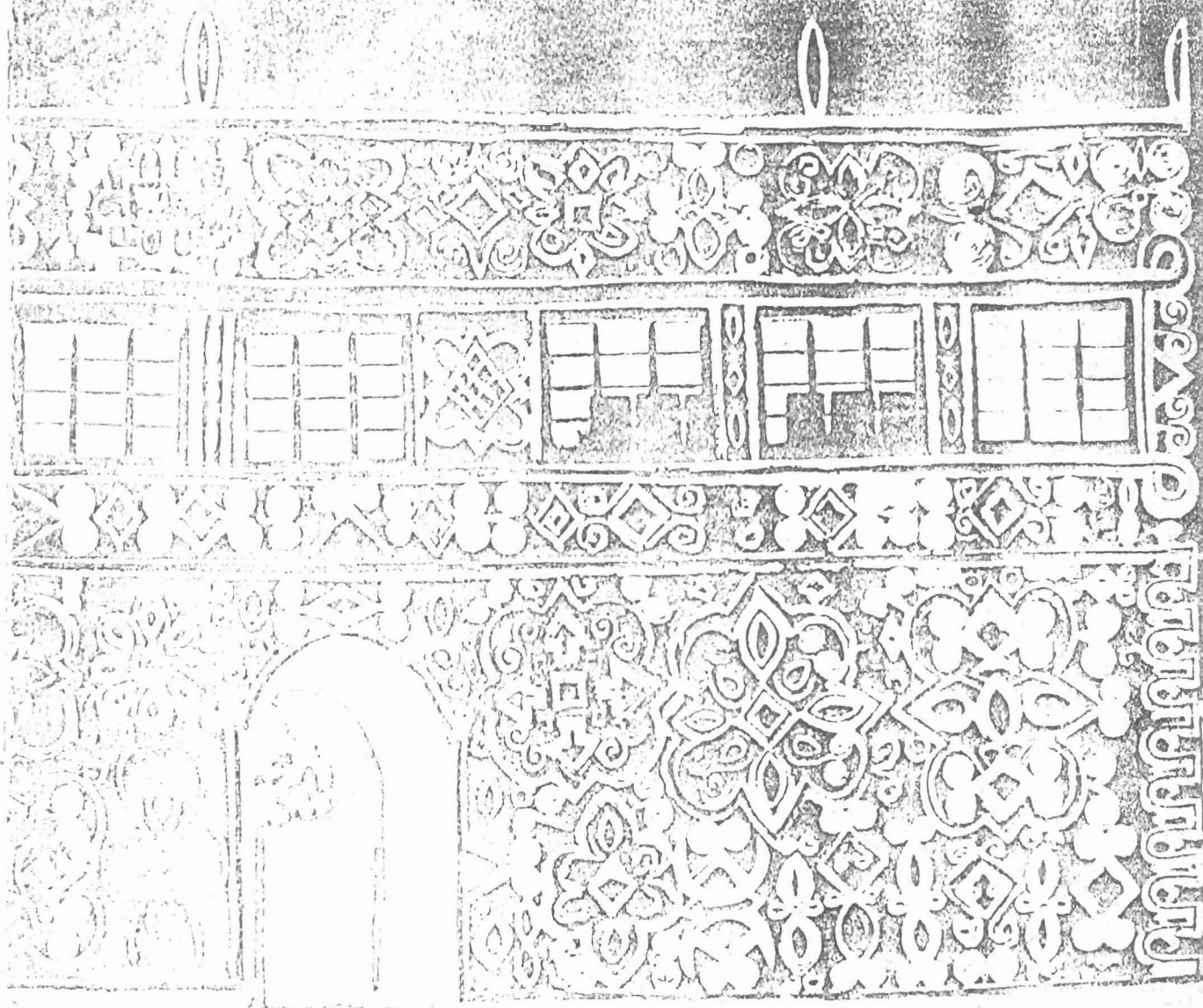


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The Roles and Use of Art as Technology

J.O. Adeyanju

INTRODUCTION

Art and the Artist

Several authors have defined the term art. Read (1967) defines art as an attempt to create pleasing forms. The forms being referred to however are those forms which satisfy our sense of beauty, in relation to our appreciation of unity, and the harmonious effect we perceive from the forms. Also, art has been seen as the discovery of order in nature. One example is the design of the Coventry Chapel in England which came up as the result of a close study of a maple leaf (Akolo, 1979). So also is the tomb of Late Chief Obafemi Awolowo which was borne out of the shape of the praying hands.

