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## Design and Production of a Visual Document Depicting the Chronological Development of the Asante Kingdom

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### ABSTRACT

The Asante kingdom is one of the famous and surviving kingdoms in sub-Saharan Africa. The kingdom came on the world stage in the late 16th century and gradually expanded its territorial boundaries through wars to cover almost the present day Ghana and some portion of Togo and Cote d'Ivoire. Oratory was one of the major means the Asante preserved their rich history before they were introduced to a written document. Modernization and education are gradually affecting their oratory culture. This research looks into the ancient methodology of preserving historical facts to design and produce a mural that would serve as an alternative to available sources in gathering historical facts about the Asante kingdom and also to safeguard its rich historical facts just like what the Ancient Egyptian society did with their hieroglyphics. Qualitative research design approach was used and the descriptive and studio-based research methodologies were employed. The history of the Asante kingdom was explored from the 16th to the 21st century to encode the salient facts about their transformational development into a mural of symbols and pictorial imagery, using sketching and repoussage technique. It was found that organized symbols and imagery together with text can be used to present historical facts which people can easily decipher. Also, intricate visuals can be repoussage onto a large metal surface using 0.8mm copper thickness upon a suitable working support.

**Keywords:** Asante History, Asante Kingdom, Chasing and Repoussage, Copper Metal, Pitch Compound.

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### 1. Introduction

The human race has been able to make vigorous efforts to develop and lead an improved life throughout history. Man did this by examining the past: history and using the feedback to improve their living conditions. Fynn (1991), classifies sources of history into two categories: documentary (written) and non-documentary which examples include information perceived from archaeological findings, oral tradition, and art history. Amenuke (1991), asserts that man lived on earth for thousands of years without any written records of their activities. These years, collectively term prehistoric, falls between

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80,000 and 5000BC (Before Christ). By examining their non-documentary sources, notably painting, engraving and sculpture, some historical facts about the early man has been known. For example, their practice of sympathetic magic which was drawing or painting of imagery indirectly has revealed some animals that existed then, which some are now extinct and also how hunting was carried out. Having retrospection on the Ancient Egyptian society, their hieroglyphics were picture writing of symbols and pictorial imagery but had the power to store information for hundreds of years, and in a way preserved an aspect of their culture for posterity (Watts, 1998). Rattray (1923), shares a sentiment that the Asante preserved its rich history largely in oratory and at a point was not willing to share its past with the Europeans who had the means to document them.

The effort of Rattray and others motivated Osei (2004), to document in chronology, a transformational development of the Asante history. As oratory is gradually losing its impart within Asante setting, this project is significant in that it will help give an alternative to written documents in gathering historical facts about the Asante kingdom by producing a visual document made-up of organized symbols and imagery based on the account from a recommended book by Manhyia Palace Museum Board, title 'An Outline of Asante History'. In his remarks to support symbols and imagery as having the communicative power to store information, Dewan (2015) claims symbols and imagery are not only more effortless to recognize and process than words, but also easier to recall. When words enter long-term memory they do so with a single code.

Pictures, on the other hand, contain two codes: one visual and the other verbal, each stored in different places in the brain. The dual-coding nature of images allows for two independent ways of accessing visual memories, increasing the odds of remembering at least one of them. If we really want others to remember something, we should use words and pictures together. This visual document will enhance knowledge retention of facts in the absence of oratory because according to Mayer (1990), the combination of imagery and text is more memorable than either alone and that symbols and imagery encourage the formation of conceptual memories.

The project used the descriptive and studio-based research approach. Through the descriptive research method, a visual document of historical facts in chronology about the Asante kingdom was designed. With the studio based research approach, the researcher transferred the designed visual document onto a copper sheet using the technique of repoussage. Repoussage technique dates back to the Bronze Age, and in different eras, the craftsmen of Assyria, Mesopotamia, Greece, Rome, Scythia, Nepal, India and rococo Europe produced masterpieces. Special metal punches are stroke against a metal surface to create relief and intaglio patterns. It is a very slow technique but can be used to achieve a maximum of form with one continuous surface of sheet metal of essentially the same thickness (Untracht, 1985).

