DIORAMA CONSTRUCTION

by

Samuel Nii Adamah Sampah BFA (Sculpture)

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MASTER OF FINE ART (MFA) SCULPTURE

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DECLARATION

I hereby declare that this submission is my own work towards the MFA degree in Sculpture and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

KNUST

SAMPAH, SAMUEL NII ADAMAH	•••••	
(PG9126306)	Signature	Date
Certified by:		
Mr. J. K. ASARE-TETTEY		
	G:	
(Supervisor)	Signature	Date
Contignation		
Certified by:		
DR. GODFRED Y. ANNUM		
		•
(Head of Department)	Signature	Date

ABSTRACT

This is to examine the extent, nature, and scope of diorama in museum display outcome and its significant direction to enrich the understanding of our culture. The language of dioramas is a small or full-scale model of real or imaginary environments which serves as a vehicle for artistic expression. Diorama can also be described as a group narrative. The concept of "group narrative" mostly portrays the idea or feeling of togetherness and a common language perceived in things around us. In most cases, this concept is expressed through sayings, proverbs, installations and other art forms like painting, sculpture and graphics. Conceptual and methodological issues involved in the construction of diorama are discussed. Existing research that addresses dioramas and the part it plays in museum art is reviewed. The part diorama plays in an individual's life is considered and it's part in future research is also discussed. This is achieved by the construction and exhibition of dioramas through modelling, carving and painting as well as assembling of objects to portray naturalism. The same foam models can change in action by way of what it is been used to communicate. In diorama installation, foam models have advantage over other sculptural material models. The researcher has recorded, described, analyzed and interpreted his findings in five chapters. It is recommended that students are encouraged to undertake projects in diorama to unearth important scenes of cultural and historical importance. Installation art must be incorporated in the sculpture programme and made to form an integral part of the syllabus of study.

S. N. A. SAMPAH

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

From prehistory times to present, artists have sought to create images and architectural works that embody and express the most profound aspect of human experience. Expressions of love, hate, life and death, dominance and subordination and joy or sorrow fill the walls of art museums.

Art museums play an important role in many human societies. By their very nature, they reflect the basic human impulse to collect, offer evidence of human cultural heritage; inform all of men's creative nature and provide excellent and often inspirational examples of the visual arts. They prompt viewers to think about art objects in new and different ways, offering opportunities for learning, and in addition inspire individuals by enlarging their vision, and sometimes change their perspectives.

Stone (2001) cited Carole Debuse who defined the Art museum as probably the richest cultural resource. He emphasized that, "It brings to the community some of the best artists and the best works. And kids don't have to see it in books; they can actually see it in person and walk around it"

By collecting objects from various historical periods, documenting multiples of humankind and artistic expressions, including the arts as a reflection of emotion, intelligence and the expression of human condition in general are what make an art Museum. For instance "akua ba" may reveal the ideal beauty and emotional balance of the Ashanti's in Ghana (Willet 1971). A painting like 'Mona Liza' (1503 – 1506) by Leonardo da Vinci may embody the emotional attachment between the viewer and the picture (Bernardine 1964). A single object also may give evidence of an individual artistic ideas, hopes, victories, or misfortunes.

Objectives of the art museum are universal. It's primary mission is to preserve, safeguard, and exhibit significant artifacts of aesthetic value. It strives to acquire exemplary pieces and this means that such collections can inform us of the history of artistic achievements of generations. Since artistic expressions travel across art forms and subject matter, they can provide viewers with different perspectives of conventions, traditions, influences, and vocabulary. Artists respond to the context of the time in which they live. This tells about the spirit of the time, the role of art, the evolvement of crafts and even the influence of religious affiliations.

Another significant contribution is its role as a storehouse of stories – stories from many cultures and from times both past and present. Burial objects for example can bring to life the actions and thoughts of people who lived in Egypt thousands of years ago. Everyday objects, such as implements for eating and cooking, educate us about the diversity of approaches to domestic activities. When exposed to these stories, we can in turn reflect on our own times, culture, and values. It is said that art museums are enchanting and entertaining places that offer opportunities for discovery. Such art pieces are often relayed in chronological sequence when displayed to reflect the history of the object and

time and to arouse the interest of the viewer for his enjoyment, appreciation and understanding.

But the question now is; how does the art museum achieve all these objectives?

Bertram (1982) answered by stating that "graphics, whether they are handpainted murals, photographs, diagrams or maps, they play an important role in
museum display". Graphics serve a number of purposes. They attract attention,
introduce variety, colour and atmosphere and, most importantly, inform. Models
and diorama serve essentially the same functions as graphics.

"Models can be used to show function, association, or usage, and can be very valuable. If a model is extended to include a human figure, then it is close to being a miniature diorama. Its interest value is also vastly increased: people like diorama, and relate strongly to representation of people" (Bertram 1982).

Diorama is the naturalistic representation of a scene or activity. It usually has a painted or photographic background and a natural foreground. In a historical museum "the period room" could be considered a diorama if it includes manikins engaged in some activity. Diorama normally tells a story through an activity it portrays which more often than not touches on issues that are fading or lost in society. Diorama creates an atmosphere that is enchanting, inspiring and can enlarge ones vision.

Most museums in one way or the other might have gotten a feel of diorama in their custody. Being the custodian of our cultural values and heritage, diorama, will not only fascinate, hypnotize, mesmerize, captivate or enthrall but help in the preservation of this cherished heritage. "This artefact forms part of museum art and technology" (http://www.amnh.org/exhibitions/dioramas.html).

1.2 STATEMENT OF THE PROBLEM

It is the nature of man to understand things better if that is presented in a miniature form. Diorama is a small or full-scale model of real or an imaginary presentation in an artistic expression in a three dimensional form; to provide a better understanding. Nevertheless diorama works are not common in this country. The few available may be student's project or imported from Europe or America.

Therefore there is the need for this diorama to record history and to tell a story which is an important aspect of life, which may stand the risk of being lost to posterity. The researcher sees the need for sculptors and artist to learn and communicate effectively with their art by making dioramas - group narratives. It is envisaged that the society will have a feel of past events and bring alive such important events to the future generation.

1.3 HYPOTHESIS

It is possible to use a variety of material for this project.

1.4 OBJECTIVES

i. To produce group narratives for an artistic expression.

- To make installations that will modify the way a particular space is experienced.
- iii. To use different materials in constructing dioramas
- iv. To make the information of diorama making available to sculptors.
- v. To document a thesis report on diorama making.

1.5 JUSTIFICATION OF OBJECTIVES

- i. This would bring two or more sculpture pieces together in an activity.
- ii. Installations exhibitions will be organised.
- iii. More materials will be put to use in the construction and exhibition.
- iv. This would make available the knowledge of diorama construction to sculptors and other interested artists.
- v. It would help preserve traditional and contemporary activities in a three dimensional form for posterity.

1.6 ASSUMPTIONS

 That diorama can capture some social issues such as daily activities and bring the activities to life in three dimensions.

1.7 DELIMITATION (SCOPE)

The project is limited to the use of many materials that lend themselves to the construction, assemblage, installation and the process of diorama making.

1.8 METHODOLOGY

The experimental and descriptive methods were employed in the study.

- i. Literature Review,
- ii. Interviews/Consultation on the topic,
- iii. Practical experiments (prototypes)
- iv. Execution of work

1.9 FACILITIES AVAILABLE

- i. College of Art Library, KNUST, Kumasi.
- ii. MFA Sculpture Studios, KNUST
- iii. The University Library, KNUST
- iv. The KNUST Virtual Library (Internet)
- v. The National Museum and Monument board Accra
- vi. Department of General Art Studies
- vii. Cameras
- viii. Personal Computer

1.10 IMPORTANCE OF STUDY

This project will be of immense help to students, lecturers and art enthusiasts. It will serve as a reference material and inspirational guide. It will create awareness to the use of diorama as a potent tool for communicating, documenting, protecting, and preserving important historical and cultural events for the future. Other materials including found objects will be exploited and used in an installation (diorama).

1.11 DEFINITION OF TERMS

• "Period Rooms": Used mostly in museums and it signifies a room or part of a room furnished in a style of a particular period, with or without human figures for an exhibition.

• **Diorama**: Three dimensional representation of an activity - scene

1.12. ABBREVIATIONS

K.N.U.S.T - Kwame Nkrumah University of Science and Technology

P. V. A. - Polyvinyl acetate glue

1.13. ARRANGEMENT OF TEXT

This project is categorized into 5 stages or chapters. Chapter one looks at the preliminaries, starting with introduction through statement of the problem, hypothesis, objectives, research methodology and importance of study.

Chapter two discusses the concept of "Diorama construction" and the related literature on the topic. Chapter three which is titled "methodology" looks at the various methodologies and the concepts of the individual experiments by the researcher, their materials and processes. The chapter also looks at the construction of the model installation for the exhibition.

Chapter four contains the construction process of the main project (diorama installation) and its significance in our society and the world at large. Chapter five is the final chapter, which is made up of the summary, conclusions, and recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter looks at the works of several authors of books, journals, articles, and newspapers that are related to this research. Also, unpublished research works on records and computer database will be reviewed. This is done to prevent duplication of works that have already been done; to find out what others have learned and reported on the problem - diorama construction and finally to become familiar with the various types of methodology that others have used.

2.1 **OVERVIEW**

The rare nature of books and journals to support this project left the researcher no option than to rely to information on the internet for greater part of the review, which are basically definitions from different sources.

Sculpture did not begin on a certain day, in a certain year or in a certain century. Long before its story opens, prehistoric man has made pictures on walls of his caves. Primitive tribes have modelled, carved and painted totem poles. This has changed over the years into many art forms. But today new technologies and exhibition avenues offer dazzling ways to produce, perform and publicize visual ideas. Contemporary sculpture has expanded it's hitherto limited boundaries to include performing art and installations. "Traditional sculpture has such a small role in Postmodernism that it seems almost out of place when it does make an appearance. Instead installations have become the focal point of art movement

today. The installation artist creates a separate world that is a self-contained universe, at once alien and familiar" (Jonson 1997).

Art in general is gradually and increasingly moving to other perception. It has now become integrated with the internet which promises to extend visual communication even further. As a result the traditional art of making artifacts now offer expanded opportunity for introspective thinking and development of personal vision. That is, the opportunities of exploration are endless; therefore the exploration of DIORAMA as an art form comes to mind to widen the appreciation of visual communication and the development of creative intuition.

2.1 WHAT DOES DIORAMA MEAN

Diorama is an eighteen century innovation, a pre-climatic form of entertainment and education intended to provide views of significant places and events, first used in 1821 by L. J. M. Daguerre and Charles Bouton to describe large, hyperrealistic scenes painted on two sides of translucent fabric that produced changing imagery when illuminated. The word "diorama" stems from the Greeks, 'dia' meaning through and 'horama' meaning to see. This definition is confirmed by Hass (1955) and affirmed by the Standard Dictionary (1967), all illustrating it as a term derived from a Greek word.

Bertram (1982) expressed his opinion on the subject and claim that "Diorama is the naturalistic representation of a scene or activity". He described it as usually having a painted or photographic background and a natural or three dimensional foregrounds. The source maintains that dioramas are often included in museum presentation and interpretation of places and events, and are made up of figures and models of persons, objects and physical environment. He reiterated that in a historical museum the 'period room' could be considered a diorama if it included manikins engaged in some activity.

In an agreement to this the Webster's Intermediate Dictionary (1977) vies that: Diorama is a scenic representation in which lifelike sculptures and surrounding details are realistically illuminated against a painted background.

The New Standard Encyclopaedia (1967) also explains diorama as a scene that combines actual objects and painted background.

Hass cited Cipher (1942) as not saying anything different on the subject but rather explained diorama as a miniature group consisting of small modelled and coloured figures and specimens, with accessories, in an appropriate setting and in most instances artificially lighted.

It is also a known fact that light and lighting effect play part in diorama display. This is arranged to produce some sorts of atmospheric effect desired for an illusion that helps the appearances to look real. This is supported by the Universal World Reference Encyclopaedia (1970). The inclusion of this lightening effect and its accessories in diorama construction brings sober and symbolic reflections. Writing about miniaturization in her book, "On Longing", Stewart (1993) noted that "the atmosphere in a diorama is charged; mood and time are crystallized, the

viewer is given the extraordinary opportunity to step outside his or her time and place to view life spectacularly".

Hyde describes the scene in diorama metaphorically as follows

"All is somber, desolate, and mournful; the long drawn aisles, at first glance, are alone perceived, for a thick fog reigns without, and such is the illusion of the scene that you actually fancy yourself chilled by the cold and damp air. By degrees, however, the fog disperses, and through the vast arches are plainly discovered the forests of pine and larch-trees that cover the valley. The magic of this effect of light is indeed most extraordinary and the illusion is complete and enchanting..." (Hyde: 1988)

Apparently, these definitions and explanation from the various sources mentioned above have significant impact on this research project. The researcher gathers from the above definitions that diorama is a technique of creating an art piece (miniature works) which gives room for viewers to have a feel of their natural surrounding which is an amalgamation of real systems. It embraces a natural background either in photography or painting and a three dimensional foreground sculpture model. It can be done in miniature or life-size format.

Again diorama is not only limited to still-life and community life activities but also covers wildlife and obsolete objects put forward in a natural setting for reenactment.

It can be exhibited in a mirror case for an exhibition. The amazing nature of the scene is so real that the viewer might be forced to touch or hold it, so there is always the need to prevent it from destruction.

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Admittedly, diorama creates a platform of dilemma. These ambivalent moments evoke a mysterious past and spark curiosity about the future, inviting the viewer to fill in the details.