Although art was described as expression of oneself by making good use of sound images, movements and so on, Akolo (1979) explained that the artist should be seen as a person who creates, expresses and revives the works of art and contributes to the material culture of his society. The term 'artist' according to Benthall (1972) combines the sense of 'visionary, the philosopher and the prophet with the sense of craftsman technician and designer. A craftsman according to him would not be addressed as an artist, unless his medium of work has some unusual clairvoyance or imagination. An artist organizes his resources and finds economical solutions to problems: he co-ordinates technical resources with psychological or spiritual resources so that there is a continuous process from idea to technical expression and back to idea.

Artists do struggle to appeal to their audience by using the medium that best suits them. This they do in order to be fully understood. The architect designs buildings for the utilitarian purpose it serves for the human race. Man needs security from very harsh weather as well as comfort in order to live. The painter represents the socio-cultural changes of his society using paint and brush. so also does the composer of music draw on his consciousness, creating pleasing sounds. The poet chooses his words deliberately in order to communicate. Evidently, what artists intend doing at all time is to express their desire to please.

THE Role of Art as Technology in the Past

Since art seeks for the truth and for perfection, the traditional artist's role was that of a spirit-controlled being. Okeke (1982) describes their personality as those being "held in awe and wonderment". Their function was to bring into being the spiritual essences of

traditional belief. Some of their products were the altar pieces, spirit images for example, Bangwa figures and masks used in Cameroons, the Lega initiation objects, bone, ivory and wood, etc., and memorial images 'Ere Ibeji, among the Yorubas masks and masquerades for example, the 'day masquerade' Eku Odu among the Igbirra, which was used as an instrument of discipline. Art was used by smith, woodcarver and so on, for the production of ritual art objects which were cherished in the traditional society.

Art has been expressed in metal for more than five thousand years according to (Shirley, 1974). When the earliest craftsman in stone discovered and first exploited metal, civilization took a step forward because metal was shaped, bent and beaten. It was melted and by pouring molten metal into a mould, it was possible to produce remarkable ceremonial golden and copper bowls, daggers, silver sheaths, axe heads or an alloy of gold and silver and so on. Quite a number of engraved patterns, were possible, finger rings, ear-rings, necklaces and other jewelry and sculptures. The role art has played in technology involved the initial design of the mould. In tombs golden helmets have been discovered which date back to the 4th century B.C., an example is that of the Sumerians. The Tutankhamen 'gold death mask' of the Egyptians is another example of art playing its role as technology. In Nigeria, the Isaiah Anozie's compound contains art objects which were excavated in 1938. Shaw (1977) describes in detail the art objects of Igbo Ukwu. Some of them are bronze bowls, globular pottery vessels altar stands, bronze staff head and so on.

The use of Art as Technology

Hornby (1974:904) describes the term technology as expert application of scientific knowledge in problem solving. In this paper technology is used as a technique or method of doing something expertly.

In the traditional period, artist and craftsmen employed technology in their day-to-day activities as exemplified in the Ife, Nok, Benin and Igbo Ukwu cultures as well as in Egypt and Europe. The use of iron was an indication that Africans have a developed technology, where utilitarian products like spear-heads, knives, hoes and some other materials were made to help them in their hunting expeditions. The evidence of the use of iron can be linked with the Nok culture where terracottas were made. Igbo Ukwu, Ife and Benin bronzes are examples of cultures where some form of metals were used. The Nok terracotta, according to Williet (1975), dates back to between 900 B.C.—200 A.D. Ife bronze 9th-10th century A.D.; Igbo Ukwu 9th century A.D. Art can therefore be noted to have been used to express the technology of Africa, and examples are the Ife, Nok and Benin 'classic arts'.

