RESEARCH ARTICLE:

Discarded to Art-Maximised: Mitigating Dangers of Environmental Degradation

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Abstract

The danger of the illicit disposal of automotive oil filter waste to the environment, as is the case with most countries in Africa, is of utmost concern. This waste product, among other things, makes the land barren and the practice of disposing of this waste poorly is on the rise. Multiple efforts towards the management of said waste has been made, however, it needs to be directed to turn oil filter waste alternative means of artistic expression in form of upcycling. This article contributes to the mitigation strategies focused on decreasing environmental pollution through the upcycling of old automotive-based engine oil filters by transforming it into something of artistic relevance to the society. A studio-based approach of artistic research has been adopted for this article. This involved placing dedicated containers at mechanic's workshops for the proper collection of the materials for studio use, banking on the physical appearance of the waste material, in terms of morphology and texture, to be able to be used in the installation of the artwork. Analyses in terms of physical appearance and meaning were carried out. By implication, the oil filter artwork in this study is a critique of humans' attitude towards the illicit disposal of waste and government's irresponsibility towards the environment.

Keywords*: auto-oil filter; waste; environmental degradation; upcycling; installation art*

Introduction

Due to illicit waste disposal and a habit of improper waste management by all stakeholders, the environment is becoming overwhelmed with waste products. Among other things, the danger to health and the environment is rising. This situation is more pronounced in societies that are limited by a lack of resources for development, especially in Africa. The efforts that have been made at both private and governmental levels to transform this waste into something more useful, needs to be consolidated to further liberate the environment of said harmful waste. Among the private efforts that are made to help the environment, are ventures by artists in appropriating the waste into artistic works. Creating works of art is no longer limited by obtaining ready-made materials from the shelves. Muvhuti (2022) implies in his article, *Wallen Mapondera's Conceptual Art: Reflections on Zimbabwe's November 2017 Bloodless Coup d'etat and Beyond,* that quite a number of renown artists, across various different cultures, have taken to the use of discarded objects in the execution of their works, and majority of these artists transformed these materials into luxuriant sculptures in form of installations and hangings. With this revolutionary trend in contemporary art, artists have used everyday objects or materials (medium) for complex expressions reacting to evolving social situations. van Coller-Peter and Olinger (2022: 4) elucidate that "art is an experience that serves as a form of 'symbolic communication." Nabulime and McEwan (2011: 286) also agree that "art has the capacity to move beyond the spaces of galleries into an expanded field, and thus beyond the visual and into the social," while van Coller-Peter and Olinger explain that "the visual arts can capture a narrative that is very personal and depict a person's non-verbalised inner world". The artwork in this study, which is made out of waste has its own interpretation that criss-crosses between the environment, life, and death. The artist has expressed

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himself not by words but by tactile objects of art. Irrespective of the specialty of the artist, 'found objects' are useful tools in the hands of whoever can successfully and creatively manipulate the material to make social commentary.

This study presents auto oil filter waste as a 'found object' inherent in our society and its use in the art field as an effort to contribute to the promotion of a healthier environment. Governmental efforts of waste management, and the need to consolidate the effort through other means, have been advocated for in this study. This has led to a review of the behaviour of auto mechanics that has contributed to mismanagement of waste material. The attempt in upcycling the waste material in order to gain use in the art field has been presented as a viable alternative. A methodology through a studio-based research approach has been adopted in the upcycling of the materials, in this study, into installation art. Formalistic and contextual analysis has been used to unearth the description and societal connotation of the auto oil filter waste art installation. Results from the objectives of the study have been drawn out to clearly show the impact of this study.

Brooker (2010) describes that a 'found object', in this framework, refers to any material or object that has outlived its primary function and has been discarded and discovered by an artist to be a used for the production of artwork due of its promising features or perceived value. van Coller-Peter and Olinger (2022: 5) further state that in the aspect of using 'found objects', "artists draw inspiration from a culture that started with the avant-garde of Europe, particularly the Dadaists in the aftermath of World War I, as a rebellion against the political and social developments of the era." Wainwright (1997: 47) and Waldman (1992) also posit that

> In the 20th century, beginning with Picasso's and Braque's radical experiments with such common materials as newspapers, matchbooks, and wallpaper, life made its way into art, and the whole enterprise of artmaking was forever changed. Found objects became a part of almost every successive generation's avant-garde exploration, and today it is often more common to see everyday objects in a gallery or museum show than it is to find oil paintings.

