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Research Article

Twisting: An Innovative Combination of Coil and Slab Building Techniques in Ceramic Art

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Abstract

This work seeks to create decorative ceramics wares which would be self-decorating to reduce the time of attention given to the surface of ceramics wares by incorporating twisting and weaving techniques into the production of the wares by drawing my inspiration from the climbing plant. Two hand forming techniques namely slab making and coiling were successfully combined to create twisted and woven wares. It also seeks to demonstrate how clay can be twisted and woven into intricate shapes for outdoor decorations. These twisted and woven wares reduced the tendency of cutting and incising as an afterthought finishing but forms an integral part of the work. Production of the wares were based on the basic units' formation as the building blocks which were pre-formed and allowed to get leather hard and joined together in the building process. It looked at the possibility of providing an alternative to the conventional way of building ceramic wares, particularly the solidness in their form; so as to break the monotony of sold form production and present forms with surfaces which are with self-decorative appeal. There are about seven forming techniques I have experienced in ceramic art, and still counting, namely Pinching, Slab making, Coiling, Wheel Throwing, Slip Casting, Jiggering, Jollying, Ram Press, Modeling and Sculpting. The above basic techniques allows both learners and master ceramic artist to explore hand building creativity and come out with fascinating ceramics or pottery wares. My technique of production is what I term as *twisting* and my style as *twistism*, which I developed from the combination of two hand formations methods, namely, slab forming and coil making. As happened in painting, where a group of painters lead by Pablo Picasso in 1907, pronounced monotony on the line and style of painting at that time, in the late twentieth century and brought about "*cubism*", so do I feel and seeks to digress from tradition to bring about forming variation, which I termed as "*twistism*" in ceramics, whereas the attention will be on how to manipulate the clay by twisting strips of slabs and creating non solid forms out of that as well as weaving coils to produce ceramic wares. I therefore put forward for the acceptance and inclusion of this technique, twisting as a basic forming technique in addition to pinching, slab making and coiling.

Keywords

Cubism*, 'twistism'*, Twisting

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1. Introduction

Clay is that part of the earth surface which is sticky when wet and hardens up when dried and is irreversible to the sticky state when heat is introduced to it and yet breakable. Norton said clay is made up of tiny crystals; many often so small that, it cannot be seen with ordinary microscope [1]. These crystals are composed mainly of minerals called kaolinite ($Al_2O_3.2SiO_2.2H_2O$) whose composition approximates as follows 47 percent silica (Sio_2), 39 percent alumina (Al_2O) and 14 percent water (H_2O). Clay is a secondary product of the earth crust; that is, a result from the decomposition of rocks, by the weathering of old rocks of feldspar type. The use of this material in the production of articles is termed as pottery and or ceramics. The Fine arts being concerned with the attainment of beauty, the Arts of conduct is for good looking and the liberal art for its usefulness. Pottery, historical considered a true craft as reiterated by Kathrine [2] was the readily available material to fashion out solid items to contain and store liquid, and must be based on sincerity of construction and the people needs to master the simple truth for which it stands. It is therefore best to take pottery that is entirely made by hand. Having acquired a sensitive torch, the potter is able to express fine thoughts through the medium of clay, for all work starts with a thought and remains a thought expressed; only using the material as a means of expression. Shlomo [3] says that, among other concerns, art has typically concerned creativity, aesthetic communication, symbolism, craft and fine art. In the traditional pottery setting the products are largely concerned with functionality and symbolism, where the functional aspect of it concerns itself with household items while the other products such as figurines are for religious purposes. Due to the advent of formal education, bringing about different ideas, reasoning and questioning the tradition, has brought about variation in the production techniques in terms of form and shapes, thereby creating the room for more manipulation of clay. The pottery industry has a lot of production or fabrication techniques suitable for the various clay materials available. For instance, in the pottery industry with clay as the chief material, two major techniques are readily available to the studio potter namely hand formation and machine formation under each of these techniques there are several Methods to produce with, among the hand formation techniques which are pinching coiling and slab making. The application of any one of these pottery forming methods or the combination of two or more methods always result in solid forms, there after the pot surface is decorated in a way, whiles the machine formation helps in the making of perfect circular or cylindrical forms.