2.3. A SHORT HISTORY OF DIORAMAS

An online information on diorama revealed that the art of miniature figures and landscapes in the form of diorama has been around for a very long time, probably in sixth century in Japan; where the art of growing miniature trees in pots and making them look like their natural counterparts is thought to have its origins. In Japan, the art of miniature landscape is called "Bonkei" and also the art of growing miniature trees in pots and making them look like their natural counterparts is known as "Bonsai" (http://stormthecastle.com/diorama/fantasy-diorama.htm)

Today the art of Bonkei and Bonsai are still being practised worldwide and has even improved to become an avenue for active pursuit of genre collecting models for education. Edinburgh history has it that the term diorama was first used in 1821 by Louis Jacques Mandé Daguerre and Charles Bouton to describe large, hyper-realistic scenes painted on two sides of translucent fabric that produced changing imagery when illuminated. Through the clever play of light Daguarre could make one scene dissolve into another.(www.edinphoto.org.uk/1 edin/1

Undoubtedly, it could be inferred from the various definitions that, today diorama is more than what Louis Jacques Mandé Daguerre and Charles Bouton created. Now it is not only associated with painting scenes on transparent linen but also combines actual object or figures which are sculptured and painted scenes. Specifically, the sculptured figures are set against a background for an illusory effect.

In Ghana, diorama and group narratives, though known has not been given much publicity and attention. Our museums specially the one in the heart of the Accra, controlled by the Ghana Monuments and Museum Boards had made several diorama displays over the years. One old repository of this technique which the museum can boast of is the one made by Asa Anokwa -"The Horse Rider" (plate i) robed in costume "batakari" (traditional dress) associated with the Northerners of Ghana. This was done in the early 1970s and it is still in existence. Apparently, it is believed that the artist represented himself in the work. It portrays the rich culture of the north and heralds their culture.

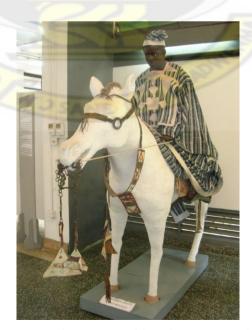


Plate i - "The Horse Rider" by Asa Anokwa

In the year 2006, an exhibition was held in conjunction with the International Museums Day celebration and dioramas were displayed. The Museum authorities invited some artists, including the researcher to produce dioramas for them. Plaster of Paris figures were produced which were later painted and clothed. Cultural activities from different tribes in the country like "Adowa" dance of the Akan, "Kpanlogo" of the Gas, and "Boboobo" of the Ewes as wall as "Asafo flag bearer" were on display (plate ii). The exhibition had pictorial backgrounds to complement the figures.



Plate ii: "Untitled". A diorama which include activities of Asafo flag bearer and Kpanlogo dancer. Ghana Museums and Monument Board (Accra)

A more recent display of diorama was when Ghana celebrated its 50th anniversary in the year 2007. A month long exhibition was held at the museum and this time it was in a garden. On display were dioramas including an image of the first president of the Republic of Ghana, Osagyefo Dr. Kwame Nkrumah and counterparts on the day of their declaration of Ghana's independence in 1957. This diorama was exhibited amidst busts of renowned Ghanaians and other important personalities that have had a hand in the course of Ghana's struggle for independence up to date.

Another diorama can be found in the Forestry Regional Office, Kumasi. This was made my Mr. J.K. Asare-Tettey, Senior Lecture of the Department of Painting and Sculpture in the early nineties, depicting various forest scenes – high forest, grass land etc. Master George Breko-Hiapa made a diorama which can be seen at one of the lecture rooms of the Art Education lecture hall. It is titled "Diorama Art for Museum Education"; (plate iii) and was done for the degree M.A Art Education.



Plate iii Diorama for Education - Master George Breko-Hiapa

2.4 DIORAMA CONSTRUCTIONS

Construction simply means to build-up. It involves the use of several materials used to produce an artifact. Construction of dioramas may take diverse ways depending on the artist and his environment.

Stewart (2002) contended that compositional choices are strongly influenced by the construction methods used. Furthermore, he ascertains that the two most common methods of construction are additive and subtractive processes. The sources further stated that in the additive process, the artwork is constructed from separate parts that are connected using glue, joints, stitching or welding.

Assemblage is one additive method; using objects and images that were originally created for another purpose. Modelling is also another additive process often used by the ceramists, which involves the pinching and pushing pliable material like clay skillfully to make both functional and sculptural objects. In the subtractive process, the artist removes materials from a larger mass, gradually revealing the sculpture within. Carving is the most common subtractive method. This follows a methodical process, beginning with drawing on the large mass, making rough cuts, then refining and finishing. Aside the above mentioned constructional methods, other techniques can be employed including installation art, collage, painting and electrical construction.

From the above, the researcher become knowledgeable about the various ways he can use to create his diorama figures, ways such as modelling, carving, punching etc. Different materials both created, found, photographed etc could be used.

2.4.2 Installation Art

A form of visual art in which an exhibition space is transformed into a three-dimensional work of art. The range of materials used in installation is almost limitless, and the art pieces cross many stylistic movements in abstract or narrative, political or purely theoretical, temporary or permanent. Stewart (2002) illustrates it as an ensemble of images and objects that are presented within a three dimensional environment. It further stated that because one occupies the actual time and space of the art work, one becomes physically engaged in installation, and the aesthetic experience becomes heightened. Getlein (2002)

confirms the above point when he added that it is an art form in which an entire room or similar space is treated as an art work to be entered and experienced. Installation art uses sculptural materials and other media to modify the way a particular space is experienced. Although the term installation art is now more broadly applied, it came into use in the 1970s to help define artworks made in direct response to an environment. Installation artists shared an interest in making temporary use of evocative spaces for expressive ends.

The researcher tapped into this technique, as he leant to engage the environment into his work. He had a strong conviction towards the making of dioramas that will have direct response to the environment. Through installations, the researcher's vision to see his work communicate with the society will be realized. He sees installation as a diorama on a large scale though devoid of an enclosure as the early dioramas used to be. Still this can be encased by walls and other enclosures if need be.

2.4.1 Collage

MS Encarta Encyclopedia online defines a collage as being a picture made entirely or as part of a photograph, fabric and materials pasted or glued to a picture surface. The source continued that in an illustrative approach, imagery and content take precedence over the main idea which photomontage provides as a good example. This can be done by cutting pictures from magazines, newspapers and fixing them onto the background scene.

(http://encarta.msn.com/encyclopedia_761587538/collage_art.html)

Realizing that photomontage could be added in a diorama, this was thought useful as it can provide a very potent background scene in a diorama.

Other methods that complement the construction of diorama are painting and fixing of electrical and lighting accessories which were also derived from the methods above. Painting of the backdrop (scene) is one important aspect as it brings out the idea of perspective within the work. The Encyclopedia Britannica (1973) confirms that perspective and impression of depth provide that the immediate foreground material is usually in the full round but when space limits the depth on an exhibit, such objects may be made progressively smaller as they near the background surface.

The researcher takes note of the part perspective plays in diorama construction and will apply these findings in his constructions.

Undoubtedly, it has become very obvious that most installation constructions and "group narratives" are all diorama construction techniques. Since these installations contain figures involved in an activity it can be termed diorama. Typical examples are shown in the labelled plates (iv - x) below.

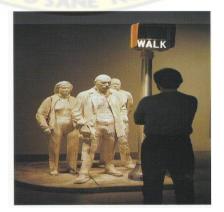


Plate iv "Walk, Don't Walk" by George Segal



Plate v "Dancers" by George Segal

George Segal's installations are made up of live cast figures in realistic three-dimensional setting. Segal's works captures a particular kind of city experience. His life-size plaster ghostly figures fused in actual objects were just enough to tell a story of people. He employed the use of plaster of Paris through casting for his works not forgetting the natural environment (Getlein 1985)

In classifying installations as dioramas, "The Radioactive Cats", "Standing Figures", "The Burgers of Calais", "Venice's Rent Collection Courtyard" "The Club of Bamako" of artist Sandy Skoglund, Magdalena Abakanwicz, Auguste Rodin, Cai Guo Qiang and Caulibaly Siaka Paul, & co. respectively are among a few to mention.

All these artists used different media in their works, all to tell specific story which are meaningful to study for future references (plates vi - x).



Plate vi "The Radioactive Cats" by Sandy Skoglund

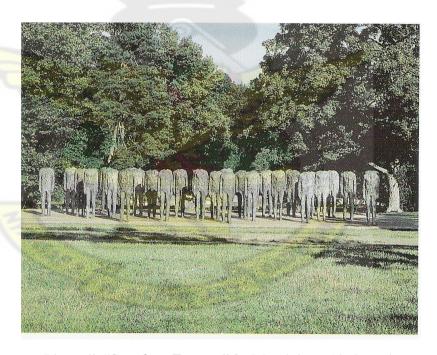


Plate vii "Standing Figures" by Magdalena Abakanwicz



Plate viii "The Burgers of Calais" by Auguste Rodin

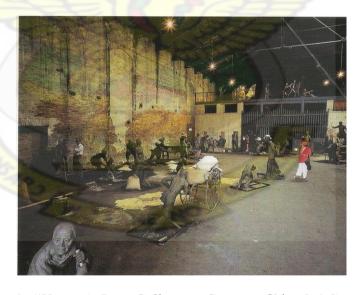


Plate ix "Venice's Rent Collection Courtyard" by Cai Guo Qiang



Plate x "*The Club of Bamako*". Caulibaly Siaka Paul, Emile Guebeli and Koffi Konakou

The stories behind these "group narratives" are cultural and historic. They serve as reference point and profess actions and inactions of persons who lived years ago. For instance, Abakanwicz's "Standing Figures" (plate vii) often are interpreted as victims of war. The work offers a silent testimony to a tragic past warning all of the dangers of war. Rodin "The Burgers of Calais" (plate viii) depicts an episode from the medieval history, where six men offered to give their lives as ransom for their city from the English who holds it captive. This works herald the need for sacrifice. "Venice's Rent Collection Courtyard" (plate ix) of Cai Guo Qiang is based on a famous Chinese work in the 1960's, of Life-size clay figures depicting the many ways in which a heartless landlord exploited his poor peasant tenants. The effect was devastating and irking. "The Club of Bamako" (plate x) by Caulibaly Siaka Paul, Emile Guebeli and Koffi Konakou captures the vibrant club scene that flourished in the city of Bamako, in Mali, when young people danced every weekend to a mix of European, American and African hits. It elevates the period 1959 to 1960s, the decade in which much of African countries gained freedom from colonial rule.

The researcher learns so many things from the above artists and their works as they appear below. The work of Rodin was done differently, that is by building individual figures which were later brought together and joined at the base. The work was made in bronze. The technique brought the individual activities into a common unit (plate viii). This is not different from what Segal did. The difference was in the material. His works (plate iv & v) are individual standing or reclining figures brought together in an installation. It is therefore important to note that most installed works (figure) are constructed individually and later composed into a unit. All the examples above fall in this category – a group narrative. Group narrative approach has a common message for viewers and psychologically, each viewer may find something peculiar in the installations which may appeal to him.

One common feature that runs through all the examples above is the unique material each artist used. Material like plaster of Paris was used by Segal, bronze by Rodin, clay by Qiang, chicken wire and wool by Skoglund and wood by Caulibaly Siaka in their works. This gives an indication of the material that is easily accessible to them. It also proves that one type of material is predominantly used in an installed work to bring out balance and uniformity. Importance is also placed on the setting of each work. Both artificial and natural materials were employed. Abakanwicz chose to exhibit his "Standing figures" (plate vii) in a natural environment whiles Caulibaly and Skoglund created artificial environmental setting. "The club of Bamako" (plate x) for instance was exhibited in a museum with pictures and photographs behind it. Cai Guo Qiang

as a matter of fact made his "Venice's Rent Collection Courtyard" (plate ix) at exactly where the action took place.

It is seen by the researcher that a justification on the subject matter has been exhausted. Clear lines have been drawn as to what diorama is by comparing the above compositions. Space in installation plays pivotal role as it is in diorama construction; to tell a story based on a particular place and time. Most often a common material is predominantly used for uniformity. It is these the researcher has taken note of.

2.5 COMPOSITION AND CONSTRUCTION: Choice of Materials

The material used in a project may automatically affect the range of possible outcomes. In selecting a material, consideration must be made on certain qualities in relation to the intended design (Stewarts 2002)

The researcher agrees with Stewarts and therefore considered that the strength of each material must be considered in terms of how much weight can such a material support; for workability; how difficult is it to alter the shape of the material. Durability must be looked at considering how long the objects can last. In terms of weight; a material that is too light for a given purpose can be as problematic as a material that is too heavy. Also the material chosen must be obtained easily and at a reasonable cost. Moreover the materials must be measured in terms of its non-toxicity, to know whether the ventilation in the workplace is appropriate for the work process.

Stewards further mentioned that, most importantly, consideration must be made on its functionality. In-depth knowledge as to how appropriate a given material is for a particular work must be sought after.

He said that, the materials chosen must serve both the structural and aesthetic needs of the physical object. Museum's dummies can be acquired from stores which are either made from fiberglass or foam polyurethane. Other models may be made of plaster or papier maché. He reiterated that dummies can be remodelled. Almost all can be cut up with a panel saw or similar cutter. By cutting out a section of the neck, for instance, the neck can be shortened or the altitude of the head changed.

Bertram (1982) writes that modelling pieces can be assembled. For modelled pieces made from polyurethane, plastic or papier maché, the use of white carpenter's glue, is recommended and araldite for fiberglass. The source further recommended that remodelling of the sections, as well as the features or damaged areas can be repaired with polyester putty (plastibound) as long as one is prepared to do some sandpapering afterwards. It further suggested that for museums wishing to make their own manikins, it is probably simple to fabricate them from chicken wire and papier maché, with hands and features modelled up with an airdrying modelling paste (Bertram 1982).

