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Leather as a Medium for Sculpture

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Abstract:

Progress in technology has made it possible for new materials to be introduced in production of goods. Sculptures have been done using conventional materials such as clay, metal, stone, plaster of Paris, cement, plastiscine and others. These materials are expensive and difficult to acquire. Besides, works from these materials are massive. Searching for new grounds in sculpture makes it expedient to explore alternative materials. Giving the reason that this technological age calls for a lot of experimenting with new materials and methods of working with old materials, the use of leather for sculpture is worth experimenting. There is the need for further exploration within the boundaries of leather that can be incorporated into sculpture to be known as leather-sculpture.

In this search, leather was identified, processed and used to make sculpture. In the modelling, an armature was built and reinforced with mashed paper mixed with P.V.A. glue. Leather was then modelled with Formica glue and left to dry. The relief image was carved on elephant leather by removing the unwanted parts bit by bit to achieve the desired form, and then polished with lacquer. The cast image in leather was made from a clay mould. It was dried with a hand dryer to take the form of the mould, and then given a finish. The constructed forms were done by gluing pieces of different sizes of leather on cards with Formica glue to create forms. The forms were then joined into the constructed image with a good finish.

The works produced in this project are portable, lightweight and transportable sculptures that are suitable for indoor decoration. The skills involved can be used to produce small and lightweight sculptures as souvenir to give the tourism industry a boost. Besides, the scare, which is a hindrance to sculpture, as expressed by the young ones, due to its strenuous nature, it is limited. It is a clue to those who find it cumbersome and difficult in the acquisition of the conventional materials for sculpture. It is recommended that other durable leather is explored for sculpture.

In order to boost up Ghana's tourism industry, the project report will motivate sculptors to produce more sculptures of this kind of compliment the other leather articles that are already on the Ghanaian market. Leather was conveniently used in modelling, carving, casting and construction. It is generally recommended that sculptors and students produce more sculpture in leather.

Keywords: *Sculpture, Modelling, Carving, Casting, Construction and Assemblage, Leather*

1. Introduction

Sculpture is an old art form that served, and still serves mankind in diverse ways. We have sculpture for Magical, Religious, Social, Political and Agricultural, as well as for Tourism purposes. For the purpose of this project, the focus is on materials for sculpture. The conventional materials such as wood, cement, plaster of Paris, wax, metal, plastic and stone, that have been used for some time now, are either inconvenient to transport, or expensive to import.

Now that there is a boost in the tourism industry in Ghana, the demand for sculpture and other art forms is high. Having seen and appreciated sculptures made from different materials, there is the need to explore leather, which will be of taste to tourists and other collectors. Another remarkable thing is that, the Senior Secondary sculpture syllabus emphasizes on the creative utilization of local materials and preparation of students to be self-employed, so that some of them could establish small-scale industries. Incidentally, Ghana can boast of vast savannah within which livestock thrive. This yields a lot of leather, which is used by a few leather artists to produce leather bags and other articles. Producing sculpture in different and unknown materials techniques and styles will be an innovation and attraction.

In the twentieth century, sculpture emerged as a major art form for the first time since the seventeenth century. Its development in the last seventy-five years has been even more remarkable than that of other visual arts. The excitement that has greeted modern art in this century, expressing itself in applause, catcalls and puzzled silence was occasioned first by painting; but the transformation of sculpture was more extreme than that of the other arts. It was so extreme that we mean one thing when we say "sculpture" in the context of the

thirty-thousand years, stretching between the Venus of Willendorf and Rodin, and another when we say “sculpture” in the context of twentieth century. Objects now classified as sculpture are frequently neither modelled, carved, cast nor assembled or constructed in such traditional or conventional materials as stone, metal, wood, ivory, POP, bone and clay. There is no need talking about the materials for sculpture. In other words, there is no special material in modern sculpture. All now depends on any material, and how it is handled and finished beautifully. In this era, change had caught up with everybody. Artists are hoping to produce a change in the current sculptural paradigm, with new methods, styles and materials. Most sculpture produced in Ghana over the years in conventional materials are heavy and difficult to transport. Besides, it is strenuous, cumbersome and energy consuming working in these materials. Some of the imported materials are also expensive to acquire. The challenge therefore is to explore other materials as an alternative to the rest of the conventional materials, which are durable but lighter in weight, less expensive and less strenuous to work with.

1.1. Importance of the Study

The results from this project would be of value in several ways:

- a. Sculpture works made with leather, are lighter in weight and convenient to carry.
- b. They could be used as a source of reference by students, teachers and sculptors in general to break new grounds, by exploring the possibility of other materials.
- c. People who find it cumbersome or reluctant to use the conventional materials, due to their weight and energy-consumption, are encouraged.
- d. Products from this project are purposely for indoor use, especially in homes and public buildings.
- e. Other art objects can be produced as souvenir for tourists, by employing the knowledge and skills that have been acquired from this project.

2. Review of Related Literature

Making of sculpture some years ago, was limited to two major skills: modelling and carving in which such conventional materials as wood, stone, metal, was, ivory, bone, clay, cement, plaster of Paris and plastics were used. Presently, sculpture is growing and changing. Its activities are expanding and have encompassed new and varieties of objects.

In the second half of the twentieth century, sculptures are like humans, full-bodied and substantial. The scope of sculpture has become broader. Only when we integrate many visual perceptions, do we begin to reach an understanding of sculpture as a whole. We cannot tell as to what extent it is going to expand. There is vitality, happiness and enthusiasm in modern sculpture, taking into cognizance the sculptor’s methods, how new materials are introduced and handled, and how sculptures are designed. Gilbert, (1998:265) confirms this idea and states that: “Sculpture has one of the longest histories of any art medium, and yet it is especially vital and exciting today, a major reason for this vitality in contemporary sculpture is its use of materials and techniques that were unheard of just a century ago”.

From the explanations given by authors to the term ‘sculpture’, it could be simply put that sculpture making means the art of creating new forms in three-dimensional form either in relief or in the round with different kinds of materials that one can lay hands on. Bradbery et. al, (1989:573) also defines sculpture as the art of making figures, objects, etc. by carving wood or stone, shaping clay, making metal cast etc. Carvings and modelling in conventional materials cannot be said of today as the only processes of making sculpture. Materials as well as methods and techniques differ. Goetz, (1988:42) also confirms the same point that:

- “..... twentieth century sculpture is not confined to the two traditional forming traditional materials as stone, metal, wood, ivory, bone and clay. Because present-day sculptor’s use any materials and methods of manufacture that will serve them purposes, the art of sculpture can no longer be identified with any special material or technique”.

Whatever means and methods one uses to create a three-dimensional form has now come to be regarded and documented under sculpture. Ocvirk, et. al. (1993:212) are also of the same opinion as Goetz, (1988). They therefore say that:

- “Sculpture is no longer limited to carving and modelling. It now refers to any means of giving intended form to all types of three-dimensional materials.
- These means include bolting, reverting, gluing, sewing machine-hammering and stamping. In turn the three-dimensional artists have expanded their range of sculptural forms to include planar solid and linear constructions made of such materials as steel, plastic, wood and fabric. The resulting sculptures are strong (even though made of lighter materials) and more open. They also have expanded special relationship”.

Kirkpatric, (1988:337) confirms the views expressed by the above-mentioned authors. He expressed himself on skills, techniques and materials, by saying that:

- “Previously, sculpture is carving in stone. Nowadays, sculpture is carving in stone. Nowadays, sculpture entails more than carving. It has major skills like modelling, casting, assemblage, construction and even gourd and calabash work.
- There are techniques of altering other materials to provide man’s needs or solve problems in life”.

The materials which have stood the test of time and the elements have survived, thereby seeming to limit the range of materials for sculpture. Currently, materials for sculpture are without limit or not gradable. In other words, the materials are of varieties to choose from or anything that one lays hands on can be tried. Mills, (1991:18) also holds the same view that: “The materials from which sculpture can be made are infinite in variety. In fact, whatever solid comes to hand may be coerced into some kind of three dimensional images”.

Still on the use of materials, it has been observed that fabric as a material for three-dimensional art has been seen much in the past. But of late, due to the new ideas and the introduction of changes, as well as freedom in the use of materials and techniques, fabric is presently being used extensively. It is used as a support or supplement to other materials for articles. Kultermann, (1968:78) says that:

- “Clothing is another of the elements that play a special role in the work of today’s artists. It is not only that they design clothing or cloth; they also incorporate articles of clothing into the composition, or use them as the materials of their art. Artist like Oldenburg and Dine have made clothing a central theme; frequently, they painted clothing or produce it out of coloured plastics.”

The belief that fabric could be used for and considered for sculpture has not gone down well with people. In an instance, articles in fabric were used in sculpture but considered out of place. It was treated with scorn and regarded worthless. But later, it was finally given the nod as “Textile Sculpture” in an exhibition.

If the range and scope of the sculptor is to be broadened, then he or she should be allowed whatever he or she wants to, without being controlled or limited. Mills, (1991:19) again has this to say about control or limitation of materials: “We enjoy idiomatic freedom, but we need greater freedom and emancipation for new materials to stand in their own right as being worthy media in which new ideas may be expressed in new ways, widening the active range of the sculptor, and indeed any artist wishing to make three-dimensional images.”

Batchelor, (1993:78), comments on the present day sculpture that:

- “The new sculpture tends to abandon stone, bronze and clay for industrial materials like iron, alloys, plastics and celluloid etc., which are worked with blacksmith’s, the welder’s and even the carpenter’s tools. Uniformity of material and colour is no longer required and applied colour is sanctioned.
- The distinction between carving and modelling becomes irrelevant, a work or its parts can be cast, wrought, cut or simply put together”.