In my visitation to exhibitions, galleries, pottery centres and ceramics studios and saw how fellow students' and studio practitioners' produce their works. I observed that apart from few sculptural pieces, a lot of the pieces are formed with solid surfaces or appears in solid form with a whole lot of attention given to the surfaces by way of decoration and finishing either by cuttings, incisions, relief and or glazing the surfaces. This has remained as a tradition and conventionally accepted by almost all practitioners. These undoubtedly are still useful to the present day generation and the future but as happened in other areas of art, particularly in painting where a group of painters lead by Pablo Picasso in 1907, pronounced monotony on the line and style of painting at that time, in the late twentieth century and brought about 'cubism', so do I feel and seeks to digress from tradition to bring about a forming technique variation, which I termed twisting, whereas the attention would be on how to manipulate the clay by twisting strips of slabs and creating non-solid forms out of that as well as weaving coils to produce ceramic wares. This study shall research in to the areas of twisting and weaving, making some inferences to the basketry industry which present a whole 1ot of weaving variation to fashion out products and designs that can be supported by clay. The makings of pots or cylinders with coils, is a continuous spiraling process with practice over time to produce accurately. As said by Desmond, [4], wrapping clay coils around, in a circular motion pilling it on each other to attain a height.

1.1. Statement of Motivation

The design and construction of huge decorative pots remains circular and spherical in form among ceramic artists in Ghana. In our Ghanaian domestic settings, pots have served as utensils and various purposes including beautification of homes, hospitals, hotels, parks and other lawns of magnificent buildings. However, observation of the aforementioned places reveals that most of the pots used are spherical and circular in form. featured by monotonous cylindrical and circular shapes and a whole lot of surface attention such as incisions, relief cuttings and glazing. These ceramic pots have always presented solidness in their form, therefore creating the notion that ceramic art wares are not more than solid pot forms and such circular and spherical forms. The art of producing non-solid spherical or circular ceramic wares remains an unexplored area. This phenomenon of producing solid spherical and circular forms therefore creates the opportunity to design and construct decorative ceramic wares through twisting and weaving.

1.2. Objectives

Study has the following objectives

1) To develop twist and weave design concepts from natural and artificial scenes particularly plants.
2) To create ceramics forms with self-decorating surfaces by twisting and weaving concepts.

1.3. Studio Practiced Questions

1) In what way(s) can design concepts be developed from natural and artificial scenes particularly plants?
2) What are the possibilities of creating interesting forms either than spherical and circular ones worthy of any aesthetic quality, through twisting and weaving approach?
3) What kind or sort of reinforcement is needed to support the twisted or woven works?

1.4. Delimitation (Scope of the Study)

The study is limited to the exploration of twisted and woven forms in nature to produce decorative and monumental pieces for indoor and outdoor uses.

1.5. Importance of the Study

1) It would affirm the fact that clay can be twisted and woven into intricate and interesting patterns.
2) It would contribute to an alternative way of approach to hand building of ceramic wares or add to the known basic hand forming techniques which are pinching coiling and slab making.

1.6. The Definitions of Technical Terms

Twisting: the act of turning the direction of a slab to alternate the flat side against the edge

"*Twistism*": A term coined by the artist to describe a technique of twisting clay strips to form or build wares, which is the combination of coil making (rolling) and slab making.

Fettling: the removal of excess slip accumulations such bumps, lumps, projections at the joints,

Soaking: the act of adding excess water to dry clay with lumps to loosen to be able to go through a sieve (mesh)

Pugging: the use of a machine called a pug mill to blend clay into a homogenous mass to suit workable state condition

Extrusion: when a pug mill is used to draw out indented shapes like tiles, pipes etc. With a die at the exit is termed extrusion

Coiling: the rolling out of clay ropes with the palms on a flat surface

Slab: the cutting of smaller dimensions of clay strip into long rectangular shapes, at least palm height

1.7. Organization of the Study

The rest of the study has four chapters. Chapter Two discusses review of related literature which includes both empirical and theoretical reviews. Chapter Three also looks at the material and methods, while Chapter Fow gives a detailed account of the results and discussion. Summary conclusions and recommendations are presented in Chapter Five.

2. Review of Related Literature

2.1. Overview

In the area of every study, there are contributions to the growth of that particular field, in the area of inventions, discoveries, finding, theories, and counter disproval's etc. by subsequence peoples' studies into such areas. In view of this; the artist shall attempt to review some portions of ceramic art literature to contribute his quota.

Due to the vast nature of ceramics, the following areas were reviewed which is very much related to the project topic under consideration.

1) Twisting and weaving techniques
2) Art and creativity
3) Concepts and philosophy
4) Contemporary art
5) Production techniques
6) Monumental ceramics

2.2. Twisting and Weaving Techniques

Twisting is the successive repetitions of tums of a strip of slab coupled with rolling. Coulter [5] demonstrated that by the use of an extruder with a die at the exit of the extruder to extrude slabs, while the slab exits the die with one hand. He tums the slab in an alternative direction twisting the slab, but Coulter [5] sees the human body to exhibit a lot of twist in movement and in postures, for instance when one is walking the foot and hands moves in alternating positions or opposite direction, whereby the upper part of the body would twist or tun to the direction of the foot forward to create a balance. When a person turns the upper part of the body to the side, there is a twist at the waist. The body shows a lot of twisting postures at the various joints which include asymmetrical postures that are not pure side bends. Scott [6] also demonstrated twisting by putting together coloured strips of slabs, piled together and turn it round for the colours to go off their straight line, thereby forming twist of coloured strips. Which I would put forward and back as clay marbling.

