

JEWELLERY FORMING TECHNIQUES DEPICTION IN A METAL MURAL: KNUST LANDMARKS

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Abstract

The complicated nature of this various technique limits jewellers and metalsmiths in the kind of design and size of works that they normally produce, which is mainly jewellery and jewellery- scaled items. This is as a result of artisan's inability to introducing modern production methods and design in their practice as well as lack of improving the aesthetic appeal of products by incorporating jewellery forming techniques in a metal sculpture mural. Various jewellery forming techniques were reviewed; further reviews were also conducted on landmarks in KNUST that can be incorporated in the metal sculpture mural to enhance their beauty. A qualitative research approach was employed making use of descriptive and studio-based research designs for the study. Observations were the tool used in gathering data. The results of this study indicate that by selecting the appropriate materials and workshop practices, it is possible to produce murals using the jewellery forming techniques irrespective of the design and size of the object. It is therefore recommended that jewellers, sculptors or metalsmiths in general are to establish and to combine other jewellery or metalsmithing techniques (such as granulation, welding, casting, electroforming, etc.) to produce artefacts other than jewellery-scale items.

Keywords: Sculpture, Metal Mural, Forming Techniques, Landmarks

INTRODUCTION

Tate (2013) is of the view that a mural is basically a large work of art placed directly on a wall. It requires a lot of the same basic techniques as smaller paintings, but on a larger scale. There are several ways of producing a mural and these may include sculpture, painting, and graffiti painting and among others. Metal sculptures ranges from solid-cast statues, statuettes, figurines, life size and colossal sculptures (Sade, 2000). The art of jewellery making dates back to ancient man. Many techniques such as filigree, casting, forging and materials such as shells, wood, soft stone, precious metals and gemstones that were used then are still used today. Jewellery was worn to make an expression about culture, race, wealth, religion and social status. Some religions used jewellery to ward off evil spirits. People who had great wealth used jewellery as a form of currency to secure their wealth. Jewellery was also worn as a symbol of social status meant to communicate something about themselves (Webb, 2015). Various forming techniques of jewellery such as filigree, enameling, granulation, forging and chasing and repoussé can be employed for construction of a metal sculpture mural depicting the various landmarks in KNUST. The idea of employing different jewellery forming techniques in producing large sculpture have been

explored by various artists, yet majority made of only either one or two techniques in a single work.

For example, Bediako (2016) used aluminium welding, chasing and repoussé to produce portrait sculpture of Osagyefo Dr. Kwame Nkrumah. Okyere (2016) used metal mural to depict the chronological development of the Ashanti Kingdom. Baidoo (2013) was able to use the ancient jewellery making technique of filigree to produce a life size photorealistic bust of Osagyefo Dr. Kwame Nkrumah, Ghana's first president. To broaden the process Baidoo (2013) used, incorporation of more jewellery forming techniques can be used for the making of a metal sculpture mural of Kwame Nkrumah University of Science and Technology's landmarks.

The use of these techniques in producing metal sculpture mural comprising of the various landmarks, telling a story and bringing it together as whole, for people to see the various landmarks in KNUST using the jewellery forming techniques is the motivating factor for this study. Incorporation of these jewellery forming techniques in making a metal sculpture mural and depicting the various landmarks in KNUST will showcase these landmarks bringing them as whole for tourists and people in the institution to see the various landmarks in the university in a sculpture mural depicting the various landmarks situated in the university with the incorporation of jewellery forming techniques.

This makes it easy for visitors to relate to the rich history and culture of the university. Most of these landmarks and monuments are unique to the university. For examples the "KNUST Main Entrance Stool", the statue of Dr. Kwame Nkrumah which was made uniquely by the university, and the statue of "Sir John" found in the famous "University Hall". Despite the fact that these works were produced a long time ago, they still retain their durability and aesthetic appeal because they are made from metal and other durable materials (Curry, 2009).

Landmarks are essential geographical features that give easy identification to a specific location. These landmarks allow and showcase beauty and aesthetical importance for art enthusiasts, historians, and the everyday person to admire and appreciate the meaning and symbolism of these landmarks. Adjei (2017) argued that landmarks play an important role in our everyday life and that no one wants to visit a memorable place without taking pictures of one or more landmarks of the area.