The use of leather as a medium for sculpture in this project, does not contradict the assertion, or the views expressed by the authors mentioned earlier. Goetz, (1988:5) throws more light on the use of non-conventional materials for sculpture that: “Modern sculpture has no special materials. Any material, natural or artificial is like to be used, including inflated polythene, foam, rubber, expanded polystyrene, and fabric and neon tubes”. A typical example is the one made of foam as shown on the next page.

The intriguing inventions in sculpture of the twentieth century have made it unique and different from other visual arts. Its powers and beauty is revered.

Function was clearly the goal of early sculptures. The trend has changed and attention is now also given to its aesthetic value. Making of these sculptures again and again every day becomes boring and tedious. As a result, this urges or whips up that interest of exploring other creative means. Carlson, et al (1992:7) is of the same view and therefore says that: “..... the repetition of making day to day out generated boredom, and the boredom inspired and awareness of creative alternatives. Colour was added, with dyes, new materials as well new patterns and shapes were devised”. Figure 1: Is an example of modern sculpture made from foam.



Figure 1: “Rock Burns”

Figure 1: “Rock Burns” was carved and painted by Odwumah Frimpong (2001) Art Education Department, College of Art, KNUST (photograph by Odwumah).

It can be observed and analysed that in modern sculpture, cognizance is taken of its beauty by the artist. This makes him or her particular with the material he or she uses. Previously, sculptures made with conventional or traditional materials such as wood, stone, plaster of Paris, wax and metal were solid and heavy. Even though some have negative spaces, which form part of the sculpture, they are of little significance. Goetz, (1988:42) agrees to this and says that:

- “.....before the twentieth century, sculpture was considered basically an art of solid form or mass. It is true that the negative elements of sculpture – voids and hallows within and between its solid forms – have always been to some extent an integral part of its design, but their role has been a secondary one”.

About sculptures of today, cognizance is given the weight of materials used. The need to reduce the weight of sculptures is evident. The present research then becomes important as a means of exploring a lighter material for sculpture. Goetz, (1988:42) again opines that: “In a great deal of modern sculpture however, the focus of attention has shifted and the spatial aspects have become dominant. Spatial sculpture is now a generally accepted branch of the art of sculpture”.

The motive behind the use of leather in the production of articles in this project is as a result of the search into weight reduction, durability and the use of unconventional materials, as well as the exhilarating variety of techniques. There are a lot of techniques and skills used in the making of sculpture. These include modelling, casting, carving, construction and assemblage. It is evident that soft and light weight, but durable sculptures are encouraged to be made. Amenuke, (1995:9) also has this to say about weightlessness of material: “In a previous research, the crave for light weight works occasioned the use of fabric in casting to which the project on construction and modelling with fabric is a logical follow up”.



Figure 2: An Elephant

Figure 2: “An Elephant”, cast in fabric, painted with black and finished in gold ink by Amenuke, (1995) in the Art Education Department, College of Art, Kwame Nkrumah University of Science and Technology (KNUST).

Due to the emphasis on weightlessness and durability of materials, the focus in this project is on leather as a material. Leather has been in existence for long. It played and still plays a very important role in man’s life, as far as clothing is concerned. The raw materials are produced from skins and hides of both domestic and wild animals. Hamilton (1974:2) is of the view that leather has been in existence for long and he says: “Leather is one of the oldest materials known to man and without it he may not have survived. Prehistoric man used to kill animal for meat and food. He could clothe himself, make beddings and shelter himself from rain with animal skin”.

As far back as the biblical times, leather was a useful material, which was made into water containers. This is confirmed by the Good News Bible (1992:23), which says that: “Early the next morning Abraham gave Hagar some food and a leather bag full of water”.

Hamilton, (1974:3) again comments on leather as a material and a container, and is of the opinion that: “Although the potters craft is very old, long before this man was a using leather mug (black jackets) to drink from leather pouches to keep his food in and even bottles of a type to store. Leather craft predates nearly all other crafts and article”.

The techniques for treating hide and skin to make them soft, pliable and prevent them from decay is known as tanning. It is evident that the early men had their way of treating hides and skins. They found a way of preserving it. Seven hundred years ago, the art of making leather, which is referred to as tanning was common with the people. Doren, (1992:950) states that: “The making of leather is one of man’s oldest industries. Since he usually hanged his hide over fire to dry, he found that smoke preserved it”.

Although methods of processing leather may have differed, yet the uses of certain materials are found to be common to the people of different cultures. This explains the numerous techniques adapted to process leather.

One of such is the use of lime or lemon juice to remove the odour, and the use of oil to soften the leather and as well render it lustrous, pliable and durable. This enables leather to lend itself to be used in many different ways as a creative material. Leather, well treated can stand the test of time.

The suitability and durability of leather depends on its treatment, which enhances its quality. In other words, if it is treated well it will not rot. Ganes (1986:8) confirms this, and believes that: "Leather is the skin of lion, cattle, goat or any other animal, which by chemical treatment result in product which will not decay or decompose".

Treated skin, possess qualities that make it last, even if it is used to produce any article. In this case, wear and tear is minimal. Leather can be subjected to different treatments without tearing or breaking. This suggests that it can be squeezed and twisted anyhow in the processes of creating something from it. Christopher, (1952:17) is also of the view and believes that: "Leather is one of the strongest, flexible, pliable and adaptable materials which is resistant to wear and tear".

Much had been said about weightlessness of materials for sculpture in the previous pages, which people are now craving for. Sculpture works are convenient to carry when they are made of a lighter material. As compared to many other durable materials leather is lighter. As a result, leather is used for so many things, which are regarded wealthy. Doren, (1992:806) confirms this, and states that: "Because of its light weight and considerable pliancy, leather was used for clothing, shoes and so on in the early culture. The possession of leather article was a mark of prestige and wealth". Since the most vital material for the production of a leather article is the leather itself, it is therefore necessary to know the types of leather useful for the project. This is confirmed by Peterson (1961:13) who says that: "Choosing the right kind of leather in the correct thickness and pliability for the article you intended to make is important".

Commenting still on the choice of leather, natural leather must be a tanned skin or hide of an animal. Although there are imitations, natural and synthetic are never the same. It has never been equaled. Cope, et al, (1979:13) are of the opinion that: "Leather is a unique material. Makers of synthetic have tried to imitate it even to the point of impregnating their products with smells and failed". Leather can be decorated in various ways that produce interesting and intricate designs. Some of the decorative techniques include embossing, tooling, painting, spraying, dyeing, applique, inlay, staining etc. Decorating leather adds beauty and gives a finish depending on the methods used. It has endless possibilities for decoration. Even though, it is soft, equally strong a material upon which impressions can easily be made. The more suitable decorations are applied to the leather, the more beautiful and unique it becomes. Roseaman, (1974:23) holds the view that: "Handmade leather goods can be very pleasant and desirable. What you put into it determines the outcome".

Leather, with its wide range of adaptability, offers the artist endless opportunities and facilities to design and decorate especially, using its untapped resources. It is therefore, a suitable ground for optical decorations.

As far back as the thirteenth century in Asia, decorative leathers were used. Besides, other materials were used to complement leather for making other useful things. Groneman, (1974:77), states that: "Macro Polo, the famous world traveller from Venice, returned from China during the thirteenth century and reported that the great Mongol war Lord Kublai Khan, lived in a colourful leather tents line with eramine fur".

Finishing in leather takes place when it is dried. It takes different forms or approaches. To give it lustre, it is burnished. Decoration of leather also takes different forms as said earlier. In some cases, depending on what it is going to be used for, some cultural identify is put in. Commenting on leather works found in Eastern and Southern parts of Africa, Trowell, (1960:42) says that:

- "Skin both in the raw hide among primitive people and dressed leather among the more technically advanced have always been very widely employed. Not only can they be used for clothing, but also to make screens and shelter, harness and binding tongs, shields and scab-boards, shoes and sizes. It is therefore not surprising to find that a number of different methods have been evolved for their decoration".

So far, there has been discussion on materials for sculpture. It is now difficult and somewhat even not possible to speak of "the material for sculpture". Contemporary sculpture has no special materials and there is no restriction in the use or manipulation of materials. The researcher is using leather to produce works of sculpture, therefore let us look at the major skills in sculpture as well as some literature related to it will be done.

2.1. Modelling

Modelling is a building-up process, done mainly in clay. It is a three-dimensional representation of forms. Presently however, variety of materials is being used. Murray, (1983:274), defines modelling as: The building up and shaping of a work of sculpture in a plastic material preparatory to casting in P.O.P., bronze, or terra-cotta or cutting in wood or stone".

Truly, any plastic material can be modelled. The plasticity of any material depends on its malleability and pliability. The rigid materials can only be manipulated by modelling if they are made soft. Goetz, (1988:50) thinks that: "Numerous plastic materials are used for modelling. The main ones are clay, plaster and wax; but concrete, synthetic resins, plastic, wood, stucco and even molten metal can also be modelled".

The material that comes to mind whenever modelling is mentioned, is clay. But materials for modelling cannot be limited to clay though it is conventional. There is therefore the need to find alternative and additional materials from local sources to create new things. About materials for modelling, Chapman, (1978:286) also has this to say: ".....Among these are plastiscine an oil-based clay; ceramic or earth clay; clean wet sand; commercial substances like play dough; and homemade clay of corn starch mixed with salt".

The idea of Chapman suggests that leather can be used for modelling as done in this project. Modelling requires a soft material that can be transformed into various forms and used in making reproduction of works. The medium for modelling could be manipulated and used as preparation to casting. In other words, modelling can be done for casting in which case a mould would be in clay.