Another writer Andrew (1983) stated that open construction can be made from foam boards, slabs, bars, and variety of preformed shapes fastened together. Pins

or skewers of pointed metal rod 1/8 to ¼ inch diameter serve for holding such construction together whiles the applied adhesives are left to set. Good adhesives for joining foam pieces, he recommended include epoxy, aliphatic resin glue, white glues, asphalt tile cement, and resorcinol-base glues (Andrews 983).

The above will certainly lead the researcher to explore a variety of material for the construction and will finally settle on the most suitable for the main project.

It is further learnt that tools for the construction are also limitless as its materials. The writer mentioned that it is important to note that appropriate tools must be used on the material it is intended for, to avoid any casualties. Such tools range from high-powered electric propel equipment to a basic wooden spatula and needle. For foam work for instance, a pair of scissors, and any sharp edge knife, blade and paper cutters were greatly useful. For armature, power tool like grinding machine and the welding machine as well as work bench, anvil, hammer (light and heavy), bending bars, bending stakes, pliers, hand cutters, hacksaw and blades would be found useful.

2.5.1 Plaster of Paris (POP)

Andrews (1983) wrote that plaster is an extremely versatile material made from gypsum (2CaSO₄H₂O). In a fluid state it can be poured into moulds to make sensitive impressions of texture. When mixed in a buttery consistency, plaster is excellent for modelling and can be carved when it has hardened. The shortcoming of plaster is its weakness. It sacrifices it strength for its quality of easy forming, breaks easily, and deteriorates when exposed to the weather. For every type of

plaster there is an exact proportion of water which will produce a complete chemical reaction and result in maximum hardness and at a minimum setting time. Sharp (1990) asserts that 'when plaster is mixed with appropriate volume of water, it "recovers" the water it possessed prior to calcinations, and "sets" to an inert and solid mass of substance substantially the same composition as the original mineral". Too much water in a mix results in weak set plaster (Andrews 1983).

The author continues that when working with plaster it is important to note that it sets quickly upon contact with water, therefore mixing must be done at a faster pace. There is no better way of finding out if the mix has been well done, than to feel it for lumps with the hand. A bucket of water can be kept nearby to wash hands afterward. However, when plaster is allowed to harden on the skin it can be painful to remove, particularly if hair is stuck in it. It is much easier to clean up tools and work surfaces before the plaster sets, than after.

The various hints given by the authors put the researcher on alert about what to do when using plaster especially how to overcome its shortcomings. Its very nature, gave the researcher the momentum to explore more, since it is a light weight material which he thinks could be of much use for building his figures.

2.5.2 Armature Construction

Armatures are very important in construction; for building or modelling threedimensional objects. Andrews (1983) wrote that an armature is a rigid or semi rigid framework or skeleton used by a sculptor to support his modelling piece. Its usage is not restricted only to in-the-round works. Asare-Tettey (2008) opines that before the armature construction starts, a detailed plan of the armature layout should be drawn with measurements required for the construction. He further stated that, the armature plan should aid the sculptor to estimate and acquire the appropriate iron rods for the work. "The choice of iron rod types should be dictated by the size of sculpture to be undertaken and the ease with which the rods can be fashioned without unduly straining the body" (Asare-Tettey, 2008). The bench, anvil, bending bar and bending stakes aid in the construction.

The researcher gathered from the authors above that a well constructed armature will mitigate the cost of modelling materials, tiredness and frustration arising out of the correction of a problematic armature.

2.5.3 **Foam**

A data from Encarta 2008 states that foam rubber is manufactured directly from latex by using emulsified compounding ingredients. The mixture is then whipped mechanically in a frothing machine into a foam containing millions of air bubbles. The foam is poured into molds and vulcanized by heating to form such materials as mattresses and seat cushions. Latex can be shaped into such products as toys or gloves by dipping forms made of porcelain or plaster of Paris into concentrated latex. A coating of latex adheres to the form and is stripped off after vulcanization (http://.encarta2008.com). Andrews (1983) points out that, "natural

latex rubber has many sculptural applications; it can be cast in moulds, applied as a coating to other materials, and made into flexible sheets by adhesion to fabrics".

He further asserted that since 'foam is light weight, and as such it can excellently be used for models'. Full- scale models of sculpture can be carved out of foam and set upon the intended site, enabling the sculptor to judge its scale and position in relation to the environment. For the same reason foam is popular for constructing of stage scenery. Foams come in variety of forms, in sheets, slabs, and shredded pieces. These can be employed to stuff soft sculptures made of cloth, leather and plastics.

The researcher got some ideas on foam from the sources above as he realized that foam can make an excellent choice of material for his construction since he intended to create full scale models. Foam will be manipulated using carving and modelling techniques.

2.5.4 **Box Construction**

Bertram (1982) stated that 'the function of the box / showcase is to exhibit materials under conditions which will keep it secure, clean and generally protected from insects and unstable atmospheric conditions'. They vary greatly in sizes. There are no strict limits to the size, except for limitations imposed by the physical requirement of buildings servicing them.

A case can be made of a simple 50cm x 25cm frame neatly lined internally with plywood and nailed. Some can be made from simple chipboards where the edges

must be veneered. Cut the various panels and either nail or screw them together leaving a viewing area or a door. This area can be glassed with acrylic sheet (Perspex) which can simply be screwed onto the box frame. To construct a very strong case durable material can be used and stands created for them.

The source further stated that, it is clearly better to light such showcases internally. This allows the balance of light between the showcase and the viewing area to be adjusted to minimize shadows and reflections (Bertram 1982).

The idea gathered by the researcher is that, the showcase will protect his miniature exhibits and can be made from any hard and durable flat sheet material. Furthermore the showcase with lighting will enhance the appearance of the work heightening the perspective required for a complete illusion.

2.6 Diorama and Museums Alliance

Apparently, diorama is used in museums throughout the world. Wonders (www.museum.vic.gov.com) affirms this when she stated that; "in the twentieth century, the diorama has come to symbolize museums. It is widely known in the museum environment than any other place".

Art museums were developed to make art available for the public consumption and perhaps nothing embodies the spirit and its mission than dioramas. Museums like the American Museum of Natural History, the Museum Victoria of Australia, the Yale Peabody Museum and the Museum of Contemporary Art, San Diago,

United States of America all boast of great dioramas. "The Museums' habitat group dioramas", located extensively throughout the halls of American Museum of Natural History, are among the most renowned and beloved exhibits at the museum. With precise depictions of geographical locations and the careful, anatomically correct mounting of specimens, stunning dioramas are said to be a window onto a world of animals - their behavior, and their habitat.

(http://www.amnh.org/exhibitions/dioramas/media/windowsonnature.ram)

Most art museums accept the fact that diorama is an appropriate art for its outfit, since diorama best suit its mission. Inspired by a variety of sources including museum displays, stage sets, and miniature models and work in both two and three dimensions; diorama artists create and analyze dioramas using them as a decoy to explore the ways to know and understand the world. In dioramas, the concrete and the imaginary, the authentic and the artificial become magically intertwined.

In a nutshell, both museums and dioramas communicate facts and dispel misconception consciously. The two simultaneously give meaning to the subject on display – exhibit.

2.6.1 Panorama Dioramas

Dr. Terence Cavanaugh a lecturer from the University of North Florida defines panorama diorama as an application of using a digital cameras and modelling (plate xi). He stated that modelling is a basic part of many types of classes like the sciences, mathematics, social studies, and art. Students are required to make, display, and discuss models. Students create dioramas using a variety of household items, usually a shoebox, then adding a design or collage into the background, and placing other objects within the diorama to create a three dimensional model effect.

The online source further stated that, in this activity students create a three dimensional model diorama using a panorama image as a background. The front of the diorama is made of card that may include information such as the title, a description or other details about the project. The use of the panorama as a background adds realism to the diorama and it improves the student's technological skills. Panorama photographs can be found on the web or made with a digital camera. The Panorama will be printed out and that sheet will become the background of a diorama. For extra effects sheets can be printed to become part of the foreground of the diorama.

(http://www.drscavanaugh.org/digitalcamera/diorama/panaroma.html)



Plate xi Panorama diorama

The researcher deduced that, digital images can be used in the making of diorama. Slightly used objects (found objects) can be transformed into dioramas to process and report information.

CHAPTER THREE

METHODOLOGY

This chapter discusses the methods the researcher employed to execute this project. It focuses on research methods, library research, research instruments, and practical experiments.

3.1 Research Methods

The researcher employed the qualitative research under which descriptive and experimental research methods were used. Qualitative research also involves collecting data in order to test the hypothesis.

3.1.1 Descriptive Research

"Descriptive research examines a situation as it is. It does not involve changing or modifying the situation under investigation, nor is it intended to determine cause and effect relationship" (Leedy and Ormrod, 2005). The researcher used descriptive research to describe diorama making and the present technology associated with it. The researcher also used this method to probe further into other forms of diorama making. Moreover the method helped the researcher in knowing which types of material combinations are feasible for a completed project work.

3.1.2 Experimental Research

Experimental research according to Wallen (1996) is "the only type of research that directly attempts to influence a particular variable, and when properly

applied, it is the best type for testing hypotheses about cause and effect relationships". Experimental research helped the researcher to test for the right materials and media for diorama construction. Experiments with different media were done and described and the comments sampled, analyzed and used as the experimental results.

3.2 Library Research

Libraries visited include the Kwame Nkrumah University of Science and Technology main library, College of Art library, Department of Art Education library. Information that had direct relation on the project topic was sought for.

3.3 Research Instrument

Interviews and consultation on the topic was conducted. Some officers at Ghana Museums and Monument Board were consulted. Other exponents on the subject and lecturers were interviews and the response and tutelage adhered to.

3.4 Experimental Works

The whole work started with a careful consideration and selection of a theme for such experiment with brief notes on each experiment using different materials. In the quest to derive ideas from the experimental survey, the following considerations were made before the selection of the materials:

- i. The availability of the materials
- ii. The uniqueness of the material in relation to its use and function
- iii. The tools required for the construction

Upon careful consideration, the researcher realised the need of using less weighty

materials for the construction. Plaster of Paris (P.O.P), foam, sawdust and clay

were envisaged. As a result tests were carried out to find out their suitability for

use in the construction of the diorama.

3. 4.1 Purpose of Experiment

This researcher started with experiments to help him identify the correct materials

and approach to the building of dioramas.

As a prelude to this research work, the researcher used different materials to

create four different scene experiments. These first four executions gave the

researcher more confidence and experience to approach the rest of the exercises

without any doubts. This action redirected the researcher's choice of materials

and approach towards the main project. To the researcher, the experiments were

necessary because it helped him overcome all the complexities and challenges

associated with the construction.

3.4.2 Experiment 1

Title: "Historique - The Three Wise Men"

Aim: To employ clay in the making of terracotta models to ascertain its weight

for diorama installation.

Subject matter: History of the Akan people of Ghana.

Materials: Clay, quarter-inch rod, binding wire and flexible wire.

Tools: Hacksaw, modelling tools, scooping tool, pliers, cutters, rolling pin and

board.

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A simple story from the past heroes of Mankessim, a tribe in Ghana was revisited. History has it that the Akan speaking people to which the Fante people belong, were one of the Nations/States that formed the Old Ghana Empire in Sudan which migrated after the collapse of the Empire in the 10th century. It is believed that after wandering through the forest, they eventually settled at "KRAKO" literally meaning "to bid farewell"; which is the present day Techiman in the Brong Ahafo Region. After settling there for about 350 years, part of the group decided to break away to find a new settlement since they felt threatened by the Islamic invasion that was drifting towards them. The migration from Techiman was under the leadership of three warriors OBRUMANKOMA, ODAPAGYA and OSON, meaning the whale, the eagle and the elephant respectively, (signifying their fetish priest "Komfo Amona" and his dog, "Eku"). The names of the three warriors ostensibly signified mastery of the sea, air and land. The warriors presumably feared no foe and this was important since they themselves did not know where they were leading the Fante people to. The first two warriors died on the way and their bodies were embalmed and carried along till they settled at the permanent place where they were buried (Baiden 1980).

The researcher used this story to teach an important aspect of life. He touched on the warriors by modelling them each in a gesture that portrayed different mood (plate xii).

Production Process

A sketch was made (fig. i). An armature was constructed using the quarter inch iron rod and the wire mesh wrapped around to support the clay. The modelling

started with the application of the clay onto the armature with the aid of the modelling tools. Having achieved the desired form, the work was left to harden to leather-hard state before details on the various parts were made.



Fig. i Sketch of the idea

The next stage was the scooping of the work. The modelled figures were marked and cut into segments for the removal of armature and easy scooping. With the scooping tool, the inner clay was taken off bit by bit. The scooped pieces were later joined together with clay slip and smoothened.

The next stage was the firing. The leather-hard models were left in open air for further drying before they were taken to the kiln for firing. The fired pieces were polished and installed in a circular manner. Each figure complement the activity of the other, as the first one (Odapagyan – the eagle) looks up, the second (Obrumankoman – the wale) was in a relaxed mood and the third (Oson – the elephant) was seen in an expectant mood holding a basket, meaning man expects (anticipates), to either receive or to give (plate xii).

The next stage was the painting of the backdrop. Cardboard was stretched on an easel and with the aid of the brush, tint and shades of primary colours were applied on the sketch area. The colours were applied smoothly using horizontal and vertical strokes. The finished backdrop was added to the modelled figures by fixing it with glue on the wall.

Description of work

The work is made up of three terracotta figures arranged in a semi-circle. The height of each figure differs from the other ranging from 22.5cm to 15cm. One of the figures has the head raised up, facing the heavens, the second has it's head on the shoulder and hands around its legs. The third had its head on the knee holding a basket which touches the ground. They were installed against a painted background. All the figures are sitting on the ground. The figures look like old men in action.

