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Research Article

Use of drone in Indonesian sound art within the context of *'Lawing'* put forward by Anugerah[1]

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Abstract
Nursalim Yadi Anugerah is an Indonesian modern contemporary artist, who uses the drones of Kledik, an instrument from Kalimantan in his artwork called 'Lawing'. Anugerah has engaged in addressing socio-environmental concerns through an interdisciplinary approach. His unique approach towards drone and sound art makes him an appropriate choice for this research. The primary objective of this research is to inquire the use of drone in Indonesian Sound Art within the context of *'Lawing'* put forward by Anugerah. The research methodology adopted for this study is Sound Ethnography. The data was collected through semi-structured interviews, observations, and literature review. Manual coding and triangulation were used to analyse and interpret the data. Various themes and subthemes were derived through the analysis of the interviews and observations. The researcher found relevant themes like aesthetic and experiential quality of drone, and innovation with drone. This study examines the aesthetics of lawing including tone, texture, resonance and noise within the context of drone. The concept of Lawing is the connection of humans and breathing at a personal level. Anugerah used an air compressor for his performance, which is an innovative way of approaching Kledik to create drone. Ambisonic sound systems and specialized microphones have been purpose-designed to craft such artworks, creating a unique spatial experience, and distinctive experiential dimension for the audience. The incorporation of technology with ethnic music in these artworks, emerges as a central driver of creativity and novelty. The study of 'Lawing' illustrates Anugerah's innovative approach to transform the melodic rhythmic drone of the traditional Kledik into a continuous drone with various density in texture. Anugrah has been actively creating sound art, fusing philosophical and cultural underpinnings of Dayak's with contemporary technology. 'Lawing' not only presents the Dayak people's belief, but also provoke listeners to understand the environmental issues faced in Kalimantan.

Anahtar Kelimeler
ambisonics, drone, kledik, sound art, technology

Introduction
The entry for 'drone' in the *Continuum Encyclopaedia of Popular Music of the World* defines it in the following way: "One or more sustained notes of identical pitch that, usually, accompany a melodic line often performed in a higher register. The note(s) can be sounded continuously (a 'continual drone') or be repeated at short intervals (a 'rhythmic drone')". A drone serves as a tonal reference point and background for the changing pitch of other strands in the music. (Tagg 2003: 532) (Purves, 2020). The first author of this study, who is trained in Indian classical music, highlights the central role of the drone in the latter. In Indian classical music drone provides a compact harmonic foundation for composition" (Clinica & Orrore, 1980: 1). For example drone produced by the tanpura carries

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information about tuning, tonal quality, resonance and other acoustic properties relevant to vocal practises in Indian classical music. "The tanpura is often the primary archival embodiment of acoustic knowledge, serving as a repository of the most advanced tuning sensibilities and specialised vocal techniques" (Bhattacharyya, 2022: 1099).

Similarly, in the indigenous music of Tuva, the drone is used as a fundamental pitch, providing a stable base upon which the vocalist layers additional tones, such as flute-like harmonics, to create a rich sonic texture:

> "Among the many ways the pastoralists interact with and represent their aural environment, one stands out for its sheer ingenuity: a remarkable singing technique in which a single vocalist produces two distinct tones simultaneously. One tone is a low, sustained fundamental pitch, similar to the drone of a bagpipe. The second is a series of flutelike harmonics, that resonate high above the drone …" (Levin & Edgerton, 1999).

In many traditions, the drone holds symbolic meaning, representing cosmic harmony, the eternal nature of existence, or the cyclic nature of life and death. The ritualistic use of drone music can help reinforce these symbolic associations, allowing listeners to connect with the deeper layers of meaning and engage in transformative experiences. According to Levin and Edgerton (1999), the aesthetics of the drone in Tuvan music is deeply rooted in the cultural and spiritual traditions of the Tuvan people. They further state that the drone is believed to evoke a connection with nature and the spiritual realm, allowing for communication with ancestral spirits and the natural environment. It creates an immersive sonic landscape that transports listeners to a different state of consciousness and fosters a sense of transcendence.