Naturally, the definition of a landmark comes with each age and condition or place in which it occurred. Today's landmark has much the same meaning and function as those of the past, although like a carved totem has had figures added while others have deteriorated and been lost to time (Kubler, 2008).

When landmarks exist over long periods of time, they develop multiple or layered meanings. Landmarks can be confirming or inspiring. Landmarks can occur as a point between things. From the ground level a landmark may be interpreted on a human scale (Cole, 2019).

Landmarks are usually classified as either natural or man-made; both are originally used to support navigation on finding directions. Natural landmarks can have features such

as mountains or plateaus. Examples of natural landmarks are Table Mountain in South Africa, Mount Ararat in Turkey, Uluru in Australia, Mount Fuji in Japan and Grand Canyon in the United States (Julian, 2017).

Trees might also serve as local landmarks, such as jubilee oaks or conifers. It is important to know some landmarks, examples being Queen's Oak, Hanging Oak or Centennial Tree. Examples of manmade landmarks include Statue of liberty in the USA, Kwame Nkrumah Statue at Kwame Nkrumah memorial Park in Accra and Paa Joe Statue at Kwame Nkrumah University of Science and Technology (KNUST)- Kumasi (Maxi, 2020).

Kwame Nkrumah University of Science and Technology was established in 1952, with a mission statement being to provide an environment for the teaching, research and entrepreneurship training in science and technology for development that will turn the wheels of industry and the economy for the industrial and socio-economic development of Ghana and Africa (Singh 2002).

Globally recognized as the Premier Centre of excellence in Africa for teaching in Science and Technology for development. Kwame Nkrumah University of Science and Technology has a rich history in its evolution into a first-class University over the years. Kwame Nkrumah, the African Personality of the Century and pioneer of African independence is the founder of KNUST. KNUST believes in achievement through diligence and commitment. The University of Science and Technology succeeded the Kumasi College of Technology which was established by a Government Ordinance on 6th October 1951. It was however, opened officially on 22nd January 1952 with 200 Teacher Training students transferred from Achimota College to form the nucleus of the new College. Kwame Nkrumah University of Science and technology is one of the geographical locations that can boast of different world class (Darren, 2010). A mural depicting metal sculpture comprising of KNUST landmarks is to be constructed, incorporating the various landmarks in a metal sculpture mural.

METHOD

The entity from which a sample size was taken was due to large size of the population in this context being the various landmarks in KNUST, the various KNUST Halls, Academic Colleges, Sporting Amenities and Other KNUST Monuments. Non-probability sampling was employed for the research.

(Leedy and Ormond, 2005) explain that, in purposive sampling, people or other units are chosen to suit the purpose of the study. Among the various sampling techniques, purposive sampling was employed in the selection of the various landmarks in KNUST. Due to the large size of landmarks 33% was a fair representation of the sample size. Out of an accessible population size of 27 landmarks in KNUST, 9 of these landmarks were purposely selected being. Two KNUST Halls that is University Hall and Republic Hall, Three Colleges being College of Art and Built Environment, College of Health Science and College of Engineering. One Sporting Amenity being Paa Joe Stadium and other KNUST monument being KNUST monument at the Administration, the Round-about near the stool at the

entrance of KNUST and the Peace Pole located at Tech Junction. (Table 1) shows the population of the landmarks in KNUST.

RESULTS AND DISCUSSION

Justification of Forming Techniques

Due to plenty forming techniques in jewellery making, selected techniques were used in the metal sculpture mural. These techniques are analyzed and justified based on why they were employed in the making of metal sculpture murals irrespective of the design or size.

Casting: it was used in ancient times and has been used to produce many big works of art. Employing this technique in big work, being the metal sculpture mural will bring out the details of the cast work. Lost wax casting in particular used for the metal sculpture mural is called precision casting where even mistakenly thumbprint found on the model will bring out the same effect after the casting procedure. In order to come out with the details of the human face, bringing photo-realism into play that whosoever that see the casted figure will see that this is the exact figure of the Katanga Statue which portrays delicate and fine features on the face and body as well. Lost wax casting being precision casting was the suitable technique for the casting of the Katanga statue.