Interpretation of the work

The mood captures the past showing what happened sometime back in the Ghanaian culture. The work denotes isolation and suffering representing the pain and suffering the men went through as leaders. The work depicts anticipation, giving and receiving (plate xii).

Observations

The work inspired by the popular war song "OBRUMANKOMA, ODAPAGYA and OSON. It thematically portrays realism so as to inspire, motivate and

energise people that nothing is impossible in life. The rigidity is symbolic of leaders. The terracotta scene is successful.

Results

It was realised that, with terracotta figures, the possibility of it breaking is high, therefore the need to be extra vigilant to safeguard it from possible destruction.



Plate xii Terracotta modelled figures



Plate xiii The completed Piece - "Historique - The Three Wise Men"

3.4.3 Experiment 2

Title: "My Culture, My People, Our Heritage"

Aim: To explore possible ways of making and installing plaster of Paris (POP)

models against a painted background in a diorama construction to find out its

suitability.

Subject Matter: Damba festival

Technique Employed: Modelling, Casting and painting.

Materials: POP, clay, quarter-inch rod, binding wire, jute sack, sisal fibre,

flexible wire, and painting brushes.

Tools: Modelling tools, hacksaw, pliers, cutters, rolling pin, wooden board,

acrylic paint and pallette.

The idea behind the execution of this piece was derived from one of the many

festivals in Ghana. One of the most celebrated one is the Damba festival. The

Damba festival was originally a traditional and religious one. It is planned to

coincide with the birthday of the prophet Mohammed. It is of Muslim origin and

celebrated by both Muslims and non Muslim in the Northern and Upper regions

of Ghana. Whiles the elders are engaged in religious activities; the youth sing and

do traditional dances to entertain themselves in the evening. The festival is

marked by a colourful display of traditional costume, dances and many other

activities.

The climax of this festival is a big durbar where the chief Imam, the linguist,

elders and sub-chiefs gather in front of the chief's palace. Occasionally the chief

dances to the damba beat amidst jubilation and shouts of joy. Anytime the chief

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or an important person dances, there is firing of musketry as well as showering of money on the drummers (plate xiv). An activity that ends the Damba is the display of horsemanship. This sees the "Damba off". This is where anyone who owns a horse decorates it beautifully including the chief's and ride on their backs through the town at the admiration of friends and loved ones; in a long procession that ends at the outskirts of the town. Drumming and dancing goes along with this procession until the end the festival.

The researcher captured the climax of the festival when the natives of the northern region danced and made merry, dressed in rich "batakari".



Plate xiv - The Traditional Damba dance being performed at a just ended Ghana CAN 2008 Sports Festival. (Daily Graphics archives 25th January 2008)

Production Process

A drawing was made based on the gestures of the damba dance (plate xiv). After the selection of the suitable sketch, an armature was constructed with the quarterinch rod to form the skeletal structure of the five figures. Modelling was done in clay with the modelling tools. The modelled figures were then demarcated with clay slabs of about one centimetre in thickness, cut into long strips.



Fig. ii Preliminary sketch of idea

The mould was taken with P.O.P. and laminated at the side walls with the solution of soap and engine oil. With the aid of wooden pegs, the mould were opened, washed and laminated.



Plate xv Laminated mould pieces

After the laminating material had dried in the mould pieces, the mixture of plaster was prepared to cast the work. With the aid of a brush, the mould was filled with the first layer of the mixture. Whiles setting jute sack was cut into pieces and used to strengthen the work in the mould. A quarter-inch iron rod was also fixed in the work, all to secure the various layers. The moulds were later put together,

bound with binding wire and the P.O.P mixture was poured in to ensure that the pieces were joined.



Plate xvi Joining of mould pieces

The mould was broken off from the cast after two days. Parts that were not properly joined were mended with a mixture of P.O.P. The work was allowed to dry and the rough surfaces smoothened with rasp and sand paper.



Plate xvii Breaking of moulds

Finishing was rendered by painting the individual works with a mixture of red and black (shades of brown), in various proportions of acrylic paint. The clothing was left in the colour of the casting material (white).



Plate xviii P.O.P. Cast Figures



Plate xix Painting of figures

The next stage is the painting of the backdrop. A sketch was made and with the aid of the brush, shades and tints of primary acrylic paint colours were mixed and applied smoothly on the canvas. A typical northern settlement scene was depicted, showing the hot and dry nature of the environment. The base area for the installation was also painted.

The next stage was the installation. The modelled figures were mounted in front of the backdrop. Glue was applied at the back of the backdrop and fixed on the wall and the base painting. The modelled figures were arranged and fixed onto the base with glue.

Description of work

The work is about 30 cm in height. It is made up of five figures, two drum beaters and three dancing figures with a painted backdrop. It captures a moment of excitements and joy. A conscious blend of foreground objects (figures) and a background scene. The perspective in the painting gave depth and realism to the scene. The gestures of the figures suggest a response to the melodies coming from the drummers.

Interpretation of the work

The work demonstrates the symbolic unity that is achieved during festivals where people come together. The repetition and arrangement is synonymous with the idea of cordiality and togetherness that is associated with festivals in Ghana.

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Observations

There is a blend between the foreground and the background. The P.O.P miniature figures are easily painted due to its whitish colour and absorbent nature. The perspective in a spectacular way added realism to the scene. The scene can be composed in several ways by changing the positions of the figures. It is possible to add other forms or materials to improve the composition.

Results

It is realised that both sculpture and painting techniques can be combined in a composition that will make an impart. P.O.P absorbs paints easily and as a result enhances its appearance.



Plate xx - Finished Diorama "My Culture, My People, Our Heritage"



Plate xxi Aerial view of finished work

3.4.4 Experiment 3

Title: "Let's Go To The Village."

Aim: To have photomontage added to the backdrop to enhance the perspective of the installation.

Technique employed: Modelling, Casting and Painting.

Materials: Plaster of Paris (POP), clay, quarter-inch iron rod, binding wire, jute sack, sisal fibre, flexible wire, and painting brushes.

Tools: Modelling tools, hacksaw, pliers, cutters, rolling pin and board, glue, computer, digital camera, straw mat, fine sand, acrylic paint and pallette.

The village is a small settlement and habitat of people in a community. The village community lives closely together. The folks are all known to each other due to its size. The result of this is the coming together of children in the community to play. They play amongst themselves sometimes drumming and dancing and these help them to exercise themselves. Their presence in the village not only makes them happy but brings liveliness to the village to make for talent discovery. Actions like village wrestling, best climber, and many more useful talents are required in a village of an African setting. Rural-urban migration has so far taken away these impressive talents from the villages.

The researcher in a bid to combat this loss to the village explored the subject by making a scene that can arouse the enthusiasm of viewers on village life.

Production process

This was similar to Experiment Two, but this time round, the researcher tries to create an illusion that will transform the background from two dimensional painting to a three dimensional scene. The idea of collage and photomontage is introduced. This is because the researcher realised from the literature review that it was possible to create a more interesting scene which is natural than an illusion of two dimensional to one where things become more real.

The production process is as follows;

A drawing was made based on a village scene captured on a digital camera. An armature was constructed with the quarter-inch rod to form the skeletal structure of the models that will form the composition. Modelling was done in clay using the modelling tools.



Plate xxii Clay modelling of models

The modelled figures were then demarcated with clay slabs of about one centimetre in thickness, cut into long strip and used on the figures to create the mould areas.



Plate xxiii Demarcated models

The mould pieces were covered with P.O.P. and laminated at the side walls with the solution of soap and engine oil. With the aid of wooden pegs, the mould pieces were opened, washed and laminated.



Plate xxiv Washed and laminated piece moulds

After the laminating material had dried in the mould pieces, the mixture of plaster was prepared to cast the work. With the aid of a spatula, the mould was filled with the first layer of the mixture. Whiles setting a jute sack was cut into pieces and used to strengthen the work in the mould. A quarter-inch iron rod was also fixed in the work, all to secure the various layers together. The moulds were later put together, bound with binding wire and the P.O.P mixture was poured in, to ensure that the pieces were joined together.



Plate xxv Joining of mould pieces

The mould was broken off from the cast after it had dried. Parts that were not properly joined were mended with a mixture of P.O.P. The work was allowed to dry and the rough surfaces smoothened with rasp and sand paper.

Finishing was rendered by painting the individual models with a mixture of red and black (shades of brown), in various proportions of acrylic paint. The clothing was left in the colour of the casting material - white.



Plate xxvi Painting of figures

The next stage is the construction of the backdrop. A sketch was made on the strawboard.



Fig. iii Preliminary sketch

Straw mat was cut to the shape of the roofs of the mud houses, fenced and fixed at their appropriate places on the drawing to create actual solid forms. Shades and tint of primary acrylic paint were mixed and applied smoothly with the aid of the brushes. The clouds and foliage were painted first. Pictures from the camera were downloaded and edited with designing programs like Photoshop and coral draw. These were printed, cut and arranged on the background (photomontage) and glued. P. V. A. glue was used.

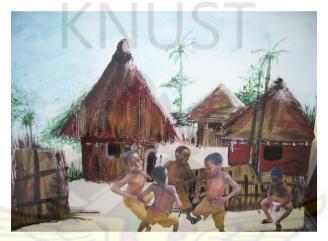


Plate xxvii Photomontage scene

The areas that represent the floor on the drawing was first smeared with white glue and fine sand was sprinkled on, to give a realistic ground feel to the scene.



Plate xxviii Sprinkling of sand on the painting for the foreground

Touches were made on the constructed backdrop with the brush. The edges of all the elements that composed the scene were painted to fuse into the backdrop. Shadows were created on the straw roof and fence, all in the bid to create solid forms. It was then lacquered.

The next stage was the installation. The constructed backdrop was mounted on a wall with glue. The fore ground on which the figures will be mounted was prepared by the use of fine sand that was fairly distributed. The modelled figures were placed on the ground. Other elements for the installation were added. And an open area in a diorama was set (plate xxix).

The constructed figures were assembled on the prepared area after several rotations of the figures. Groves were created in the sand to touch the floor and the figures were fixed with glue and epoxy. The 'oware' was also fixed. Natural dry grass was added to complete the work.



Plate xxix - Setting up of the scene

Description of work

The work is a typical village setting found across the country. The area occupied is about 40 by 40 inches square. It is composed of a constructed three-dimensional background and foreground. The composition has four figures created using POP in an activity. Two of which are playing "Oware" game, with the rest also engaged in another play. The backdrop has images of young boys in an ecstatic mood, dancing to the music being played. The multi-media backdrop adds to the illusive aspect of creating depth through painting. A considerable improvement in perspective is achieved. The scene was arranged symmetrically.

Interpretation

The work thematically demonstrates village life of the African. It re-enacts what rural-urban migration has taken away. The use of straw mat and raw sand for the buildings typically shows the true settlement of the village folks. The addition of photomontage, paint, POP, heightened the effect of the scene.

The work gives the impression of belongingness and rootedness. Above all, the sense of identity and believe in one's place of birth is brought to the fore. It admonishes all to look back to fetch what is perishing and probably help to overcome all predicaments.

Observation

Diorama is a form of multimedia art. The three dimensional scene at the background has added to the perspective in the work. Depth has been greatly enhanced.

Results

The open area surrounding the installation seemed too wide. Probably more figures would close the gap. Perhaps a box constructed to enclose the figures would be the answer.



Plate xxx - Finished work "Let's Go To The Village."

3.4.5 Experiment 4

Title - "Mita nye loo mi ka tan ye"... "Womiihere bo no ta wo" (literary mean story! story!!)

Aim: To construct a complete miniature diorama set in a box to demonstrate African folktale.

Technique employed: Direct Modelling, Painting and construction.

Materials: Saw dust, strawboard, quarter inch rod, binding wire jute sack, sisal fibre, flexible wire, and painting brushes.

Tools: Modelling tools, hacksaw, pliers, cutters, rolling pin and board, glue (PVA and solution), and pallette.

Idea – Traditional story telling (folktale). Folktale explains ideas on selfishness, greed, laziness, ungratefulness, disrespect, obedience, hard work etc. in Ghana. The main character mostly is the spider "Ananse". Ananse is portrayed as having traits, qualities and behaviors of a human being. He is sometimes portrayed as a cunning man, a cheat, a lair, and a trickster whose actions normally lead to calamities and hardship that confront the community – illness, drought, famine etc. In the presentation of folktale, the story teller is often a person who has a good sense of humour to arouse the interest of the listeners. People normally gather in the evenings to relax around a fire to listen and be entertained. Thus the name "By the fire side". They sit in semicircle and the story-teller sits at the open end of the semicircle. This is done for both parties (the storyteller and the listeners) to have visual contact of each other. During the narration, interruptions in the form of signing, clapping and dancing comes up. New songs are learnt especially those related to the story, questions are asked by the story teller —

sampling opinion from all gathered. Lessons are learnt as far as human problems are concerned.

Facial expressions, songs, gestures, feet and all parts of the body are used by the story – teller to maintain the interest (Abbiw et al 1989)

The researcher depicted this scene using sawdust for the figures. The researcher used his past experiences gained from the initial experiments (1, 2 & 3). Since literature has revealed that diorama can be in a case, the researcher executed this one to suit that style.

Production process

This includes the construction of figures, a cabinet, the painting of backdrop, assembling of all the units, finishing and decoration. Various drawings were made and one was selected for the work (fig. iv).



Fig. iv Selected sketch

An armature was constructed starting from the base. Measurements of various dimensions of 0.5cm iron rod was cut into desired lengths for the upper torso, lower torso and limbs, arm, neck and head of the human figures. Other parts were

bent to the desired shape and bound at the various joints and intersections to achieve the forms. The core was re-enforced and covered with chicken wire. The general form and curves of the body were defined. The chicken wire helped to keep in place whatever material was used for the modelling. About ten armatures of different sizes, shapes performing different actions were constructed. Armatures that represent figures that were to be closer to the viewer were bigger than those at the background.