Forms of artwork have been created from 'found objects' and materials that have been creatively and skilfully upcycled. Upcycling is a widely spread concept in the field of visual arts. It can be defined as the practice of creating new artwork from existing materials, whether used-found materials, leftover, recycled, or discarded objects. Herndon (2022) reveals that upcycling has come a long way in history and had been practiced many years before the current dispensation, from 1716-1800s. The types of materials involved is what makes the difference between the past and present. More technological advancements have occurred, and this brought about technological waste that have bedevilled the environment more than before, however, affording the artists alternative materials for creative exploration. Upcycling, according to Koch (2019), is a term used to describe the technique of upgrading and adding value to a product or material that may otherwise be discarded. As well as this, Ng (2022) observed that upcycling is not just an environmental practice but is of current societal importance to help in cleaning up the environment. This strategy not only reduces waste and environmental footprint, but also encourages creativity and originality of art (Céspedes, 2023). Artwork that is made in this manner is novel as it emphasises societal issues in critical manner. Freidenrich (2022) decries in the article titled; *From Discarded to Maximized,* in regard to upcycling, that every piece of her creation is something that was discarded. She also pointed out that due to the manner of her 'found objects' and the style of manipulation, it is difficult for the audience to recognise her medium as 'found objects' or upcycled materials. When the audience realises that her medium is actually 'found objects', they begin to look at discarded items around their dwelling differently. Unlike the kind of creations like Friederichs's, that looks seemingly original in material, art in this study is easily recognised by audience that the medium is waste material. This is because of the of the oil waste on the physical appearance of the material, however, at the same time, it appears transformed. 'Found objects' and materials used in this form of art are ironical results or a by-product of man-made undertakings is referred to as products of technological advancement which have been poorly and improperly disposed of. This scenario of improper waste management, with its adverse effect on the environment is more pronounced in undeveloped and developing societies.

Salvaging the environment for the utmost benefit of humanity is at the forefront of various millennia goals, set out by authorities and societies of the world. These goals that are sometimes called "millennium development goals" and are usually in response by governments to man-made or natural environmental phenomena that impacts negatively on well-being of lives, properties, and especially, societies that are limited by a lack of resources for development. This is to say that government has a direct responsibility to take care of the environment by enacting and implementing policies for the well-being of the environment, either by enforcing proper disposal of waste or by converting waste to useful resources. Divich (2022: 47) opines that "it shall be the duty of every local authority to

improve, promote, and protect public health within its district and directs local authorities to appoint environmental health officers to identify and bate nuisances that may be injurious to health and to make bylaws to protect public health." According to Wysokińska (2017), Gil González *et al.* (2006), and Munang and Andrews (2014), the eight millennium goals constitute obligations on the part of the international community to, among other things, ensure environmental sustainability.

This involves also the effective management of solid waste in the form of auto oil filters as presented in this study, so as not to adversely affect the environment. To this end, Yosufi (2019: 427) and Okafor-Yarwood and Adewumi (2020: 286) lament that "solid waste management practices are not adequate and show very common constraint in collection, management, and disposal." Miito and Banadda (2016) reveal that in the past, efforts have been made in different ways on how to tackle solid waste so that environment is not adversely affected. While some of this technological efforts were successful, many others did not due to lack of continuity. Most countries in Africa, that are either developing or underdeveloped, are at the mercy of detrimental undertakings that emanate from the activities towards the quest for technological advancement. While developed societies of the world have learnt to deal with residuals of auto-technological innovations to guard against adverse effects on environment, a hand full of societies in Africa are not yet to be able to effectively control negative sides of technological waste products as it has to do with waste management and disposal. Okoro and Cadmus (2016: 86); Echiegu *et al.* (2022: 211); and Onovaye *et al.* (2022) elucidate that "the problem of soil contamination by petroleum hydrocarbons and the heavy metals present in spent oil is widespread in auto mechanic workshops, and it is beginning to cause concern now in most metropolitan areas." Engine oil waste infused in auto filters is danger to the environment, as implied by Barry and Cadmus, and this needs to be managed. There are numerous mechanics that operate illicitly and the bi-products of their activities creates significant risk to the environment. This also include the Mercedes-Benz Mechanics, where the waste oil filters in question emanate from.

