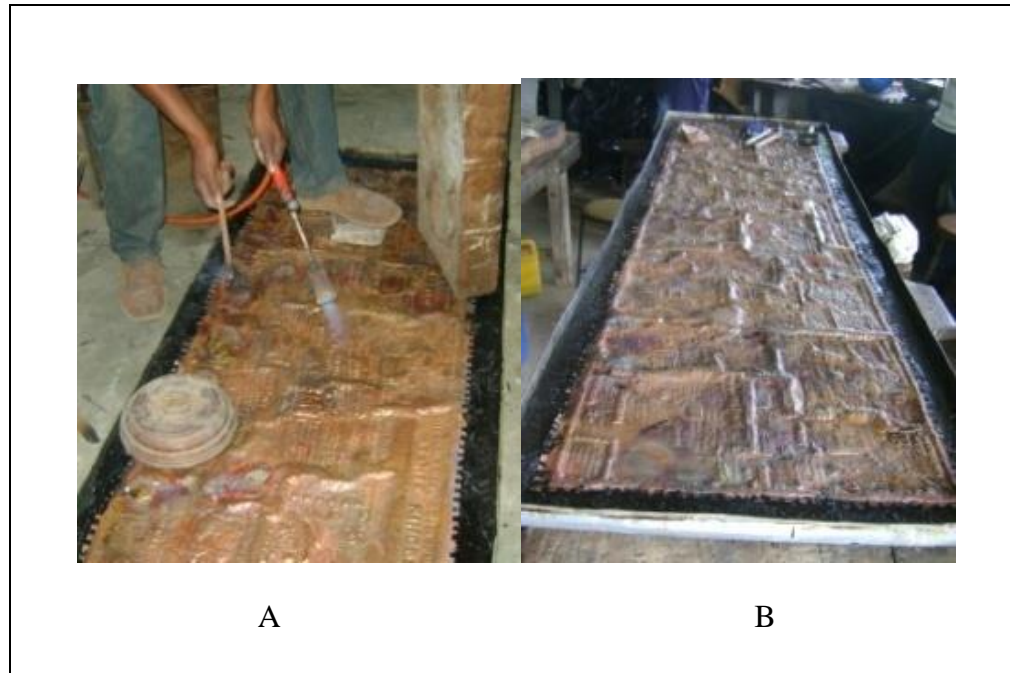**Figure 52:**(2013) *Filling of depressed effects with pitch compound.*

Figure 53:(2013) *Fitting of metal in pitch compound*

At this stage, steps were taken to improve the definitions of visual images employed. The definitions of relief and intaglio effects were improved, using precise punches and working from the right surface of the sheet metal (Figure 54).

Figure 54:(2013) *Refining of relief and intaglio effects on the front side of metal*

Finally, the work was removed from the pitch and reconditioned. This was followed by the fine-tuning of sections that needed attention. Precision punches were used while a bag of sand served as a backing support (Figure 55).

Figure 55:(2013) *further defining of relief and intaglio effects.*

Sections of the visual effects created at the end of the chasing and repoussage processes are featured in fgures 56 to 61.

Figure 56:(2013) *a section of the work*

Figure 57:(2013) *a section of the work*

Figure 58:(2013) *a section of the work*

Figure 59:(2013) *a section of the work*

Figure 60:(2013) *a section of the work*

Figure 61:(2013) *a section of the work*

3.4.6 Finishing

To enhance the appearance and also to preserve the surface integrity of the work, oxidation, framing and spraying were carried out.

3.4.7 Oxidation

Oxidation solution was prepared using the recipe below.

- Two table spoon of Sulphur

- One table spoon of caustic soda

- Ten milliliters of nitric acid pickle (one part of acid to ten parts of water concentration).