The avantgarde is always inspired by the tradition. Numerous artists like La Monte Young, Terry Rilley etc delved into the world of eastern traditions to explore their psychological understandings of music and sound. These traditions inspired them to create avantgarde music and come out of their boxes of traditional western music methods. They opened themselves to the new possibility of expression, while keeping their old knowledge of sound recordings, playback and transmission inspiring them to create avantgarde art.

> During the twentieth century, music gradually expanded its boundaries, coming to include any type of sound object (therefore noise, as well as all the sounds of the entire extra-artistic reality). Furthermore, certain musical styles (for example minimalism, drone music, spectralism) have valorised what can be defined as a "minimal musical object". (Vallauri, 2017)

Background of the Study

Drone sounds play a significant role in sound art by serving as a medium for artistic expression and exploration. "The aesthetics of drone sound can be subjective and vary depending on the composer's personal preferences and cultural background" (Purves, 2020: 1). "Drone as a word implies a buzz or constant low buzzing resonance. Aesthetically, drone music builds with a static or exceptionally unhurried sort of rhythm and carries the minimalistic feature of sound" (Clinica & Orrore, 1980: 1). Purves (2020) and Clinica & Orrore (1980) mention that La Monte Young, one of the minimalist composers, significantly used drones in his compositions. La Monte Young used drones towards the audience's inner world of perception, inside the terrain of the cosmic world, inward to self-existence, to immerse in art as a course of a sonar wave, as a personal visual journey of artistic bliss and poignant rapture. La Monte Young's deliberate use of drones was aimed at guiding listeners on an inward journey towards a heightened state of consciousness and self-awareness. His use of drones was

not merely a musical technique, but was a means of facilitating a transformative experience between the listeners and the abstract realms of perception and existence. Young drew inspiration from the intersection of nature and music to create immersive soundscapes that transcended traditional notions of artistic expression. La Monte Young extensively used drones in creating sound art. [Can you add a link sentence here to introduce the next quotation?] "it is the instance of listening that enables the articulation of sound as art, granting its significance as an element of epistemological[2] imagination and meaning production" (Luna, 2021: 2).

"The sound artist hence finds interest in sound as a medium—not as a metaphor. To the sound artist, sound is not "beyond human control," it is neither a pure abstraction nor a metaphysical phenomenon, and it is not separated from phenomena outside the artistic work, the music culture or the art world" ("Bloom. Handb. Sound Art," 2020: 4). Sound art's interdisciplinary qualities enable conceptual artists, musicians, and visual artists to collaborate in a common creative space. According to Zhai (2022), most of the miracles are created by innovations and in the era of rapid changes, there are new technological miracles every day. Sound art allows the artists to express their creativity through sounds, whether recordings, sound installations or a new media.

Sound art can be understood as a practical response to the ways in which drone sound might interact with socio-political issues in an ecological setting. In order to address specific concerns about the kinds of acoustic "data" that make up and influence the social and political spheres, (Guillaume & Grayson (2021) conceptualized sound as a social phenomenon and linked it to power relations. According to Albinsson (2022), "music has the simultaneous capacity to divide and bridge across space" (p. 14). The urban setting promotes a dissociation between the body and the psyche. Instead of being a life-giving environment, it is an energy-draining one. "Children strive to make any environment a liveable space with their intense physicality, their unwavering receptivity towards their environment, and their vocal and physical expressiveness" (Westerkamp, 1988: 125). In an effort to confront contemporary challenges, sound art has evolved as a form of protest.