Methodology

A studio-based approach of enquiry, which is categorised under the broad umbrella of arts-based research, has been adopted in carrying out this study. Marshall (2010: 77) opines that "studio-based research is rich with possibilities for contributing to body of knowledge concerning creative processes, primarily because it has at its core the making discipline." In similar opinion, Fitch (2010: 75) states that the "terms such as art-based or studio-based research are all part of a new paradigm based on the theory that new knowledge can be gained through the process of creating artwork." Fleischmann (2021) points out that a studio is often still portrayed as space where 'inexplicable magic' takes place. The process of assembling and transforming waste oil filters in this study into installation art, is not only in the creative domain but also carries a succinct message about the environment. Waste oil filters were gathered from different mechanics in the city of Lafia, in the Nasarawa state, Nigeria. This involved recruiting assistants that were shouldered with responsibilities of approaching the mechanic's workshops. They were educated on the nature of the material and the danger it portends to the environment when throwing them around carelessly, which leads to environmental degradation. This involved placing dedicated collection bags at every major mechanic's workshop for collection of waste oil filters, rather than allowing the mechanics throw out the waste-oil infused material illicitly (see Plate 6). The waste auto filters were put into the production of installation artwork that expresses the danger of the material to the environment as well as to life. Waste oil filters, as individual objects, were upcycled through removing sand deposits on the surfaces of the oil filters that were stuck to the filters due to the presence of waste oil. This was followed by knitting the filters together in vertical and horizontal fashion with the help of binding cord (see Plate 7). These formed a strand of interconnected oil filters (see Plate 8). The strands of oil filters were hung in individual positions one after the other on the wall and further made into a hanging artwork.

Artistic Intervention from Waste Material

Re-claiming the environment by channelling automotive-oil filter waste into another gainful venture is the main goal. Therefore, the need for converting these materials of environmental degradation into an alternative source of artistic expression for creative relevance is sought-after. This article is an effort at contributing to the mitigation of environmental pollution through the upcycling of waste by giving it a second-hand value that is of artistic relevance to the society. The waste oil filters were assembled through the concept of upcycling material in an artistic form. According to Collins (2023), Africa has repeatedly been a home to a plethora of artistic talent, but joining the mix now are the practical creatives who are using very viable, affordable, and sustainable materials for

their work. These are the artists who are upcycling – taking trash and turning it into treasure. These are artists that have used various 'found' objects and materials ranging from electronic gadgets, flip-flops, waste plastics, worn out tyres, and waste metals. Their purpose is to first use the 'found' objects as new medium arts and secondly to take these waste materials, that are harmful, out the environment and convert them into items of use.

Kim (2022: 170), in his work titled - *Rediscovering value through crafting plastic bags,* used plastic waste bags in formulating new items of use. According to him, his "aim was to return the practicality of an everyday object back into everyday life. By giving a new value to the plastic function of holding and moving things." He concluded that he has discovered that the value of an object is not one sided but depends on how it is put to use. Szaky (2014), in a sarcastic tune, observed that "reuse and upcycling are everyday practices in developing countries due to their financial restrictions and limited access to resources." This notion is one sided and misleading because, according to Kyungeun and Cooper (2015: 113), Sarah Turner, a United Kingdom based artist is "an eco-artist and designer who practices craft-based upcycling with waste plastic bottles and cans to create lighting, sculpture and decorative home interior products." Tagle (2019) also reveal in the article titled, "Salvage Acts: Asian/American Artists and the Uncovering of Slow Violence in the San Francisco Bay Area," that the city of San Francisco diverts a minimum of 78 per cent of all waste away from landfill disposal through source reduction, reuse, and recycling and compost programs, enabling artists to extract value from the city's waste stream in order to create beautiful objects. It could be deduced that, rather than an economic constrained issue, as painted by Szaky, the art of upcycling is a matter of the creative mind, to see and identify potential in waste materials laying around the environment. While Akpang (2016: IV) concludes that "the appropriation of mundane objects in art differ from culture to culture, in context, philosophies and ramifications."