Plate xxxi Constructed armatures

Sawdust was acquired and was sieved for fineness and smoothness. A mixture of sawdust and white glue to a clay-like consistency was laid on the constructed armature about one inch thick. This was left to dry and harden before subsequent layers were applied later on. Bits of the mixture were applied with the modelling spatulas to form the desired shape. In the wet state the modelling tools were used to press the surfaces to a fairly smooth surface. The figures were then left to dry. The dried figures were sanded and painted.



Plate xxxii Modelled sawdust figures

The figures were later clothed. The usual attire that is worn by the storyteller – grandpa was put on the figure, the listeners gathered also were dressed (traditional cloth).



Plate xxxiii Clothed figures

The next stage was the making of the showcase. The diagram for the construction of the showcase is shown below. Detail drawings of the cabinet from the front and side and plan are shown. The researcher made it a point to ensure accuracy, therefore measurements are provided. (Fig. 1,2,3,4 & 5)

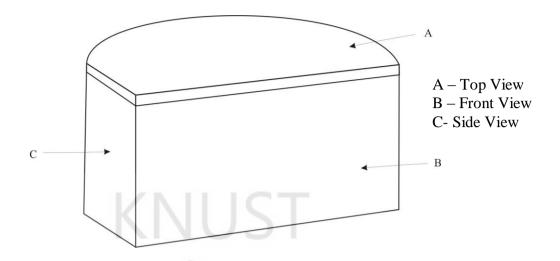


Fig. v Orthographic projection

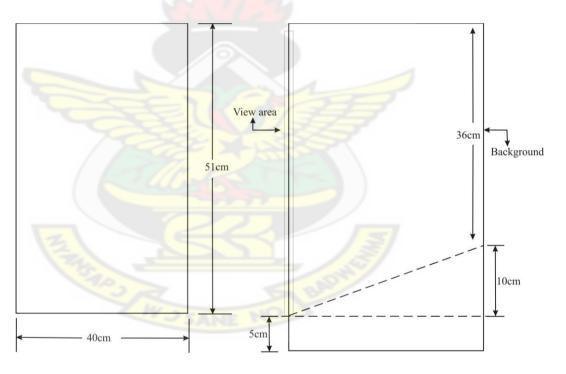


Fig. vi Side View

Fig.vii Side View (Cross Section)

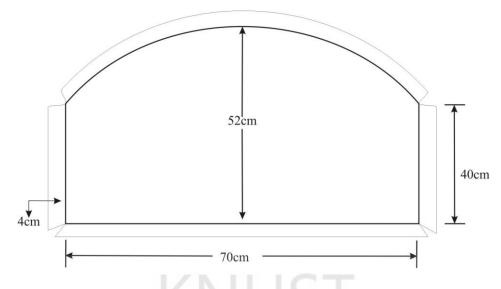


Fig. viii Top view (plan)

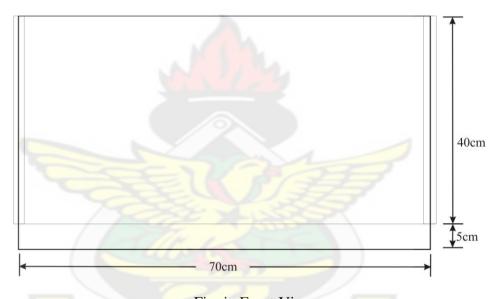


Fig. ix Front View

Chip board was used for the construction because it is easier to cut and assemble. Layout of the construction was made and marked. The shapes were cut out — front, sides, top, back and base. Glue was then used to join them starting from the base. The base was constructed to slope downwards. With precision, the sides were glued and the back was folded in a curve (c) shape. This was then joined at its appropriate place and left to dry. The top was measured and folded to fit well. A mica board was then fixed in front and screwed.



Plate xxxiv Construction of Showcase

Next is the painting of the backdrop. The background scene was worked out from a sketch drawn by the researcher.



Fig. x Sketch of the backdrop

The scene was painted on a cardboard and then mounted at the background of the cabinet. Measurement was taken from the constructed cabinet, from one side through the back to the other side. The size was transferred onto the cardboard and drawing of the outline made. Primary colours of acrylic paint were obtained and mixed in small quantities, and with the help of the brush, the paint was applied. Gently, the brush went horizontally and vertically to attain the fine quality of painting; starting from the clouds, to the buildings, the foliage and the

burning fire. Raw sand was used to cover the foreground by first applying glue to hold it. The edge was painted to blend into the background painting.

Next is the assembling of the various units into one complete composition. Every element in the composition was studied individually and integrated into the rest of the scene. The backdrop was first fixed with glue. Other components like the bulb and its cable, the seat for the story teller, the firewood and firestone were assembled. The base of the cabinet was coated with a mixture of white glue and sand. The seat was fixed with the solution glues, the firewood and its stone were also glued to position. A hole for the bulb was created from the back since it was to shine from the fire. It was then glued and the cables connected.

The figures were then glued to their positions. The glue is applied at places where the figures have contact with the base of the cabinet. The story teller was placed on his seat; the listeners formed a semi-circle around him.

The showcase was finished by wrapping it with a black binding cloth. It was decorated with traditional symbols - "Adinkra". These symbols are specially arranged in a proverbial way (Agbo 2006). This was significant because it drew attention to what is happening inside.

Description of work

The work is approximately 70 by 52 centimetres. It is a composition of an activity involving nine figures in a cabinet viewed through a window. A night scene is observed as the activity demands. The pose of the figures reflects the true

proceedings that take place during such engagements. The storyteller faces his audience and the fire burns closer to them to give light. The foreground merges into the background as it was tilted making the fine sand in the foreground visible. The light from the bulb created the illusion of true fire. The black lining of the cabinet helped to make visible the content.

The symbols are arranged in proverbial way symbolic of what is always taught through the stories. The symbols arranged on the right hand are explained by this poem;

"Be patient brother, endure

You are a child of God so nothing evil can be fall you,

Because you abhor evil, good fortunes is bestowed you,

Get heart friend, all good things you hope for shall surely reach you." (Agbo 2006)

This was represented by symbols like "Akoma" 'symbol of patience'; "Nsoromma 'symbol of guardianship'; "Mmusu yideɛ" 'symbol of sanctity and "Nyame biribi wo so ro" 'symbol of hope.



Fig. xi Adinkra symbols signifying patience

On the right is a poem of love -

"Love is faithfulness,

Love is understanding and mutual agreement,

Love is friendship and interdependence

Love comes from God, therefore one can break it apart" (Agbo 2006).

This is represented by "Esrane ne Nsoromma" 'symbol of faithfulness'; "Akoma Ntoaso" 'symbol of understanding'; "Ese ne Tekerema" 'symbol of friendship'; and "Gye Nyame" 'symbol of supremacy,.



Fig. xii Adinkra symbols signifying love

Interpretation of work

This can be said to represent an iconography of Africa, using diorama to communicate proverbially. The cabinet symbolizes the origin and colour of Africans, with a strong heart like that of the fire. The activity demonstrates how knowledge is acquired informally in our local setting. The symbols connote the principles and beliefs that bind the people together to ensure progress. Various principles and values have been captured symbolically, - authority, friendship, unity, patience and hope. They are vital to the development of a nation.

Observation

The work is unique as a result of the fusion of ideas from the previous experiments. Working with sawdust is challenging in two phases, when it is wet, it can easily come off and when it dries it becomes difficult to shape. Much improvement can be made to the cabinet as a more durable material can be opted for to guarantee its durability.

Results

It must be noted that, a considerable improvement in perspective is achieved by the display of the figures in a showcase as it has borders. The rigorous application of the law of perspective is essential to the success of the exhibit. The skilful use of lighting also heightened the effect.

This chapter has given the evidence that it is possible to produce diorama. All the plates of the project works in the next chapter are in full scale to show clearly how the environment played active role in the set up of the various models in the scenes.



Plate xxxv Angle view of the finished work



Plate xxxvi Final Work "Mita nye loo mi ka tan ye"...
"Womiihere bo no ta wo"

CHAPTER FOUR

EXECUTION OF THE MAIN PROJECT

This chapter deals with the actual execution of the main project. It outlines thoroughly the various stages that the project went through before the final product. The researcher's intention is to create dioramas using the natural environment as the backdrop for communicating ideas contextually. What this means is that, the same models will keep changing from scene to scene. This idea called for serious brainstorming session.

4.1 Tools and Materials

For the purpose of this project, the items listed below among others were acquired and used.

4.1.1 Modelling Tools

These are small, wooden hand tools of different sizes and shapes used in modelling clay. They are also vital in the modelling of difficult and intricate parts of figures (plate xxxvii a).

4.1.2 Chisels

Chisels are carving tools with long metal blades that have sharp edges for cutting wood, stone, et cetera with a wooden handles. They appear in different sizes and shapes. Blunt, straight chisels were used in this project during the breaking of P.O.P moulds to release the casts (plate xxxvii b)

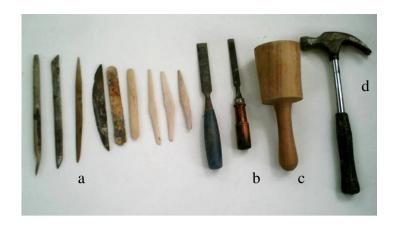


Plate xxxvii (a) Modelling tools, (b) Chisels, (c) Mallet and (d) Hammer

4.1.3 Mallet and Hammer

A mallet is a wooden hammer in different sizes for driving or pushing chisels during carving. A hammer however is made up of a metal head with a flattened end which is fixed onto one end of a wooden handle, used for hitting things or driving nails into wood (plate xxxvii c & d respectively).

4.1.4 Pencil

It is a thin, long wooden drawing tool with black lead, graphite or other coloured material embedded in the wood, which is used for writing, drawing or sketching (plate xxxviii a).

4.1.5 Rasp and File

Rasps are instruments usually of steel with one or more surfaces covered with numerous small, raised cutting teeth for abraiding, reducing or smoothing surfaces. Files are also metal tools with rough surfaces for

cutting or shaping hard substances or for making them smooth. These tools practically do the same jobs (plate xxxviii b & c respectively).



Plate xxxviii (a) Pencil, (b) Rasps, (c) Files, (d) Brushes, (e) Tape Measure, (f) Sand Paper

4.1.6 Brush

It is a tool made of short, flexible or stiff hairs usually attached to a wooden handle used for painting, polishing and for applying adhesives. (plate xxxviii d)

4.1.7 Tape Measure

Is a long narrow slip of plastic or flexible metal that has marks in inches or millimeters on it and used for measuring. They differ in length, size, and colour, mostly imported. It is used in taking measurements in order to secure correct measurements and ratio for better proportion (plate xxxviii e)

4.1.8 Sand Paper

It is an abrasive paper, strong and textured with a coarse surfaces. They are used in smoothing the surfaces of wood and also for removing flesh

from natural surfaces. There are rough and smooth types and are different in grades depending on how rough or smooth it is. It is made of strong paper, sand and glue (plate xxxviii f)

4.1.9 Hack Saw

It is a hand tool with a thin blade which is used for cutting wood and metal or any hard material (plate xxxix a).

4.1.10 Hand Grinder

This is an electrically propelled machine used for cutting, grinding and polishing of surfaces. It can be used for cutting iron rods for the work (plate *xxxix* b)



Plate xxxix (a) Hack Saw & (b) Hand Grinder

3.1.11 Knife

It is a sharp metal blade with a handle, used for cutting things. It was used to model and cut foam into shapes (plate xl).



Plate xl Knives

4.1.12 Scissors

A cutting instrument with two blades screwed together with handles. It is manipulated with the figures which brings the two blades together. They come in different sizes. It will be used for cutting the foam and fabric for work (plate xli).



4.1.13 Drilling Machine

Is a machine with a drill for creating and drilling holes. Common examples of drills are: electric drill, hand drill, dentist drill etc. They are of two parts, the metal part and the handle made of either metal, wood or plastic (plate xlii)



Plate xlii Drilling machine

4.1.14 Bench

A working table constructed out of a hard solid wood that can withstand rugged handling and strikes. It carries working tools and materials. It was used to hold; and aided in the bending of iron rods (plate xliii a).

4.1.15 Bending Bar

A locally manufactured tool used mainly by "steel benders" to make iron reinforcements. It is fashioned from different gauges of iron rod with a length of approximately 70 cm. It was used for bending iron rods used for the construction of armature for the models (plate xliii b).

4.1.16 Bending stake

A flat, thick metal on which vertical(metal) stakes have been welded with equal interval and fastened onto a studio bench. The iron rod being bent is held in between the rows and bent using the bending bar (plate xliii c).



Plate xliii (a) Bench (b) Bending bar (c) Bending stake (d) Anvil

4.1.17 *Anvil*

It is a tool for the construction of metal shapes like circles, semi-circles and other forms where precision is required. It is on this that iron rods are straightened and curved for the armature (plate xliii d).

4.1.18 Pliers

An instrument for tightening joints and rod links when constructing armatures. It makes use of binding wire which is fashioned into a loop and tied. It is also used for cutting loose ends of the binding wire (plate xliv).



Plate xliv *Pair of pliers*

4.1.19 Welding Machine

This is an electric propelled machine that binds pieces of rods together by the use of an electrode. This was used to weld and join rods together during the construction of armature (plate xlv)



Plate xlv Welding machine

4.1.20 *Iron Rods*

These are metal rods of different gauge produced from iron into bars. They are mainly used in the construction industry and come in various sizes. The 1/16 and 3/4 diameter size will be used in this project for the building of armature for forms to serve as support (plate xlvi)



Plate xlvi Iron rods

4.1.21 Foam

Is a soft light rubber material, full of small holes, used as cushions in seats and as mattresses. They are made in different thickness e.g. one inch, two inches etc. This will be used to cover the armature and shaped into figures. They will be bonded to the armature by the use of PVC glue (plate xlvii).



