

Fungi as an Art Medium: The Study of the Art Medium of Philip Ross and Syaiful Aulia Garibaldi

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ABSTRACT

This research aims to read the creative process carried out by bio-art artists who use fungi as a medium of character, namely Phillip Ross and Syaiful 'Tepu' Garibaldi and explore the potential values in their nature. New media art became an essential umbrella for non-conventional art genres related to other disciplines, such as ecology-based art, kinetic art, video art, bio-art, etc. An interdisciplinary approach that is no longer related to a single system but a synergy between fields of science to solve increasingly complex social and environmental problems. As a new genre, bio-art synergy art and science involving organic creation components. The use of animals, viruses, fungi, and plants is the differentiator that marks the formation of bio-art works. Research methods will be conducted with methodological approaches to art history, anthropology, and semiotics. The unusual process of fungi formation used as a medium of art and ecological issues became a powerful narrative that both artists generally raised. The synergy between art, science, and technology in the creation process is a new reference in the method of art creation, especially bio-art so that the process of fungi formation that is not commonly used as a medium of art and ecological issues related to it as a powerful narrative that the two artists generally raise becomes the main subject of study.

Keywords: new media; contemporary art; bio-art; interdisciplinary

ABSTRAK

Jamur sebagai Media Seni: Kajian Media Seni Philip Ross dan Syaiful Aulia Garibaldi. Penelitian ini bertujuan untuk membaca proses kreatif yang dilakukan oleh seniman bio-art yang memanfaatkan fungi sebagai media kejanya, yaitu Phillip Ross dan Syaiful 'Tepu' Garibaldi serta menggali potensi nilai-nilai yang ada dalam kejanya. Seni media baru menjadi payung penting untuk genre seni non-konvensional yang terkait dengan disiplin ilmu lain, seperti seni berbasis ekologi, seni kinetik, seni video, bio-art, dll. Pendekatan interdisipliner yang tidak lagi terkait dengan pendekatan tunggal tetapi sinergi antara bidang sains untuk memecahkan masalah sosial dan lingkungan yang semakin kompleks. Sebagai genre baru, bio-art adalah sinergi antara seni dan sains yang melibatkan komponen penciptaan organik. Penggunaan hewan, virus, jamur, dan tumbuhan adalah pembeda yang menandai pembentukan karya bio-seni. Metode penelitian akan dilakukan dengan pendekatan metodologi sejarah seni, antropologi, dan semiotika. Proses pembentukan fungi yang tak lazim digunakan sebagai media seni dan isu-isu ekologi yang berkaitan dengannya, menjadi narasi besar yang secara umum diangkat oleh kedua seniman tersebut. Sinergi antara seni, ilmu pengetahuan, dan teknologi dalam proses penciptaan adalah referensi baru dalam metode penciptaan seni, terutama bio-art, sehingga proses pembentukan fungi yang tak lazim digunakan sebagai media seni dan isu-isu ekologi

yang berkaitan dengannya sebagai narasi besar yang secara umum diangkat oleh kedua seniman tersebut, menjadi pokok kajian utamanya.

Kata kunci: media baru; seni kontemporer; bio-art; interdisipliner

Introduction

In the long history of the development of global art, many transitions of ideas and concepts of value are formed along with the spirit of the times in which the work was born. Many factors that trigger the emergence of the form of artwork at a time, social conditions, culture, economy, psychological artist, and many other things, affect the structure of the artwork presented. It is not surprising that the artwork is an artefact to read the cultural symptoms when it was created. Along with the complexity of human civilization, the artwork present is more specific and complex, especially after the modern period. Many artists seek to bring out the character of personal identity that becomes a distinctive character that distinguishes it from other artists. This otherness later became a language for artists to show their existence.

Quite radical changes occurred in the time of contemporary art. The boundary between art and not art became blurred. Its dynamic, democratic and heterogeneous character broke down the previously established structure of art (S. P. Wicaksono, 2020). The emergence of alternative media used by artists to work gave rise to many new genres. No longer tied to conventional mediums that have had an extended hierarchy in the history of fine art, such as painting and sculpture, the use of media that tends to be easily found in everyday life becomes expected in the character of artists today. The use of these unconventional mediums then became a new opportunity for artists to explore their creativity without being limited to the medium used. No longer just using a static medium, artists can now analyse works using dynamic works, such as video art and kinetic art, explore sound through sound art, use organic objects that grow, and so on. The emergence of many new sub-genres in

the world fostered a new umbrella called the art of media or new media. The spread of media art is growing quite massive in various parts of the world, including Indonesia.