In the area of architecture, Vollers [7] have designed storey buildings by incorporating twisted columns and twisted metal stair cases to high heights on a small land area.

Weaving is achieved in ceramics by the use of coils, which is simply the in-and-out movement of coils around clay stakes termed as plain weave or basket weave by Tod [8]. The difference between cane basket weave and the clay basket weave is that, cane does not give a single unit joint as in the case of clay. This type of weave, the in-and-out, is predominant with hairstyle plating and commonly called braided weave.

2.3. Art and Creativity

Art is a form of human expression and the reflection of the

ideology of the society it comes from or that of the artist and Creativity is thought of as being constructive, productive behaviour that can be seen in action or accomplishment [9]. Art therefore is in close communion with the spirit of the people it comes from, it reveals the people life and their feeling with the greatest finesse and richness and the significant reaction to nature and the physical reality. Many a times elevated to the symbolic reality, the understanding of symbols, is integrated in the appreciation of sacred and traditional art, for symbols manifest both truth and beauty, through their teaching and meanings can be sacred. Burckhardt [9] said, Art is a skill in making or doing that which is socially used or intended as stimulus and guide to satisfactory aesthetic expression often along with other ends or functions, especially in such a way that the perceived stimuli, that is, the meanings they suggest or both are felt as beautiful, pleasant, interesting, emotionally moving or otherwise valuable as object of direct experience, in addition to any instrumental value they may have. Also, products of such skill; this includes every product of the arts, socially recognized as having aesthetic function such as architecture, music etc. whether or not a particular product is considered to be beautiful or otherwise meritorious. Briefly, art is a skill in providing sensory and other stimuli to satisfactory aesthetic experience. It is the tangible representation or the expression of one's imagination. Sparshott [10] holds that, Art is the expression of one's inner feeling through a medium of expression, for Dewey is not for externalizing the internal it is not strictly pressing out what was present in complete, pre-existed forms, as opined by Levi and Ralph, [11] it is an emotional discharge, that is the discharge of our impulsive behaviour, the act of expressing inner agitation which must be clarified through a medium.

This expression of art as conceived by low [12] has a metaphysical tinge to the claims that the lenses of art must be recognised internally before being expressed for external consumption This inner recognition is very much like Maslow's peak expression which has to be conceived as myths of longing and experience, which are the ingrained of the artistic medium as the communicable expression of the artist in our arsenal of concept.

Creativity is the instinctive will power or the urge to explore, investigate, discover and display ones hidden abilities and ideas, in the translation of these abilities and ideas into tangible object of art. This natural instinct of man plays an important role in the development of creativity. The most important factor which would influence creative development is the prevailing environmental conditions. The environment in which a person finds him or herself to a very large extend would be a factor to the growth of creativity, if the environment is supportive of creativity the individuals creative urge would keep rising and developing but without the support of such an environment this ability would keep declining. According to Viktor and Lambert [13], we should not be troubled about motivating ourselves, for creative behaviour, what we should be aware of, what are the psychological and physical restriction that the environment puts in the way of the developing person to exhibit his / her own natural curiosity and exploring behaviour. Creativity brings about variations, divergent views, alternative approach, therefore varied solutions to a single problem. According to Morgan [14] in his book, art into ideas, whether creativity is gifted or must be leant, says, genius is the talent or natural gift which gives the rule to art, art and creativity have always been closely entwined. For years, the art has been the bastions for creativity, and often art experiences and creativity have meant the same thing. However, with the increasing interest in creativity and the great number of research studies in this area. It is becoming quite clear that it is possible to have an art programme not automatically creative in nature. As creativity is becoming of vital concern to many people, we need to understand the process involved in developing the creative thinking abilities of artist. There is no doubt that this area will be of increasing concern in the future as society turns towards the unknown. Art can play an important part in this field. In fact, art and creativity have always been closely entwined, the intensive experience in the arts should be considered a basic tool for education, to promote it, is of interest to increasing numbers of people in the arts. The insatiable nature of man's curiosity, his inventiveness, his intellectual athleticism makes him versatile. it is pre-eminently the task of art practitioners to induct people into the field and nurture their creativity to preserved and indeed enhanced future practice. The activity which generates an artistic experience is the activity of consciousness. It rules out the theory of art which places its origin in a sensation or emotions in man's psychical nature. Its origin lies in his nurture as a thinking being. It also rules it out from intellect as an origin and makes it something to do concept. These theories may be considered as being protest against the other, for consciousness, it is a level of experience intermediate between the psychic and the intellectual art, can be referred to as either of these levels as a way to say that it is not referable to the other. Collingwood, [15]. Hauser [16] in his book, the sociology of art, stated that the production of works of art is depended on a socio-historical process on a number of diverse factors. Which is determined by nature and culture, geography and race, time and place, biology and psychology, economic and social class, none of these assertions in them consistently in the same sense; each acquires its particular meaning according to the context in which it appears with the other factor of development. The constituent parts of an artistic whole work, whether it may be an objective product or a subjective one or experience belongs partly to a class of natural, constant or a relatively constant phenomena and partly to the class of cultural, social and historical change of phenomena. Creativity in a nut shell consists of two factors namely variable and invariable factors, in a process of creative exploration the factors involve are dependent are independent of each other. These factors are more intangible and expressed without words, such as emotions and consciousness. Emotional stress