Indonesian sound art is a distinct, reflective, and all-encompassing style that draws inspiration from indigenous customs and technological advancements. Composers such as Slamet Abdul Shyukur (1935-2015) initiated a revolution among Indonesian musicians and served as an inspiration to many sound artists in his day. One of the well-known Indonesian drone music producers, Otto Sidhartha, was his student. Otto Sidhartha's interventions shifted the focus from the creation of music to the sound. The techniques used by Indonesian sound artists are distinctive and distinguish them from their international counterparts. Otto Sidhartha composed the music for his 1992 album Mitsuno Hibiki using sounds from indigenous cultures of Rio Islands and the natural world.

Java futurism is currently one of the platforms that embodies an artistic and anthropological study endeavours that is in line with the continuous decolonization of experimental music, noise art, and sound art in the Indonesian setting. The project website provides an exhibition space for different sound art and experimental research projects carried out in Indonesia. The phrase "Java futurism" was created by the Yogyakarta-based instrument builder and sound artist Lintang Radditya. Java futurism refers to the Indonesian political imaginary and Javanese mysticism's non-secular temporality. These composers are activists in Indonesia, envisioning new political, social, and artistic trajectories based on the tangible foundations of Indonesian philosophy

[2] Empistomegenic is the phenomenon of relating with the theory of knowledge, especially with regards to its methods, validity and scope.

and culture. However, it is important to acknowledge the relative dearth of scholarly literature on this topic, especially with regard to Indonesia's emerging sound art movement. This research may help create a fresh viewpoint on drone utilization in Indonesian sound art.

Importance of the Research

Indonesian avantgarde musicians and sound artists have uniquely utilized drones to craft contemporary sounds and progressions. The present study focuses on the aesthetic and experiential quality of drone in 'Lawing' (2020) by observing the subtle changes and alterations during the performance. Studying the use of drones in 'Lawing' can help us understand the interconnectedness between Kalimantan's indigenous communities, innovation through technology, and community engagement within the context of Anugerah's artwork. It also offers an understanding of how Anugerah has used drones to be creative and expressive in the realm of politics and society. The research highlights the importance of collaboration and solidarity within communities, emphasizing the value of organic and spontaneous processes in creating art that resonates with local cultures and traditions. It contributes to the preservation and promotion of Kalimantan's rich cultural heritage by examining the ways in which traditional ethnic instruments, like kledik, and technology might be merged into sound art to be innovative with drone. "Graham Harman puts forth a provoking concept that is shown in the way we characterize particular interactions with reality, things, and experiences are fundamental for the interaction in both analogue and digital domains" (Paquete, 2024: 430).

Problem of the Study

The research on the use of drones in sound art within the context of 'Lawing' by Nursalim Yadi Anugerah lead to some key problems and themes:

Aesthetic and Experiential quality of Drone in 'Lawing': This study looks at how Anugerah has redefined the drone, giving it a new meaning and purpose. There is no existing literature on these aesthetic aspects of Drone music in Indonesia, which highlights the relevance of the present study. Through the observations of the sounds of 'Lawing' and its use of drone sounds, the study explores the tone, texture, resonance and noise aspects found in the Indonesian artwork, and offers insights into how drone music can create immersive and meditative atmospheres for listeners. "Sound is vibration that is perceived and becomes known through its materiality" (Hawk, 2018: 315).

Innovation with drone through 'Lawing' in Kalimantan, Indonesia :

> "To what extent are drone artists today doing something new, as opposed to merely perpetuating the past? As Barnett Newman would ask, are drone artists today actually creating, or are they simply making? Of course, at one level there is something different in recent drone music, but to what extent this is significant, or even recognized, remains unclear" (Schneider, 2009).

The study enquires into the ways in which Anugerah has crafted the drone using traditional Kledik sounds. The innovation of the drone in 'Lawing' can be an important study for researchers. "For La Monte Young, previous musical forms and traditions were the foundation of innovation, rather than an obstacle to it" (Schneider, 2009).