The development of Indonesian art, especially from tradition to modern, which later developed towards contemporary art emerged not as a process of transformation from art that was previously created, in contrast to the development of Western art formed from the process of continuous cultural change (S. H. Wicaksono, 2018), although this adds uniqueness and different colours in the formation of local identities and contents. The rapid development of contemporary art in Indonesia brought significant changes in shaping art discourse in Indonesia. Moreover, lately, the use of media art is growing in Indonesia. It has become a time medium for artists to express their ideas with a “language” that reflects more on the times, not only in concept but also in physical execution. The philosophy of a hierarchically unattainable medium removes the heavy burden of artists being bound within existing boundaries. It tends to ‘play’ with a familiar medium close to their daily lives.

The phenomenon of new media art in fine arts is overgrowing in Indonesia, especially after 2000. The use of digital media is quite massive used to see the ease, effectiveness and capabilities that can be presented compared to conventional media. There is still a lot of debate and discussions by experts to give specific ‘boundaries’ to define discourse about the art of new media. In studying the problem of new media, two critical meetings are central. The first is the artistic medium as a concept in character, and the second is the medium as a tool to communicate through works (Quaranta, 2013). The development of media art grew and developed rapidly thereafter, not only digital-based media used as a medium of expression for artists but

also reached other scientific fields. Although the use of new media in art is a global symptom that occurs almost in various regions, the distinctive character present in the work as an identity is very different depending on where the work is produced and the background of the artist who made it, so that the narrative representation and media characteristics present in media artwork in Indonesia will be thick with typical Local Indonesian discourse. The birth of work is undoubtedly closely related to a long process involving various accumulations of experience, background, environment and the artist's point of view. Honesty becomes an essential picture of how the work represents the artist. As Sudjojono says, the painter (the artist, in a broader context) must depart from his soul: painting is the visible soul (Yuliman & Hasan, 2001), so that the artwork represents the most personal and close to the artist's life. Not infrequently, the cultural value present in work identifies the background brought by the artist. The issues current in work are very close and relevant to our surroundings. A significant theme in contemporary art, personal identity, brings new opportunities to proclaim personal aesthetic values.

As a new genre, *bio-art* is a synergy between art and science that involves organic components in the creation process. The use of animals, viruses, fungi, and plants marks the creative process in forming bio-art works. The practitioners or artists involved in it also vary from art backgrounds. Many of them have backgrounds as scientists, even not infrequently collaborating from various disciplines to produce a work based on organic media. The term bio-art itself began to be known when artist and scientist Eduardo Kac started the process of mutation in a rabbit created as a glowing green rabbit due to *fluorescent* effects implanted in his genetics. After that began many artists who created science, especially biology, as a medium to produce a work of art. As well as developments in Indonesia, several artists are interested in exploring bio approaches as part of their character. In the initial data owned by the author, the trend of *bio-art* in Indonesia began around mid-2010 until now. Several names include the House of Natural Fiber (HONF) group, Hackteria group, Syaiful Aulia

Garibaldi and Abshar Platisza and several other artists whose work adapts organic media although temporary. These artists then gave a new breath in the development of media art by bringing the pieces to life through organic media with local Indonesian values and issues.

This study set out the objectively measure and assets the issues and creation processes of artists who use living materials that are relatively infrequently used in work, namely fungi; both artists are Phillip Ross and Syaiful Garibaldi.

Research Method

This research was conducted with qualitative research methods with a multidisciplinary approach that uses the approach of several disciplines as a scalpel, such as anthropology, art history and semiotics. The field of anthropology will be used as a scalpel to examine the symptoms that support the creative process through aspects of the artist's background, as well as supporting aspects in the environment around the artist that trigger the presence of visual characters that have characteristics of local values and the use of unconventional mediums in their work. Each work of art, more or less reflects the setting in which the art was created (Sumardjo, 2000: 233). Art history will be used as a method to map and patch the periodization of an artist or group in the process and work of art within a certain period of time. Changes in trends and influencing factors such as the mental situation of artists in their work are also things that are also studied through the art history and anthropology approaches discussed earlier. In addition, the determination of the style or characteristic tendencies in art can be read through this method of art history. Another scalpel that will be used in this study is with a semiotic approach. The use of semiotics is useful as a spectacle and a method for reading the markers and visual characters that appear on the work of the artist. Using a semiotics approach, we can read the tendencies of visual language used by artists to build discourses while mapping the common thread on the representation of values present in *bio-art* works.

