Abstract—Artistically crafted arts – paintings, photographs, movies, novels, constructions et cetera – have the potential power to evoke stock of aesthetic responses. This paper takes on a philosophical investigation and description of the University of Mines and Technology (UMaT), as a unique piece of art. Artographic presentation of UMaT set against the backdrop of three basic styles – impressionism, expressionism and postmodernism – is investigated using art-based research, focusing on iconographical, sociological and epistemological processes of artistic knowing and inquiry. The study exudes delightful and thought-provoking experiences and a holistic communication, which engulfs mining, technology and art. The resultant interpretations and judgments epitomize an unparalleled avant-garde mining institution.

Index Terms—Aesthetics, artograph, epistemology, iconography, judgment, philosophy, UMaT.

INTRODUCTION

The word art derives from the Latin ars, which literally is the ability to do something well, employing a special method or technique, suggests varying degrees of aesthetic attributes and has many meanings. Art cuts across such utilitarian arts as war, medicine, mining and agriculture (Munro, 1956)[1]. Indeed, works of art include static and moving objects such as pictures and fountains, performances or activities such as dances and operas or literary works.

Art, in its general sense, is the product or expression of creative human activity involving the selection or shaping of materials, symbols or words, dancing, drama, or music to convey an idea, emotion, visually interesting or functional in form. To create means to bring into existence or give rise to something or any of the aforementioned art expressions. The artist or creator could employ his or her faculties to draw on the materials that would enable him or her to create or construct architectural forms, for example, which could be labeled for identification and ownership. The foregoing presupposes that some fundamental principles are required. For the artistic or aesthetic display and grouping of still and kinetic forms into one unifying body, it is imperative for the artist to look for all applicable data. This, basically include essentials concerning the mode of procedure in the creation process, technical methods, materials and devices, how much conscious and systematic plan that must be followed, the rate of creation by undirected impulse, sudden intuition and inspiration. The rest could be the extent to which created works would be criticized and the extent to which explicit conventional rules and regulations or ethics would mix into a meaningful appreciation.

Armed with these fundamental principles, an artographic picture, The University of Mines and Technology as a Unique Piece of Art - a Repository of Knowledge in Fig. (1), was created for aesthetic investigation. As a philosophical subject, the aesthetic presentation in this paper is not only concerned about beauty or ugliness. The fundamental concern is about other inherent attributes that a powerful piece of artwork can exude in a particular time and space to suggest specific meanings, sense images, concepts, thoughts and emotions. inventions which have come about.

Fig. 1 UMaT as a Unique Piece of Art – a Repository of Knowledge

The first objective of this paper, consequently, is to investigate the surface structure in Fig. (1) with reference to elements, medium and their intercorrelation. The second objective is to investigate the iconographic status of the presentation in order to convey specific ideas; the treatment of space and landscape, both real and illusionary including the use of perspectives et cetera. The third objective is to investigate the sociological and epistemological stance, establish an overall interpretation of the UMaT picture, and explore any external supportive evidence. However, before delving into the subject matter, an overview of UMaT is presented.

BRIEF PROFILE OF THE UNIVERSITY OF MINES AND TECHNOLOGY
The University of Mines and Technology is situated in the mining town of Tarkwa in the Western Region of Ghana. The University metamorphosed through four levels of erudition; first from the Tarkwa Technical Institute (TTI) in 1952 to Tarkwa School of Mines in 1960; Kwame Nkrumah University of Science and Technology (KNUST), School of Mines (KNUSTSM) in 1976; the Western University College (WUC) in 2001; and the University of Mines and Technology (UMaT) in 2004. Indeed, UMaT is the only institution in Ghana offering mining and allied engineering disciplines.

Vision

The vision of the University is to become a Centre of Excellence in Ghana and Africa for producing world-class professionals in the fields of mining, technology and related disciplines.

Mission

The mission of the University is to:
- Provide higher education with special reference to mining and related fields;
- Promote knowledge through active research; and
- Provide professional services to the national and international communities.

Guiding Philosophy and Core Values

The philosophy of UMaT is to guide students to develop their intellectual capabilities and appreciate good social and moral values. The major aim is to produce world-class graduates capable of providing useful professional services. Its core values are knowledge, truth and excellence (Anon, 2004)[2].

Academic Programmes

There are two Faculties, a School of Postgraduate Studies (SPS) which co-ordinates all postgraduate studies in the University and a Centre for Communication and Entrepreneurship Skills (CENCES). The faculties are the Faculty of Mineral Resources Technology (FMRT) and the Faculty of Engineering (FOE). FMRT offers undergraduate engineering programmes in geomatic, geology, mining, mineral, and petroleum while FOE offers electrical and mechanical engineering programmes in geomatic, geology, mining and related fields.

UMAT AS AESTHETIC FORM

Form may be defined as orderly arrangement or method of arrangement; as order or method of presenting ideas; manner of coordinating the elements in an artistic production or course of reasoning (Munro, 1956)[1]. In other words, the form of a work of art is the way in which its details are organized. Aesthetic form, in fact, occurs in not only art but also all types of objects, natural or artificial. From the tenor of this definition, UMaT could be classified holistically as in aesthetic form - a conglomeration of objects. UMaT could therefore be associated with attributes like having variety of forms and styles, origin, or historical evolution, growths, and functions in cultural settings, - psychological and social processes.