can influence creativity, which could be considered by the level of pain, sadness, grief anger, love and happiness that the artist experienced during certain periods of time. Creativity can also be affected by personal enthusiasm and interest, the ability to select the point of interest in a given scene is difficult to the untrained eye, but it is enhanced by training

The ability to break traditional boundaries in term of ideas, rules, patterns, etc., by deviating from conventionalities and creating meaningful new ideas, forms, methods and interpretations, says the main concept of creativity. It is of great interest for the artists to know that, art should be seen as a subjective expression rather than having connotative agenda, requiring a medium or an object of expression.

3. Materials and Method

3.1. Overview

In the production of ceramic wares several techniques and methods are available to the Artist to employ, singularly or in combination. The two main categories of ceramic wares fabrication known are hand formation and wheel/machine formation; there is also the two main arena of production in the field of ceramics namely the studio arena and industrial arena and each of these call for different approach and production techniques. This project work shall put emphasis on the studio arena. In studio ceramics much of the production centres around house hold pieces such as utensils, pots of all kinds, monumental ceramics and some ceramic sculpture, whiles the industrial arena production, centres around buildings or structural accessories like bricks, tiles, sinks, water closet etc. This chapter would discuss the methods and processes used in the execution of the project pieces and explanations of the concepts and philosophy behind the creation of the project piece.

3.2. Idea Development

Nature as the store of knowledge and the source of man's inspiration for his developmental needs, man discovers what nature has in store. Whether a scientist or an artist, Shlomo [3] has put forward that, humans are creative species. Whether in science, politics, business, technology or the arts, we depend on our creativity almost as much as anything else to meet the demands of daily life. Ideas are gotten from our everyday activity and interaction with nature. It is necessary for the artist or designer to reinspire himself or herself throughout the process, for inspiration keeps the idea for a design moving. One should be aware of the tendency to get tunnel vision, for instance, if you are a ceramist to produce bowls, do not exclusively seek inspirations from the field of ceramics or clay works only but look into other areas like architecture, wood work, painting, music etc. because inspiration can come from anywhere for the project. The creative expression of one’s imagination through a medium an idea, an idea, also is a thought conceived in the mind, when one seeks to produce an artifact or a clue as to how to come out with a product. Duncan [17], wrote that an idea is an outcome of a different approach to a problem. The idea of the artist is coming from the climbing plant. The artist got fascinated at how a string of a plant would attach itself to a tree for support to grow and grows spirally around the tree trunk, for example liana, vines, yam stock etc. Then the question which came to mind was, how can this climbing plant survive without the support of other plants, with several experimentation with clay by forming coils and winding it round a cylinder and forming a meandering shape on the table and allowing them to dry up, just to replicate what was seen in nature, taking a strips of slab and twisting the edges to face different direction which were also allowed to dry vertical, Some of the twisted clay strips were rounded to form circles and the other coils were woven by using three pairs of clay ropes (coils). Afterwards several sketches drawn and some selected to execute the project works.

Figure 1. *Source of inspiration.*

Figure 1 above is a tree truck which inspired me to come out with this twisting and weaving technique. The following are selected sketches used to develop the basic unit or the building unit or the project execution.

Figure 2. *Selected Sketches.*

After several manipulations by twisting, turning and rolling of the strips of clay slabs, a technique evolved, termed by the artist as twisting, then basic units were developed and used for the building as shown by the following figures 3 and 4.

Figure 3. *Selected Sketches.*

Figure 4. *Selected Sketches.*

Prototype pieces of the works were made to ascertain the possibility of the clay to survive the twisting and to see how effective joining can be done; after successful prototype works were done, large pieces were then built.

In the execution of these large pieces, a lot of planning and thinking went into the process.

First of all, how to build with a concept to give meaning to the works to be produced. After having been inspired by a climbing plant and conceived the idea, realising this idea was the next thing to deal with.