In addition, Corwin (2009) says the repoussage has a complimenting technique called chasing. Repoussage works on the reverse side of the metal to create volume (relief) whilst chasing include various work done to the front side such as planishing, lining, matting, and making crisp edges on forms that were raised from behind. It was found that symbols and imagery can communicate intended purpose effectively when they are organized and not in isolation, and if possible accompanied by a word(s) or phrase(s). Besides, repoussage of intricate designs is easily executed in light metal thickness than thick metal thickness.

This research adds on to the processes of repoussage technique that somewhat appear dormant among Ghanaian metal artists and suggest how intricate visuals can be transferred onto a large metal surface at a go without much difficulty. The research has also highlighted the efficacy of ancient methodology (the use of symbols and imagery) in presenting facts and suggest to contemporary historians to consider this method in presenting their findings or reports. Ghanaian artists can also rely on this format to document information of relevance as their contribution to facts preservation.

This research, therefore, seeks to give a detailed account on how the historical facts of the Asante were recorded and described in a different format by encoding into symbols and imagery to produce a visual document on paper and finally transferring it onto a copper sheet through the technique of repoussage.

## 2. Review of related literature

This part of the research gives descriptive detail of ancient Egyptian writing system with the aim of finding a way to present the historical fact of the Asante kingdom and also to select a suitable surface for the research work.

### 2.1 The hieroglyphics

Art and writing were inseparable in the beginning of Egyptian history. Much is known about ancient Egyptian society than other ancient cultures probably due to their system of writing: hieroglyphics (picture writing), which were used immensely in their art as evidence of it is seen on pyramids and Ancient Egyptian artifacts. Loprieno (1995), opines that the hieroglyphics were pictograph signs representing living beings and objects, such as gods or categories of people, animals, and parts of the human or animal body, plants, astronomical entities, buildings, furniture, and vessels. The figures and imagery could represent the actual object in nature (pictogram), could represent another thing (ideogram) or represent a sound (phonogram). The proper presentation is understood by the way and manner the pictures have been represented according to its principles.

According to Watts (1998), hieroglyphs are read vertically or horizontally, from left-to-right or from right-to-left. The faces of the humans and animal figures reveal which direction they should be read. If the pictures face right, they should be read right-to-left. If they face left, they should be read left-to-right. Twenty-four symbols were also developed representing sounds but were all consonants. Due to this, some words used the same constants. Scribes put determinatives on the ends of these words to show which word was meant. These symbols also distinguished male names from female ones by placing a symbol of a man or woman at the end of the name discussed. The phonological and semantic principles made the combination of these twenty-four characters meaningful. For example, when pictures are meant to represent the actual things in nature instead of sounds, such pictures are usually followed by a single stroke.

Dewan (2015) asserts that humans have used pictures to record their experiences for 250 centuries, pictograms and ideograms for the next 20 centuries, and words for the remaining 15 centuries. Communicating visually is what we have done for the vast majority of human history. As Egyptian and other ancient cultures used pictures to record an aspect of their history for posterity, manipulating the ancient methodology to preserve an aspect of contemporary life is possible.

### 2.2 The writing surface

According to Watts (1998), the longevity of hieroglyphics can be attributed to the geographical climate of Egypt. The dry climate made materials unto which hieroglyphics were patiently executed: leather, linen, wood, walls of building and tombs, and papyrus to survive in much greater quantities than in other ancient cultures. Scribes painted inscriptions on buildings or objects before carvers engraved them. They also wrote on papyrus, a paper-like substance made from plants using reed brushes and different colours of ink. A red or black ink was used for words and coloured ink for pictures.

Even though climate somehow favoured ancient Egypt, surfaces unto which important information are presented is a key to safeguarding it. No wonder, the God of Israel chose to inscribe on a stone slab that can stand the test of time when giving the Ten Commandment to His people (The Holy Bible). Copper metal can be a suitable surface that would bear importance visual information because of the appreciable properties that would make it stand the test of time. Konečná (2012), reveals that copper has an appreciably higher melting point of 1,083°C as compared to other base metals. When exposed to wind, rain, and snow, it acquires a beautiful shade of green called verdigris, an effect that protects it against further corrosion. It is readily worked by hammering, chasing, engraving and cold-rolling due to its malleability and was first used by Neolithic man as a substitute for stone.