As an artist who is always on the lookout for unique materials with promising features, especially waste materials, capable of engaging audience when put together in form of artwork, the author stumbled upon this particular material as they made a periodic visit to the mechanic to service and change the engine oil in their Mercedes-Benz car. The change of engine oil also necessitates a change of filter in order not to contaminate the new oil that is usually replaced in the engine. Having not previously taking notice of what the oil filter looks, on this occasion, by chance, the author was attracted by the texture and shape of the old oil filter and sought to know more about it. It was then revealed that every time a car that comes for servicing, the old oil filter is replaced by a new one (see Plates 1 and 2), while the old becomes useless and discarded. Careful observation of the surroundings of the workshop showed littered oil filters near and far (see Plates 3 and 4). The author's artistic mindset triggered the idea of a prospective potential material for studio exploration. A further study on the waste oil infested material reveals how detrimental the material is to the environment if not properly disposed of or re-used for something else that can take it away from endangering the soil. Errington (2018), Mwaura (2018) observed that in both industrialised and developing countries, soil pollution is a serious concern. Soil polluted by oil and its derivatives is a critical environmental issue worldwide that jeopardises ecological systems and causes geotechnical problems (Haghsheno and Arabani, 2022). Evidently, as revealed by the forgoing authors, waste filters that are soaked in waste oil proved to be devastating for the areas that the filters were found, no green plant life could survive there. This is part of the justification of this enterprise. It becomes an avenue of taking off the detrimental material from the environment. Amos *et al.* (2023: 20) disclosed that "The soils which now act as a sink is contaminated with the pollutant (waste oil) which eventually prevent soil microbial activities, immobilisation of soil nutrients, lowering of soil pH and soil fertility status." Papastamoulis *et al.* (2023: 3268) lament that "the development of industrial activities in developing countries has increased the amount of waste generated from economic activities, which has led to environmental problems due to the complexity of waste management."

"Car oil filters improve oil quality by effectively separating contaminants from the oil, thereby keeping the oil safe and clean. This potentially reduces carbon gas emission" (Newswire, 2021). Paper filters - which are the most common filter type on passenger cars - are a complex web of fibres which traps extremely small particles of contaminants, and those contaminants become part of the filter matrix itself. However, technicians use the same spin-on oil filter, or the same removable element, depending on the make and model of the vehicle. Most nonpremium filters still use paper to trap tiny particles floating in the oil (Truett, 2019). Oil-filters that are changed periodically are regarded as industrial products, made for proper working car engines, in this instance, the filters have become bi-products working against the fertile nature of the environment due to improper disposal. By make, Mercedes-Benz oil filters are made of a degradable paper material that absorbs a significant amount of engine oil. The presence of waste oil usually transformed the paper filters into a material that is not easily degradable. While mechanics remove and change this filter during car maintenance, they are illicitly and carelessly disposed of in

any available land space. By implication, the waste oil, which is absorbed by the filter, spills into the surrounding land. Evidently, any piece of land that the filter is thrown on, is adversely affected and prevents any plants and living organisms from surviving there. This is the reason that land that not paved, and is occupied improperly by mechanic workshops, are devoid of any green vegetation (see Plate 5). Pre-existing plants will eventually die off. The increasing presence of spilled waste oil from auto filters that are not properly disposed of and thrown on land that is supposed to be cultivated for yielding agricultural produce. This causes the land to be disadvantageously encroached upon and made barren. This situation is prevalent and increasing by the day in Africa.