3.3. Production

The field of ceramic art has several production techniques but categorized into two broad areas namely industrial or mass production and studio techniques. This project would limit itself to the studio production techniques, basically all the industrial techniques are practiced in the studio, when these techniques are mechanized or automated to eliminate or reduce human interventions to produce mass numbers within shorter lengths of time then it becomes an industrial technique, which therefore means as and when a studio practiced technique evolves and automated to facilitate mass production there comes an industrial technique, for this reason one can say that ceramic production technique is any distinct means by which clay can be fashioned or fabricated into products. As stated by Baharloud, Eshan et al [18] that some ceramic architectural designs can be produced by digital fabrication.

In the studio production, the techniques employed basically are pinching, coiling, slab work and throwing; these techniques are also referred to as hand forming techniques. The formations of studio products are mostly by the hands by employing one of the above techniques. Pinching is considered as the earliest known and a fundamental forming technique. The use of the fingers to fashion out articles by pressing the clay to a desire shape, as defined by Peterson [19] states that by indenting the thumb finger into a ball of clay with 1cm base thickness and squeezing the clay between the thumb and other fingers with a firm and even strokes, repeatedly to achieve thin and even walls is pinching. Kathy [20] also defines pinching as a simple manipulation of a fist-size lump of clay by indenting the thumb into the Centre and pressing to make thin the clay walls and shaping it desirably.

Coiling is the winding of clay ropes (coils) around and spirally stacking the coils to a height and adding new coils as necessary, Kathy [20]. Coiling is the rolling of clay on a flat surface or rubbing clay between the two palms. This hand build technique was largely and greatly displayed by south-west Americans and the pre-historic Jomon of Japan as well as other neighbouring cultures, where patterns were stamped on the joints of coiled build vessels as done on the Anasazi vessels of the south-west Americans. Peterson [19] added that slabs are either cut out directly from a block of clay or rolled out to the desired thickness and work on, at the soft

state or allowed to get stiff depending on the taste of the artist. The technique the artist developed and adapted, which he termed as twisting was borne out of the combination of coiling (rolling) and slab making where as a strip of a slab is twisted and enhanced the alternation of the edges of the slabs.

These slabs can be also be drawn directly from a bar of clay with a pre-shaped metal, with a rectangular dimensioned sort of turning tool.

3.4. Tools and Equipment Used in Clay Preparation

Shovel or Spade: - used in collecting the clay from the pit

Wheel barrow: - used in carrying the clay to the working bench

Pug mill: - used in the breaking and blending clay lumps into homogenous state

Figure 5. *Pug mill.*

Figure 6. *Pugged clay.*

3.5. Preparation of Clay

The clay is put into the clay pit and prepared in batches for use. The preparation of the clay starts at the clay pit, where water is supplied to the pit by the connection of water holes (pipe) to a water tap to dampen the clay which has completely dried tp. When the clay is dampened enough, it is carried and hipped on a working bench. The clay on the bench is cut into small sizeable lumps (palm full) and drop into the machine called pug mill to break and blend the clay into homogenous state, this machine has a rotating shaft with tooth projections enclosed by two semi-circular thick metal sheets taped at one end to exit the clay in bars. After the clay has been extruded as clay bars, they are stored boxes lined with polythene sheets, well covered up in air tight manner to prevent the clay bars from losing their moistness to the atmosphere and subsequently drying up. At this stage clay is ready for use but in a situation where the clay is not plastic enough, it is allowed to stay under the polythene sheet covering for some time to assume plasticity termed as ageing.

3.6. Production of Basic Units or Design Units

Tools used to produce the basic units:

Sack-board: - it is a wooden board rap with a jute sack

Rolling pin:- a cylindrical wooden bar to help spread out clay form clay slab

Guide sticks: - two equal strips of wood on which the pin rolls to determine the thickness of the slab.

The slab making procedure;

Step 1:- knead the clay properly to get rid of all possible air pockets

Step 2:- put the clay on the sack board and spread it out on the board with your palms,

Step3:- put the guide sticks on both sides of the clay which are 15mm thick

Step 4:- take the rolling pin and press to spread out the clay to get to the guide sticks, roll outward and inward to spread out the clay to the thickness of the guide stick

Step 5: with an extra piece of clay, fill up the top and bottom portion which would roll out narrow roll over the slab again to level out and merge properly these extra bits, there you have a slab

Step 6: marking out of the required size of the slab strips on the slab, which is 5cm wide apart and cutting them

Step 7:- after having your strips of slab, now with one end of the strip is twisted, rolled out portion after portion several times to get the whole of the strip twisted, if the intended shape to be produced has curves, then accordingly put the twisted strips into the required curves' These basic units are the building blocks for the construction of any indented design as shown by the following figures.