Plate xlvii Foam

4.1.22 Foam pieces

These are off cuts from sheets of foam. These will be cut into cubes and used in the modelling of figures in the project (plate xlviii a).

4.1.23 *Clay*

It is a type of heavy, sticky earth that becomes hard when it is baked and is normally used by potters and artists to make artistic objects (plate xlviii b).

4.1.24 Plaster of Paris (POP)

It is a material which consists of dehydrated gypsum for construction. It will be used in the experimental survey for the construction of some figures (plate xlviii c).

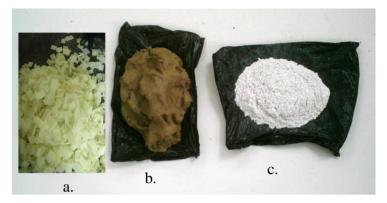


Plate xlviii (a) foam pieces (b) Clay and (c) POP

4.1.25 Soap and Oil Mixture

This is a mixture of soap and engine oil, for laminating plaster moulds before casting to ensure easy removal of the cast afterwards. It will be used during the experimental stages to laminate moulds (plate xlix c).

4.1.26 Sissal Fibre

It is a material with strong, multiple threads normally used as a reinforcement for POP casts. It keeps the cast together when breakage occurs (plate xlix d).

4.1.27 Stainless Flexible Rod

It is a thin flexible aluminium rod normally used to tie things together, but used in the POP cast to give some sort of strength to the casts (plate xlix e)



Plate xlix (a) Jute sack (b) Resin, (c) Soap and Oil Mixture, (d) Sissal Fibre and (e) Stainless Flexible Rod

4.1.28 Gloves and Nose Guards

These are protective attire worn on the hands and nose respectively. The gloves protect the hands from burns when welding and bending of rods, whiles the nose guard prevents the strong fumes and small particles of P.O.P from entering the nose.

4.1.29 *Acrylic Sheet (Perspex)*

It is a hard, usually transparent or sometimes translucent substance. It was used as part of a door cover in the box construction. It is durable in nature and does not break easily (plate 1).



Plate 1 Perspex

4.1.30 *Fine sand*

It is made up of small rounded particles or grains of stones. A collection of sand has air spaces, which allow water to pass through quickly. It will be used to create earthly effect in the experimental works (plate li)



Plate li Fine sand

4.1.31 Solution (99 glue) & White Glue (PVA)

These are adhesive used mostly in the shoe industry. Solution glue is used for bonding leather and card. It was used for joining the foam pieces together whiles the PVA was used for bonding other modelling materials such as chipboards and cards (plate lii).



Plate lii a) Kenda Koll Solution (99) b) PVA – white glue

4.2 PROJECT 1

Title of Project: "Observers are worried"

Aim: To construct and compose a diorama scene using foam pieces as a modelling material for the figures and other models using the natural environment as the backdrop for communicating ideas contextually.

Material: Half-inch Iron rods, binding wire, wire mesh, paper and foam.

Tools: Side cutter, scissors, pair of pliers, hacksaw

Size: 6 feet by 5feet (and beyond).

Construction process: Cutting, bending, twisting, building on, modelling, construction and assemblage.

4.2.1 Production Process

The work executed in-the-round, started with the development of drawing based on the project title – "Observers are worried". Out of the developed sketches for this project and evaluation of activities in the society, "the dame" - checker was considered appropriate.



Fig. xiii Selected sketch for the project

The next stage was the construction of armature and the building of the forms. It started with the drawing of the framework of the armature on the floor. With the aid of the binding wire stretched along the lines to determine length of all the parts, half-inch iron rods were cut with the hacksaw. Two of the same lengths were cut and shaped on a bench with the bending bar to conform to the drawing on the floor.

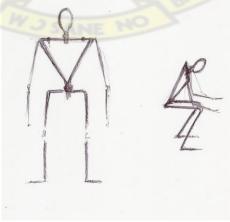


Fig. xiv Drawing of the armature layout

The next step was the construction of the lower part of the figure which include the legs up to the waist bone. The binding wire was stretched along the lines to determine the equivalent length of the legs. It was stretched on the iron rod to mark the various lengths to be cut. The cut legs were bound to the parts already shaped and laid on the drawing to check accuracy. Other pieces like the arms and head were cut and shaped and bound to the already constructed armature with binding wire. The legs were reinforced with another iron rod to achieve stability of the armature.

The next stage of the construction process was the stuffing of the armature with paper to achieve the desired shape and thickness. This was done to serve as a support for the modelling material from falling off. The wire mesh was cut with the side cutter to the required size and wrapped around to secure the stuffed material. Weaving with the binding wire was also done to tie the wire mesh to the armature. The next stage was the modelling process. The researcher worked with foam because it is one of the appropriate materials for this concept. The material is light, its workability phenomenal but expensive.

The first layer saw the wrapping of the whole armature with a thin layer of foam. Solution glue aided greatly. The layer was left, for the glue to harden and adhere permanently to the wire mesh. One-eighth-inch size foam was cut into small cubic segments, for the modelling process to continue. The pieces were applied onto the first layer, one by one in an artistic and systematic manner. A piece is taken; the solution glue applied at the back, allowed to dry a little and is stuck onto the form already in place to conform to shape. Careful consideration was

placed on overlapping and rhythm. Finally the figure was examined critically, to see areas that need extra modelling and construction. Faulty areas were amended to conform to shape and sprayed with lacquer.

Two other figures were done the same way. The difference between the former and the present was with the pose as in the armature. The modelling with the pieces was done according to the flow and movement of the muscles of the body. The three constructed figures were then brought together in a composition that included other objects like the chairs and the checker board "dame". The scene was then put in a perfect setting (plate liii & liv).



Plate liii Installation A: "Observers are worried" (back view)



Plate liv Installation A: "Observers are worried" (Front view)

4.1.3 Description

The work set in an open area, includes individual constructed figures arranged doing some activity; and these figures are expected to follow a certain set pattern. A three figure composition comprising two foam figures playing the game of (dame) checker, and a third figure sitting beside them and observing critically what is going on. The physical appearance of the work shows a scene of figures having a patterned skin made of foam pieces in an activity. The activity is one of the most common games found in our society and persons; both old and young enjoy having an encounter with one another.

The sculptures are positioned in such a way that the figures in the composition face each other thus concentration on the activity just us what happens normally during the playing of the game.

The setting in the installation is natural, as the figures sit on normal plastic chairs and on wooden bench in an open area. The "dame" or checker is also a real wooden one, making the atmosphere real – a replica of what would exist in a "dame" game. The marble and texture of the game board is what has been replicated on the figures. The foam pieces were cut and artistically arranged for such a finish.

The work is about six to five feet tall, close to life-size. The figures are arranged in an open environment that has a royal palm tree and a wall mural. The atmosphere is psychologically charged. The work has perspective in it, as the arrangement shows the ones closer to the viewer bigger than the one further away.

4.1.4 Interpretation / Appreciation

This project though depicts a game in our society, also has other lessons to teach. This work teaches lessons about life. The scene signifies the many provoking thoughts and challenges as well as opportunities humans find themselves in throughout life. It teaches lessons on interdependence, cooperation, tolerance, solidarity and others.

The three figures in the composition are symbolic of the idea of "trinity". The seated pose signifying perfection as in a triangle. What is perceived of this work is a feeling of relaxation and the mood of contention. Whether one loses or wins, he learns to tolerate the other, shares his success, suffers his defeat and learns the lessons in life – success and defeat.

The material used also shows the flexible and fragile mature of all humans. The textures represent the varied nature of problems in life. Diorama has been used to tell the story of life philosophically.

Most of the time, when the sun sets, the young and old all gather at a popular place to play the game of "dame" or checker. More is learnt at these places as a lot of social discussions go on there. People settle their scores there; the winners are revered and respected as good sportsmen. It is possible to re-arrange the whole setup in another way since the hands, legs and head can easily be reshaped. This will introduce a different pose into the work. The possibility of placing the works in different angles for different meaning is what the researcher aimed at. This he achieved by constructing the work without any base, allowing each work to stand on its own and to rest on the floor.

The work shows balance in proportion and in colour. The yellow figures related well with the green grass creating an illumination. The scene portrays a rhythmic and consistent movement, indicating persistence and resilience. There is a strong relationship among the elements of the composition, and in its mood. The lines, tone, and colour of the scene amplifies the perspective in the work.

4.1.5 Observation

It was identified that foam can be used in modelling. It can serve as a means to an end and an end on its own. A foam model is less fragile and durable, since a fall will not cause any damage. A negative observation is that, the foam attracts dirt and its exposure to outdoor environment will lessen its lifespan. Foam figures can best be used in indoors like in museums and galleries.

4.1.6 Results

The work met the expectation of the researcher as he succeeded in creating a full scale diorama. The installation saw the inclusion of other observers who were equally worried (plate lv).



Plate ly "Observers are worried"



Plate lvi Public viewers appreciating "Observers are worried"

4.3 PROJECT II

Aim: Construction of group narrative, which will be used in different

installations. Each installation will address a specific subject – contextually

explicit.

Materials: Iron rods, binding wire, electrodes and foam

Tools: Anvil, bench, bending bar, hammer, cutter, pair of pliers, hacksaw and

welding machine.

Subject matter: Social commentary

Construction of Process 4.3.1

The skeletal framework which forms the bedrock on which modelling material

will rest was attended to first. In order to execute a good model there was the

need to critically construct an excellent armature. Several different designs were

sketched after careful evaluation and assessment. With regards to the poses, the

most suitable ones were chosen (fig xiv). The development of the poses was as a

result of foreknowledge of the activity these models will be use for.

Armature Preparation 4.3.2

> "Right from the commencement of an armature building process, it should be appreciated that,

a well constructed and healthy armature is a vital ingredient in the achievement of a successful

sculpture" (Asare-Tettey 2008)

The first major step in the construction process was to determine the length of

each figure so as to do proper estimation of materials. First, the total length of

iron rod required for the construction of the main link (core) of the armature was

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done. Extra length of about 10inches was added to the total length to cater for the foot. The initial stages saw the tabulation of all measurements required for the construction in an orderly manner. The researcher decided on half life-size models and made tabulation of length as follows

- From sole of foot to shoulder 107 cm
- Shoulder (across the chest) 23 cm
- length of foot including extra 43 cm
- Arms stretched across the chest plus the head 150 cm

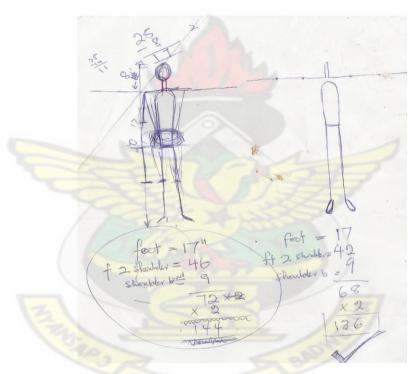


Fig. xv Sketch and calculation for the construction

After the acquisition of the various materials which included both ¾, ½ and 1/16 inches iron rod, binding wire and other working accessories, the ½ inch iron rod was taken to the bench for measuring and cutting as well as bending into shapes. With the help of the bending bar, bending stake, the iron rod was bent to shape.

The measured rod was placed in a bending stake and held with the bending bar and turned towards the right direction for bending.



Plate lvii Working processes a) Measurement b) Marking c) Cutting and d) Bending

The next step is the bending process. The main iron rod (core) from the waist to the shoulder blade was started. The shoulder blade measured 23cm. The next bend was from waist downwards to the legs including the foot. The metal was bent upright to create an "L" formation for the foot. This was rounded into an oval shape to have a firm grip on the ground to ensure stability.



Plate lviii: Researcher using the bending bar to bend the metal in the bending stake



Plate lix The Bending Processes

From the tabulated measurements, a quarter inches rod was cut and shaped to form the head and arms of the armature. This was secured into the main armature by tying with binding wire.



Plate lx Tying with binding wire

Whiles the construction was going on, the assembled pieces were examined critically to check for all faults, most especially those connected with the foot since that will support the entire work. Anvil and hammer were used greatly here. Extra length was provided at areas where one rod links the other to provide for welding as well as tying with binding wire.



Plate lxi Main trunk bent into shape



Plate lxii Assembling of constructed armature

On completion, of the entire armature all the parts, were tied tight using pliers and areas requiring welding were perfectly done. This was followed by the final examination to determine its perfection, stability and strength. To ensure stability of the constructed armature; metal plates were acquired, cut, and welded under the foot to maximize its stability.



Plate Ixiii Achieving Stability a) Welding b) Plate measurement and welding

4.3.4 Modelling and Carving

The next stage is the building up of form. Working with foam is flexible but demands a lot of technicalities to come out with a good work. The nature of the material (foam) being soft compared to other carving materials like stone, wood and the like makes it interesting to use.

The imperial size of the foam (furniture size) was cut into two and fixed to the armature. This was done by the application of the solution glue to one side of the foam and allowed to dry before being attached to the armature. The process continued by cutting the foam into shapes according to the form or shape required. Subsequently, the resultant form looked like a block of wood (Robocop) ready for carving.

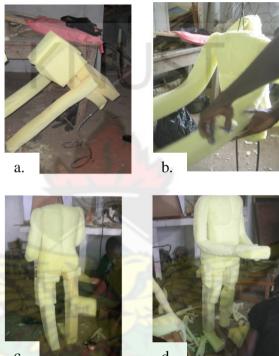


Plate lxiv Building Up with foam a) Joining b) Cutting c) Fixing

The next stage was the trimming and shaping. The upper torso was worked on first, where divisional marks were made on the block created before shaping. Blades and cutters aided in this direction. The entire figure evolved after systematic joining and trimming with the scissors. Attention was directed towards building out of correct forms and rendering of details; after which final details including facial, hands and foot carving were undertaken. Modelling and carving were both employed, areas left shallow were filled as carving continued. Each process complemented the other.