Figure 62 shows the two main materials used in the preparation of the oxidation solution.

| A   B |

Figure 62:(2013) *Sulphur(A) and caustic soda (B)*

The Sulphur and the caustic soda were added to 1.5 liters of water in a container which was heated. It was allowed to boil over for about three minutes and was taken off the fire (Figure 63 A and B).
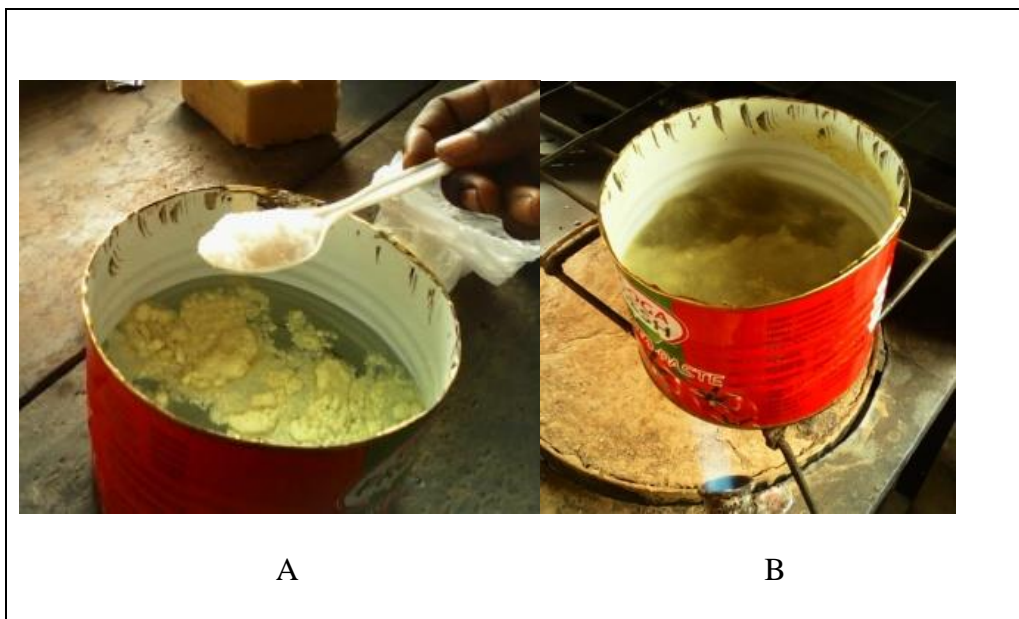

| A | B |

Figure 63:(2013) *mixing and boiling of the solution*

Ten milliliters of nitric acid pickle was added to the solution and thoroughly stirred into it with a stick. With the aid of a piece of foam, the oxidation solution was applied on the right surface of the work (Figure 64).
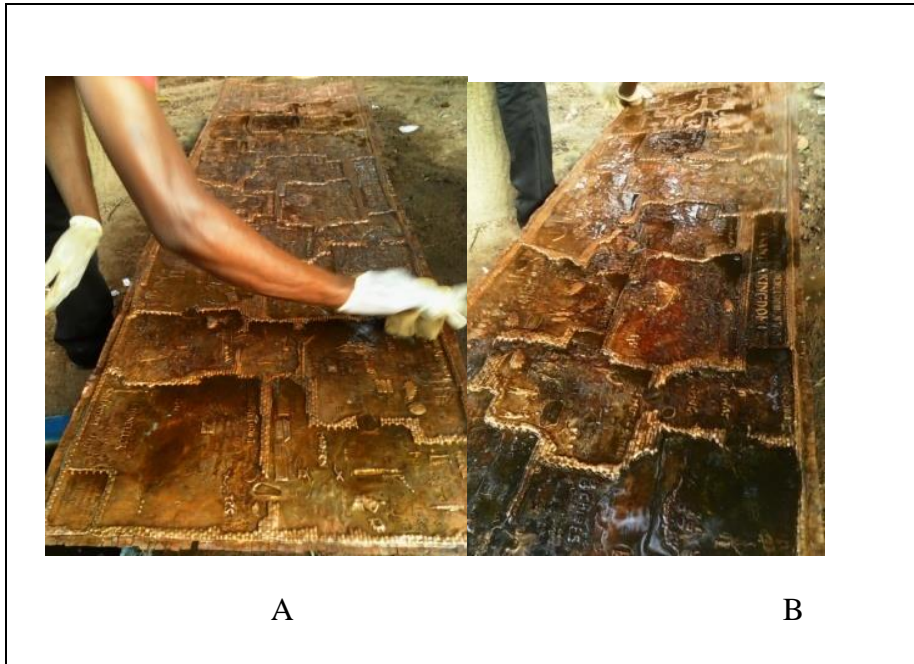
A   B