Modelling can also be done in pottery, sculpture or ceramic sculpture. Here, the final work in clay has to be subjected to firing at different temperatures. There are two ways of modelling, says Goetz, (1988:50):

- “In the process of hollow modelling, which is typical of the potter’s approach to form, the main forms of the clay model are built up directly as a hollow form with walls of a roughly even thickness. The method of building is similar to those employed for making hand-built pottery-coiling, pinching and stabbing. The smaller forms and details are then added and the finished work is allowed to dry out slowly and thoroughly before firing. The process of solid modelling is more typical of the sculptor’s traditional approach to form. The sculpture is modelled in solid clay, sometimes over a carefully considered armature, by the sculptor’s usual method of clay modelling. Then it is cut open and hollowed out, and the armature, if there is one, is removed. The pieces are then rejoined and the work is dried out and fired”.

There may usually be the need for armatures in modelling, even if it is for casting or for ceramic sculptures. The size and weight of the work may necessitate an armature. In any case, it must be noted that not all armatures are removed, depending on the types of sculpture works. For instance, in direct cement or P.O.P modelling, the cement or the P.O.P is permanently built on the armature, making it impossible to remove without getting the work damaged. Similarly, in this project, the armature was reinforced with mashed paper, mixed with P.V.A. glue. Leather was then permanently built on the armature. This was done to make the work stable or permanent, and at the same time lightweight.

Certainly, armature plays a significant role in sculpture work. It is often said and documented that the total design of the work, which is characterized by proportions volumes and arrangement is decided by the underlying forms. Surface modelling and details of decoration are all formed around and supported by this underlying structure.

2.2. Carving

To carve, simply means to cut into the surface of a material, especially wood, stone etc. Carving is seen and thought of by many, as the opposite form of modelling. One would literally understand it as – “cutting away bit by bit” and “adding bit by bit for carving and modelling respectively. Carving is one of the old forms of producing sculpture. Initially, the term was used to cover only the art of carving in stone. Later the term embraced other sculpting techniques, which included modeling, casting, welding and others. Pakbaz, (1998:816) states that: “The word sculpture, which is derived from Latin implies more specifically to the idea of carving carried out on hard materials by means of pointed or sharp tools, (saws, chisel, punches etc.)”.

Carving literally means cut away. Used as a sculptural term, carving involves the continuous chopping off of whatever material is being used till a desired form and size is achieved. In view of this, Beecroft, (1976:9) says that, “.....the process of sawing, chipping or scraping a block of material such as a stone or wood to remove unwanted pieces until the block takes on the form that the sculptor has in mind”.

The art of carving using very simple tools, such as knives, is known as whittling. This is a technique used in the production of small artifacts such as wooden spoon, pestle, stirring rod, twin dolls, wooden ladle and calabash products. Most sculptors and authors define whittling as the simplest and most direct form of carving. All that one need is a sharp knife and suitable material, based on one’s taste or choice. So, simply, cutting of wood to a smaller size by taking off small thin pieces can be termed whittling. Zarchy, (1953:107) also gives his version of Whittling as: “The art of carving with a knife”.

Whittling can be done at leisure times, to relieve boredom. It does not require any workshop or sophisticated equipment. The same author continues to say that: “One of the advantages of whittling as a hobby is the fact one does not need a work bench, shop, special tools or other equipment for the carving. All that one need is a sharp pen knife and a piece of soft wood and one can get started”.

Carving of leather can be classified under whittling. This is so because the carving will not go deep into the leather. It is more or less a surface work to project a design. The technique of chip carving is very similar to whittling, except the chip carving is more of surface texturing or designing than pictorial composition. Chip carving can be employed on an already whittled work. Bridge-Water, (1981:25) states that: “It is a technique that involves the removal of small chips of wood from a bigger block. This they say is done with simple tools such as knives and chisel and is usually a method of pattering of large means of a flat wood”.

Relief carving is another or form of carving. It is one of the very common forms of carving often talked about by many authors in sculpture. Generally, in sculpture, relief refers to any work of art in which the figures project from a supporting background, usually from a plane surface. Doren, (1992:106) states that: “Relief is literally the projection of form from a ground; in sculpture, it is a work in which figure or ornaments are shown as projecting from a ground”.

There have been discussions so far on two major processes in sculpture. There are other processes. These are casting, assemblage and construction.

2.3. Casting

Casting is another process of making sculpture over the years. In this process, a liquid or molten material is poured into a mould to take its shape and form; and then removed. In other words, casting as a technique is used in reproducing works either in the round or relief. It is done by modelling an image in clay, molten metal or any plastic material such as plastiscine, wax or Styrofoam. In this case, since leather is soft and malleable when wet, it can be pushed into a mould to take the form when dried. A mould is taken from the model and used for the casting or reproduction. The mould is like a photographic negative, but of form and not of colour; the interior surfaces of the model’s exterior. Any material that hardens can be used for casting. Once the mould has been made, the casting may be duplicated a number of times. Different writers have given various definitions and explanation to casting. Rich,

(1965:371) says: “Casting is a reproductive mechanical process whereby the form of an object is reproduced in another generally more durable material”.

Chapman, (1978:28) also has this to say about casting: “It is an in direct process by which one or more permanent works are reproduced from a less permanent model”. As mentioned earlier, there is the use of moulds, which are cases used in taking the casting substances. Rich, (1965:90) again has this to say: “The shell-like impression into which the casting substance is poured is referred to as the mould, the negative or the negative mould or the containing mould”.

Casting cannot be separated from mould and so many ideas have been discussed by writers about mould and their preparations. Hornby, (1988:131) also defines mould as: “A hollow form or shape into which soft or liquid material is poured in order to cool and become hard in a desired shape”.

Materials for preparation of moulds vary depending on the type of moulds that are to be made. Cement, clay, sawdust and glue, paper are few examples of materials. Various materials have been used for positive casts over the years. They are turned into the liquid form and poured into the negative mould and allowed to set and dry. It should be noted that, not only molten materials can be cast, but any materials that can take the form of a mould.

Casting in leather, however, is not usually done by sculptors, but there is the possibility of it being used sculpturally by moulding. Cope, (1979:71), is of the view that: “If you soak sole leather in lukewarm water, for 15 minutes; it becomes soft enough to mould into various shapes. If allowed to dry naturally, and kept in shapes while it dries, it retains a shape very well”.

Casting in sculpture has been done with conventional materials such as P.O.P, cement etc. all of which are weighty and expensive. Today sculptors have evolved simple ways of casting which need not be heavy. These innovations have come as a result of the unending search for novelty and the crave to improve upon creative abilities.

2.3.1. Construction and Assemblage

In constructed sculpture the artist builds or constructs the sculpture from materials such as cardboard, celluloid, translucent plastics, sheet metal, or wire, frequently creating forms that are lighter than those made from carving wood, modelling clay or casting metals. The writer traces the root of the word, “Construction” from the verb, “to construct”, meaning, to make fitting parts together, build or form, to give condition. Goetz, (1988:51) says that:

- “Construction is made by joining of such basic performed components as metal tubes, rods, plates bars and sheets; wooden laths, planks dowels and laminated timber and chipboards; sheets of Perspex, Formica and glass; fabrics, wire and thread”.

Construction and Assemblage are simultaneously used in sculpture. There may be a little difference. Construction in sculpture is made with the same type of material, while assemblage is the process by which individual pieces or objects are brought together from different types of material to form a sculpture. Some writers make a distinction between assembling, in which parts of the sculpture are simply placed on or near each other, and constructing, in which the parts are actually joined together through welding, nailing or similar procedure. We have chosen to use the term, ‘assemblage’ for both types of work, because often the line separating one from the other is a fine one.

However, in the end, it is the materials that are put together to create a form. Chapman, (1978:28) also has this say about construction and assemblage. “In assembling or construction sculpture, the artist selects and groups materials to create a new form”. It has also been confirmed by Gilbert (1998:276) that: “Louise Nevelson used assemblage as a means of unifying her arrangements of disparate items and shapes into to grand construction”. Gilbert, (1998:277) went on further to say that: “Piscasso’s witty 1943 assemblage entitled, Bull’s Head, is a remarkable example of his genius for synthesis, where he combined a bicycle seat in the reverse direction and handle-bar into a conflated imagery”.



Figure 3: Bull's Head, by Pablo Picasso

From these, one could see that there is a performed shape, which is combined, when one is talking about construction of a sculpture. The constructivism movement was performed in the nineteenth century to contribute to abstract art. Non-objective construction or reliefs of building materials on vertically hung plane surface were made.

Since 1940s most constructions were done in either wood or metal. David Smith's construction, for instance was fabricated in metal. Burnham, (1969:155) had this to say about it:

- "The essence of this type of construction was the fabrication out of plated stainless-steel, of a group of hollow rectangular boxes.
- These were joined edge-to-edge, edge-to-face, partial face etc., the idea being that the quite large and imposing forms themselves could be readily attached in any number of rational or irrational joining sequence".

Construction and assemblage may look abstract in this case if they are also juxtaposed. Besides, some of the forms may look geometrical, with good finishing to give quality. Fichner-Rathus, (1992:46), confirms this, when he talked about David Smith's work, he said:

- ".....Smith assembled cubes and cylinder of stainless steel in architectural masses. Even though Smith's shapes in the cubic series are geometrically pure, some note that his loving burnishing of their highly reflective surfaces grant them the overall gestural quality found in Abstract Expressionist paintings".



Figure 4: *Cubi series, stainless steel (1964) by David Smith*

Artist such as Alexander Calder, Louise Nevelson, David Smith, Charles Kurnick and Sol Le Witt are worth-mentioning for the various parts played in assemblage and construction under sculpture. Charles Kurnick for instance, worked in plastics, steel, brass, copper, and as well exhibited space and weightlessness in his sculpture. Fichner-Rathus, (1992:134) again had this to say about Charles Kurnick:

- "Charles Kurnick's Bi-plane is constructed from a sheet of plastic and pieces of metal-brass, copper, steel and silver. The plastic planes contain space which is very much as in the Gabo column, a part of the work. Bi-plane is rigidly architectural, although the plastic affords a lightness that conflicts with the sense of massiveness".