By addressing these problems and themes, the research contributes to a deeper understanding of the complexities and nuances of sound art in Indonesia. It highlights the diverse influences and creative approaches employed by artists like Anugerah, to push the boundaries of artistic expression and engage with pressing social and environmental issues.

Method

Research Model

This research used qualitative approach while adopting sound ethnography as a method. "Qualitative research aims to understand the phenomena about what is being experienced by the subject of the research, for example; behaviour, perception, motivation and holistic action described in a form of words and language, on a certain natural context and utilizing various scientific methods" (Putriani et al., 2018: 31). The method adopted for this study was Sound Ethnography. "This methodological category can be applied to interpretive studies of sound, ethnographic studies that foreground sound theoretically and metaphorically, and studies that utilize sound practices similar to those found in forms of audio recording and sound art" (Powell & Gershon, 2020: 1). The subjective perspective and exploratory nature of the research allowed for an in-depth exploration of the aesthetic and experiential qualities of 'Lawing'. The objective of this study was to explore Anugerah's utilization of the drone in 'Lawing', focussing on understanding its aesthetic, cultural, and technological dimensions. By examining Anugerah's innovation with drone and its implications for Kalimantan's indigenous communities, the research aims to elucidate the interconnectedness between tradition, innovation, and community engagement within the context of contemporary sound art.

> Sounds reveal not only nested layers of participants local and less local norms and values but also the researcher's ideas, feelings, and ideals—a tool for reflexivity as well as for qualitative inquiry (Gershon, 2013). If everything sings (Wood, 2010) and resonates (Price, 2011), then sound serves as both a strong theoretical site for conceptualizing what might "count" as "data" in qualitative research and how such methodologies might function in practice" (Gershon, 2013).

This research employs methods to explore sound art, focusing on both the participants' and local norms and values, as well as the researcher's own observations. The research involves detailed, in-depth descriptions of phenomena, allowing for a comprehensive understanding of 'Lawing' from the participant's perspective. In this study, sound is treated as meaningful data, subject to diverse interpretations by researchers. According to Gershon (2013), sounds help conceptualize emergent ontogenic[3] and epistemogenic[4] understandings, aiding individuals and groups in interpreting the nested layers of ecologies, norms, values, and other sensible iterations that inform our daily lives.

The research examines the tone, texture, resonance, and noise elements present in the Indonesian artwork via an analysis of the sounds of "Lawing" and its usage of drone sounds. It also provides insights into how drone music may induce contemplative and immersive environments for listeners.

Participants

Two participants joined in this research. The first was Nursalim Yadi Anugrah, a 36 year-old Indonesian sound artist.

Figure 1. Nursalim Yadi Anugerah (web 1)

[3] Ontogenic is the phenomena of relating to the origin and development of an organism within its own lifetime.

[4] Epistemogenic is the phenomena of relating with the theory of knowledge, especially with regards to its methods, validity and scope.

Anugerah's unique perception of tone, resonance, noise and dynamics within the context of drone, especially kledik, made him an appropriate choice for this research. Anugerah is a composer and multi-instrumentalist who has embarked on a journey of self-exploration, engaging with contemporary social and environmental concerns through his art installation 'Lawing'[5]. His works focus on sonic experimentation through the cultural practices, knowledge and cosmology of indigenous people, as well as their activism around several entangled social-cultural and environmental issues in Kalimantan (Borneo). "His work contains echoes of various styles—Kalimantan indigenous music and symbols, the Indonesian underground noise scene, ritualistic chants, and European avant-garde compositions—all unified under his political project: a critique of ecological devastation and the question of survival" (web 1).