Figure 7. *Basic unit vertical.*

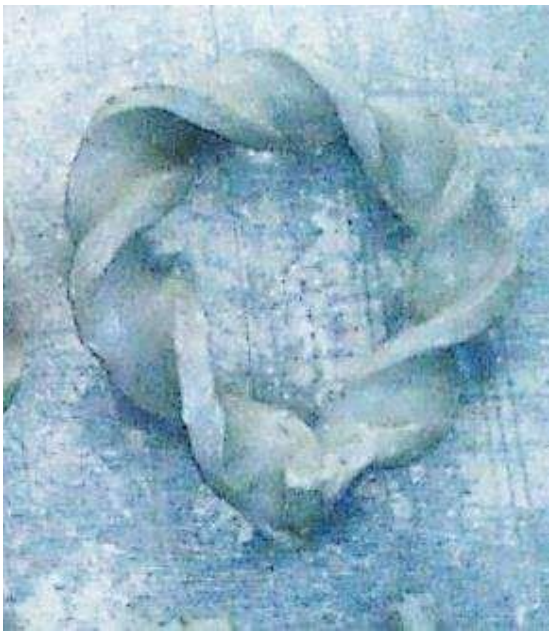

Figure 8. *Basic unit rounded.*

3.7. Construction of Forms

To fabricate any desired form out of these twisted strips of slabs, first one has to determine the curvatures of the form as well as the straight lines, most importantly the curvatures. Then get your base at the leather hard stage, now score the edges of the base all round, if the form is a circular one, no external support is needed for the construction but continue to build, mounting like the normal slab building; To start building with the vertical twisted slab strips, you need to give an external support to the very first unit to stay upright to about the fifth one to be able to stay on its' own, make sure you score both edges of the units coming into contact. Repeat the process until the whole base is covered round. This procedure is repeated at the next level to a desired heigh as shown by the figure 9: below.

Figure 9. *External support for start.*

3.8. Sections Assemblage

It is the order of arrangement of the various components or the constituent parts of a large ceramic piece or a monumental piece to have it appear in its' complete form The situation that accounts for the building of pieces in units or sections varies from artist to artist. Some ceramic wares cannot be produced as a single unit such as a tea pot, murals, tiles and such intricate wares as mentioned by Glenn [21]. The firing facilities available to the artist also accounts for the number of units or sections a piece is to be put into, the functionality of the piece, easy of transportation, ease of installation, available space and height. This idea came about as a result of some French painters who described their collage works as an assemblage of different materials particularly Jean Dubuffet around the 1950s. Vishny [22] The production of ceramic wares in units or section can also arise as a result of the inability of commissioned artist to produce in-situ (to produce at the site) compels the artist to produce at a more convenient site and transported to site for installation. The limitation created by the size of the kiln available to the artist or the inability of the artist to do firing in-situ irrespective of the of the piece constructed. The next option available to the artist is to do the construction in sections. The popular way to create these sections is to build the full height of the piece intended and then cut the piece into the respective heights at the leather hard stage, and then build an inner short wall to create a step to guard the mounting section from sliding off, it's position. This method mostly limits the sectionalization into two sections particularly for vertical rising heights but no limit to horizontal or crawling lengths. To go beyond two sections in vertical heights, the artist employed a technique;

he terms as continuous building by placing a sheet of polyethene to serve as a separator between the first sections and the next section for continuous building, first of all a step is created as shown by the figure 10; below.

Figure 10. *Joint step.*

A polyethene sheet is placed on the wall of the piece to prevent the next wall from sticking to the previous section underneath thereafter building continuous. The figure below shows a polythene sheet in place at sectional joint figure 11 Mounted joint.

Figure 11. *Mounted joint with separator.*

3.9. The Spiral Web

This piece of work was constructed from curved strips of slabs mentioned earlier as the basic units or the building blocks. Four curved strips joined together as shown in figure 12, as the base and starting point of the spiral web piece.

Figure 12. *Spiral web base.*

Fabrication Processes (Spiral web)

1) Several rounded twisted units are formed and allowed to get leather hard
2) With your base as shown by figure 12 above, score the top with your hand fork and apply slip on the base.
3) Score the top of the next four rounded units
4) Place the rounded units on the base, one on each of the base units.
5) Press down each of the units to stick and join properly on to the base
6) Repeat the process and continue to build to attain your desired height

Figure 13. *The Spiral web.*

The spiral web (2015) hand-built height: seven feet, colour: pink and white Slip painted finishing, electric fired (1100'C) produced by *Abdul-Rauf Yussif*

Figure 14. *Sun struggle.*

Sun struggle (2015), hand built two piece unit with height three (3) feet, Bisque fired (l100^{o}C), Colour, Green and yellow spray finished. Produced by Abdul -Rauf Yussif.

Figure 15. *Sun struggle (monumental version).*

Sun struggle (2015) hand built, three piece unit with height eight (8) feet, Bisque fired (l100^{o}C), Colour, pink spray finished. Produced by *Abdul -Rauf Yussif.*

Figure 16. *Life columns.*

Life columns (2015) hand built one piece unit with height two (2) feet, Bisque fired (l100^{o}C), Colourred and white finished in slip paint. Produced by Abdul -Rauf Yussif.