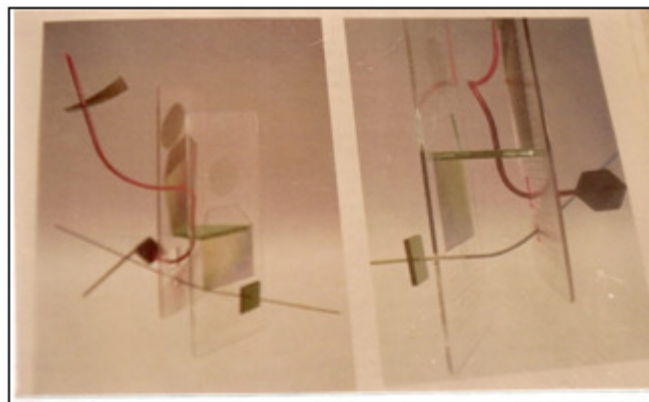


Figure 5: *Bi-plane, in acrylic, brass, copper, steel and silver (1985) by Charles Kurnick*

Wood and metal were used by some artists to construct art works, of which the metal ones can be placed outdoors. These works in most cases are heavier as compared to construction in leather, in this project. Works in leather cannot stand the mercy of the weather, and therefore cannot be placed outdoors.

Construction does not necessarily mean welding or joining different components. Construction could be done by twisting or turning a single piece repeatedly before joining. Burnham, (1969:143) confirms this; when he commented on Max Bill's work that:

- "Towards the middle of the nineteenth century, the German mathematician, and astronomer A.G. Mobius discovered that a single strip of paper could have only one edge and one side by twisting one end of the strip at 180^0 before joining the two ends together. As a construction with a unique property of one side, with Mobius band inspired Max Bill to create from it, a series of variations. Examples are the Endless Ribbon and the Monoangulated surface, which appears in a polished brass".



Figure 6: *Endless Ribbon (1953) by Max Bill*

Sculptors over the years have used various techniques to join the different parts of constructed sculptures. Goetz, (1988:51), confirms this, when he said:

- "Numerous techniques are employed for joining these components, most of them derived from crafts other than traditional sculptural ones. For example, metal-welding and brazing, wood joining, bolting, screwing, reverting, nailing and bonding with new powerful adhesive".

It is evident from the literature that, there are efforts being made to whip up interest in unconventional and light-weight sculptures. In leather sculpture, it can also be seen that tools and materials are not expensive and very easy to acquire. In other words, it does not make work strenuous, energy-consuming and as well, boring.

Using leather as a material is not strange because there are several articles that have been made with leather.

3. Description of Tools and Materials

3.1. Tools and Materials

Neither much tools nor large equipment was needed for modelling, carving, casting and construction in leather. The few tools used included the hacksaw, cutter, a pair of pliers, a pestle and mortar, a small bowl, a pair of scissors, sand paper, spatula, brush, knife, surgical blades, hand-drier, a pencil, a needle, saw and tracing paper. These are shown in Figure 7.



Figure 7: Tools

Most of these tools were used more for the modelling than the other processes of sculpture. The hacksaw was used to cut the iron rod, cutter for cutting the binding and chicken wire to tie the rods, and the pliers used to bend the iron rods into shape for the armature of the modelled figure. The pestle and mortar was used to pound the soaked paper into pulp, the bowl for mixing of glue and paper pulp, a pair of scissors for cutting leather and straw board, sand paper for sanding leather, the spatula for modelling and bringing out features on the model. The brush was used to apply glue and lacquer on both leather and model. The surgical blades and knife were used to carve the leather, and the hand-drier drying the leather fast in the mould to get the cast. Pencil was used to draw on the elephant leather before carving it. Needle was used to stitch in the construction of leather, saw for cutting plywood, and tracing paper for transfer of drawing on to the plywood. The fingers were the most convenient tools used for easy manipulation of the tools and materials. The materials used included leather, P.V.A glue, Formica glue, lacquer, paper pulp clay, binding and chicken wire, iron rod, nails, black ink, strawboard, plywood and thread.

From all indications, it could be seen that tools and materials needed for making sculpture in leather, are easy to come by. Besides, they are neither dangerous nor cumbersome to use. Leather of all kinds and texture can be found in almost every home around the world. This is the fact that leather lends itself to be used in different ways. It is made from animal hide or skin called pelt. Large animals have hides such as buffalo hide, cowhide, elephant hide, while small animals have skins; examples are goat-skin, sheep-skin and pig-skin. Leather is made up of water and protein. They decay quickly when not preserved.

In creating an art form with leather, any other materials are sewn or attached to it for reinforcement or give it a form. It also serves as a form of decoration. Leather articles finished beautifully, and in a useful way, will give lasting – satisfying services. The choice of articles in leather determines the type of leather useful for it. The choice of article may be easier if the uses of leather and the animal from which they are obtained are known. Carving on leather, for instance, should be done on sturdy or thick leather.

3.2. Types and Characteristics of Leather

The following are the major types of leather, their characteristics and uses:

Morocco (Figure 8): is one tough leather and can be tooled readily. It is referred to as goatskin. It is usually firmer and can be used for fancy leather goods, handbags and upholstery. It can be lined and cut into shapes for construction in leatherworks.

Calfskin (Figure 9): is one of the most beautiful leathers and is ideal for almost any type of work in leather. It is fine – grained and close-textured. It is also perfect for tooling and modeling, and as well used for handbag and book covers.

Suede: is obtained from sheep or goat. It is not separate leather but specifically treated on the flesh side to make it very soft. It is mostly used for clothing, bags lining and footwear.

Cowhide (Figure 10): is used for anything which must wear well. The light hide can be tooled and is suitable for small projects such as gloves and garments. The heavy hide is used in making carved brief cases, baskets sandals and machinery belting.

Pigskin (Figure 11): this type of leather is tight-grained firm, wear well and maybe tooled to some extent. It is suitable for straight-lined work, gloves, fancy leather goods and luggage.

Sheepskin (Figure 12): is extremely versatile, soft and loose-grained. It is good for tooling or modelling because of their texture.

Elephant hide (Figure 13): is very thick and close-grained and still. Generally, it is used for items such as, the sole of shoes, suitcases, machine covers and shoes, and seats. It is also good for relief work in carving.

For the purpose of this project, three kinds of leather were treated and used. They are goatskin, sheepskin and elephant hide. The goatskin was used in modelling and construction, while the sheepskin and the elephant hide were used for the casting and carving respectively.

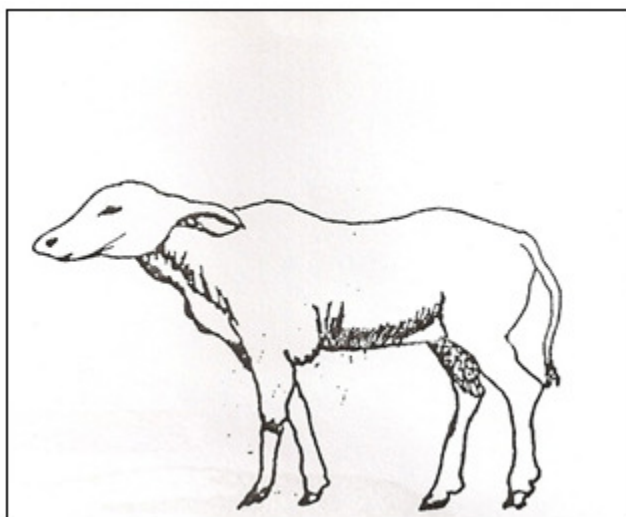
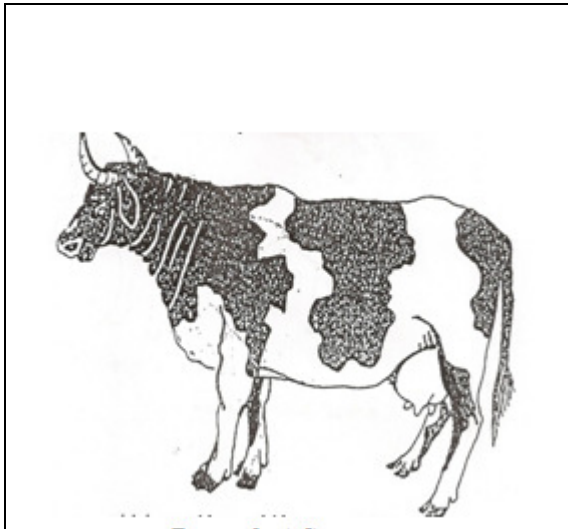
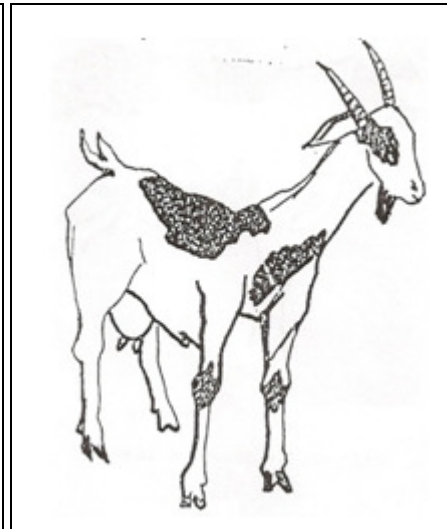