Surface Structure

The surface structure consists of all the elements that sum up the presentation. There are two distinct parts of the presentation, the frame and the picture or artograph. The frame or the surrounding structure is moulded and finished in metallic gold ink. The three-step mould, which is 10 cm broad and 5 cm thick, has in its four corners floral designs in relief. The rectangular artograph – a digital aerial photograph processed to epitomize the early 19th century expressionist paintings by using CorelDraw software – measures 80 cm x 60 cm. The key elements in the artograph are composed of natural and artificial objects; vegetation, earth and a mixed architectural layout. Various lines, shapes and vibrant colours (green dominating) are prominent in the picture. The rest of the elements include a huge open book at the base of the artograph, the effect of the invisible morning sun from the east, UMaT icon and chronological data firmly positioned in the firmament.

Iconographic Investigation

The iconographic investigation takes a critical look at the elements in the surface structure. This investigation essentially concerns what the objects or features suggest and the reasons for their use to convey specific ideas or meaning.

The value of colour and shape are concepts by which artists compare and describe visual objects, which could be line shape, surface shape or solid shape. These attributes present visual images directly to the eyes. They also have the power to suggest other images and concepts to the brain that has been conditioned through experience and education. UMaT as an aesthetic form has these factors captured in the artograph for conveying its identity to the apperceptive mechanism of the public.

The artograph has captured a vivid explosion of colours dominated by a vibrant spectrum of greens. The natural vegetation came with all the natural colours from the base of the trees, shrubs grasses through their beautiful vibrant flowers. The wide spectrum of colours has distinguished the presentation. Green is nature’s basic colour and it is symbolic. Interestingly, UMaT has adopted green as its basic colour because it signifies life, growth and development: it marries easily with the other colours but has stronger affinity for cream, which is symbolic of purity and truth. Green and cream with spices of sky blue, golden yellow, red and black (a solitary and insignificant zero in the colour spectrum) permeate the luxuriant lawns, lecture rooms, offices and other buildings and finally exit through examination offices with UMaT degree certificates to invigorate, as it were, other sectors of the economy.

The architectural layout has 10 different types of building structures at different heights. Altogether, they form a bonded sort of a gearwheel with cogs at the edge that signify mechanical engineering. The structural logic of the buildings arrayed three dimensionally, have not been
dramatized except for the overall softening of pixels to achieve a plein-air impressionist effect. The interconnection between the structures seems to be in empathy with the scholarship link between the various programmes in the university. The scale and rhythm of doors and windows suggest a gigantic mesh for recovering gold particles in mineral processing. At the central base of the artograph is a huge surrealist book - a repository of knowledge, truth and wisdom. It also serves as the intellectual bedrock on which the University is established.

The surrounding frame with its floral design in relief is carefully chosen to harmonize the lush green vegetation in the artograph. It also has the elegance to echo a relation between the aesthetic value of the artograph and gold. Gold is not only corrosion-resistant metallic element but also symbolic of money and wealth. The holistic presentation of the artograph is identical to the value of gold. Indeed, the surface area of the surrounding golden frame is exactly 2400 sq cm, which is the same as the surface area of the artograph. These go to buttress the synergy of the two.

**Sociological Investigation**

The *in situ* aerial photograph draws on Karl Marx’s socio-political philosophy to negate the popular *art for art sake* notion among many. This is because the environment to varying degrees could affect human beings or individuals. The people of Tarkwa and its environs have been deeply associated with mining of gold, manganese and diamond as far back to the 15th century. This has largely prompted the establishment of the University of Mines and Technology at Tarkwa to train mining personnel for the mining industry in Ghana. The wealth of the people in recent times because of vibrant mining activities is vividly captured in the green aluminum roofed ultramodern lecture/laboratory blocks and other facilities. In sharp contrast is the old black asbestos roof administrative block that echoes the state of economic ills at the time TTI was born. The spectacular transformation has been achieved under the effective leadership of Prof. Daniel Mireku-Gyimah, the first Vice Chancellor of UMaT.

**Epistemological Investigation**

The artograph is embedded with very intriguing epistemological connotations or attributes. These are more or less particular philosophical dimensions produced or revealed by scientific knowledge. The following mathematical perspectives have been employed. The green diagonal lines in Fig. (2) define the centre of the artograph while the vertical blue line articulates the central axis. The vanishing point in the perspective system is located above the mining engineering block. The intersections of the diagonals and the axes also rest right above the mining engineering block – the nexus of the University, and indeed, the central pivot around which other programmes and related disciplines revolve. The School of Postgraduate Studies (SPS) also operates from the mining block.

![Fig. 2 Epistemological Presentation of Fig. 1](image)

The vertical axis also intersects the horizontal red line that divides the foreground into two halves (from the vanishing point). Interestingly, the intersection of these lines also rests on the old black asbestos roof administration block. The general administration block, inadvertently singled out by the blue and red orthogonal, carries a unique architectural style of its epoch. This orphan structure is perceived to be beckoning for special attention. Its unassuming melancholic posture suggests zero enthusiasm for a post-modern computer aided design (CAD) refurbishment or replacement but to be spared and reverently preserved as the only surviving architectural product of antiquity in the annals of the University that has become an unparalleled avant-garde mining and allied institution in the West African sub-region.

**CONCLUSION**

This paper has explored the aesthetic dimensions of the University of Mines and Technology at Tarkwa, as a piece of art, within the purview of artographic presentation. The study examined the aesthetic organization and intercommunication of the different parts, objects or forms therein - psychological and social processes. Thorough interaction with the artographic presentation; sailing through the historical, sociological and epistemological investigations create an aesthetic impulse. This gradually diffuses into the sublime where a vibrant scholarship discourse between students, lecturers and workers mix well with cutting-edge facilities to uphold the vision of the University - to become a centre of excellence in Ghana and Africa for producing world-class professionals in the fields of mining, technology and related disciplines.

**REFERENCES**


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