## 3. Materials and methods

### 3.1 Materials and tools

The materials used include copper sheet, asphalt, Plaster of Paris (P.O.P), vegetable oil, nitric acid, Sulphur, caustic soda, auto-base metallic paint, aluminium frame, plywood and metal varnish. The

copper sheet was the main surface onto which the visual document was transferred. The asphalt, together with the P.O.P and vegetable oil were used to prepare a pitch compound which served as the working support for the technique. Pickle solution was prepared by the nitric acid for the cleansing of the copper sheet. The Sulphur, together with the caustic soda was used to prepare oxide for surface decoration effect on the copper sheet. Tools used included repoussage tools, chasing hammer, pitch tray, shears, pliers, blowtorch, furnace, and tongs. Repoussage tools are specially made metal punches with varied shaped working ends.

### 3.2 Methodology

The research made use of the Descriptive and Studio based research approach. The descriptive method was required in order to select the best technique that will make it possible to present the chronological salient facts of the development of the Asante kingdom in a visibly perceived form. Data collection instrument of interview and observation enabled the researcher to acquire firsthand information upon several visitations to the Manhyia Palace Museum and the Ghana Military Museum. Data obtained was analyzed and evaluated to serve as the bases for the design of the visual document.

## 4. Design and production stage

The primary source of the history of a people is more reliable than a secondary and tertiary source. Due to this, data from the Manhyia Palace Museum was considered more relevant to the project even though comparison with data from other sources were made. The initial stage of the design began with the making of a chronological summary that highlighted the historical facts of the Asante kingdom. This summary was made from the data obtained from the recommended book by the Manhyia Palace Museum Board titled “An Outline of Asante History” (Osei, 2004). The chronological summaries of facts were divided into two categories:

- a. Events before the formation of the kingdom.
- b. Events after the formation of the kingdom.

### 4.1 Encoding process

The summary under each category was itemised and each item was encoded into visuals using symbols and imagery. Some of the iconic charts on events before and after the formation of the Asante kingdom have been shown in chart 1 and 2 respectively.

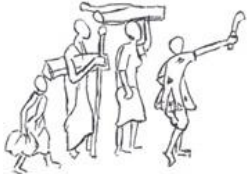
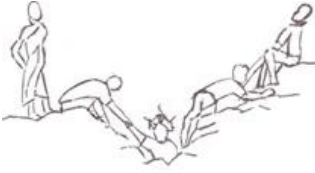


Major events	Code (Symbol or imagery)
The migration of the Asantes from Mesopotamia to Africa.	
A belief that the Asantes emerged from a hole at Asantemanso.	
Obiri Yeboa, OkomfoYamoa, and DwamenaAkenten united into a force to fight for their liberation from the Denkyira.	
Battle	

Chart 1: Some codes for category ‘a’








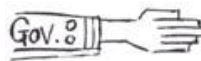
Major events	Code (Symbol or imagery)
The durbar during which the Golden Stool descended from the skies and landed on the laps of Otumfuo Osei Tutu I which made him the first king.	
Okomfo Anokye who was the spiritual adviser to the king and through whose directions came forth the formation and the liberation 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. An example is Nana Opoku Ware I who sworn to his people that his mission was to expand the kingdom through war.	
Nana Opoku Fofie brought 5,000 prisoners to Kumase after winning a battle which lasted for 15 months.	
This marked the period when Asante officially accepted the British flag (rule).	
The Governor demanded the Golden Stool at a meeting with the leaders of the kingdom but they refused. This brought about the Yaa Asantewaa war.	

Chart 2: Some codes for category 'b'

Having established the codes, they were organised into events of chronological segments which were then linked to each other in chronology to get one full working drawing. The individual segments were demarcated with brickwork borders bearing two openings or doorways of transitional entry and exist, marked by footprints indicating directions of movement. Figure 1, 2 and 3 show some individual segments of the working drawing demarcated with brickwork borders with entry and exist marked by footprints. The handmade visual document was rendered using the computer: Adobe Illustrator and CorelDraw program, and effect are shown in figure 4.