The Ife bronze heads, Benin brass works and Igbo Ukwu objects were produced using the 'lost wax' technique. This technique of casting involves the use of clay, wax and 'molten' metal. The initial heads were molded in clay. Wax or latex was applied on the surfaces of the moulded object. The molded head was kept in support using sticks projecting out of the moulded figure. A second layer of clay was then molded on top of the wax. Hot metal is then poured into the waxed interior through a funnel-like sprue created space; after heating the wax. When the metal is cold, the outer clay is removed and the inner clay core is also carefully taken out. Newman and Thalma (1975) describe other examples used by the Tuaregs, Dans, Hausas, the Dini and so on.

The use of art is also reflected in wood carving. Okeke (1982) considered the Yoruba, Ibibio and Igbo wood carvings and Akwanshi stone images as images which were well

handled by their creators. The images explain the richness of technological culture in Nigeria. Virtually, all arts use technology of one kind or the other. It is only in certain performing arts like mime, oral poetry singing and dance that technology may be absent but the art remains.

The Role of Art in Contemporary Period

Art plays the role of maintaining the concepts of reality. Olapade (1983) explain the works of artist as creators of religious symbols. Some of these symbols are fashioned out of stone, wood and clay and other materials. Furthermore, the decorations that go with money give it an added meaning. Nigerian currencies and coins bear visuals of Nigerian personalities. These serve as reminders to Nigerian citizens about Nigerian history. The one naira note, for example, has the illustration of Herbert Macaulay on one side and the famous Benin Ivory mask which was used as the symbol of 'Festac' in 1977 on the other side. Thus, art plays a central role in maintaining the culture of a society. The carved posts, lintels, wall decorations, body decoration and facial marks have their functions as well as having aesthetic values. Art can therefore be used to express the best and the worst of society's traits. Okeke (1979) expresses the view that artists 'mirror' the society at best through their documentation of events from which generations after generations learn of their past cultural, political and social activities.

The role that art plays can further be seen in the productive decorations of other functional materials. The enhancement of basketry, weaving 'aso oke', 'kente' tie dye, batik materials dyed in intricate colour combinations, tapestry for example, the dyed and woven threads by Okeke in V.I.P. Airport Lounge in Lagos, calabash carvings, smithing, embroidery textile and plastic designs and so on.

PRINTING

Art in Printing Technology

The designing of various materials for printing, letters, designs of books, cover designs, picture illustrations and so on reflect the use of art in printing. Before printing began, at about the 15 century, manuscripts and miniature paintings were used. The Bible was filled up with hand-drawn and heavily designed letter inscriptions which were produced for the Kings and 'Lords' as well as for the church. The effectiveness of the use of the Bible for record keeping and for documentation is another use of art as technology.

The use of art as technology in the contemporary period involves the designing and preparation of art works, layouts pasting up and sometimes colour separation by hand. the blue print can be seen as one other use of art in printing technology.

Wax, Batik and Prints

The wax batik dyeing technique and the Yoruba 'adire' indigo dyeing methods are examples of the arts interacting positively with technology. This dyeing technique is similar to the process of dyeing used the old Malayan citizens. Susan Wenger Alarape experimented with eight different colours which are predominantly indigo and similar dark tones for batik. Nigeria Magazine (1976) discussed Alarape's use of artistic form in communicating to the beholder the Yoruba myths transferred on cloth in form of art.

Mud Building

Art is closely tied with building technology. Saad (1985) discussed 'Gwanl', the master builders of Hausaland. One of the remarkable artistic excellence they have attained is the use of mud for structural complexities. The 'Hausa Vault' is a technique of construction in reinforced mud based on the corbel principle which enables the builder to create arches 'bakan gizo'. As explained by Saad (1983:7), the arches permit the builder to achieve domed interiors and incredible ceiling patterns for the wealthy people, for mosques and other important buildings. With this technology, the builders are able to create monumental buildings which would have been very difficult to attain considering the nature of the materials available to them.