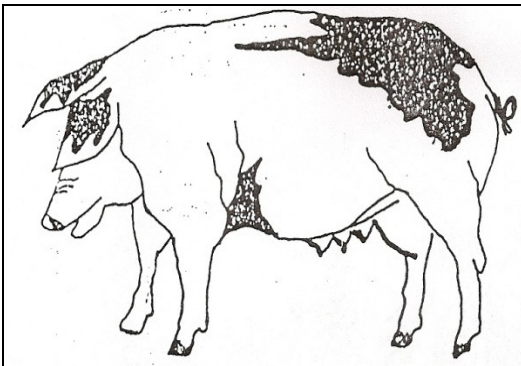
Figure 8: A Calf
Which provides Calfskin



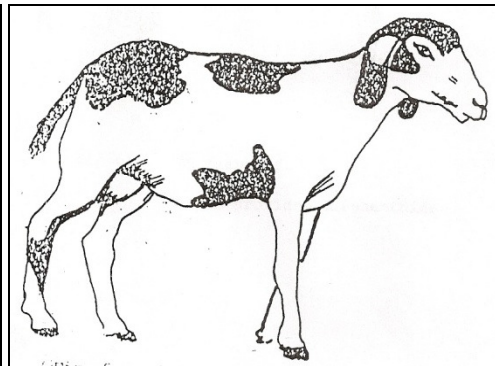
*Figure 9: A Cow
Which provides Cowhide*



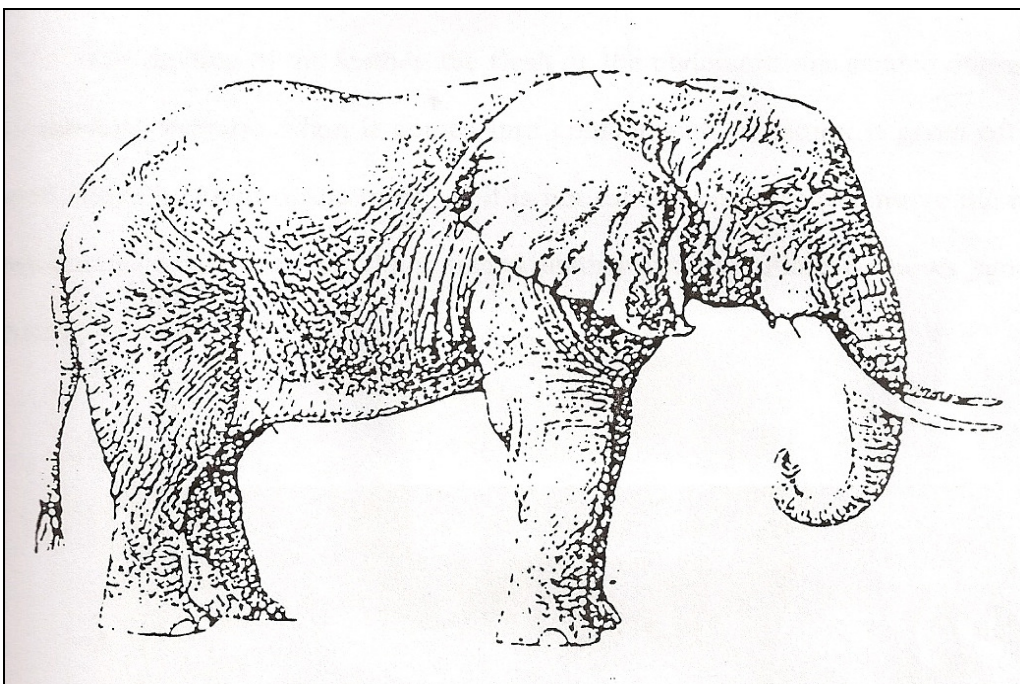
*Figure 10: A Goat
which provides Goatskin*



*Figure 11: A Pig
which provides Pigskin*



*Figure 12: A Sheep
which provides Sheepskin*



*Figure 13: An Elephant
which provides Elephant hide*

3.3. Treatment of Leather

Most locally produced leather articles continue to give unpleasant odour, with moulds growing on them. At a time, the unpleasant odour resurfaces especially when the articles become damp. Therefore, a form of treatment would have to be given to the leather before producing articles with it. The treatment is as follow:

Sanding: For sanding of the leather, the flesh on the underside was sanded. It is necessary because when it comes into contact with moisture, it gives off unpleasant smell, since it is part of the meat. If it is not sanded properly to remove the meat, it will continue to smell even on the finished leather article. Figure 14 shows sanding in the process.



Figure 14: Sanding of leather.

- Deodorizing: After the flesh side of the leather had been sanded, it was deodorized by applying lime or lemon juice on it and left for 20 minutes. By deodorizing, the odour is completely removed. Besides, fermented corn dough can also be applied on the flesh side of the leather as a way of deodorizing it.
- Soaking: The leather was soaked in ordinary water to make it soft for easy stretching. It was rinsed and stretched on a flat surface to dry.
- Stretching: The soaked leather was stretched on a stretcher board with the aid of small nails, and left to dry in the open air. It became flat and stretched, when it was dried. This makes it easier for cutting and decoration.
- Dyeing: The goatskin was dyed in blue-black and white stripe, and used as clothing for the modelled figure. Line water in which iron scrap was put for few days to ferment was used to dye the leather, while still wet. They dye became indelible on the leather when it was dried.
- Burnishing: It is done to enhance the beauty of the leather. The dried leather was spread on a smooth floor, and rubbed on its grained side with a bottle filled with sand. Leather possesses some oil within its fiber. Exerting pressure on it, forces the oil to spread and fill the minute pores as well as the surface. This treatment renders the leather lustrous and compact. In this respect, fungus or mould is minimized, if not entirely eliminated. Shown on page 42 are Figures of mouldy leather and burnished leather.



Figure 15

Mouldy leather



Figure 16

Mouldy leather treated and burnished but not lacquered

It is advisable for any leather artist to burnish the leather before using it for production of articles.

- Lacquering

It is a finishing process as well. Lacquer is a transparent yellowish and inflammable substance, which was applied on the grain side of the leather to seal the pores, and glaze it, and as well protect the leather.

3.4. Effects of Lacquer on the Leather

Two experiments were conducted on the leather selected for this project, in order to see the consistency of lacquer that will suit it to make it look sculptural and as well enhance its beauty.

Experiment One: Lacquer was mixed with 10% orthophenylphenol (a fungicide) and a little quantity of cellulose thinner to a light consistency. It was then applied on the grain side of a piece of treated leather, and left to dry, to become shinny. Figure 17 shows leather lacquered in light consistency.

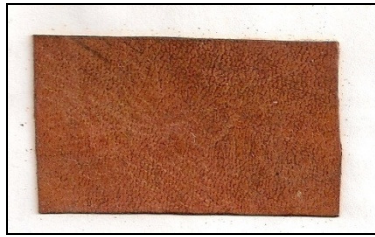


Figure 17: A piece of leather lacquered in light consistency

Experiment Two: Lacquer with the same quality of fungicide, but without thinner was applied on the grain side of a piece of treated leather several times and left in the sun to dry. The surface became dull. Figure 18 shows leather lacquered without thinner.



Figure 18: A piece of leather lacquered without thinner

3.5. Effects of Glue on the Leather

Two experiments were conducted to see the effectiveness of glue on the leather.

Experiment Three: P.V.A. glue was used to paste two pieces of leather together, and left to dry. Even though the pieces of leather were stuck to each other, it was not firm. In other words, peeling was easy. Besides, drying was slow.

Experiment Four: Formica glue diluted with thinner, and applied to two pieces of leather, was firm and difficult to peel, when it became dry and still.

3.6. Effects of Glue on Paper Pulp

Two experiments were carried out to see the effectiveness of glue as a binder and its suitability for modelling.

Experiment Five: Paper pulp was mixed with Formica glue diluted with thinner, but could not put the paper pulp together. This shows that it is not a good binder.

Experiment Six: Paper pulp was mixed with P.V.A glue to build a form. Even though it worked effectively, drying was rather slow.

3.7. Effects of Glue on Sawdust

Two other experiments were carried out again to see how glue works with sawdust.

Experiment Seven: Sawdust was mixed with formica glue diluted with thinner to build a form, and it worked well.

Experiment Eight: Sawdust was mixed with P.V.A. glue to build a form, and it worked but was rather slow in drying.

4. Methodology

Earlier on, there was description of tools and materials for the project. There was also a discussion on the treatment of leather, as well as its suitability for making sculpture, and the effects of glue on it. Under methodology, there are discussions on various processes and the several but different steps in the use of leather to produce sculpture. Apart from using the descriptive method to describe the literature related to the topic, it was used to describe how the different types of leather were identified and processed. It was also used to describe the different processes of producing sculpture. The finished works were analysed.

Information on the major skills in sculpture, leather and some other materials for making sculpture were gathered from K.N.U.S.T main library, College of Art library K.N.U.S.T., U.E.W, North Campus library and Department of leatherworks, U.E.W for review of related literature. Pieces of leather were tested with glue and lacquer for their suitability and finishing respectively. The project itself continued with the modelling carving, casting and construction of images.

Two methods of research were used in this project. They are Experimental and Descriptive methods. With the experimental method, tests were conducted to provide evidence for or against the hypothesis. It was an attempt at getting something new. Leather was experimented on with other materials to see how effective their combination is. For instance, there was an attempt to find out which adhesive is the most suitable, that can combine with leather to produce good sculptures. Through experimentation, sketch models were done to serve as a guide for the production of the actual work.

4.1. Modelling with Leather

Two types of modelling namely:

- (a) In-the-round (three-dimensional) and
- (b) Relief (two-dimensional), were produced in this project.

For modelling in the round, an armature of iron rods of 6mm in thickness was built on a rectangular wooden base of 19cm as a pedestal. Chicken wire was cut and used to cover the iron rods. Figure 19 shows the armature mounted on a wooden base.