Figure 1: Some sections of the working drawing



Figure 2: Some sections of the working drawing



Figure 3: Some sections of the working drawing

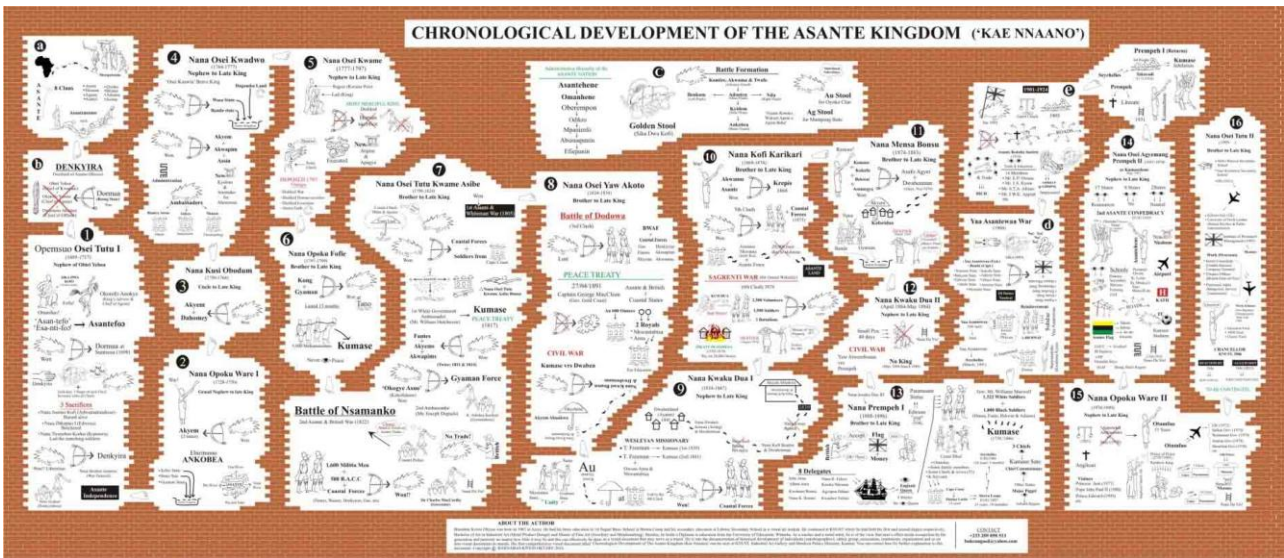


Figure 4: the rendered version of the final design, copyright ©2016.

#### 4.2 Fabrication process

Repoussage tools with varied shaped ends were fabricated through forging, filing and polishing, and this is shown in Figure 5.



Figure 5: Repoussage punches with varied working ends



Figure 6: bending of metal grip ‘fingers’



Figure 7: fitting of metal to the pitch compound

A hard pitch ware compound was prepared using the composition proposed by Untracht (1985), That is, 7 parts of asphalt, 7 parts of P.O.P and 0.5 part of emollient. This was poured into a metal tray. 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 repoussage processes. Pickling and rinsing were carried out to make the metal surface clean for the commerce of the technique. In figure 6, a margin of 1.5cm was marked along the edges of the sheet metal, serrated with shears and the resulting ‘fingers’ bent at 90° with a plier to provide firm grips onto the pitch compound. The sheet was bedded to the surface of the pitch compound with the aid of the gas torch and a wooden board serving as a support to keep the metal in direct contact with the pitch. This is shown in figure 7.

The scale-to-size visual document was pasted unto the metal surface. The entire pasted design was, first of all, traced out (chasing) using the liners as shown in figure 8. The registered impressions at the back as shown in figure 9, made it possible to work at the reverse side.



Figure 8: Chasing



Figure 9: Registered impressions



Figure 10: Sinking designs



Figure 11: Sunk designs



Figure 12: A section of the repoussage visuals

The metal was removed, annealed, pickled, rinsed and was fitted unto the pitch compound with the reverse side showing upfront. Repoussage was carried out as shown in figure 10 -11(above) by sinking designs to create relief effects at the back side (which actually is the front side) of the metal.

The metal was again removed, annealed, pickled and rinsed. The sinking effects were filled in with pitch compound before the whole metal was embedded unto the pitch compound in the metal tray with the actual front side of metal showing up front. The final aspect of the repoussage was carried out by defining and improving the relief and intaglio effects. Figure 12(above) shows a section of the repoussage visuals on the copper sheet.