Filigree: The reason filigree was explored and used in the metal sculpture mural was because experiments were conducted on incorporating it in the mural where series of butterfly design were welded together to see if it could fit in bigger works which was shown in chapter three with series of pictures. Also, according to Baidoo (2013), filigree is also another jewellery forming technique which was employed in the making of a sculpture bust of Dr. Kwame Nkrumah which is a big work, then it is possible to employ this technique in a metal sculpture mural where filigree is a jewellery forming technique and doesn't fall under any other metal working technique.

Chasing and Repousse: Landmarks were in human figures, animals and other forms. Chasing and Repousse was the suitable technique for the metal sculpture mural since the whole work was in a relief form, using chasing and repousse would bring out the best features in the relief, molding each objects exactly as the design in the relief form. It was best represented by Bediako (2016) in the making of a mural for the chronological history of the Ashanti Kingdom where this same technique can be used to talk about the various landmarks and their history in KNUST.

Enameling: This technique is used in jewellery and for this reason enameling technique was adapted and worked around it to see how best it can be employed. Although there are a lot challenges with enamels where there are enamel powders and enamel paste. However subsequent alternatives were considered, where the researcher tried using auto base car paint and colour for the enameling procedure since the material is too big and could be used to substitute the enamels to form a design.

Justification of Design

The design concept shows why these designs were chosen incorporating these various landmarks. The justification of design shows why these individual forms and figures were arranged, chosen, the meaning behind each of the various landmarks composed in the metal sculpture mural.

Paa Joe: depicted in the metal sculpture mural serving as the sporting amenity in KNUST is the centre of sports in KNUST where it is close to the administration being close to the administration serving as one of the hearts of KNUST and the halls in the university. Paa Joe is very popular due to other institutions coming over to the stadium for sporting activities which it can't be left out of the design because it is important and one of the popular landmarks in KNUST and that's why it was incorporated in the design.

Looking at the halls in KNUST, there are six halls where two halls were incorporated in the design. Looking at these two popular first only boys' halls in KNUST which was changed in recent times being Unity and Katanga Hall known for their turbulence and disturbance in the university. Both of them were analyzed but Katanga Hall, being the most popular hall in the university and also the first established hall in the university couldn't be left out of the design. Republic hall was added to the sculpture mural because of the popularity of their hall week celebration outside KNUST, where individuals come from different places to the hall during their hall week celebration for enjoyment and couldn't be left out of the design.

College of Engineering being one of the colleges in KNUST which have been the centre of technology in the school and for Ghana serving as a college in the KNUST in which mainly the university is known for its technology wise can never be do away with but incorporated in the landmarks.

Faculty of Art has produced renowned artist like EL Anastui and Ibrahim Mahama which makes them popular in the university, making KNUST a world-renowned university showing that this college should be incorporated in the design. World class doctors has been produced in country since KNUST has been known to be the best medical institution in the country producing high calibre of surgeons making the college part of the design which the researcher cannot be do away with it but incorporated in the design.

Kwame Nkrumah being the founder of the university and iconic figure in KNUST and Ghana couldn't be left out of the design and even the peace Pole which is at the heart and centre of KNUST can never be do away with but added to the design.

Bringing all these designs together, the composition of designs formed a horizontal balance showing how each of the landmarks were showcased and arranged on the metal. The composition of design is analyzed below.

The pot and fire, all represented in the design found in the emblem of KNUST is situated at the entrance of KNUST together with the hawk specifically the wings found both at the entrance and the administration. These two emblems had to be combined using the wings to represent both of them in the design and also the pot of flame which transcends down in the design found in the emblem and signifies royalty in our cultural heritage. This

has a correlation to the stool situated at the entrance signifying royalty. Kwame Nkrumah, being an iconic figure together with the Peace Pole at the centre of the design shows power. That's why they were designed in the form of sword which signifies power too Katanga hall sitting at the foot stool of them signifying students gaining knowledge from these iconic figures and KNUST with Republic Hall on the right supporting Katanga and Paajoe the left signifying sporting activities in KNUST for students with the various colleges aligned at the top of both ends with the aim and support of giving knowledge to the students in KNUST.

Finishes applied to Metal Sculpture Mural

Finishes that were given to the metal sculpture mural after they had gone through some form of finishing processes such as cutting, grinding, texturing and emerying were all done to improve their aesthetic appeal. These finishes include gold plating, silver plating, patination (oxidation), rouge and Tripoli polish, kerosene or brazo polish and then lacquering. Some jewellery forming techniques were cast in brass, copper but gold plated and silver-plated to suit the design. The art of covering material with gold is ancient and its part of African art. Due to high cost of gold in our present day, electroplating was used in this research as a substitute to full gold product items and gold foils used in the 1700's.