Figure 19: Armature fixed on a rectangular wooden base.

Paper pulp was mixed with P.V.A. glue, and with spatula, built it on the armature bit by bit, until the expected form was achieved. This is shown in Figure 20.



Figure 20

Building the paper pulp on the armature was not a matter of a day. It took few days because the paper pulp was wet and heavy, and had to be built gradually, so that it would not collapse. It was often dried in the sun or dried with a hand-drier. When the expected form was arrived at, the spatula was used to bring out the details of the features on the model. After the paper pulp was firmly dried on the armature, sanded and burnished leather was cut into required pieces and pasted on the model.

To give the work a natural touch, two different colours of leather were selected, one for the body and the other for the clothes. Formica glue was applied on the model, as well as the sanded side of the leather, and allowed to dry a little bit before pasting. The depressions on the model were dampened with water and pressed down with a spatula. This treatment made other features to project. It must be noted here that, leather was used to cover the whole body, before pasting the dried leather on it, as a clothing. The different colour for the clothing was used to bring out the contrast in the appearance of the body and the clothing. A black-inked marker was also used to make other features like the nose, eyes ears and eye brows on the body prominent. Lacquer was applied on the leather model as a finish to give it lustre and also to prevent it from fungi attack. The completed leather model is shown in Figure 21.



Figure 21: Completed leather model in the round

Like any other relief work, the figure must be raised above or sunken below the surface plane. For the leather relief modelling, the picture was first sketched on a drawing sheet. A plywood was sawn to 44cm by 32cm in dimension, and both the edges and the surface were smoothed with sand paper. Tracing paper was used to transfer the sketch on the drawing sheet onto the plywood as well as the straw board. The transferred sketch on plywood is shown in Figure 22.



Figure 22: Transferred sketch on plywood

The sketch on the straw board was cut out, and pasted exactly on the second sketch on the plywood with P.V.A. glue. The projection and other features were depicted by cutting the shapes of them from the straw board with a knife and pasting them with formica glue on the sketch as indicated on the plywood. The depressions were created by slashing off the respective areas to create folds and grooves. Leather was then cut, sanded and burnished. Formica glue was applied on the model as well as the sanded part of the leather. After allowing it to dry a little, the leather was pasted on the model on the plywood. The depression on the model were dampened with water, and pressed down with spatula to project other features. The excess leather was cut away, close to the edges of the model. Dyed pieces of leather were cut into shape and pasted on the background of the model for it to stand out. Black-inked market was used to outline the model. As a finishing, lacquer was applied on the whole work to make it durable and enhance its beauty. The completed leather model in relief is shown in Figure 23.



Figure 23: Completed leather model in relief

4.2. Carving in Leather

Carving was done in leather, after a sketch was done directly on the leather. A piece of elephant leather, measured 16cm by 9cm was cut, sanded on both sides and deodorized. For convenient carving, it was glued with Formica glue, on a rectangular wooden base of 20cm by 18cm, with the thickness of 4.5cm as shown in Figure 24.



Figure 24: Leather with a picture on it, glued on a wooden base

A picture was then drawn on the leather. There was the need to moisten the leather to become soft for easy carving. The picture was blocked, and the unwanted parts were removed bit by bit with a surgical blade until the image has projected. The details were worked on, and allowed to dry well. It was then sanded, outlined with a black inked marker, polished and lacquered. The wooden base was blackened with a marker to bring out the carved image on the leather. The completed carving in leather is shown in Figure 25.



Figure 25: Completed carving in leather

4.3. Casting with Leather

Casting is always associated with a mould. The mould serves as a negative while the cast becomes the positive. In the casting of leather, a thin and light leather was moistened in warm water and laid in the mould to take its form. An impression was taken from a wooden mask with clay, which served as a mould. Figure 26 shows the wooden mask for the leather casting.



Figure 26: Wooden mask for leather casting

The wooden mask was laminated with engine oil, and then covered entirely bit by bit with soft clay, to the thickness of 4cm. The wooden mask was removed when the clay mould was leather-hard. It was bone-dried and bisque-fired. It was left for three days, and soaked in water over night. It was cleaned and laminated with oil. Figure 27 shows the cleaned and laminated mould used for the leather casting.



Figure 27: Cleaned and laminated mould for leather casting

The researcher took into cognizance the characteristics of the leather which was used. Knowing that when soaked in warm water it becomes soft enough to be manipulated, flesh side was sanded thin and soaked in warm water for ten minute. It was rubbed with the hand to render it softer and flexible. It was then placed in the mould with the grain side, coming into contact with the mould. A spatula was used to push gently the leather further into the depressions in the mould. Dry sand was poured on the leather in the mould and left for six days to allow the leather dry thoroughly. The pressure of the sand helps the leather to take the shape of the mould. Pieces of cement paper were pasted with P.V.A glue as reinforcement on the leather cast in the mould, after the sand was poured out. This is to give the leather mask weight and make it still. Besides, it is to help maintain the projection and depression in it. Figure 28 shows the leather in the mould.



Figure 28: Leather with paper lining in mould

The completed work was mounted on a straw board covered with leather. A black-inked marker was used to define the outlook of the mask. Lacquer was applied on the whole work as a finishing. Figure 29 shows the completed work.

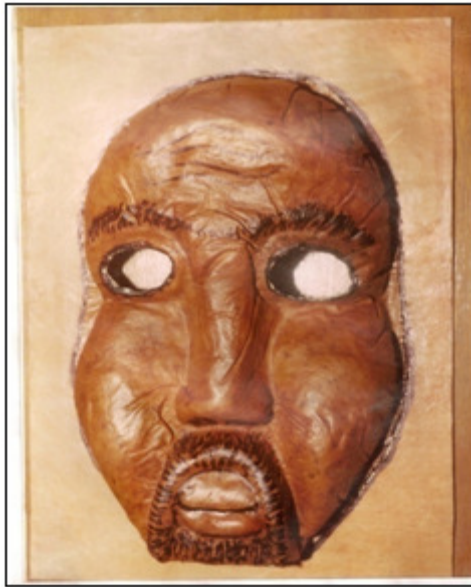


Figure 29: Finished leather cast.

From the description, it is evident that casting of decorative pieces could be done with leather apart from the conventional ones.

4.4. Construction with Leather

Leather was treated by sanding, deodorizing stretching and burnishing. The leather was cut into strips and geometric shapes of different widths and lengths. Figure 30 shows strips and geometric shapes.

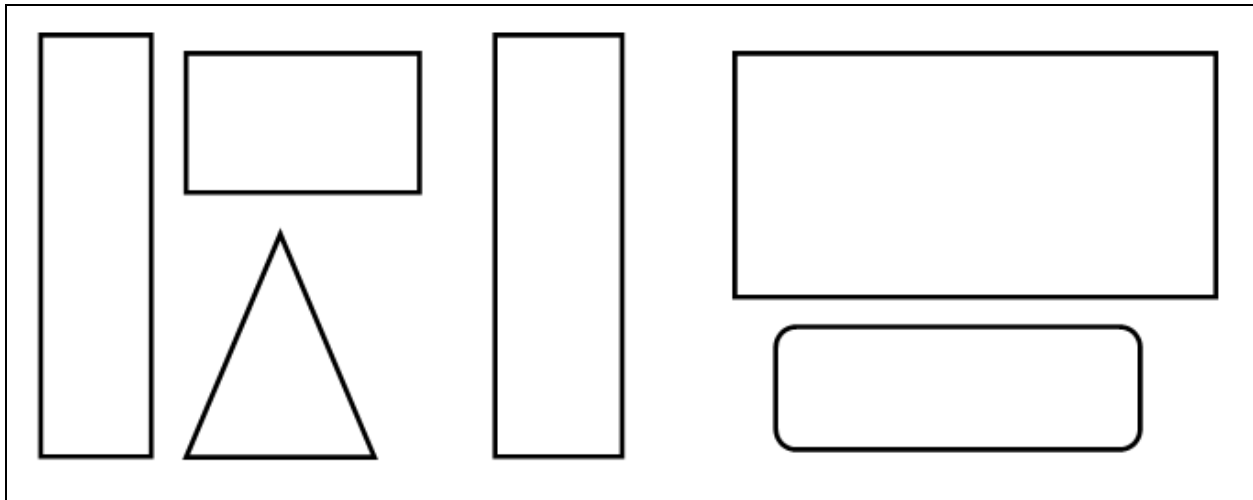


Figure 30: Leather cut into strips and geometric shapes of different widths and lengths. Formica glue was applied on the flesh side of the shapes of leather, allowed to dry a little, and then pasted on strawboard of the same sizes as the leather, to serve as a reinforcement. When they were well dried, the strips and shapes were made into different geometric forms as illustrated in Figure 31.