Another area of art being used as technology is the use of plasticity of mud to create sculptural relief for both the interior and exterior surfaces of buildings (Gardi, 1974:25; Saad (1983: 15-19) explains the enhancement of the effect which traditional colours bring on the various surface buildings, considering their forms, motifs and styles. A few examples of mud decorated surfaces are found in the Northern part of Nigeria. The Zaria Friday Mosque, the Oba of Benin Palace, the King Gezo Palace, the Merchant House in Kano and so on are good examples. On the various walls are decorations based on figurative as well as abstract geometric patterns which stand out in relief form from the wall.

In architecture, the planning stage involves the preparation of the 'working drawing' the drawing of the structure in perspective in relation to elevation and the various views required. The constructional aspect is the responsibility of the engineer or designer. A sound understanding of materials and their correct use in building is responsible for structural stability. Faults in design or in construction make structures ugly in appearance.

Artist and Creativity

Creativity is involved in all aspects of human behaviour. The artist is not left out in the exhibition of creativity trait. Creativity in terms of personality, product, process and environment involves the production of something new and unique. The 'effective surprise' the beholder exhibits must be present, like the first-sight of Ife Bronze heads, which have made a considerable contribution to the understanding of African cultural heritage. Artists also manifest the stages of preparation, incubation, illumination and elaboration in their creative output which require time and effort (Field, 1970). Being creative, therefore, involves personality projection, the ability to invent, the power to explore as well as originality in 'forming' or in bringing to light a creative product. The creative artist should therefore be seen as one who is fluent and flexible as well as having the ability to redefine, rearrange, analyse, synthesise and organise, in addition to being original. Wallas (1945) reports the four stages of creativity process as the stages of preparation, incubation, illumination and elaboration. The preparation stage is described as the process of building associations in learning. The incubation period relates to the period of consolidation of changes of association and the beginning of linkages into grids. Illumination stage can be described as that stage of conceptualisation when the grid forms. At this level, there are solutions to the problem which have to be tried. The elaboration stage can be considered as the period of creative self direction. When the correct solution is found, a stage described as evaluation begins, this stage is also referred to as the relaxation stage.

The Nigerian civil war exposed several manufactured creative products which range from dane guns to local bombs, used by the then 'Biafran community'. Some other important war equipment were developed as well as a very powerful transmitter used for

radio broadcast. What is important here is the role art is made to play in their technology. In the late 70s and 1980s, in Nigerian market, a number of articles were nicknamed 'Onitsha made', 'Aba made' or made in 'Taiwan'. The articles range from manufactured electrically operated fans; bulbs and motor car spare parts, and so on. The efforts made would be impossible without the use of art as a basis for the enhancement of technology. Furthermore, the reproduction and mass production of automobiles and the body parts of vehicles may not be accomplished without the initial 'working drawing' of the plans for the model. This development includes the popular grain grinder and the famous yam pounding machine which was first invented in the engineering department of the Obafemi Awolowo University, Ile-Ife in Oyo State.

Nigeria can be seen to be in crisis, crisis of unemployment, depreciation of naira value, insufficiency of food, lack of spare parts for machines and automobiles; insufficiency of raw materials to process products of iron and steel industries, plastic industries and so on. Artists certainly have a great role to play in making Nigeria advance fast technologically.

Businesses need more innovative accompanying art forms to boost our economy, advertising requires originality in graphic arts and design if it is to make a fruitful mark on the audience. Manufactured goods and products need colourful labels to make them sell fast. Fashion designers, tailors are all needed in this austere period, without art playing its useful role, man may have to return to an ape level of existence (Akolo, 1979).

Closing Remark

The contribution art makes to technology should therefore be that of innovation. It should strive at producing something unique; its practitioners should be seen to be a lot more involved in productive, innovative and creative endeavours. Japan used the outbreak of the World War II as a catalyst. Today Japan leads the world in technology and businesses. America suffered from depression before she took off technologically. Nigeria should not submerge in the economic depression if artist and art educators play their roles more effectively by designing and creating more products which could be used as good alternatives to imported items.

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