Patination: also known as oxidation was employed as a finish to imitate works done in antiquity hence its antique finish. This was also employed on large works and was employed in the metal sculpture mural as well. This is because artworks with a large surface area and will consume a lot patina which is far less expensive not like gold during plating makes price too high, which in turn will scare off average consumers. This is because responses received from artisans and metal art retailers showed that many of the consumers tend to buy works with antique finish to those with highly polished surfaces.

Rouge and Tripoli polish, kerosene or brazo polish: Each of these polishing compounds were applied to the metal sculpture mural after sandpapering or emerying. All these named polishing compounds helped in bringing out the brilliance in the metal sculpture mural.

Lacquering: even though all the various forms of finishes are fore mentioned in this segment of the chapter and enhance some level of beauty, they all require lacquering for it to last longer and to preserve their glossiness. Lacquering was applied to the metal sculpture mural.



Metal Sculpture Mural KNUST Landmark

CONCLUSION

The project confirms and proves that jewellery forming techniques is a great technique for communicating to the public and its viewers and the university. The researcher therefore recommends this process for the artist who intends to explore their creativity and also to promote the right channel of attaining justice of the nation which is very important for the perseverance of our judicial values. The technique can also be used to fight against critical issues of the nation through works of art such as chasing and repoussé. This will contribute to the existing knowledge of certain cultural heritage and values of the nation. At the end, it was possible to establish and to combine other jewellery or metalsmithing techniques (such as granulation, welding, casting, electroforming, etc.) to produce artefacts other than jewellery,

The researcher would also like to recommend the use of sandbags to an asphalt pitch. The sandbag is more appropriate other than the asphalt pitches due to health reasons and also ease of access. When using the sandbag, the researcher was able to manipulate the metal to access part of the figures and to periodically check for effects of the chasing and repoussé process every time it is used on the metal to make sure the desired effect is achieved.

REFERENCES

- Adjei (2017) Landmarks and its origin. Retrieved from <http://www.google.com/landmarks>. Accessed on the 2nd April, 2002.
- Baidoo (2013) filigree to produce a life size photorealistic bust of Osagyefo Dr. Kwame Nkrumah Thesis 2013.
- Bediako (2016) aluminium welding, chasing and repoussé to produce portrait sculpture of Osagyefo Dr. Kwame Nkrumah. Thesis 2016
- Cole (2019). Landmarks. Archaeology and Women: Ancient and Modern. University of Chicago Press. Chicago.
- Curry (2009). Textures processes. Retrieved from <https://www.google.com.gh/>. Accessed on the 18th June 2021.
- Darren, (2010) Emerging from the chrysalis, studies in rituals of women's Initiation. Cambridge: Harvard University press.
- Julian (2017). Metal Fabrications and Techniques. Types of production. Retrieved from <https://www.google.com.gh>. Accessed on the 14th May 2022
- Kubler (2014) what is Landmarks/ Estate complex and Diamond Making. Retrieved from <https://www.estatediamondjewelry.com/what-is-landmarks>. Accessed on the 12th May 2022
- Leedy, P.D. & Ormond, J.E (2005). Practical research. Planning and design (8th Edition). New Jersey, USA: Pearson Prentice Hall Publications. pp.87-90
- Leedy, P.D. & Ormrod, J.E. (2005). Practical research: planning and design. (8th Pearson Education), New Jersey: Upper Saddle River. PP. 184,203
- Maxi (2020) daily the illustrated guide to landmarks KNUST. Loveland: Interweave Press Publication. p.18

- Okyere (2016) Visual depiction of the chronological development of the Ashanti Kingdom. Thesis 2016
- Sade. (2000). Jewellery and its forming techniques: T. International Journal of Innovative Research & Development. 3(2), pp. 49-55.
- Singh (2002). Design methods for cross cultural collaboration design project. In: Redmond, J., Darling, D., & De- Bono, A. (Eds). Proceedings of Design Research Society International Conference, Future ground. Melbourne: Monish University.
- Webb (2015) Gem and Jewellery Yearbook and who's who. International Journal House, 2000. The University of Michigan, 7 Jan 2015.