Figure 64:(2013) *application of oxidation solution*

After about two minutes, water was evenly flush onto the surface of the work to
neutralize the oxidation solution. The work was slanted to allow the water to drain off
and dry up. Steel wool was used to remove some portions of the oxide in order to reveal
and highlight the colour of the copper. This was deliberately done to create surface
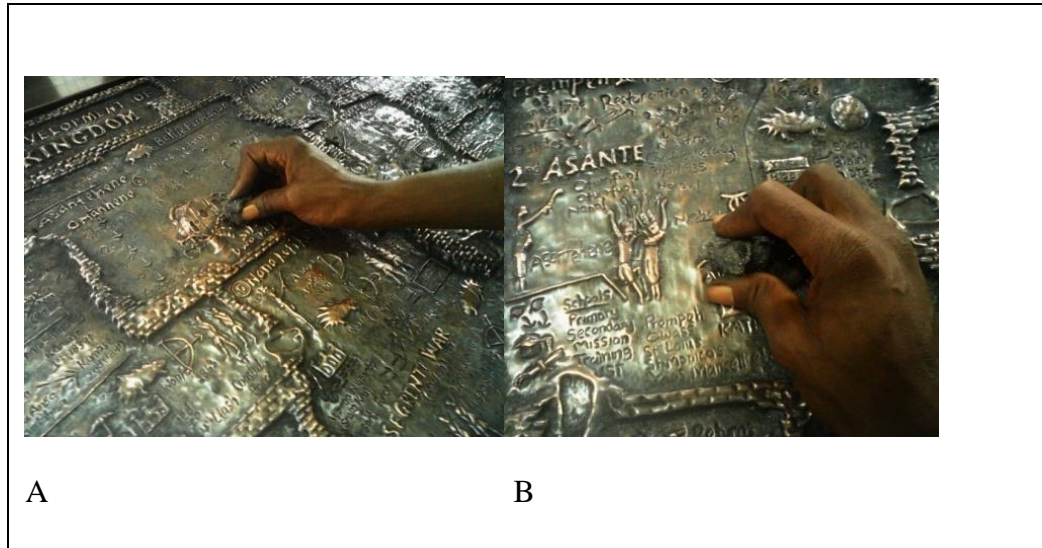contrasts (Figure 65).

Figure 65:(2013) *removing of some portions of oxide*

Finally, 'auto based' metallic paint (forest green colour) was applied to the foot print designs on the work to make them stand out for easy identification (Figure 66).
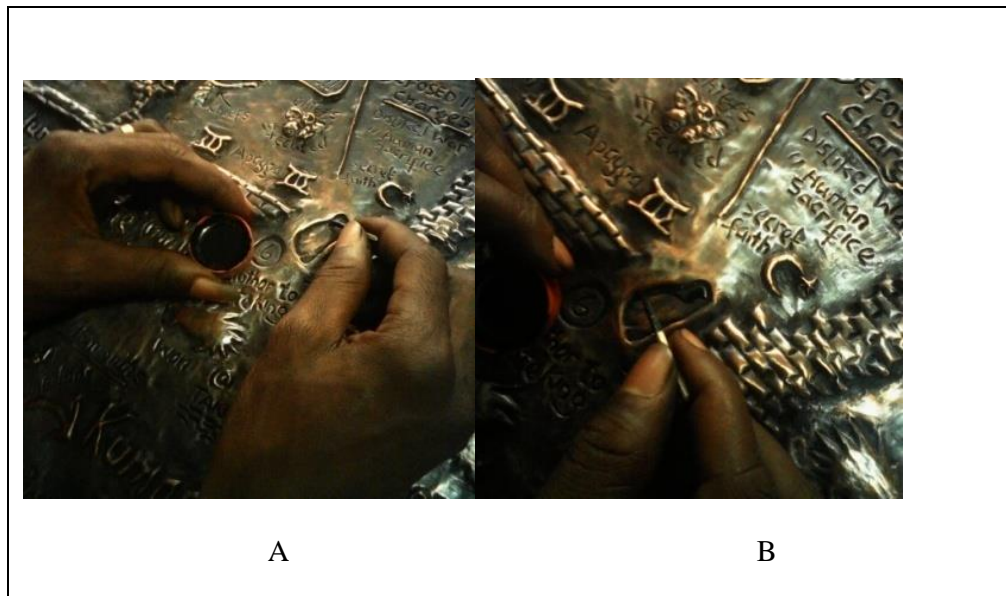