Plate lxv Trimming and shaping

Next in action was the face carving. Divisions were made on the head block and with precision the chunk was rounded, trimmed, and shaped into eyes, nose etc in the face. Particular attention was given to this area because the researcher thought of giving different and peculiar look to each constructed model.

The same process of construction was used in the rest of the twelve models (figures). The poses determined the flow of the modelling and carving. An important and unique feature of all the thirteen figure works were the facial looks. Each has a peculiar look making each different from the other.

At this stage the figures were ready for use in an installation.









Plate lxvi Different views of the finished models – foam figures

4.4 Installation I

Title: "Men at work" - "together we stand, divided we fall"

Aim: To put the constructed foam figures in a narrative installation.

Materials: Foam figures, broom, bucket, wooden scaffold, nails and glue

Tools: Hammer

Description

The installation saw an arranged carved foam figures around an already completed heroic sculpture work. The scene portrays a working community of people involved in an act of cleaning and restoration. The figures in the composition comprise of both standing and squatting figures arranged artistically on a wooden scaffold built around the old work.

The scene shows a sharp contrast of colours; dark against light – "the old work is in black" around which one sees shining yellow figures. The installation brought on display items like washing bowls, buckets, sweeping brooms all brought together in the composition. All the figures are performing a specific role to complement each other in the composition.



Plate lxvii Front view - "men at work"



Plate lxviii Side View – right



Plate lxix "Men at Work"

Interpretation / Appreciation

This scene was constructed to re – enact the spirit of togetherness and living in a harmonious society. An act of resurrecting past values in the society. The yellow figure signifies the oneness of people and the activity of mobilizing them for a common goal. The figures were left in their raw state to catch and throw light on the old sculpture. The sharp contrast brought life to the setting as the sharp difference in colour drew attention to itself. It was simply saying that together we can give life and light to this dark world.

Nevertheless, the scene has both political and historical connotations. The "old work" was done in honour of Osagyefo Dr. Kwame Nkrumah the first president of the Republic of Ghana. This monument (the installation) praises Dr. Nkrumah, as one of the forerunners and pioneers, who championed the quest for African

liberation from colonial rule. The mood shows that he was loved, cherished and appreciated. The stretched hands of the figures towards the sky signify his vision of "forward ever; backwards never" for all mankind. The figures on his shoulders portray an idea of meeting a saviour of Africa. Furthermore, it paints a picture of how important he is to the country and Africa as a whole. The artist used this scene to reflect on the achievement of this great man and the need to safely keep his memory alive and intact for future references.

A chapter of Ghana's political history has been opened, since all the political parties in the country claim to have been influenced in some aspects by the ideologies of this great man – his social democracy.

The diversity of humankind may be likened to this installation. The harmony achieved from the use of foam may bring into memory principles such as tolerance, acceptance and cooperation in actions and thought.

Also the installation can be linked and attributed to the race of life. Life can be considered as a living journey, as some are ahead whiles others wallow behind. The figures at the top are being pursued by those beneath; as if they are running in trucks towards a finishing line. This is biblically confirmed in book of Ecclesiastics 9:11.

... I returned and saw under the sun that "The race is not to the swift, nor the battle to the strong, neither yet bread to the wise, nor riches to men of understanding, nor favor to men of skill;
But time and chance happens to them all (King James Version Easy Reading, 2001: 582)

4.4.2 Installation II

Title: ("Adwuma bia yε adwuma") – literally "respect for all jobs" (The Truck Pusher)

Aim: To use diorama to narrate and tell the story of the truck pusher in society. Using real truck, the environment and the same constructed models, in the context of market activity of truck-pushing.

Construction process: Models for the work was constructed in foam as explained in project II. They were assembled together with other elements like truck in an installation.

Description

The installation comprises of foam figures in an act of truck pushing in a natural environments. One of the figures is in full control acting as the driver, and the rest supporting him. Two others are standing at the side of the truck.

Six figures made up the composition with the truck in an environment (plate lxx)

Interpretation / Appreciation

This installation narrates the plight and anguish of truck pushers in society especially young school drop – outs who are fighting for a place in the society. They face life as it is - difficult and is a survival of the fittest. Exposure is given to some situations man finds himself unknowingly such as cruelty in life. The work can be used symbolically to teach young people the need to be educated as without that their future will be risky. The truck signifies pain and tiredness thus more hands are needed to help propel it. It captures that moment of transition in life.

The contrasting state of their situation is substantive to the notion of unity of purpose and action. Thus there is a helping hand waiting for any person who is doing something positive in life. ("nea Oforo dua pa na ye pia no") meaning "he who does a good thing, needs to be encouraged"



Plate lxx "Adwuma bia yE adwuma"

4.4.3 Installation III

Title: "Law and Order" - The military in societal discourse.

Aim: The use of clothing to define the context of the constructed models in an installation.

Materials: Foam figures, military uniforms – shirt, trousers, boots, belt, and cup.

Construction process: Models for the work was constructed in foam as explained in project II. The models were dressed in military uniforms and led by the researcher in a parade. The flexible nature of hands made the clothing easier as they were not cut and sewn.

Description

The installation is made up of a seven member cadet models with a performing commander. The scene portrays military officers on a parade – saluting the commander-in-chief. The foam models are dressed in military apparel with the appropriate boots, cups and belts. The installation also depicts performers, as the researcher formed part of the work. He dressed like the models and leading interested viewers through the inspection of the parade and roll call. At a moment he becomes static and motionless just like his models and again engages himself in a dialectic discourse with his viewers (plate lxxi & lxxv).

The first impression created when one bumped into the scene was a scene of white military magpies engaged in a parade. The exterior environment added to the scene as the whole scene was surrounded by enchanted but astonished viewers. A mood of ecstasy, contemplation and therapeutic excitement engages all in a diorama world.

The placement of the models was orderly and systematic just like the title "Law and Order". The facial look suggests the uniqueness of the individual model in the composition. At the end of the day the hands of the models were bent into marching pose and arranged in a file, one after the other (plate lxxiv).

Interpretation

"Law and Order" – the peace advocacy group, touches on the need to maintain and respect the wishes of all in the society. The scene is in reference to peacekeeping. More recently the emphasis has shifted to civil conflicts in which countries have broken up, as in the case of the former Yugoslavia during the 1990s, or where organized government has collapsed, as in Somalia during the same period. The peacekeepers are deployed to separate antagonists, providing time and opportunity for negotiation, and to keep local conflicts from spreading over an entire region.

The importance of this installation to the society at the point of exhibition is that, the country Ghana has caught up with the euphoria of elections, and as usual the tension of fear of violence and conflict is breeding. The researcher uses his diorama as a wakeup call to peace, freedom and justice. Again to sensitize all to maintain the serene atmosphere the country is enjoying. An introduction of law enforcing agency like the army and soldiers in the society to harness the respect for order is very important. The very presence of order in the society corrects, rebukes, and teaches others to remain calm and focused.

Results

The project in no doubt demonstrated a new trend of communication. The clothing of the models in uniforms was simple because of the well constructed armature. The enchantment, spectacular, dramatic, and eye-catching spectacle is evident in the crowd the exhibition attracted. An artistic expression of style, language and movement was discussed with the public (plate lxxv & lxxvi). Some comments and suggestions from the public viewers can be seen in appendix 1.



Plate lxxi The Parade session



Plate lxxii The Parade (aerial view)



Plate lxxiii Parade inspection by a lecturer



Plate lxxiv A file of marching soldiers



Plate lxxv The researcher with a section of the viewers in a dialogue



Plate lxxvi A section of the crowd gathered at the exhibition ground

4.4.4 Installation IV

Title of work: "Afi oo Afi" (Festival Greetings "have a good year")

The Ga traditional festival "HOmOwO" is a festival that portrays the rich diversity of the Ghanaian culture which embodies merry-making and remind people of their past - victory over a great famine experienced in the olden days among the Ga's. The activities that take place on the week long occasion, highlights how important it is in both secular and religious lives of the people. During such occasions, people come from all spheres of life including those in the diaspora for a big emancipation party. It is an occasion to settle family disputes and misunderstanding.

Aim: Engage the constructed models in a festive context with the apparel contributing greatly to installation.

Materials: Foam figures, funeral cloth, shirt, trousers, footwears (native scandals), headgear, beads and bowls.

Construction process: As stated in the previous installations the models for the work were constructed in foam (Plate lxvi). The models were dressed in different festival apparels, the chief and his subjects as well as community members. These were installed by assembling them in real festive activity.

Description

The composition in the installation is made up of thirteen model foam figures dressed in traditional attire in line with what is worn on such festive occasions. The chief is in his traditional cloth performing the duty of sprinkling of the

traditional food - "Kpopoi". The chief's dressing includes funeral cloth, beads, headgear and native sandals. The other persons accompanying the chief are dressed in their rich traditional attire. The scene is colourful because of the inclusions of variety of apparel worn by the models.

The physical appearance of the installation depicts a festival that has the chief and his subjects in a HOmOwO activity. The chief is calling on all the good spirits and ancestors to attend the celebration, thanking them for the past year and asking them for prosperity in the coming year. His subjects respond by shouting praises and appellations as he speaks, and some lift their hands up in the air, in support of his prayer.

On the festival day, libations are poured and the "Mantse" (chief) of each area goes round with priests in a procession sprinkling "Kpokpoi" in the streets. This procession is accompanied by drumming, blowing of horns, singing and dancing. The researcher captured and highlighted this, as some of the figures dance to the rhythm of drums and singers. Festive songs that correspond to the festival hooting at hunger during "homowo" filled the air.

Interpretation/ Appreciation

The work projects a festive mood associated with festivals across the country. It also presents a perspective of the Ghanaian cultural diversity. It is symbolic of a cultural medium that unifies the people. On such occasion, the rich cultural diversity is exhibited for people to see.

The colours of the different dresses seem parallel. The chief wears red cloth, red headgear signifying his pain (sadness and sorrow), as he morns the dead – ancestors and forefathers who lost their lives many years ago. The white dress signifies the victory out of the many challenges in the year.

The re-capture of this memorable event in our society does not only tell us a story but also reminds us that the end of every frustrating episode in life may be victory, joy and happiness. And this is actually confirmed in the Bible in Psalm 30:5 which says that "for his anger endures but a moment; but His favour is life: weeping may endure for the night, but joy comes in the morning" (*King James Version easy reading*, 2001).

Results

This installation practically broadens the spectrum of the research. It provided the stage for more installation at appropriate places for public viewing. The researcher was pleased because his laid down objective for these installations were realised with the same models to offer different ideas to the general public in a social commentary.



Plate lxxvii "Afi oo Afi"



Plate lxxviii The HOmOwO festival installation

Creation of reality is the function of all human beings especially the artist, who uses visual imagery to help enforce reality in man. The installations have brought to the fore a varied way of telling a story of life. It will be oblivious for any person to say that all has been seen before, but for what has been seem throughout this research proofs that exploration, creativity and visual expressions are endless.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The aim of this project was geared towards the production of dioramas as a potent tool of communication. This the researcher achieved by making a group narrative, an installation of foam models in a natural setting. A lot of experiments were embarked upon to select the appropriate material and methodology.

Individual projects like "Historique – the three wise men", my culture", "Lets go to the Village", "Nta ye aloo nka to nye", "Men at work", "Observers are worried", "Adwuma bia yɛ adwuma", "Law and Order" and "Afi oo afi", were all done to justify the objectives laid down.

In the quest to further broaden the knowledge of the researcher and scope of the subject matter, literature that was related to the topic was reviewed. The sources were numerous as many of the libraries were visited, most specifically libraries on KNUST campus. Journals and various websites on the internet and museums were looked at.

The researcher also travelled to places like Ga Mashie, to observe the festival of the Gas in Accra for physical evidence on HOmOwO. It was important because the costume for the occasion can be captured as it is celebrated. He also attended parades organised during Hall Weeks in the university to observe proceedings as it happens in organized group.

The various tools and materials used in the project were identified and described with illustrations. The project report gave a comprehensive description and outlined systematic processes on the construction of dioramas and group narratives. The construction of dioramas using various techniques has been documented photographically and appreciation report written on them. Moreover, the major steps in the construction process have been discussed, bringing out the techniques involved in each process.

Preliminary works were done in clay, POP, sawdust, strawboard and other accessories. Possible techniques and materials were brought together to create each scene, to realise their relationship. Ideas gathered from the review were exploited in these works. These works were used to re-enactment events.

The two main projects were done in foam. Models were created from foam which had an armature support, built from iron rods of various sizes. Modelling, carving and casting techniques were used. These models were clothed and engaged in different installations to tell a particular story.

Some of the major findings were that, foam is an effective material that can go through both modelling and carving processes. It was also revealed that the models can also go through constant changes in appearance in each installation. It was also noticed that the amalgamation of natural setting and real objects in the installation bring realism and highlights the activity.

Though foam has value, its appearance and use in sculpture is less exploited and therefore it will be safe for the researcher to stick his neck out to say that, it value has been increased. It has been proved that the material is a versatile one that can be fully exploited.

Despite the numerous challenges and difficulties associated with the construction, the project was completed. The researcher succeeded in moving away from the material which is known traditionally for sculpture to an unknown one. The project is successful as the objectives laid down were met. It has become possible to create diorama scenes.

5.2 Conclusions

The problem this project attempts to solve is that diorama is constructed to bring to life dead and obsolete activities in the society. It is to create a scene that makes use of space, materials, form, mass, volume etc. The installation in diorama has demonstrated a clear evidence of the power of diorama as a three dimensional art form that effectively tells a story.