Finding and Discussion

Bio-Art

The development of *bio-art* was initially known by various terms such as *biotech art*, *life art*, *genetic art* and *transgenic art*. The rapid growth of biotechnology then allows this method to be developed in the process of consensually. Without ever relinquishing its right to formal experimentation and personal inventiveness, art should develop alternative views of the world that resist dominant ideologies. In his character, the bio artists subvert contemporary technologies — not to make detached comments on social change, but to enact critical views, to make present in the physical world invented new entities (artworks that include transgenic organisms) which seek to open a new space for both emotional and intellectual aesthetic experience (Kac, 2021). Journalists and academics pin various terms to name the methods that use living organisms as their material, such as bacteria, fungi, etc. If referring to the use of organic mediums as a revealing medium, we can draw further from the use of this material in the area of fine art. Penicillin scientist Alexander Fleming used bacteria as a medium to produce paintings. In his work, Fleming placed bacteria on paper given culture media and inc incrustated to create visual patterns that make up particular objects. He named these images ‘*germ paintings*’. Although this work is not exhibited in art galleries hospitals, Fleming’s



Figure 1. The Work of Microbes Alexander Fleming. (Source: <https://www.amusingplanet.com/2018/02/alexander-flemings-microbial-art.html> accessed on July 2, 2021, at 00:33 pm)

pattern of creations can be the beginning of bio-art (Stracey, 2009).

In contrast to what Fleming did, awareness of the use of living organisms as a medium in fine art was carried out by Eduardo Kac and his colleagues, even making a manifesto and limitations in bio-art in the late 1990s. The medium of the artist’s work after this period was done to form a complex narrative that was more than just a mere visual formation, not only the artistic value pursued by his artists but also built a specific aesthetic value, which requires living organisms as the most appropriate express style in constructing works. In addition to Eduardo Kac, in the same period also appeared some artists who used biotechnological approaches, such as Marta de Menezes through her work *Nature?* (1998) exhibited at Ars Electronica 2000, he collaborated with a laboratory in the Netherlands that produced a living butterfly with asymmetrical wing patterns developed through *the technique cauterization*, developed by scientists to study the process of butterfly development (Mitchell, 2010).



Figure 2. Marta de Menezes, *Nature?*, 1998. (source: <https://martademenezes.com/portfolio/projects/> accessed on July 3, 2021, at 09:30 am)

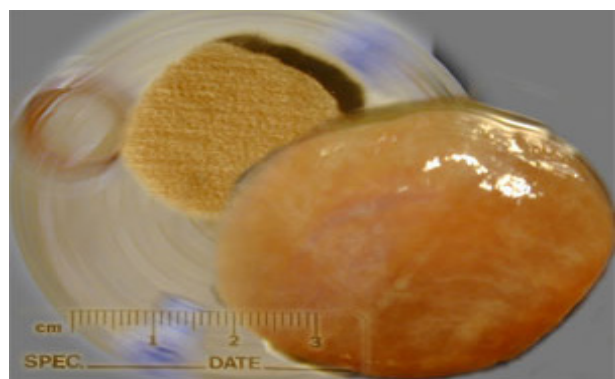


Figure 3. The Tissue Culture and Art Project, “*Disembodied Cuisine*” (2000-2003). (Source: <https://www.tca.uwa.edu.au/disembodied/dis.html>, accessed on July 3, 2021, at 09.40 am)

In the same period, a group of artists, the Tissue Culture and Art Project, used tissue culture biology techniques to grow frog muscle cells in biopolymer containers shaped to resemble a steak, which they later named 'half-life' objects. The work titled "*Disembodied Cuisine*" was exhibited at the L'art Biotech exhibition in Nantes, France, in 2003. In the exhibition, the Tissue Culture and Art Project hosted a meal with frog steak served as its dish (Mitchell, 2010).

From the work process carried out by these artists, there is a common thread that becomes similar, namely its cultivation using artistically worked biotechnological methods. Most bio-art artists use laboratories to develop their creation process and keep the entity growing in showrooms or galleries, both in engineering and technology. The difference that is quite clear to distinguish between bio-art and other art is the method and use of organic mediums as a medium of value, similar to the development of art in general in earlier times that used the medium of oil paint, clay, ink and so on, bio artwork system using bacterial media, chemicals, plants, cells and several other organic mediums that are processed into a work of art.