Figure 66:(2013) *application of 'auto base' metallic paint to foot prints*

3.4.8 Framing and spraying

In order to give the metal a good support for presentation, aluminum frame together with plywood were used to frame the work. Later metal varnish was used to spray the metal surface evenly. This was done to preserve the oxide from fading and also to give the metal surface a lustrous effect. Figure 67 presents the finished visual document in a landscape page format.
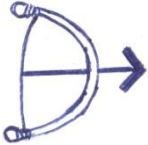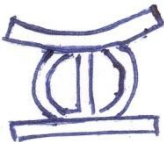
Figure 67:(2013) *final work (Chronological Development of Asante Kingdom)*
Measurement: 139cm by 71cm
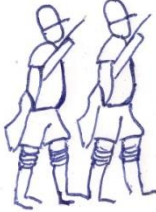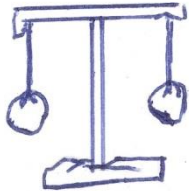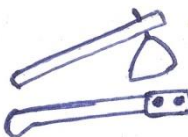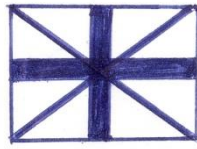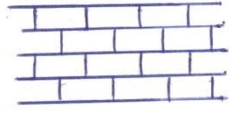
3.6.0 The key

The researcher also developed a key to help in the interpretation of the project since most of the symbols and imagery were repeated in the presentation. Figure 68 presents the key to the mural.

KEY

Symbol	*Meaning*	Symbol	*Meaning*
	Unity		Battle, the direction of the arrow indicates the victims of the battle.
	The Asante kingdom or the Asante army.		An act of execution
	A Castle or fort		Islamic faith
	A newly created traditional administrative office (chieftaincy).		Doorway that links segments in chronology
	Circumstantial changes that brought improvement or tolerance into a system.		Death of a king (transition)

	Prisoners		Documents covering a Castle or a fort.
	Seeking protection		British mobilised forces or army.
	Oath swearing as a ritual for enstoolment of a king.		The Law or lawyer
	A train		Focusing on something or supervisory appointments
	Farming(Agriculture)		Introduction and propagation of Western education
	Construction and expansion of roads		The country Britain
	Introduction and propagation of Christianity		Segmental boundaries
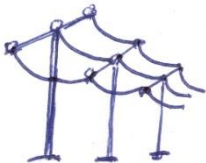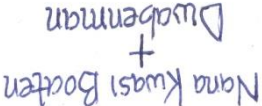
	Introduction and expansion of electricity		Peace and tolerance
	Name(s) turned upside down is an act of disgrace (any act by an Asante that suggests he is opposing the King or the Kingdom)		Gold

Figure 68:(2013) *Key to the project*

3.7.0 Cost of materials

A total amount of two thousand, one hundred and sixty-five Ghana cedis (Gh ¢2,165.00) was spent on the project. The breakdown is as follows;

NAME OF ITEM	QUANTITY	AMOUNT IN GHANA CEDIS (GH ¢)
Copper sheet	1	1,500.00
Asphalt	1 and half bag	250.00
Aluminum frame	2 bars	130.00
Metal tray	1	115.00
Plywood	1	40.00
Plaster of Paris	1 bag	31.00
Scrap metals	6 pieces	30.00

Metal lacquer	1 bottle	20.00
Auto base paint	4 table spoon full	20.00
Bandage	1	6.50
Steel wool	1	5.00
Foam	1	5.00
Ear protector	1	4.50
Caustic soda	1 cup	3.00
Sulphur	Half cup	3.00
Disposable gloves	1 pair	2.00
TOTAL COST		**GH ¢ 2165.00**

Figure 69:(2013) *list and price of materials*

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CHAPTER FOUR

TESTS, RESULTS AND EVALUATION

4.0 Introduction

This chapter talks about the tests that were conducted during and after the project has been completed to ascertain whether or not the intended objectives have been met. It also talks about the evaluation of the project.

4.1 Tests and results

Opinions were sought at various stages of the project in order to maximize the universality of the final work. Drafts of the coded document were made available to some lecturers and colleagues to ascertain the decipherability of the coded visuals. Respondents were successful at decoding most of the visuals. Those that had controversial interpretations were modified based on opinions by the majority.