Figure 17. *The Arc.*

The Arc (Ihe curve of life) Constructed with vertical twisted slabs

The Arc (2015) hand built, Bisque fired (l100^{o}C), rise height, 4 feet and span length 8 feet Colour red and white finished in slip paint. Produced by *Abdul -Rauf Yussif*

The Arc construction procedure

Step 1: roll out slabs (tiles)

Step2: Cut out slabs into rectangular ties (a number that would fill up the arc)

Step 3: Allow the tile to get leather hard

Step 4: With the help of a rope with one end secured or nailed in place, make an improvised pair of compasses, create a semi-circle or an arc.

Step 5: Arrange the tiles along the constructed arc to follow suit, correct flow of the tiles would form V-shaped gaps between the tiles as shown by the figure 18 below

Figure 18. *V-shapes formed on the arc line.*

Step 6: Fill in the gaps between the tiles by measuring and cutting out the required shapes from surplus tiles of the same hardiness, in other words cut out slab wedges

Step 7: Join one side of the wedge to the first tile and the subsequent ones, the gaps would be filled.

Step 8: measure out about one inch border around as painted white in the figure 17.

Step 9: With your building unit (twisted strips of slabs) ready, equal to the length of the tiles score and join the units the tile

Step 10: Repeat the last step on the other side and continue to join the units alternatively for sides to join, rise and meet at the top to form an arc.

Figure 19. *Unit sample tile of the arc.*

Figure 20. *The Arc (twisted oval form).*

The Arc (2015), hand built, bisque fired at 11000C, Rise height 4 feet span length 8 feet Coloured black, finished in slip paint Produced by Abdul-Rauf Yussif.

Figure 21. *Fettling and dress on the trunk and nest.*

Figure 22. *Trunk and nest.*

Trunk and Nest (2015), thrown and hand built, bisque fired at 11000C, height 4.5 feet, Coloured black, white and red finished in slip paint Produced by Abdul- Rauf Yussif.

Figure 23. *The mirage Bottle (basket weave).*

Figure 24. *The mirage Bottle (braided weave).*

The mirage Bottle (2015), hand built, bisque fired at 11000C, height 5 feet 11 inches, Coloured red, finished in slip paint Produced by Abdul- Rauf Yussif.

3.10. Finishing

It is the final dressing an artist or a manufacturer gives to an artefact or a product. This puts the product ready for consumption by way of sales or otherwise. Jewitt [23] is with the opinion that, finishing is the name preferred on the final details making stages of a products, it does not only prevent the product from stains, damages and other mishaps but also makes it look richer and deeply valued, add luster and some personal dimensions to its outlook. Margolis [24] says that, the final attention given to a product to complete its make-up to make it rich with diverse appeal to the consumer. There are so many finishing techniques employed in ceramics, but put into two major groups, namely glazed products and unglazed ones. The choice of which style to finish a product is the prerogative of the artist but certain functions of the product would call for definite finishing on the product such as glazing This project limited itself to the unglazed finishing techniques available, such as coloured slips or engobe, stains, manganese touch, painting etc., apart from the above mentioned slips and paint applications on smooth surfaces, surface textures can be created as finishing as demonstrated by Anderson [25] another form of surface texturing is surface cracking whereby the surface of a thrown pot is subjected to heat to harden it a bit and pushed outward to create cracks. This project is finished in unglazed techniques largely in coloured slips, with few manganese touch and oil painting. Before a successful finish is accomplished, a well and thoroughly cleaned up and dressing of product surfaces (fettling) must be achieved first, to have a good finished.

4. Presentation of Works

THE SPIRAL WEB (figure 13)

The spiral web piece is based on the concept of the whirl wind in motion, carrying along with it a piece of a jute fibre rope going round and forming this spiral shape and rising high and higher. The piece is in three units, assembled together to attain the high with a star as a crown to terminate the eye of the viewer to be aware that no matter how high the whirl wind travels it does not go beyond the stars. It has four erect pillars and each of the four represents the four comers of the world and tells that, whirl wind is not known to only one part or corner of the world.

SUN STRUGGLE (figure 14)

This piece has a circular base with upright twisted strips of slabs to the point of two feet, from that point spreads out like a sun flower, each of these twisted strips represents a string of a climbing plant which has crowded around a tree trunk in competition with each other to climb higher to get access to sun light to complete its' life process known as photosynthesis. In the human setting too, many people would be attracted to a source where their livelihood is depended.

LIFE COLUMNS (figure 16)

It is a four-column piece carrying two circles at the top with projections on each column embracing the two circles that life is not lived in isolation but in a cycle; each of the four columns embraces the other. The concept and philosophy coming from the rain cycle, where the rain comes to replenish the vegetation and water bodies for the sustenance of life, after that the vegetation and water bodies would lose some of its moistness to the skies by evaporation and the cycle continues.