The culture of improper waste management needs to be changed to ensure that the waste becomes valuable asset to the society again. An example is upcycling auto filter waste into artistic medium for creative expression. This not only cleans up the environment but also appropriates the material. Activities that encourage environmental degradation is on the increase as a result of technological advancement. While advanced societies have learnt to manage said environmental degradation, most African societies are yet to have proper waste management. As a result, arable land for agricultural production is being adversely affected and endangered. A situation that impedes on survival of micro-organisms and plants and their ability to grow is said to encourage hopelessness. There are a number of different techniques that are being used to prevent this, including environmental resource protection and general protection efforts. This also includes upcycling the waste material as it is in this scenario. Discovering unique 'found' materials for usage in art as a medium is advantageous but discovering material that has sustainable value in terms of availability is best. Oil filter waste is not just material that is discovered for limited number of usages, but it has an unending value. As long as Mercedes-Benz cars are being serviced at different mechanic workshops, the waste material is being churned out. Notably, the size of an urban area is directly proportional to the quantity of waste oil filters. Conversation with the leader of the Mechanic Association of Lafia (MAL) in Nasarawa state, Nigeria, revealed that as small as Lafia city is compared to other urban cities, there is an estimated ninety-two (92) mechanic workshops and Merecedes-Benz mechanics are estimated to be thirty-five (35) of them. Among these Merecedes-Benz mechanics are fifteen (15) major workshops that these waste oil filters can be consistently acquired. This statistic shows that the waste material is sustainable for the continuous usage by artists and not a one-off material. Mercedes-Benz's waste oil filters will be rampant in urban settlements across Africa as long as there are mechanic workshops, as the forgoing statistics have shown. The waste products are gathered in large quantity over time as frequent as Mecedes-Benz cars are being serviced and have engine oil changed. The nature and form of waste auto-filters, as presented in this project, begs for artistic usage and giving the material a second chance at relevance.

This endeavour is aimed at using waste oil filters gathered from various mechanical workshops and dump sites in the environment to be converted into installation artwork that speaks about the danger of the material to the environment and invariably to life. This study was achieved through the following objectives that were akin to the actualisation of this exploit. First, is to devise a mean for collecting the waste oil filters in partnership with the mechanic workshop owners. Secondly is to take advantage of the physical appearance of the waste material to decide the best possible way it can appear as an engaging piece of art. Finally, subjecting the artwork to analysis to bring out the physical and "spiritual" content of the work.

Formalistic Analyses of the Installation

Waste auto-oil filters are cylindrical shape with vertical line textures all round. Depending on the model of the Mercedes-Benz, the filters come in different sizes and length. It is hollow from one end to the other and this provides the opportunity for passing binding cord through to connect each piece to form the work of art. Colour wise, the filter is originally white (pre-use) but turns black as a result of used oil it has filtered. Additionally, due to the presence of waste oil on the used filters, their life span changes from ephemeral to long lived. The black appearance of the filters gives an intimidating appearance to make installation appear 'nerve-wrecking'. In description, the installation shows black curtain like hangings of oil filters in strands of different lengths. In the middle of the installation is a red fabric background and hanging in the middle of the red fabric is a human figure hanging as if they just committed suicide. The hanging filters are disproportionately divided on both sides. Below the far-left corner of the installation is a filter also covered in red fabric to create a balance in colour. The installation is estimated to be seven feet by three feet in dimension. Spiritually, the installation emphasises the threat of illicit disposal of waste oil filters on the environment. The individual hanging oil filters represent the masses waiting to take turns to face the consequences of environmental degradation. Invariably, directly, or indirectly, a polluted environment affects all, just a matter of time. The suicide like hanging figure in the middle says it figuratively what

waste oil filter does to the environment. The red fabric at the background symbolises danger, danger of oil filter illicit disposal to the environment. If the land crust is contaminated and unable to yield the desired food, it results in hunger and hunger results in malnutrition which is followed by death. By implication, carelessly and knowingly throwing harmful materials and objects in the environment, which is capable of degrading the land crust is suicidal.

The systematic and strategic method employed in the collection of the oil filters revealed the detrimental effects of the material to the handlers (mechanics) of the waste, thereby increasing their understanding of the environmental consequences of disposing the material incorrectly. An unbelievable amount of waste oil filters was gathered and this afforded this study the medium of artistic expression. The solid dark physical appearance of the material, as a result of oil passing through the filters, created the colour of the installation, this is accompanied with the velvet-like vertical line texture it originally came with. The hollow provision in middle of each cylindrical waste oil filter allowed for passing a cord through and tying one oil filter to another to form strands that transform into the hangings of the installation. Physical and contextual analysis of the waste oil filter installation denote society in suicidal state as a result of human activity on the environment. In the first instance, the technology of the automotive oil filters is humans' effort to trying to make car engines work properly. Adversely, its effect as bi-product and waste product portends real danger to the environment, and more specifically, the soil in which agricultural produce is planted, thereby destroying its nutrients making it unusable.