A test was also conducted to find out whether the symbols and imagery in each segment collectively convey the intended message. Majority of sampled opinions were in the affirmative and suggested modifications were effected.

There was also the difficulty of linking the storylines. This was however resolved by breaking the storylines into segments with blockwork- pattern demarcations and footprint links. With the above informed modifications, it was easier linking the storylines.

After the visuals had been transferred unto the metal sheet with the repoussage techniques, a test was conducted to find out if the objectives of the project have been meet. Many were of the opinion that the transferred visuals appeared somehowclumsy even though they were segmented with sunk and raised designs. This lead to the creation of contrasts in the visuals through oxidation and also colouring of the footprint symbols in green. The enhanced contrasts and varieties, embellished the final piece.

The final tests were conducted ata one week (20th to 26th November, 2014) on the premises of Alliance Française. The project work was exposed to the general publicto ascertain the extent to which the objectives were achieved. Figure 70 to 72 show scenesfrom the exhibition.

Figure 70:(2014) *Head of Industrial Art Department discussing some symbols and imagery deployed on the plaque with a foreign visitor at the exhibition.*

Figure 71:(2014) *A Lecturer explaining some salient points and techniques to some visitors.*

Figure 72:(2014) *The researcher with some viewers admiring the project.*

Two tests were conducted at the exhibition. In the first test, questionnaires were given to ten individuals to respond without taking them through the provided key for the finished work. Figure 73 shows the responses from the first ten individuals.

First Test Results

Question Number	TEN INDIVIDUALS										
	1	2	3	4	5	6	7	8	9	10	Total score for each Question
1.	√	√	√	√	√	√	√	√	√	√	10
2.	√	√	√	√	√	√	√	√	√	√	10
3.	√	X	X	X	√	√	X	√	√	X	5
4.	X	√	√	√	√	X	√	X	X	√	6
5.	√	√	√	X	X	√	X	√	√	X	6
6.	√	√	√	√	√	√	X	√	√	√	9
7.	√	√	√	√	√	√	√	√	X	√	9
8.	√	X	X	X	√	X	X	X	√	√	4
9.	√	√	√	√	√	√	√	√	√	√	10
10.	√	√	√	√	√	√	√	X	√	√	9
Total score for each person	9	8	8	7	9	8	6	7	8	8	**78**

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Figure 73:(2014) *Results from the first ten respondents*

The first result indicates that out of the ten questions presented to ten individuals (ten common questions each), their total score is seventy-eight.

The second test was also done by giving out the same questionnaires to another set of ten individuals. These individuals were taken through the key for the finished work before they responded to the questionnaires. Figure 74 shows responses from the individuals.

Second Test Results

Question Number	TEN INDIVIDUALS										
	1	2	3	4	5	6	7	8	9	10	**Total score for each Question**
1.	√	√	√	√	√	√	√	√	√	√	10
2.	√	√	√	√	√	√	√	√	√	√	10
3.	√	√	√	√	√	√	√	√	√	√	10
4.	√	√	√	√	√	√	√	√	√	√	10
5.	√	√	√	√	√	√	√	√	√	√	10
6.	X	√	√	√	√	√	√	√	√	√	9
7.	√	√	√	√	√	√	√	√	X	√	9
8.	√	√	√	X	√	√	√	√	√	X	8
9.	√	√	√	√	√	√	√	√	√	√	10
10.	√	√	√	√	√	√	√	√	√	√	10
Total score for each person	9	10	10	9	10	10	10	10	9	9	**96**

Figure 74:(2014) *Results from the secondten respondents*

The second result indicates that out of the ten questions presented to ten individuals (ten common questions each), their total score is ninety-six.

In conclusion, the tests conducted at the exhibition informed the researcher that;

- The longer the time spent on a particular segment, the better the deduction made from the visuals.

- Viewers make accurate deductionwhen they use the provided key as a guide to interpret the visuals.

- When respondents are given a brief on the subject matter, they are able to make accurate deductions from the visuals.

4.2 Evaluation

The plaque was executed in sheet copper of 0.8mm gauge. Together with its frame, it measures 139cm by 71cm. It has a horizontal picture area and it was fabricated using the Repoussage technique.