Although bio-art often receives criticism from art critics, environmental activists and legal practitioners regarding the use of living things as a medium of exploration and creativity beyond the limits of ethical and moral fairness, it is undeniable that Bioart is a way to open up new possibilities, both from the field of science and art. In this, Art becomes for communicating and negotiating controversies in a new method and discovery. A space in this realm that correlates between the art laboratory and the public in the form of a work of art, so that bio artworks presented in public areas and galleries can bridge discovery and information through artistic dialogue and tend to be more relaxed to the lay community (Mitchell, 2010) (Stracey, 2009)

Philip Ross

"There is not so much a crisis of materials, but of how we think about them, organize them and use them."
-Philip Ross

Philip Ross is co-founder and CTO of MycoWorks, a San Francisco-based company that grows skin-like biomaterials from mycelium. He earned his MFA from Stanford University in 2000 and now works as an artist, inventor and entrepreneur, and guest lecturer at Stanford University. Ross was interested in processing mushroom materials as raw materials for design and building, which he referred to as *mycotecture* (*myco* is derived from the Greek meaning mushroom). His interest in mushrooms stems from his childhood observations of mushrooms growing in the woods of upstate New York and later working as a hospital caregiver during the AIDS crisis, where mushrooms were used for treatment in alternative therapies. For this *mycotecture* project, he explored a lot with Ganoderma mushrooms, a type of fungus widely found in the Plains of Asia and has good health benefits. His mushroom-clad furniture work won the Ars Electronica Award for *Distinction for Hybrid Art* in 2013.

Mushrooms as Sustainable Media in Ross's Work

The focus of the study conducted by Ross was to find alternative materials, which could then be applied in artwork, design and architecture. Because the material needs are higher and the quantity will be rarer, it will require a high cost to access it. It



Figure 4. Philip Ross. (Source: <https://medium.com/space10-imagine/expert-view-biomaterials-with-philip-ross-7c28a09301a2> accessed on July 9, 2021, at 01.00 pm)

takes a breakthrough to produce a new sustainable material, which will be accessible to many people, at a low price and able to be an alternative material to create something, especially in the field of design and architecture that requires raw materials that are pretty aggressive as an essential material in the formation process. From here triggered mushrooms as an alternative medium, the amount of residual consumption and industry that is not appropriately accessed will cause a lot of garbage that is increasingly piling up. It is necessary to recycle so that the waste can be reused here. Then the fungus enters as a material that can decompose materials or materials that have not been utilized. One of

the three 'spheres of sustainability' is 'aesthetic sustainability' that involves the factors of 'living a naturally good life', 'culturally acceptable', and 'aesthetic-communal tradition' (Zafarmand et al., 2003). Through the decomposition process carried out, there is a continuous organic process that can be optimized into renewable materials. Most importantly, does not cause excess waste and is safe for the environment. He called this a future material where the availability and regeneration of this material do not take long enough, like wood, plastic and others. Not only using the bio medium as a character, but art-based ecological control (Eco-art) is also a concern of Ross.



Figure 5. Philip Ross's mushroom bricks and arches formed from mushroom bricks by Philip Ross. (Source: <https://www.treehugger.com/mycotecture-mushroom-bricks-philip-ross-4857225> accessed on July 9, 2021, at 09:10 am)



Figure 6. Organic furniture by Philip Ross is mushroom-based. (Source: <https://www.sfgate.com/homeandgarden/article/Philip-Ross-crafts-furniture-from-mycelium-4116989.php#photo-3881952> accessed on July 9, 2021, at 1:34 pm)

EcoArt can preserve ecosystems and the natural environment based on artistic creativity/design. EcoArt is the practice of using art to advocate for the preservation, restoration, or improvement of the natural environment (Marianto, 2020).