### 4.3 Finishing

To enhance the appearance and to preserve the surface integrity of the work, oxidation, framing, and spraying was carried out. Oxidation solution was applied on the surface of the work for about two minutes after which water was evenly flush unto it. Portions of the form oxides on the work were removed with steel wool in figure 13 and in figure 14, the footprint designs were painted green with the auto base metallic paint to make the transitional marks visible. Figure 15 shows the final work in a frame measuring 139cm by 71cm, figure 16 also shows the key that was developed to somehow make decoding of the visuals easy.

A one-week exhibition was attended (20<sup>th</sup> to 26<sup>th</sup> November 2014) at the premises of Alliance Française, Kumasi, to outdoor the project for public reaction.

## 5. Results and evaluation

The project has led to the design and production of a historical visual document in metal as a mural, saving four-hundred-year historical events for posterity. The validation and approval given to the outcome of this research by the Manhyia Palace Museum Board have made this project an alternative to written document and oratory in gathering historical facts about the Asante kingdom. In view of this, a printout copy of the mural in canvas is displayed at the Manhyia Palace Museum for tourist and the main work in copper metal is displayed in the University: KNUST, Industrial Art Department's Gallery.

The plaque was executed in sheet copper of 0.8mm thickness. 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 'Kae nnaano', 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 the importance of history, as revising yesterday's event can form the bases of today's decision.



Figure 13: removing portions of oxide



Figure 14: painting of footprint visuals



Figure 15: Tinal work measuring 139cm by 71cm

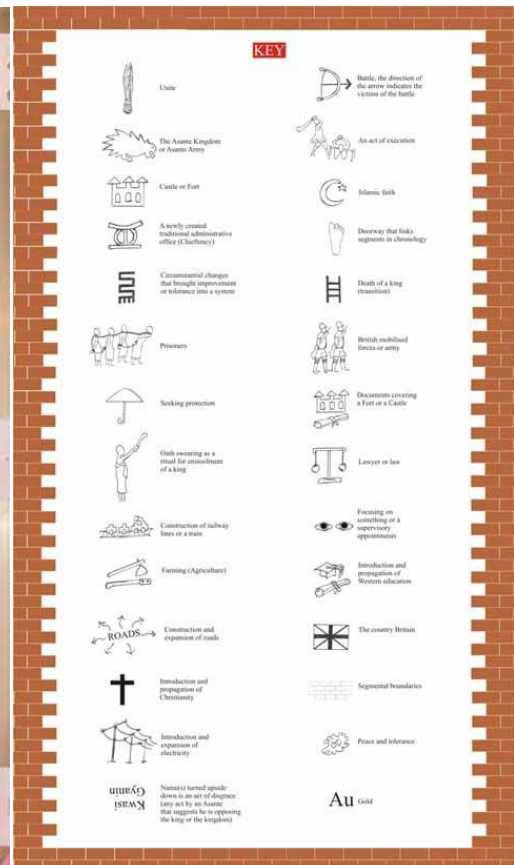


Figure 16: The key to the visual document

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 connotes its rich vegetation. The use of the bricks is also to suggest that history is a process that is built with time.

The individual segments have enclosed labels of either alphabetic letters or 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 Obiri Yeboa and others to liberate themselves from their overlord, the Denkyira State. Unfortunately, they were attacked and were killed by the Domaa State who was 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 the Denkyira State and the battle in which Ntim Gyakari (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 occasions. 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 Kusi Obodum who fought and defeated the allied force of the Akyem and Dahomey. Next leads to 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. Segment '5' 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 Opoku Fofie. During his reign, the Gong allied with the Gyaman and fought the Asantes but was defeated. It is recorded that he was the king who never saw peace during his reign.

Nana Osei Tutu Kwame Asibe succeeded Nana Opoku Fofie. Segment '7' presents facts about his reign. It was during his time that the Asante kingdom first came in confrontation with the Europeans when they aided the coastal forces against the Asantes. His defeat of the coastal states earned him the name 'Bonsu', which was 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 Adinkra Karikari. The British mobilised forces together 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; the Battle of Nsamako. After he is Nana Osei Yaw Akoto in segment '8'. He fought the British-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 sought refuge in Akyem Abuakwa.