It is named 'Kaennaano', a Twi word which means 'remember the last time'. This is in relation to the fact that the mural is a store of knowledge that reflects on the history of Asante. Therefore the need to highlight on the importance of history, as feedback from yesterday's event can form the bases of today's decision.

The mural conceptually presents in chronology, facts about the development of the Asante kingdom. These facts are presented in successive segments which are demarcated respectively with bricks and inter-linked with green coloured foot prints.

The green colour was chosen because it is one of the cardinal colours of the Asante kingdom which connotesthe rich vegetation.

The individual segments have enclosed labels of either alphabetic letters or a numeric figures and they are linked chronologically in the presentation.Those with alphabetic labels have facts which took place without the kings. Segments with numeric figures present facts captured under the kings.

It is only the segment labeled 'c' that does not bear any link to the other segments. It presents information on the administrative hierarchy of the Asante, their battle formation, the Golden and silver stools and their system of inheritance.

Segment 'a' is the starting point of the chronology, it illustrates the migration of the Asantes, their clans and the mythology about their emergence from a hole at Asantemanso.

The next segment is labeled 'b'. It presents the initial effort made by ObiriYeboa and others to liberate themselves from their overlord, the Denkyira State. Unfortunately, they were attack and were killed by the Domaa State who were part of the Denkyira State.

This brings us to segment '1' which presents facts about the first king (Nana Osei Tutu I) of the kingdom, the mythology behind the name 'Asante', emergence of the Golden stool, the three major sacrifices that were made as part of rituals performed to liberate

themselves from theDenkyira State and the battle in which NtimGyakari (King of Denkyira) was beheaded.

The next in chronology is segment '2' which also presents facts about Nana Opoku Ware I. He fought and defeated the Akyem on two separate occasion. He was able to add Sefwi, Bono and Gyaman States to the kingdom and also created the Ankobea front as part of the Asante battle formation.

Segment '3' is about the reign of Nana KusiObodum who fought and defeated the allied force of the Akyem and the Dahomey.

Next is segment '4' which illustrates the reign of Nana Osei Kwadwo. He fought, defeated and annexed the allied forces of Wasa State and Banda State. He created two new stools for the Ahenemaa and also appointed ambassadors to head Dutch, Jamestown and Christiansburg castles when they had access to the documents covering them.

This brings us to segment '5' which illustrates the major event under the reign of Nana Osei Kwame. According to the Asante history, he was acknowledged as the merciful king because he disliked war and human sacrifice. However, he ordered the execution of some chiefs who conspired to unseat him on their opinion that he was weak. He was eventually deposed due to some charges leveled against him.

Segment '6' presents facts about Nana OpokuFofie. During his reign, the Gong allied with the Gyamanand fought the Asantes but were defeated. It is recorded that he was the king who never saw peace during his reign.

Nana Osei Tutu Kwame Asibe succeeded Nana OpokuFofie. Segment '7' presents facts about his reign. It was during his time that the Asante kingdom first came into confrontation with the whites when they aided the coastal forces against the Asantes. His defeat of the coastal states earned him the name 'Bonsu'. Which he later added to his name. He fought the allied forces of Fante, Akyem and the Akwapim twice and won. He also fought and beheaded the Gyaman chief, Nana Kofi AdinkraKarikari. The British mobilised forcestogether with the coastal forces to fight the Asantes but lost to them with the Governor's (Sir Charles MacCarthy's) head as a trophy. Unfortunately the king also died in this battle known as the Battle of Nsamako.

After him comes Nana Osei Yaw Akoto in segment '8'. He fought theBritish mobilised forces which had allied with the coastal forces and lost. This brought about a peace treaty with restrictions and fines on the Asantes. There was also a civil war between Kumase State and Dwaben State which compelled the Dwaben people to seek refuge in AkyemAbuakwa.

Segment '9' is about Nana KwakuDua I. He brought back the people of Dwaben to their homeland in Asante fromAkyemAbuakwa. It was during his reign that the Wesleyan

Missionary went to Kumasi. Finally, he fought and defeated the British mobilised forceswhich had allied with the coastal forces.

Segment '10' covers the reign of Nana Karikari. He allied with Akwamu and defeated the Krepis. He also fought and defeated the allied forces of theBritishand the coastal forces. However, he lost to the British in the Segrenti war because he lost 20,000 of his menprior to the war through sickness. He was finally destooled for misusing stool property.