Anugerah explained about his journey as a musician while growing up in the artistic community of Kalimantan. He was not raised in a musical environment, but his father was a keen listener to cassettes. "I was held spellbound by Iwan Falls (Indonesian pop artist) and had a collection of his albums in my home during my childhood" (P1.M.36.13). It was unusual for a six year-old to listen to Iwan Falls' revolutionary lyrics. His parents were quite surprised to see him enjoying this music. The lyrics were progressive and revolutionary in the context of the environmental crisis and social issues of those times. Listening to Iwan Falls inspired Anugerah to learn the guitar and sing his songs. Though, as he remembers, his first instrument was the harmonica but the guitar was far more attractive to him at that age. He mentions that he even had a big poster of Iwan Falls with his guitar and shirtless body in his room. Generally, he liked collecting cassettes and enjoyed the texture of the sound production in the cassettes of the new sounds of Indonesia. During high school, he started collaborating with the theatre groups and started spending his time in theatre. He could experiment and be free in the ways of expressing music in theatre. "That's where I found myself studying traditional Kalimantan music" (P1.M.36.16). Despite a devout Islamic upbringing, where the Rebana (drum) and Koran were tutors, his spirited youth led him on escapades. Later in the theatre space, he was able to experiment and be playful. He joined the university and pursued the graduation course in arts education in Pontianak, where he explored more of ethnic music. Further exploration in detail occurred in 2014 when Anugerah and some friends formed Balan Tumaan Ensemble spontaneously. They are actively creating together till date.

The second participant was Gatot Danar Sulistiyanto, an expert sound engineer who was responsible for the sound installation during the performance of 'Lawing' at the Pestapora Festival-Jakarta on 23rd September, 2023. He was interviewed after the performance. Sulistiyanto is well known in Indonesia for his unique approach to ambisonic sound systems and for making his own monitors and sound systems. His understanding of ambient and experimental music made him an appropriate choice as a participant for the research on the sounds of 'Lawing'.

The third participant was Aldo Ahmed Fithra, an experimental musician based in Jakarta. He was interviewed after the performance of 'Lawing' at the Pestapora Festival-Jakarta on 23rd September, 2023. Fithra did his Masters in Music composition from Indonesian Institute of Arts, Surakarta, which makes him an important and well understood listener for 'Lawing'.

The fourth participant was Avant Garde Dewa Gug, who is currently studying Masters in Music Composition from Indonesia Art Institute of Padang Panjang. Gug is a sound artist himself, experimenting with traditional Minangkabau music and electronica timbres,

[5] Lawing literally means Litigation.

which makes him a relevant listener for the interview.

Data Collection Tools

Observation

For the research on the use of drones in sound art within the context of 'Lawing' by Anugerah, several data collection tools were utilized to gather relevant information and insights. Observation of the live performance, installation, and recordings of 'Lawing' provided a first-hand experience and understanding of how Anugerah integrates drone sounds into an artistic expression. The researcher also took extensive field notes alongside the observation process. The observation of the live performance was carried out at the Pestapora Festival-Jakarta on 23rd September 2023, and at the Yogyakarta Biennale 2023 on 25th November 2023.

Interview

Interviews with Anugerah and Sulistiyanto (as a collaborator involved in the creation and reception of 'Lawing') offered valuable perspectives on the artistic process, cultural influences, and the impact of technology on sound art. Also, interviews with Aldo Ahmed Fithra and Avant Garde Dewa Gug were conducted, thereby questioning the audience perspective.

The first interview was conducted on 23rd September 2023 at the Pestapora Festival-Jakarta. As the interview took place in a very short time after Anugerah's performance, only three questions were delivered:

- What is the artistic approach while performing the installation?
- What are the technological aspects of the performance?
- Is there a concept behind the progressive dynamics of the performance?

A second interview was conducted at the Yogyakarta Biennale 2023 on 25th November 2023. Anugerah presented a sound installation at the exhibition which was inspired by 'Lawing'. In this interview, the following questions were asked.

- What were your earlier influences in Music and how did you shift to sound art?
- What was the intention behind creating Lawing?
- How do you manage to create the artwork without any substantial support?
- What did you learn while working with the Indigenous communities?
- What are the challenges you face while working with the community?
- What are the technological aspects of Lawing?
- How did you create the Drone-based art-work, or did you discover it spontaneously?