THE MIRAGE BOTTLE (figure 24)

A bottle is a container generally taken as a storage vessel for liquid stuff The mere sight of a bottle far ahead of any person upon approach suggest that, this bottle might contain some liquid stuff. This phenomenon manifests itself visibly and clearly to a way farer on foot on a tarred road, tired and thirsty, sees far ahead of him a reflecting portion of the road like a small pool of water in the middle of the road, so this way farer sees it as an actual water ahead to quench his/her thirst, but upon approach this supposedly pool of water disappears and is seen again ahead. The recurrence of the sight of the water is a mirage. This mirage happening is the concept and philosophy behind the creation of the bottle in the form of a basket by weaving and twisting the production of this mirage bottle is to make tangible this phenomena of water mirage encountered by this way farer, so the philosophy behind this mirage bottle is to demonstrate that when a person approaches the mirage bottle from afar would see a silhouette of a bottle and imagines it's content to be liquid stuff or a vessel possible of carrying water but upon closer approach sees a bottle in the form of a basket.

THE ARC (figure 17)

A close look at nature reveals series of lines on display in

different forms and directions. As a result, some meanings have been ascribed to the state of appearance of these lines. In the field of geometry, an arc is any part of the circumferences of a circle, in architectural sense, it represents a concave line between two points in a building structure, either as an entrance or an opening or a design on the wall in the arts every direction of a line has meaning for instance a vertical or straight line signifies strength horizontal line signifies stability, diagonal line represent insecurity or falling off. An arc in a convex form signifies warmth like the hen using the wings to cover the chicken under its feet, so is the convex nature of the skies giving warmth to its inhabitants as well as a roof. A simple look at the skies from the shores of the sea and on a plain land, the skies forms an arc with the earth surface. When this line turns concave, it becomes a receptacle, for instance the dams, which receives water from the skies, in volumes to store for longer time usage. The gourd when bisected becomes a three-dimensional arc called the calabash, a good receptacle for liquid. When the surface of the earth is level and plain, we enjoy stability, on the other hand, when the land forms convex and rises higher as mountains formed, which serves as pecks to hold down the earth from easy landslides.

5. Discussion and Conclusion

Both the studio and the traditional potter have been producing their pieces by throwing, slab building; coiling and casting. These forming methods have been used individually and sometimes, the combination of two or more techniques have been used in production. The potter's wheel which was developed in Mesopotamia centuries back assists the potter in producing vibrant and eloquent pieces. Pot shapes produced rising the potter's wheel has a sense of uniqueness in their forms which are predominantly circular forms that portray an image of completeness. The artist did use the throwing technique in producing the upper part the piece *"the trunk and nest"*. The employed technique (twisting) of production helped to bring out the innovation of the artist necessitating the quest for critical observation. This however, was revealed through the invitation of people to criticize the work and it was clear when the critics sought to ask questions about the works. Despite those throwing gives circular forms, altering thrown pieces tend to reduce the monotonous appearances by incorporating some sort of deformational twist to the form.

Slabs in pottery can be used in the production of intricate and basic forms. Slabs are used in making ceramic sculptures and pots, and they produce solid and circular surfaces. The traditional potter most conveniently and conventionally does pinching and coiling in their production, the studio ceramist mostly constructs his pieces with slabs. As exhibited in this project, the artist combined slab building and coiling b technique for the execution of the works. In all the artist brought out a style of his own in the constructions. A good mastery of the hand building techniques is critical since there are more ways of making forms using the slab building technique. On the other hand, the mirage bottle reveals the human spirit of hope and endurance with time and patience. The artist used the basic principle of making slabs and incorporated rolling to bring about creativity.

Coils are formed by rolling clay to form a rope-like strand either in between the palms or on a flat surface to have more lengthy ones. Coils are used by the potter in building small, medium and large size pottery. According to Glenn et al [26], coil construction is the base technique for ceramic sculpture, especially in combination with pinching and slab making. Building with coils creates more room as a technique in building ceramic sculptural pieces. However, coil constructions have different working approaches. The intended finishing of an object with coils solely, would help determine the coils thickness the potter would use. Finishing the surface of a coiled work is one of the critical stages that one encounters when forming. Coils can be twisted by merging the surface of the coils to look like a slab work, solid and flat surface, and it can also stand out as rings or coils joined onto one another.

According to Peterson [19], says coils can be extruded too. An extruded bar of clay by extension is equally a coil but for the use of a die as an aid to exit much smaller coils. This is just a way of employing the pug mill to facilitate mass production of coils.

Author Contributions

Abdul-Rauf Yussif is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The author declares no conflict of interest.

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