The next is Nana Mensah Bonsu in segment '11'. He fought the Dwabenman which was under the leadership of AsafoAdjei. This made them sought refuge in Koforidua. He annexedGyaman and Banda again into the Asante kingdom. He was finally destooled due to some chargesleveled against him.

Segment '12' isabout Nana KwakuDua II. Unfortunately, he was attacked by small pox forty days after his enstoolment and died. A civil war broke out in the land over his succession and the contest was between Yaw Atwereboana and Prempeh. The kingdom was without a king for four years because of this hostility.

Segment '13' presents Nana Prempeh I. He refused to accept the British idea of colonising the kingdom and sent a delegation to England to explain his stance to the Queen but they were denied access to her. The Governor then, Mr. Williams Maxwell, together with his forces beseeched Kumasi and siezed the king and others. They were

taken to Elmina castle and from there to Sierra Leone. Finally, they were taken to the Seychelles. The Governor appointed three chiefs to administer Kumasi State with Chief Commissioners to administer the other States.

The absence of Nana Prempeh brought about the YaaAsantewaa war in the next segment labeled'd'. The war came about as a result of the Governor's attempt to possess the Golden Stool. The war was between YaaAsantewaa'sforces against the British with the support of some Asante States. Even though YaaAsantewaa and her men were able to take hostage of the Kumasi fort for some months, they were finally subdued by a reinforced team from the Governor. YaaAsantewaa was taken to Seychelles with others being imprisoned in Elmina castle whilst Bantamahene was hanged to death.

This brings us to segment 'e' which presents facts that happen in-between 1901 to 1924. The Asantes accepted the British flag and shifted their attention from war to agriculture and trade. These new ventures made them rich. They also experienced the construction and expansion of roads, and the introduction and propagation of western education and Christianity. The Asante Kotoko Society was also formed. Seniagya and others stole some ornaments of the Golden Stool but were imprisoned instead of execution.

Segment 'f' marks the return of Nana Prempeh I. He returned as a literate and a Christian with 64 people. Instead of his reinstatement asAsantehene, he was rather installed as Kumasehene asone of the conditions for his return, proposed by the British.

After his death, he was succeeded by Nana Osei AgyemangPrempeh II which is captured in segment '14'. He was initially installed as Kumasehene but eventually became the Asantehene when the Second Asante confederacy came into being. He helped in the establishment of many schools, the KomfoAnokye Teaching Hospital and the Kumasi Airport.Also there were expansions in road networks and introduction of electricity. Asante Kotoko football club was formed in addition to the designing of the Asante kingdom's flag and crest. He also did well by adjusting the administration of the kingdom to accommodate the changes in the political state of the country at that time.

Segment '15' presents Nana Opoku Ware II who succeeded Nana AgyemangPrempeh II after his death. As a lawyer, his appointment to Italy as an ambassador did not materialise when he was made the king at that same time. Due to his peace loving nature, the Anglican Church of Ghana conferred two titles on him on two different occasion. He elevated seven chiefs to paramount status initially and later fourteen chiefsalso had this benefit. He also converted the old palace into a museum after building a new one and created the Nkosuo stool to encourage the habit or sense of development amongst his people.

Finally, this brings us to segment '16' which talks about the present king Nana Osei Tutu II. He went to the United Kingdom to further his studies after his initial schooling in Ghana. After working there for a while, he returned to Ghana to manage his own business. It was within this time that he was chosen to succeed the late king. Having sworn to his people that his focus was going to be on education, he established the

Otumfuo Education Fund alongside others. He was appointed by government to become the chancellor of the Kwame Nkrumah University of Science and Technology. He also conferred the highest title in Asante land on Kofi Annan after having served as the Secretary General of the United Nations and also the Agyewodin title on His Excellency the past President Jerry John Rawlings.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.0 Introduction

This chapter presents the summary and conclusion based on the observations of the researcher concerningthe achievement of his objectives. It also presents the researcher's recommendations with regard to this project.

5.1 Summaryand conclusion

The ultimate target of this project was to explore the history of the Asante kingdom from the 16th to the 21st century, recording and encoding the salient facts about their transformational developments and encapsulating these facts into a plaque of symbols and pictorial imagery using the reoussage technique.