The interview with Fithra and Gug were conducted on 23 September 2023, and the following questions were asked

- Do you consider Kledik as a drone instrument?
- What is your interpretation about the drone of 'Lawing'?
- What were you listening within the context of texture, colour, resonance and minimalism in 'Lawing'?

The interview process was delivered after all the participants agreed to be interviewed.

The data collection from the interview should be written as verbatim and were coded with initials (table 1).

Table 1. Participant initials

Participant	Initials	Meaning
Anugrah	P1.M.36	First participant. Male. 36 years old
Sulistiyanto	P2.M.46	Second participant, Male, 46 years old
Fithra	P3.M.31	Third participant, Male, 31 year old
Gug	P4.M.27	Fourth participant, Male, 27 year old

The analysis of existing academic literature, articles, and publications related to sound art, technology and cultural practices in Indonesia, provided a theoretical framework and contextual background for the research. Capturing visual documentation through photographs, videos, or multimedia presentations of sound art installations, performances, and artistic processes complemented the data collection process and provided visual insights into the creative aspects of the artwork.

Thus, a combination of data collection tools were employed to gather diverse and comprehensive data. This data was then used by the researcher to explore the intricate relationship between drones, sound art, technology, culture, and community engagement in Anugerah's artistic practice and the creation of 'Lawing'.

Analysis

Content analysis and triangulation with literature review was used to interpret the results and discussion for this research

Content Analysis: Examining the content of interviews, observations, and literature reviews to extract key information about the aesthetic aspect, community engagement, technological innovations, and the socio-environmental discourse embedded in 'Lawing'. Identifying recurring themes and patterns within the data to uncover underlying meanings and concepts related to the integration of drone sounds, technology, cultural influences, and environmental themes in sound art.

Description of the data from the interview (verbatim) was written and coded (see table 2). Coding in this research involves systematically categorizing and interpreting the collected sound data and interviews with participants and audience to identify patterns and themes within the context of artwork being researched. This process allows for a nuanced analysis of how traditional and technological elements converge to create new auditory experience in sound art in Indonesia.

Table 2. Example of data analysis code for interview

Code no	Verbatim	Code	Initial interpretation
P1.M.36.1	What is the artistic approach while performing the installation?	Artistic approach	
P1.M.36.2	The approach is to enjoy the performance and be playful around it. A lot of it is spontaneous and organic.	Organic Spontaneous	Artistic approach
P1.M.36.3	Initially the dynamics were controlled by a software which was with the deforestation data of Kalimantan. However, currently I prefer doing it spontaneously, so that there is an element of improvisation and connection with the audience in context of dynamics	Sound manipulation using technology Improvised and spontaneous dynamics	Artistic innovation Aesthetic quality

"During Observation, researcher's recognisability of the source material is maintained, even if it subsequently undergoes transformation. The researcher's knowledge of the environmental and psychological context of the soundscape material is invoked and encouraged to complete the network of meanings ascribed to the music; The composer's knowledge of the environmental and psychological context of the soundscape material is allowed to influence the shape of the com-position at every level, and ultimately the composition is inseparable from some or all of those aspects of reality" (Drever, 2002). Keeping in mind the above quotation by Drever, notes from the observations were analysed and coded as follows

Table 3. Example of code for field notes

Code	Observation	Descriptive code	Intitial Interpretation
O.P.1	Resonant and authentic Kledik drone sounds emerged as Nursalim switched on the compressor during his performance.	Resonance Aesthetics Expression	Aesthetic quality
O.P.2	Anugerah changed the reeds on the top of the gourds to manipulate the tone and texture of the drones of kledik.	Creativity in Kledik	Aesthetic quality
O.P.3	The raw and organic texture of sound was audible and resonating in the performance.	Resonance Aesthetics Expression	Aesthetic quality

After analysing each finding from the interview and observation, we made a data categorization as the second step. An example is below (Table 4).