Having undertaken this project from the drawings stages to the final execution of the models and the installations, it has become clear that the idea of "Group narrative" could be a potential source of inspiration for unique forms of sculpture in Ghanaian society. The idea of "group narrative" also encourages a certain liberal view of sculpture, which is different from the conventional view of sculpture. It leaves viewers in 'a wonder land' - a spectacle, as it provides a

sculpture that meets both functional requirements as well as providing a high level of aesthetic appreciation.

Although many challenges were met in the construction, the researcher made startling observations as follows:

- i. The study revealed that foam models (figures) have advantage over other materials and preferably the best choice for the researcher. With the foam model, it is possible to bend the model (hands, legs and head) into different poses to heighten action in an activity.
- ii. It became evident that clay, sawdust, POP, and foam can all be used in the construction of models in a diorama set up, but for flexibility of material, foam model is the most appropriate as it provides the leverage to rotate and bend the hands and legs into any shape preferred.
- "Observers are worried" for instance went through the modelling technique; where pieces of cut foams were artistically built on by means of an adhesive (solution glue) to form the models in the composition.

 With project II "Men at work", "Adwuma bia y[adwuma", "Law and Order" and "Afi oo afi", both modelling and carving techniques were employed, where a chunk of foam stuck on the armature was gradually cut to a desired form.
- iv. In both processes the researcher found out that solution glue was more effective for bonding. The building requires the making of the armature to

- support and augment the rigidity of the models. Bending, welding and tying where necessary were used in this process.
- v. Foam, a common material in the furniture industry, is a potential sculptural material and possesses a dual status, 'as a means to an end and an end on its own'. Thus foam can be used as part of a work which will be given a different finish and contrary to this it can also be used as a finishing material without spraying or clothing.
- vi. It was possible to create an installation using group narratives in a story to illustrate historic events, educate and portray daily activity in a spectacular way.
- vii. In diorama construction, special tools and materials which are difficult to acquire are not required. Some tools that can be used includes, scissors, blades, cutters, spatulas, hammers, pliers, and brushes with materials like sand, clay, sawdust and other found objects like stones and papers.
- viii. Diorama can be constructed in both miniature and full-scale sculpture.

 The scene can be imaginative or true to life with the inclusion of natural objects.
 - ix. There is the need for painted and clothed models in diorama construction.Both try to capture naturalism and are possible using foam as medium.

The project report provides a manual which will help artists interested in diorama to identify the appropriate material, tools and techniques involved in its making. The work projects an idea of innovative thinking and inspires a search for new ways of thinking and doing things. It strikes curiosity and poses questions of possibilities, innovation and creativity.

Considering the success of this project, a conclusion will be drawn that, on the basis of materials, 'the sky is the limit'. New and innovative ones could be identified and used for construction. It is hoped that the exhibition of these works will result in an eventual adoption of diorama in sculpture. Perhaps, "since nobody can imprison the power of your imagination" this form of art will inspire and encourage collaboration between sculptors, painters and other artist in Ghana. In diorama versatility is paramount.

5.3 Recommendations

In view of the mountainous potential of diorama as a communication tool, the following recommendations are made for consideration of artists, students of art, related authorities and the general public.

Students must be encouraged to undertake projects in diorama to unearth important scenes of cultural and historical importance. This will broaden their knowledge as more approaches to art could be unravelled for the benefit of all. Installation must be incorporated in the sculpture programmes to equip and sharpen the skills of the students. Since in diorama construction, a versatile artist has an advantage. Sculptors, painters and installation artist must collaborate to achieve the full potential of art. By this collaboration the benefits of this project will be fully maximised.

It is further recommended that this thesis be published so that it will serve as an inspiration and a source of information to people in the creative business. Schools, Colleges and universities should use the diorama techniques to set up museums on their campuses to expand classroom education. It is hoped that further research will be conducted into the field of diorama construction.



REFERENCES

- Abbiw M. K. et al. (1989) *Cultural Studies for Junior Secondary School, Book 3*Curriculum Research and Development Division, G.E.S, Ghana. Adwinsa

 Publications (GH) Ltd. Legon Accra. P 45
- Agbo H.A. (2006) *Values Of Adinkra & Agama Symbols*. Published by Bigshy Design and Publication. P 60 61
- Andrews O. (1983) *Living Materials; A sculptor's Handbook*. Published by University of California Press / Berkeley. Los Angeles. London.
- Asare-Tettey, J. K. (2008) *Sculpture in concrete; Techniques and Processes*.

 Technosound Publication, Kumasi Ghana. P 24-25
- Baiden J. F. (1980): *The Legend of Mankessim*. Mankessim Posuban Shrine.

 Unpublished journal. P 1-2
- Bernardine, K. (1964) *Masters of Painting, their works, their lives, their times*.

 Doubleday & Company Inc, garden city, New York. P 54
- Bertram B. (1982) *Display Technology, For Small Museums*. Published by

 Museums Association of Australia with the assistance of the division of
 cultural Activities, premier Department, New South Wales.
- Edinburgh History Diorama http://www.edinphoto.org.uk/1_edin/1_edinburgh
 history_-_dioramas.htm (accessed 2006 September 15)
- Encyclopaedia Britannica Vol. 7 (1973) Published by Encyclopaedia Britannica, Inc p. 469

- Getlein M. (1985) *Living with Art*. Sixth Edition. Published by McGraw-Hill companies, Inc.1221 Avenue of the Americans, NY, 10020. P 272
- Hyde R. (1988) *Panoramanial Catalogue*. London: Trefoil Publications /
 Barbican Art Gallery. P 119
- Hass K. B. (1995) *Preparation and Use of Audio Visual Aids*. Prentic Hall Inc.

 New York. Pp 181,276
- Holy Bible (2001) *Psalm and Ecclesiastics*. King James Version Easy Reading.

 Oasis International Ltd, Geneva, Illinois. USA. Pp 503, 582
- Janson, H.W & Janson A.F. (1997) *A Basic History of Art*. 5th Edition. Published by Prentice Hall, Inc & Harry N. Adams, Inc. P 189
- Leedy P. D. and Ormrod J. E (2005) *Practical Research*, 8th Ed. Pearson Education Upper Saddle River. USA. P 179
- Museum of Contemporary Art, San Diego (2000). http://www.mcasandiego.org /smallworlddiorama (Accessed 2005 September 4)
- New Standard Dictionary (1967) Vol.1. Funk and Wagnalls Company. New York.
- Sharpe, M. (1990) *Plaster Waste-Moulding, Casting and Life Casting*. Alec

 Tiranti Limited, 70 High Street, Theale, Reading, Berhshire, RG7 5AR 27

 Warren Street, London, W1P5DG. P ii
- Stewart, M. (2002) Launching the Imagination, a Comprehensive Guide to Basic

 Design. 1st Edition. McGraw Hill companies Inc. 1221 venue of

 America, New York, 10020.

- Stewart S. (1993) On Longing. Duke University Press, London. P 35
- Stone, L.D. (2001) *Using the Art Museum*. Davis Publications Inc. Worchester,
 Massachusetts USA. Pp 1-2
- The Wordsworth Concise English Dictionary (1786 1868). Courtesy of the Gavin Graham Gallery and the Bridgerran Art Library, London
- Universal World Reference Encyclopaedia (1970) Consolidated Book Publishers, Chicago Illuionois. P 1643
- Wallen (1996). *How to Design and Evaluate Research in Education*, McGraw-Hill Inc. USA. P 263
- Webster's Intermediate Dictionary (1977) American Book Company, New York.

 P 207
- Willett, F. (1971) *African Art; An Introduction*. Published by Thames and Hudson Inc.500 fifth Avenue, New York 10110. P 114
- Wonder K. Habitat Diorama; Illustrations of wilderness in museum of Natural

 History. From http://www.museum.vic.gov.au/history/dioramas.html

Online Sources

Webster's Unabridged Dictionary. http://www.momentsintimeexhibit.com/DW-DioProjIntro.htm (Accessed on 2007 October 15)

http://www.amnh.org/exhibitions/dioramas/media/windowsonnature.ram

http://www.drscavanaugh.org/digitalcamera/diorama/panaroma.html

(Accessed on 2006 September 15)

http://en.wikipedia.org/wiki/Diorama (Accessed on 2006 October 11)

http://encarta.msn.com/encyclopedia_761587538/collage_art.html-36k

(Accessed on 2008 October 12)

http://www.midley.co.uk/diorama/Diorama wood 3_files/ruins_ (Accessed on 2007 October 12)

http://stormthecastle.com/diorama/fantasy-diorama.htm.

(Accessed on 2007 October 16)

http://en.wikipedia.org/wiki/Installation_art - 44k. (Accessed on 2008 June 20)



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APPENDIX 1

EXHIBITION: COMMENTS AND SUGGESTIONS

"LAW AND ORDER "- THE MILITARY IN SOCIETAL DISCOURSE

DATE	NAME / OCCUPATION	COMMENTS / SUGGESTIONS
10 th October, 2008	BON (Lecturer – Painting)	Impressive
10 th October, 2008	Dennis Kpordzro (student)	This is a wonderful art piece. Presentation is good but I think the leader should be at the front. all the same it is good
10 th October, 2008	E. Bodjawah (Lecturer - Sculpture)	Quite an impressive interactive outdoor installation! Keep it up!!
10 th October, 2008	Nana Afia Opoku- Asare (lecturer – Art Education)	Very innovative way to sculpt. But the figures look more Chinese than locals. Good try!
10 th October, 2008	Alexander Ginno (Student - KNUST)	I see consistency, dynamism, creativity, excellent repetition. It's an excellent work of art.
10 th October, 2008	Abraham Kow E. (Student /sculptor)	Eye catching display. So many questions. My mind is jammed, educate me. Keep it up. You have achieved it.
10 th October, 2008	ZIN (Lecturer – sculpture)	Interactive and interesting

10 th October, 2008	J. Nsiah (H.O.D Industrial Art)	Excellent work. Install them in security areas or military camps.
10 th October, 2008	Rosemary Brown (nursing sister)	Very nice and wonderful to watch. Will inform other friends to have a look at it. Good one there.
10 th October, 2008	Linda Kyei (Publishing student)	I think the whole setting is nice and interesting but the next it should come with some kind of inscription so that anyone passing by or driving can easily read and know what is happening.
10 th October 2008	Caleb Kesse (lecturer)	The soldiers are very short and cannot be enrolled into the Ghana Arm forces.
10 th October 2008	Adu Acheampong (Vice pres. comm. Design)	When I say these statues I thought they were some soldiers having their parade at the museum. I observed it for a while and I saw no movement. Wow!! This is amazing it makes the place lively and interesting and attracts attention
10 th October 2010	Aldoph H. Agbo (Lecturer, Pub.Studies)	Very impressive and interesting to inspect the parade. Keep it up!
10 th October 2008	Cynthia Nyarko (student)	This is exquisite it deserves all the marks. You have really dome a good work. charlie keep it up.
10 th October 2008	Kudiabor David (MFA student)	It's superb. I think the spacing and arrangements talks a lot. I believe

		their heads could be raised up to show the diversity in their faces.
10 th October 2008	Nancy Larbi (student)	It's an interesting piece of art work. Well done!
10 th October 2008	Addai Opoku Samuel (Student)	Well-coordinated piece. Very attractive and interesting.
10 th October 2008	Richard Y. Boah (Driver CASS)	It's beautiful: but are the soldiers men, white or yellow. Thank you. Next time cover the whole green grass park. Splendidly magnificent!!!
10 th October 2008	David Kojo Amoah (student)	This is outstanding, can also serve as a mobile sculpture. I believe you used the foam unpainted to prevent any form of doubt people might have. Good work done. Keep it up.
10 th October 2008	Mr. Ahinsah Samuel Justice (businessman)	God bless you. Try darker colours and lest see how it goes.
10 th October 2008	Samuel Lloyd Nii – Laryea (Entrepreneur)	This is wow!! As a matter of fact this is creativity at its best. More grease to your elbow. Cremus intapans (first among equals)
10 th October 2008	Ahele Oke Henry	This is sculpture in a group. Well done keep it up. God bless your family.
10 th October 2008	Gloria Owusu DAP	Wonderful work. But I think the skin colour needs to be sprayed in dark brown.

10 th October 2008	Lydia Biney (student)	God bless you for such a wonderful work. I really like it, its powerful, keep it up.
10 th October 2008	Kofi Anaafi Asiedu (student)	Work looks very creative and highly artistic.
10 th October 2008	Harry Barton (student)	Find it to be interesting and philosophical.
10 th October 2008	Ocansay Ahumah (Student)	Very pleasing and I got deceived at first sight. Good exhibits. There is a sense of movement flexibility as well as balance and uniformity.
10 th October 2008	Joseph Agalik Agalik (student – 020- 8498117)	Excellent skills demonstrated, with a very powerful communication. Meticulous creativity which ticks the mind. Its mind blowing!
10 th October 2008	Gideon Ntiamoah (student - Rural Art)	From afar you might think that they are real and when close too, you might think they are wooden pieces. Very nice
10 th October 2008	Quaye Albert (IRAI IV)	Very interesting and have good artistic value i.e. flexibility in the modeling, etc.
10 th October 2008	Charles Ofori (Law students' Veep)	It is very beautiful and wonderful. Looks like real humans from afar. It is also very impressive and full of communication.
10 th October 2008	Coleman Maxwell (student)	It is brilliant display, it really portray qualities in peace keeping.

		It all about law and order.
10 th October 2008	Harriet Payne (publishing student)	It's wonderful, we need more of this. I hope the authorities will take it up.
10 th October 2008	James Torso (campus Guard grade I)	The handy work is perfect and need to be congratulated. The idea of the artist is beautiful. thanks