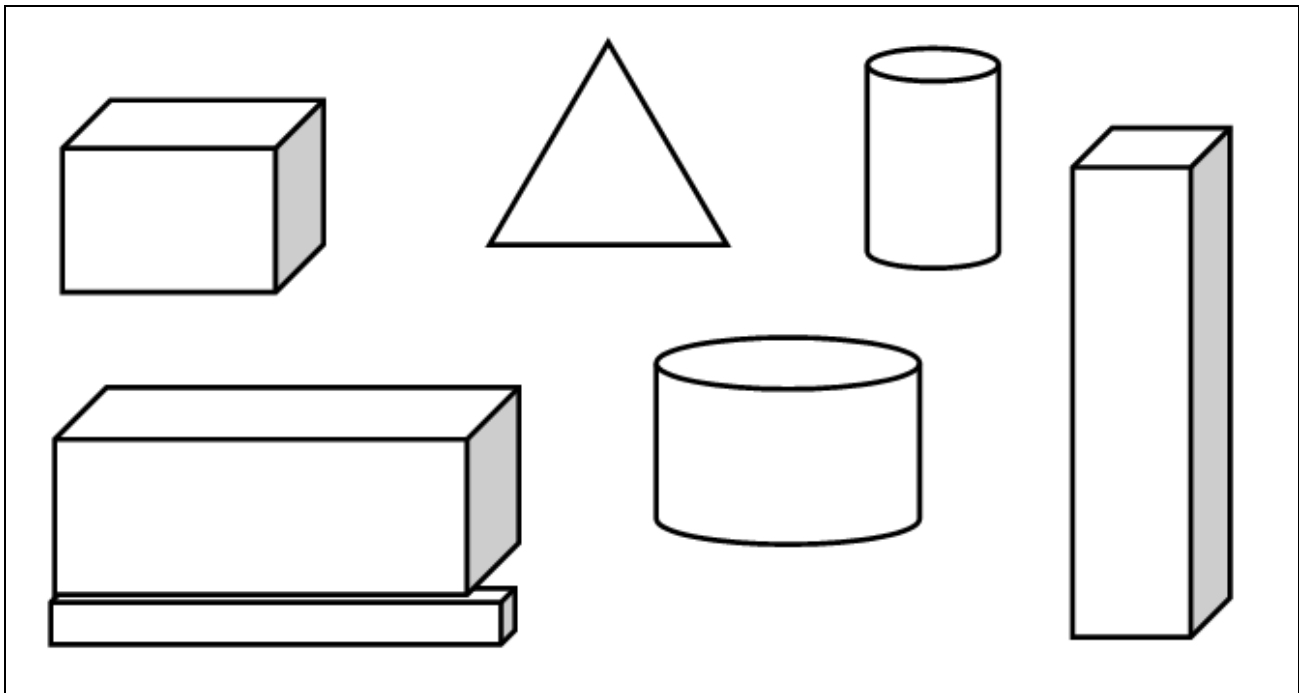


Figure 31: Different geometric forms made from different sizes and shapes of leather and strawboard

Cuboids of 4cm square, two cylinders of 2.5cm and 5cm in height, four rectangular forms of 12cm in width, 7cm in height, 9cm in width 3.5cm in height, 2cm in width. 13cm in length and 3cm in width, 15cm in length, as well as two triangular forms of 3cm in width, 3.5cm in length were used to construct a human figure.

Some parts on the body were stitched together with needle and thread. While the other parts were glued together with Formica glue and mounted on a rectangular base.

The human figure is a cubic one, but for variety, both the 'the neck' and the 'abdomen' were made cylindrical. The cuboid was made to represent the 'head'. The big rectangular forms were created to represent both the 'torso' and the 'hip'. The small rectangular forms served as "limbs" while the triangular form represented the "feet".

To bring out the variety and to be well appreciated, in other words to enhance its beauty, the work was mounted on a black rectangular wooden block. The finished work was lacquered to make it lustrous and as well as prevent it from going mouldy. Figure 32 shows the completed work.



Figure 32: Completed constructed work finished in lacquer

From all that has been described above, it could be seen that producing sculptures with leather is easier, comfortable and interesting.

5. Discussions and Results

The completed work is a proof that leather is a suitable medium for sculpture in the discussions of the result. As stated earlier, experiments were carried out on the treatment of leather to see its suitability and finishing qualities for building sculpture. Secondly, there were other experiments to see the effectiveness of the kinds of glue used on the leather and the mashed paper, as well as sawdust.

5.1. Discussion of Results: Appreciation, Analysis and Interpretation Test on Leather with Lacquer

A piece of leather was cut into a measurement of 5cm by 3cm. When the lacquer mixed with thinner to lighter consistency was applied on the grain side of it, it became more lustrous and still when it dried. This is due to the fact that thinner is a solvent, and was able to dilute the lacquer to spread over sparingly to fill the pores in the leather, giving it a transparent look.

In experiment two, there was no thinner in the lacquer so its consistency could not penetrate the pores in the leather. Its application on the leather several times, also gave it an opaque look. When it dried, leaving little cracks on it is quite visible. Lacquering is a finishing method in sculpture. It gives lustre to the material used, of which leather is no exemption.

5.1.1. Test on Leather with Glue

In experiment three, the P.V.A. glue used on the leather was not firm and could easily be peeled off, because it is water-based. Since burnished and lacquered leather is smooth and lustrous, it did not work properly. But drying was slow.

In experiment four, the Formica glue was effective and dried fast. The solvent in the glue was able to break down the lustrous surface of the leather, allowing the glue to enter the pores to enable the leather to stick firmly to each other. Formica glue can conveniently be used to adhere leather.

5.1.2. Test on Glue with Paper Pulp

In experiment five, the paper pulp could not mix well with Formica glue. The reason is that the paper pulp is wet. Besides, Formica glue is not water-based. It could have worked if the mashed paper was dried. In this case, one needs to work fast, since Formica glue dries quickly. So wet paper pulp mixed with Formica glue is not suitable for building sculpture.

Experiment six, which involves the mixture of paper pulp and P.V.A glue worked effectively because the glue is water-based, therefore mixed easily with the wet paper pulp. Except that, drying was slow. Working with these materials will be more convenient to beginners.

5.1.3. Test on Glue with Sawdust

The two experiments carried out here were to investigate the suitability of glue as a binder for sawdust in building sculpture. In experiment seven, sawdust mixed with Formica glue was suitable for building sculpture. It dried fast, but not convenient working with as a beginner. The suitability was due to the fact that, the sawdust had no water content in it. In experiment eight, the mixture of sawdust and P.V.A glue was also suitable for building sculpture. It dried slowly because the P.V.A. glue is water-based and had to be absorbed by the sawdust. It will be more convenient to work with, by beginners because it does not dry quickly. Besides it is not very sticky when working with it.

Taking cognizance of the weightlessness of materials, as discussed earlier, the researcher decided to build sculpture in the round with leather, using mashed paper mixed with P.V.A. glue as a support on the armature. It is convenient to use P.V.A. glue with sawdust to build sculpture, since it doesn't dry fast.

5.1.4. Modelling

The modelled figure is titled the "dondo player". It is 55cm high and 24cm wide. The work portrays a man from the Northern part of Ghana, playing 'dondo'. A movement was created by the tilting of the body backward. The angle at which the head was bent depicts the way the 'dondo' player is carried away by the excitement he is deriving from the sound that is being created. It is dressed in striped leather cap, a top and a pair of trousers, with a brown leather boot to match.

The materials used in executing this work include leather, paper pulp, P.V.A. glue, Formica glue, iron rods, chicken wire. Paper pulp mixed with P.V.A. glue was used to build the body on the armature, until the desired size was achieved. It was then dried in the sun and finally dried thoroughly with an electric hand drier. The leather was sanded on its flesh side and cut into pieces. Formica glue was applied on the model as well as the sanded side of the leather, and allowed to dry a bit. The leather was pasted bit by bit on the model as part of the body, and dressed in striped leather dress as well as a cap and a pair of boots. Black ink was used to highlight the details.

The work was finished in lacquer, mixed with 10% orthophenylphenol and thinner for preservation.

There is movement in the modelled figure. The surface of the model shows extremely small folds and depressions. Variety, a principle of design could be seen in the work through the use of the different leathers and their finishing. The colour of the body of the model is in contrasts with the colour of the clothing. In all there is harmony in the work due the colour of the pedestal. The figure is slim in appearance, which portrays the stature of the people of the Northern part of Ghana, who are well known for playing 'dondo' on occasions, as a way of promoting their culture. The model in the round is shown in Figure 33. This proves that leather is suitable for modelling.



Figure 33: Leather model in- the- round

5.1.5. Modelling in Relief

The modelled figure in the relief form is titled “Mother and Children”. The work covers an area of 44cm by 32cm. It depicts a hen standing confidently between her two chicks, gazing afar to see where a predator is coming from, so that she will protect her chicks; in order not to fall prey. Of the two chicks, the one on the mother’s right side is busily pecking the ground, while the other on the left side, takes a step and looks on. The firmly placed legs of the ‘mother’ here represent a pillar of defense for the chicks.

Materials for this work include leather, straw board, P.V.A. glue, black ink, Formica glue, lacquer and plywood. The sketch was transferred with a carbon paper onto both plywood and the straw board. The sketch onto the straw board was cut and pasted on the plywood with P.V.A. glue. The projection and other features were traced and cut out from the straw board and pasted on the cut out sketch of the hen and chicks. Other grooves were created by cutting some areas on the strawboard. Leather was cut, burnished and pasted on the model with Formica glue. It was then allowed to dry. The depressions on the model were dampened with water and pressed down with a spatula to project other features. It was trimmed with a knife, and outlined with a black-inked marker. Lacquer was applied on the finished work to make it beautiful, and as well render it durable.

There are grooves and depressions on the finished work, created by slashing the straw board to create feathers and other features on the hen. They were emphasized by the use of the black-inked marker. These contributed to the texture on the hen. The work is bold and upright, which goes to depict alertness and vigilance. Figure 34 shows model of relief.



Figure 34: Leather model in relief

5.1.6. Carving

A carved figure in relief, titled the “liha” seller, is the second work for this project. It is 16cm high and 9cm wide. It is a close-up figure, which covers the head to the abdomen. It depicts a woman carrying a pot of corn wine, “liha” on her head, supported by her left hand, while the right arm is almost bent at 45°, with a calabash in hand. The woman puts on a simple dress to enhance her mobility. The pot on her head has three segments of line as a design, and rests on a head gear.

The figure, even though in relief, carved rounded and in planes. It can be viewed from the back at a three-quarter view. It was shown as “going out” of the picture, instead of the usual “coming in”, with the figure facing the viewer.