Table 4. Categorization of the data

Initial interpretation	Sub themes / codes	Themes derived
Aesthetics	Air compressor Drone Rhythmic drone Production of drone character	**Aesthetic and expressive quality of drone** Innovation to produce new character of sound like drone
Aesthetic quality	Resonance Aesthetics Expression	**Aesthetic and expressive quality**
Creative thinking	Traditional music Musical engagement	Inspiration Influences
Innovation	Breath and human Human and machine	Relationship between breath, human and machine
Improvised and spontaneous dynamics	Dynamics Organic	Experimental Improvisations and organic performance **Innovation using drone**
Community	Collaboration	Community engagement by Anugerah
Unity and togetherness	Solidarity and challenges faced while making work	Community engagement by Anugerah
Looking for the right collaborator	Unity and togetherness	Community engagement by Anugerah
Conceptual art	Theatre Experimental music	Community engagement by Anugerah
Technology	Ambisonic	Intersectionality of Drone and Technology
Technology and experiential art	Embodied Experience Appropriate choice	Intersectionality of Drone and Technology

The final process of the data analysis was triangulation. Literature related with aesthetic and experiential quality and innovation with drone through Kledik in Kalimantan,Indonesia was triangulated with the themes and subthemes derived from content analysis.

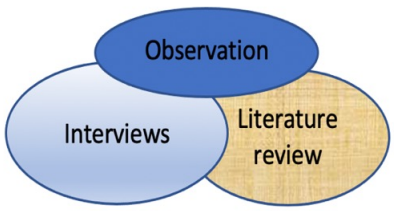


Figure 2. Triangulation data Analysis

Results and Discussion

Anugerah manipulates and dissects the drones of Kledik by elevating them to the forefront and featuring them in a live performance, installation or recording, with the aim of rendering the imperceptible as perceptible and drawing attention to what often goes unnoticed. Through his work 'Lawing' (2020), Anugerah also offers a rich critique by highlighting the conjunction between ecology, technology, and decolonization; and a path amidst the impasse between theoretical academic discourse and the urgency of Kalimantan's environmental catastrophe. The imbalanced and consumerist behaviour of modern society can lead to a big disaster. "At its

best, 'sound art' opens up or calls attention to an auditory unconscious, a transcendental or virtual domain of sound that has steadily come to prominence over the course of the twentieth century" (Cox, 2009: 19). Through sound art, the artists can aesthetically express their disagreements and enter a creative space to process their emotions, creating a balance in their personal lives.

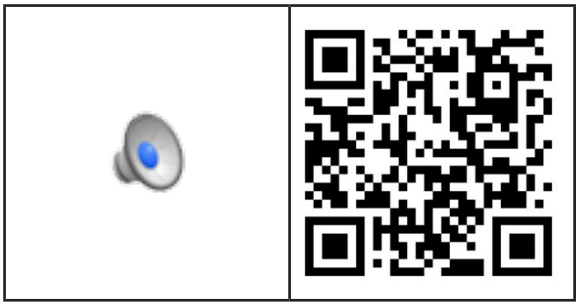
Aesthetic and Experiential Quality of Drone in 'Lawing'

Photo 1. Setting up the framework of Lawing (documentation by author[1])