Segment '9' is about Nana Kwaku Dua I. He brought back the people of Dwaben to their homeland in Asante from Akyem Abuakwa. It was during his reign that the Wesleyan Missionary went to Kumasi. Finally, he fought and defeated the British-mobilised forces which 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 the British and the coastal forces. However, he lost to the British in the 'Sagrenti' War (Sir Garnet Wolseley War), because he lost 20,000 of his men prior to the war through sickness. He was finally destool for misusing stool property. The next is Nana Mensah Bonsu in the segment '11'. He fought the Dwabenman which was under the leadership of Asafo Adjei. This made them sought refuge in Koforidua. He annexed Gyaman and Banda again into the Asante kingdom. He was finally destool due to some charges leveled against him. Segment '12' is about Nana



Kwaku Dua II. Unfortunately, he was attacked by smallpox just 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 seized the king and others. They were taken to Elmina castle and from there to Sierra Leone. Finally, they were taken to 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 Yaa Asantewaa 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 Yaa Asantewaa's forces against the British with the support of some Asante States. Even though Yaa Asantewaa 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. Yaa Asantewaa 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 as Asantehene, he was rather installed as Kumasehene to satisfy one of the conditions for his return, as proposed by the British.

After his death, he was succeeded by Nana Osei Agyemang Prempeh II, captured in the 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 Komfo Anokye Teaching Hospital and the Kumasi Airport. Also, there were expansions in road networks and the 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 Agyemang Prempeh II. 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 occasions. He elevated seven chiefs to paramount status initially and later fourteen chiefs same. 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, segment '16' presents the current 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 at 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 the 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 the United Nations in the capacity as the Secretary-General and also the Agyewodin title on His Excellency the past President Jerry John Rawlings.

It must also be stated that once the provided key for the visual document is used as a guide, decipherability becomes somehow easier.



Figure 17: The then Head of Department at the opening day of the exhibition

## 6. Conclusion and policy implementation

In conclusion:

- At the exhibition, audiences were able to gather some historical facts about the Asante kingdom by studying the visual document. This established the fact that symbols and

imagery can communicate intended purpose effectively when they are organized and not in isolation, and if possible accompanied by a word(s) or phrase(s).

- Audiences were not at a state of confusion in interaction with the visual document because these many historical facts were segmented in chronology using bricks. In view of this, segmentation can be created to enhance the proper presentation of a lot of chronological information at a go visually.
- A metal thickness of 1.2mm gauge was used for the practice of the repoussage technique by transferring unto it organized symbols and imagery about the researcher titled "My Autobiography". By comparing the thickness of the metal used for practice to that of the main work, repoussage of intricate designs is easily executed in light metal thickness (0.5-1.0mm gauge) than thick metal (from 1.2mm gauge upwards).
- The working metal used for practice came off the pitch compound during the initial repoussage process. However, the creation of the grips at the edges of the metal prevented this situation from happening again in the subsequence process. In view of this, creating grips at the metal edges ensures firm attachment of the working metal to the pitch compound for smooth repoussage process.
- Because the visual information to be transferred unto the copper sheet was bulky in nature, the continuous sound been generated from the repoussage process became a disturbing and irritating one to the ears at the initial stage. The introduction of the ear protector reduced this sound drastically and made the process a welcoming one to the ears. In view of this, ear protector can be worn to reduce the level of perceived sound from this process. In addition, the bandage can be worn around the hand especially the fingers that are in direct contact with the metal punches to reduce the level of vibration against such fingers.

As part of policy implementation:

- A presentation should be made to contemporary Ghanaian historians in order to introduce to them the possibility and benefit of incorporating symbolic reasoning in their reports or presentations. It is hoped that this engagement would be sponsored by Ghana Museum and Monuments Board or any other interested body that wishes to see historical facts presented in such a fascinating manner.
- A presentation on the safety precautions that should be observed in relation to pitch preparation through to the carrying out of the repoussage technique should be made to the metal students of the College of Art, KNUST. This I believe would help them eliminate possible risk associated with the technique. It is hoped that the Industrial Art Department of KNUST would sponsor this presentation.
- The College of Art of KNUST must have a periodic engagement with the metal artist: students, to encourage them to produce works of functionality especially in repoussage in order to let such works have value instead of mere aesthetics. Besides, the College can constitute symbolic reasoning as a short course that would require students to present historical facts in chronology concerning the Ghanaian society as their contribution to facts preservation. This, I hope can be done under themes such as; autobiography or biography of a person and the historical development of organization (ethnic or tribal group, institutions and football clubs).

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