Departing from the fungus, Ross explored and looked for the exemplary character in forming raw materials. His decision to use Ganoderma mushrooms in several projects and works is because the nature of the mushroom has a thick layer, has a shiny hood and has fibre like wood that varnish, easily formed according to the place of development, and able to be hardened within certain limits. This fungus is easy to find because it belongs to wood mushrooms and is easy to develop. Ganoderma includes parasitic type mushrooms that decompose still-living organic matter, such as decay on roots and stems in annual tropical plants and use them to thrive (Ratnaningtyas & Samiyarsih, 2012). As Ross did, he used a bag of sawdust cooked with steam for several hours in an airtight bag, after which mould tissue was put into the bag, ate, digested, and turned the wood into a layer of a mould whose shape was adapted to the mould, in Ross's case a brick mould and produced a brick that had a solid root-like tissue of mycelium, Which makes the character of this brick stronger than concrete. Although for now, this mushroom brick can not be used as a material for making a whole building but can be used as a supporting material that is quite good. This research then becomes an ongoing project that is expected to produce a building that grows from fungal materials. This material is then dried until the water content becomes minimal and has a reasonably strong density, but the weight remains light. Another advantage is that this brick is resistant to water, fire and even mould.

This sustainable material principle is also then applied in his design works. Material works that are environmentally friendly, strong, durable and lightweight are undoubtedly intriguing to apply to various products; Ross then used in his furniture work. In appearance, the substantial nature character adds to the natural character of this organic furniture. However, it seems rough, like wood chips and stone, but if touched, the

surface is only slightly rougher than cardboard paper, so it will not reduce the comfort when used by users. The production process is not too complicated depending on the print media, only while this is limited to some forms that are pretty simple and do not have intricate details.

Syaiful Aulia Garibaldi

Art is meant to make you think deeply or philosophically, and this can be applied to thinking about plants, ecosystems, or ecologies.

-Syaiful Aulia Garibaldi

Syaiful Aulia Garibaldi was born in Jakarta in 1985. He studied formally in the Fine Arts study program of the Faculty of Fine Arts and Design, Bandung Institute of Technology (ITB), by taking the interests of graphic arts, and is now taking a master's study in the Environmental Sciences study program of the University of Indonesia. Syaiful is known as an artist who explores organic media in his character. Quoted from an interview conducted, Syaiful's interest in art has been realized since childhood. Still, the formal education system in Indonesia does not provide room to develop artistic talent and creativity in work, if any; the tendency is limited to the emphasis that good images are images of scenery (mountains, sky, rice fields and others) depicted with a logical-realist approach, Where the atmosphere should be coloured with blue, green mountains and so forth that refer to the works of naturalists, without opening space to



Figure 7. Syaiful Aulia Garibaldi. (Source: <https://hot.detik.com/art/d-3394831/syaiful-garibaldi-si-seniman-jamur-unjuk-gigi-di-art-stage-singapore-2017>, accessed on July 1, 2021, at 07.00 pm)

cultivate creativity and imagination in children. The system of primary and secondary education that put forward logical thinking finally led Syaiful to continue his education in the Agricultural study program, and this is where then his interest in his art grew again when he saw a 'new' world through a microscope, the interest in unique visual forms aroused his interest in re-describing these objects into the field of images, this is what then made his determination to move to the art program.

In the process of work, during the formal approach until the beginning of his character as an artist, Syaiful is still attached to conventional methods, especially graphic art in the process of its creation. Still, he felt the need for a new stimulant to develop his method. Not only developing character in the studio like the methods applied in traditional schools, but Syaiful also began to plunge into nature to search for his methods. From this, he then began to reflect on his previous experiences, especially in agriculture, as a new possibility in the creation process; until then, he began to collaborate the method of design through the approach of art and agriculture.

Mushrooms as A Medium Works Syaiful Garibaldi

Awareness in the selection and processing of the medium refers to the aesthetics believed and tried to be built by Syaiful. He is interested in the life cycle where everything is related in an interrelated process and where it places itself in its mind with the environment, *a sustainable aesthetic* approach built on the concept of the life cycle represented through materials or organisms capable of decomposition. Related to the decomposition process, he then explores with fungal and bacterial media that are close to the decomposition process (Garibaldi, 2014)

His experience in botany in his education in agricultural science paved the way to pursue bio-art more deeply. Art is used to thinking, reflect, and create about the environment, nature, ecosystems, and ecology. So far, the organic material that Syaiful often uses is fungi or fungi. However, he has tried to explore bacteria and worms in his journey. Still,

the method, more straightforward and accessible laboratories and a smaller risk level using fungi make this medium more often processed and explored more deeply. In addition, Syaiful saw the great potential that can be worked on from mushrooms seeing the characteristics of mushrooms that are diverse, easily accessible and have a reasonably strong resistance in nature.