Plate 1: Removing used oil filter from engine

Plate 2: Changing new oil filter to engine

Plate 3: Waste oil filter thrown on ground

Plate 4: Waste oil filters dumped carelessly

Plate 5: Effect of waste oil on soil in mechanic's workshop

Plate 6: Collecting waste oil filters

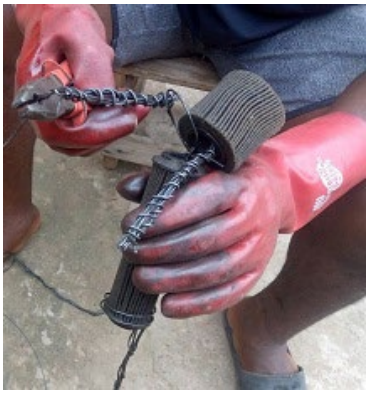

Plate 7: Working on waste oil filters for installation

Plate 8: Knitted bunch of waste oil filters

Plate 9: Detailed view

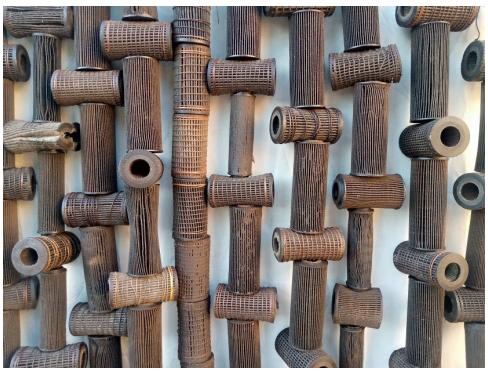

Plate 10: Network of waste oil filters

Plate 11: Segmented view

Plate 12: Jonathan Okewu, Suicidal, auto filters binding wire and fabric, 7ft/3ft, 2023.

Visual representation of thematic issues is key to artistic or studio-based research. This enables the audience and reader to be able to relate effectively in a tactile manner with the central idea and narrative of this article. Trombeta and Cox (2022) concur that "visual methods offer an innovative approach to qualitative research through their potential to prompt dialogue, enrich verbal and textual data, and enable participants to communicate about difficult topics". The studio exploration and upcycling of waste auto-oil filter as clearly presented in visual format in plates above affords greater appreciation for indebt contextual comprehension. In essence, plates 1 – 12 in visual presentation contextually presents the idea, the problem and the artistic solution to auto-filter menace as it affects the environment and land crust. The original purpose of oil filter is to improve working condition of automotive on

the one hand, but this has resulted in disservice to the environment on the other hand due to mismanagement of by-product, especially in underdeveloped and developing societies.

Conclusion

The method of placing dedicated bags for collection of waste oil filters at mechanic's workshops, as adopted in this study, is one that has successfully removed the harmful material from the environment. The mechanic's workshop owners, through engagement with them about the waste material, has created awareness towards the dangers of the material to the environment and need to desist from the illicit disposal of the material. They are now aware that it takes effort to protect and clean up the environment, preserving fertile lands, and restore the hope of a cleaner, greener, and more fruitful land. The morphology of the oil filters, and textural quality of the material, were the motivating factors that drew the attention for the possible use as art medium. Knitting the oil filters into strands before adding it into the installation was crucial to the overall make-up of the installation in the form of wall hangings. This method gave an engaging physical presence to the installation. Up cycling the waste material gave a value to the material as an asset in art. Physically the oil filter installation art shows the quality of the material, in turning it into artwork. While spiritually, the installation carries a message that suggests that the act of up-cycling waste oil filters into artwork is hopelessness in a hopeful situation. By implication, oil filter installation artwork in this study, is a critic of humans' attitude of the illicit disposal of waste and more critically, government' irresponsibility towards keeping the environment safe.

Declarations

Interdisciplinary Scope: The article exemplifies an interdisciplinary approach by using the effectiveness of art to interrogate insights from Environmental science as exemplified in materials of environmental degradation. There by turning wastes that demean the environment into useful medium of artistic expression, to consolidate ongoing efforts by environmentalists as well governmental agencies at riding the environment of harmful materials.

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