The descriptive research methods were employed in the gathering of relevant information while the studio-based research methodologies were employed in the encoding and transfer of alpha-numeric facts unto a plaque.

The research project delved into symbolism and used its communicative power to present a visual documentation of facts concerning the development of the Asante kingdom chronologically. Repoussage technique was used to transfer this visual document onto the copper sheet as a metal mural which may be presented by the university to the Manhyia palace museum. The mural moves beyond just a mere decorative piece to a functional piece because of its store of knowledge. It may serve as a reference material in the gathering of historical facts about the Asante kingdom.

This research project has also revealed the importance of history to mankind and also how significant it is to preserve facts for posterity. During the exhibition, it was realised that viewers were excited and were eager to know what the visual document presented. By using the key, viewers were able to make deductions which were in line with the visual document presented. Their attitudes suggested that people get more excited with pictorial information than what they read and that ancient methodology of recording and preserving historical facts is still effective in today's world. It was also observed that symbols and imagery are able to engrain evidence in people's conscience comparatively faster and perhaps permanently.

5.2 Recommendation

It recommended that students of the MetalSection and metal artist should always have an ear protector on when using the technique of repoussage. This is to reduce the level of soundgenerated when using the technique. Besides, they should havea bandage around the hand, especially the fingers that are in direct contact with the metal punches to reduce the level of vibration against such fingers.   Last but not least, metal artist should be careful with the amount of smoke they inhale from the pitch compound. Since related literature reveals that the pitch compound is carcinogenic. Nose mask can be worn in the course of pitch preparation to minimise the inhalation of poisonous fumes.

The glossy lacquered finish also serves as a protective coating that was appliedto help protect the mural for a long time. Care must be taken when dusting the surface from time to time with a fluffy material.Non abrasive material must be used at all times when dusting to avoid scratching the protective finish.

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Appendix 1

DEPARTMENT OF INDUSTRIAL ART
COLLEGE OF ART AND SOCIAL SCIENCES
KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

SECTIONS
Ceramics
Textiles
Metal Product Design

Office of the Head
P.O. Box U.P. 50
Kumasi - Ghana
Tel: +233 (0)3220-60349

CA/IA/83/VOL. 4

25th October, 2011

TO WHOM IT MAY CONCERN

Dear Sir/ Madam,

LETTER OF INTRODUCTION – MR. BARNABAS KWESI OKYERE

The bearer of this letter, Mr. Barnabas Kwesi Okyere is an MFA student enrolled at the Department of Industrial Art, KNUST- Kumasi

As part of his graduate project, he is exploring the use of symbols and imagery and how these can be used to compose a chronologically documented historical mural in metal.

The objective is to come out with an artistic means of recording and preserving history on a metal sheet which would be able to stand the test of time as a historical reference material.

Any help which would help him accomplish his research aim would be highly appreciated.

Thank you, kindly.

Yours Sincerely,

EMMANUEL ANSAH
(LECTURER AND PROJECT SUPERVISOR)

Email: industrialartdept@knust.edu.gh Fax +233 (0) 3220 - 60364

Appendix 2

Questionnaire

Identify the segment labeled with the figure '6' and respond to the questions below.

1. List four visual elements in this segment.
   A. ……………………
   B. …………………….
   C. …………………….
   D. …………………....

2. The figure '6' presents the reign of which king?
   A. Nana Osei Tutu I
   B. Nana OpokuFofie
   C. Nana Opoku Ware I
   D. Nana Osei Yaw Akoto

3. What does the porcupine represents in this segment?
   A. Akans
   B. Courage
   C. Asante forces or Asante kingdom
   D. Porcupine

4. What does bow and arrow represent in this segment?
   A. Hunting
   B. Sports
   C. Tolerance
   D. Battle or war

5. What does the people with interlinked rope around their necks and hands represents?
   A. Slaves
   B. Tang of war (sports)
   C. Jubilation
   D. Prisoners of war

6. Between which periods was the reign of the king in this segment?
   ………………………………………..

7. How long did the battle between the Asante forces and its enemy last?

    …………………………......................

8. Who were the attackers or initiators in this battle?

    …………………………………………

9. How many were the prisoners after the battle?

    …………………………………………..

10. Where were the prisoners taken to?

    …………………………………………