The city of Bandung, which has environmental conditions surrounded by mountains and has a climate that tends to be humid, becomes a 'laboratory' rich in materials for Syaiful. Mushrooms are so easy to find and have various characters in this city, so it is not difficult to find, study and explore them in more depth, especially expert experts and farmers who cultivate mushrooms are quite widely encountered so that the learning process can be more effective. Not only that, mushrooms then become an indicator of the quality of an ecosystem, especially air quality. With the application of mushrooms as objects in his character, Syaiful built a narrative on ecological and ecosystem issues more critically and on target because it uses organic media, which grow, develop and live in ecosystems narrated in the concept of his work. Not only as a medium of character but also the selection of the material is also used to strengthen the local identity of the Syaiful character. The enthusiasm to show a solid Indonesian identity raises the spirit to describe the objective reality in the surrounding environment (S. H. Wicaksono, 2019). Each work reflects the setting where the art was created (Sumardjo, 2000).

Using living organisms as a medium of work certainly challenges controlling their growth patterns. Sometimes the results obtained are somewhat different from the initial expectations. Syaiful understands this risk, and it is precisely



Figure 8. Syaiful Garibaldi, *"Atoah Epok, Ehoor Lamura (Like Art, Fungal Statement)"*, 2012. (Source: Abiogenesis Exhibition Catalog: Terhah Landscape)

what often makes Syaiful sometimes surprised by the results of the process he did. This unpredictable process makes Syaiful challenged to understand the various characteristics and types of fungi, including where the fungi are produced. The growth pattern is not too far from the initial prediction. In several international residencies and exhibitions that he participated in, Syaiful had to conduct research first on local mushroom farmers to understand the type, character, growth patterns, growing spaces and so on to get optimal results. He did not force to use mushrooms from Indonesia because of the habits, temperatures, and climates different from the country where this work will be exhibited.

Applications of sustainable aesthetics carried out by Syaiful can be parsed through a work entitled “*Atoah Epok, Ehoor Lamura (Like Art, Fungal Statement)*” (2012). This work became the best work in the Bandung Art Contemporary Award (BaCAA) #3 fine art competition in 2013. The visualization in this work looks like a human body figure buried and in some parts of its body overgrown by fungi. In this work, Syaiful is seen trying to build a narrative about the life cycle, in which the fungus thrives on the body of its host, which in this work is described as a deceased human body and carries out its function as a decomposer, which reduces and decomposes the dead organic body as its food to grow and develop. The fungus provides the reciprocal process by fertilizing and maintaining the moisture of the soil that holds the ground. The surrounding ecosystem is preserved. In addition, mushrooms can also be consumed and provide a livelihood for other creatures. This life cycle is what Syaiful wants to narrate, how micro-life has a considerable role in maintaining the broader order of ecosystems. There is a life that can last, grow and develop from a death.

As a medium in Syaiful's character, Mushrooms are more than just an artistic visual display, the achievement of aesthetic values that want to be built related to ecological issues of concern. Mushrooms here come as representations and symbols to present a narrative about complex life cycles, so the presence of fungi here as an organic medium to represent broader ecological issues becomes interesting.

Conclusion

From the description that has been submitted about the creation process carried out by Philip Ross and Syaiful Garibaldi, it can be concluded that their interest in exploring mushroom media cannot be separated from the ecological issue of the use of alternative materials to anticipate material limitations in the future as well as awareness to be more ‘at peace’ with nature and the environment. The second selection of mushroom material is based on narrative awareness and vision that wants to be built in its character. Not only presents exciting and unique visuals, but mushroom media here can present an understanding of the importance of maintaining ecological integrity for the sustainability of life in the future and aligning human life with its environment. Here mushrooms as an organic medium are present as a solution and symbolization of the problems and values that want to be conveyed to the general public.

Both put forward *sustainable aesthetics (sustainable aesthetic)* with slightly different views, Ross's view of sustainability here as the utilization of new alternative materials that are easy to ‘make’, environmentally friendly, cheap and durable in their application in the field of design and architecture, to anticipate material limitations in the future, not produce excess waste, can be mass-produced and deliver artistic uniqueness that is Syaiful, as an artist, views it as a medium that can represent the values of its great concept of ecological issues from both micro and macro scales and the life cycle between humans and their environment. Awareness of the medium from nature to criticize nature itself is a reasonably intelligent and comprehensive choice.

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