The materials for the production of this work include elephant leather, Formica glue, black ink and lacquer. A pencil and a black-ink were used to sketch the figure on the leather, after it has been sanded and glued onto rectangular wooden block. The sketch was blocked with a knife and carved damp with a sharp knife. The work was dried in the sun for one hour, sanded, outlined with black-ink marker polished and lacquered to enhance its aesthetic value. The wooden rectangular base was blackened to enable the work stand out.

The carved work has textures on it. Line segments created on the pot are to beautify it. The element of roundedness in the work is to emphasize femininity. Besides, the leather is carver-friendly due to its close grain nature. It was devoid of splits that usually occur in other carvable materials. This has also proven that leather can be carved. Figure 35 shows carving in leather.



Figure 35: Carving in leather

5.1.7. Casting

The cast work and the third for the project is a mask. It is 32cm high and 19cm wide. The mask has its mouth closed, and eyes widely opened. It has folds on the forehead, and a projected eye brow. It also has a high cheek bone, long nose and a projected ‘n’-shaped moustache, which emphasizes masculinity.

The mask is similar to those for initiation rites in the “Yewe” shrine of the people of Afife in the Volta Region of Ghana. It is a believe that, even though the ancestors are dead and not visible on earth, they still see all that go on and protect the people. The mask, with the stern face, and the eyes widely opened stands for the invisible ancestor. A mask is also used for a disguise in entertainment.

The materials used in this work include, clay, leather, lacquer, dirty engine oil, cement paper, sand, P.V.A. glue, and a black-ink. The clay was used to take the impression on the wooden mask. In other words, it was used as a material for the mould. Leather was placed in the mould and pushed into the depression. Dry sand was poured on it and left for six days to exert pressure on the leather, in order to take the form of the impression pieces of cement paper were posted on the leather in the mould layer by layer using P.V.A. glue as an adhesive. The paper serves as a reinforcement of the leather cast. The black-ink was used to define features on the mask, while lacquer was rubbed on it as finishing.

The surface of the cast image has little folds, depressions and wrinkles, which serve as a textures while protrusions create contrast. Variety is created by the opposition of rounded and angular forms. There are also planes on the work, which make it sculptural. It is a prove that leather can be cast. Figure 36 shows a leather cast.

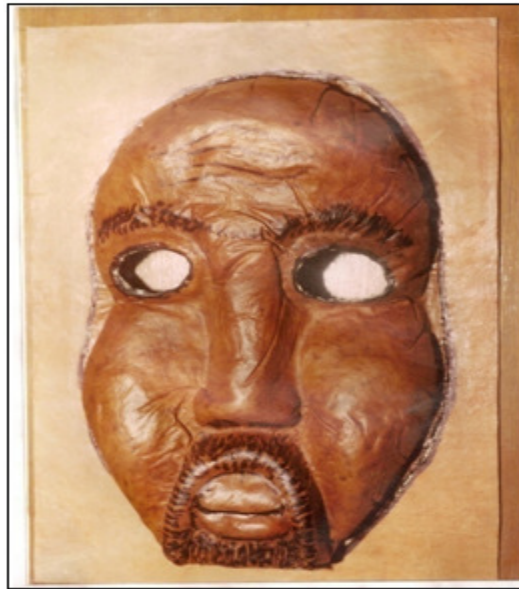


Figure 36: Casting in leather.

5.1.8. Construction

The construction work is a semi-abstract and as well a cubic work, titled “The Guard”. It is 39cm high and 17cm wide. It is an upright figure, composed of rectangular forms of different sizes, a cuboid, and cylinder of two sizes. The cuboid represents the head, while the neck is represented by a small cylinder. The chest is represented by the biggest rectangular form. The small rectangular forms are joined to the chest to represent the arms, while the small triangular forms, and represent the hands. The bigger cylinder is used in the mid-section, which is the abdomen of the figure. The hip is represented by a bigger rectangular form, while the two longer rectangular forms are joined to the hip to represent the legs. The feet are represented by the bigger triangular forms. The right arm is slightly moved forward, while the left arm also slightly backward to suggest life, even though the figure is rigid.

The materials for this project include leather, strawboard, Formica glue and lacquer. Leather was cut into different shapes and pasted with Formica glue on pieces of strawboard to make geometric forms. These forms were joined with Formica glue into the constructed figure. A guard is supposed to be well-built and physically strong. A stature most people fear. The constructed figure, “The Guard”, looking stalwart, depicts strength and protection.

The constructed figure can be seen in planes. The figure looks smooth and shiny, due to the application lacquer. Variety, as a principle of design can visibly be seen in the work, since different sizes of individual forms are present. So do the rectangular chest and the cylindrical abdomen. Leather can be conveniently used to construct a figure. Figure 37 shows the constructed work.



Figure 37: Constructed work in leather

For all the major skills in sculpture that leather has gone through, it is a prove that leather can conveniently be used as a material.

5.2. Test of Hypothesis

It was hypothesized that leather could be used as a material for sculpture. The experiments carried out on leather and other supporting materials, and the result discussed, proves or gives certainty to the fact that, leather is a suitable material for sculpture.

Sculptures in conventional materials are usually put out-door just because of the materials involved, as well as their weight and size. The leather sculptures however, are more suitable for indoor. No matter their sizes, they still can serve as better indoor sculptures when compared with the same size of work in the conventional materials.

5.3. Problems

A few problems were met when the project was in progress.

1. Lacquer was tested as a material for preserving and enhancing the beauty of the finished work. When it was applied on a piece of leather in a thick consistency, the lustre in the leather could not be seen any longer, rendering it dull. When it was diluted to a light consistency, it worked well. There was the need to dilute it light in order to enter the pores of the leather to make it lustrous and durable.
2. P.V.A glue was applied on the individual components of the constructed figure. When the work was dry and left for some time, the P.V.A. was no longer effective. Formica glue was used to put them together and it worked effectively. There was also the need to use a stronger adhesive other than P.V.A. to fix the works onto the wooden bases.
3. Another problem encountered was that, the mashed paper did not dry well and was kept in door. It started smelling badly. The scent could not go completely even though it was dried later in the sun.
4. It was also realized that hard leather would not respond to modelling and casting even when it is damp. It could not bring out the depressions and other features well. Light in thickness but soft leather was found to be much suitable.
5. There was also a problem with pasting of leather on the sculpture in the round. An attempt was made to cover a large area with a large piece of leather but it did work properly. It resulted in leaving a lot of crumples and undefined features on the work. Small pieces of leather were used according to the shape determined by the features, and that worked to almost perfection.

To avoid such problems in a project of this nature, the following should be taken into consideration.

- a) To give the work a good finish and make it durable, there is the need to dilute the lacquer to a light consistency before applying in order to make the work beautiful.
- b) It was realized that Formica or contact glue is more effective in holding shapes and forms together as P.V.A. glue is suitable for light works.
- c) Mashed paper with ordinary starch or P.V.A. glue should always be dried thoroughly in the sun to avoid unpleasant smell. With these, there is room for further research into the use of materials and methods for sculpture.

6. Summary

The objective of this project was to explore leather for sculpture. Experiments were conducted on the suitability of other supporting materials such as glue and lacquer, and their effects on leather as well as paper pulp and sawdust. Leather was then used to build sculpture in its major components, namely: modelling, carving, casting and construction. In the course of the project, it was found out that:

- i. Sculpture in general does not need any special or specific materials for it, nor does it need expensive tools to produce them.
- ii. It is suitable to use P.V.A. glue and paper pulp to model but Formica glue is preferred in joining the shapes unto the constructed forms.
- iii. Leather should be treated well before using it, in order to get rid of its offensive odour.
- iv. It is also possible to apply lacquer on the surface of the finished works when they are well-dried, by painting or spraying them. This gives the work a good finishing and renders it firm.
- v. Other finishes can be done by highlighting features on the work with a black-ink marker.
- vi. Leather must be soaked in warm water and manipulated with fingers to make it soft or malleable enough to take the details of a mould in terms of casting.
- vii. Leather should be cut into pieces to conform to features of the model or the mould to avoid overlapping.
- viii. The strength and firmness of the cast and the constructed work is determined by the number of layers of pieces of cement paper and the thickness of the strawboard respectively, which served as reinforcement.
- ix. In the case of casting, production from the same mould is possible.
- x. Light works were produced in leather sculpture.

7. Conclusions

Leather is versatile and could be used for the production of artifacts.

1. As evident in this project, soft and malleable, leather behaves when it is wet. It is easily manipulated with the fingers. These qualities show that; leather can be modeled or cast.

2. Elephant leather is one of the carvable ones. It is carvable; its finishing is lustrous and renders the product durable. The compact nature of the fiber in the leather makes carving excellent and enjoyable.
3. Leather can be combined effectively with other materials. It can also be cut out beautifully into shapes of different kind for construction in sculpture, since it is thick and still.
4. Opportunities are presented by leather sculpture for the production of light, portable and durable works, which on the other hand would have been heavier if production is in the conventional materials.

8. Recommendations

1. Out of the few types of leather that were mentioned in chapter three of the project report, only three were used for building sculptures. Students in this field of art can work on other types leather and adopt the methods used in the project as a cheap and easier means of producing sculptures.
2. In order to boost up Ghana's tourism industry, the project report will motivate sculptors to produce more sculptures of this kind of compliment the other leather articles that are already on the Ghanaian market, receiving patronage from both locals and foreigners.
3. Other students and researchers will be urged to explore materials for sculpture should they have access to this project report. It should be made available to degree students in art, through workshops and seminars to broaden their scope in sculpture. Less opportunities for exploration into new materials, methods and technique will not enhance creativity, and as such, will create monotony and boredom.
4. Since leather was conveniently used in modelling, carving, casting and construction, it is generally recommended that sculptors and students produce more sculpture with leather.

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