Photo 1 is a situation on the stage, where the Klediks are installed on the stands, before the performance of Lawing (2023). "Kledik is an ethnic instrument from west Kalimantan. It is an inflatable device whose sound source is the tongue vibrate (Reed)" (Ghozali, 2018: 42). There is an air compressor attached to the Klediks, replacing the human breath with machine generated air-flow. Anugerah switches on the compressor to produce the drone sounds from the installation. The performance starts with the continuous sounds of the drone from the Klediks. The resonance and reverberations of 'Lawing' are enhanced by the inventive drone production by the Klediks. The innovation in the artistic approach towards the production of drones by Kledik can be observed: "Anugerah changes the reeds on the top of the gourds to manipulate the tone and texture of the drones of kledik" (O.P.2). In the personal communication with Fithra , he says that, "Kledik as a traditional instrument clearly produces a rhythmic drone. Circular breathing and a repetitive melody around the pentatonic scale makes the music as the phenomena of drone. The presence of drone or the presence of tonic in the melody of kledik sounds like a rhythmic drone. The presence of a swing in the melody creates a feeling of rhythmic drone in the traditional music of Kledik. However, Anugerah has used a machine to simplify the rhythmic drone into a continuous drone" (P3.M.31.7). However Gug had a different opinion about the phenomena of drone in traditional Kledik. He says, "I think the traditional Kledik does not sound like a drone. Although, it is subjective to the listener's understanding of drone. But creatively Kledik can be used to create drone as an accompaniment to other Kledik's, while played in ensembles traditionally" (P4.M.27.20).

Video 1. 'Lawing'- Sound art by Nursalim Yadi Anugerah (web 3)

In the performance, the echoes of the drone created an aesthetically transcendental atmosphere. The drone was continuous and ambient, with a single note hovering through the ambisonic[6] sound system. According to Bresler (2006: 25), fostering empathetic understanding—which "involves resonance, an embodied state of mind that is cognitive, and at the same time, affective and corporeal"—is one of the main goals of qualitative research. According to Bresler (2006) "fostering empathetic understanding—which "involves resonance, an embodied state of mind that is cognitive, and at the same time, affective and corporeal"—is one of the main goals of qualitative research. Bresler urges the development of "embodied narratives" that go beyond spoken and visual languages and take into account "the role that musical ways of knowing can play in the generation and understanding of narrative", in order to create this resonance" (Bolden, 2017). The continuous drone, therefore, serves as a sonic resolution, providing the necessary rest and allowing the listener to experience a state of tranquillity and balance. This sound art piece not only invites contemplation but also compares the phenomena of tonic with the biological and psychological need for resolution, showcasing the profound impact of sound on the human condition. "All melodic (for that matter, any musical) movement engenders a state of unrest or excitement which finally has to be resolved into rest or tonus; for otherwise the organism would remain in a biologically unendurable state of tension" (Subba Rao, & Raghavan,1956: 89). Anugerah has used a progressive and dynamic approach towards the use of drone in 'Lawing'. "As a musical genre that has blossomed alongside the development of the 'post- secular' religious sensibility, drone music invariably attracts mystically-loaded hyperboles such as 'transcendent', 'ecstatic' and even 'tantric'" (Legard et al., 2017: 1). The stillness in the drone of Kledik points towards the minimalistic aspect of 'Lawing', emphasizing simplicity and purity in sound. This minimalism strips away the complexities and distractions, allowing the core essence of the sound to resonate deeply with the listener. By focusing on the fundamental elements of the drone, Anugerah creates a soundscape that is both profound and serene. "Stillness is the lack of perception rather than a lack of movement" (Gershon, 2013: 258). During the personal communication with Gug, he says, "The sound of 'lawing' is soft and minimal"(P4.M.27.36).



Sound 1. Continuous drone of 'Lawing' (Recorded by Author1)

[6] Ambisonic is a method of encoding a sound field, taking into account its directional properties. In traditional multichannel audio (e.g., stereo, 5.1 and 7.1 surround), each channel has the signal corresponding to a given loudspeaker. Instead, in ambisonic each channel has information about certain physical properties of the acoustic field, such as the pressure or the acoustic velocity. (Arteaga & Laboratories, 2023) .

'Lawing' holds pure acoustic sounds from an ethnic musical instrument from Kalimantan. The acoustic drone brings a raw and authentic texture to the sound and performance. Listening to the Sound 1, we can observe that the performance is the purely reverberating with acoustic klediks, often accompanied by the sounds of smoke machines on the stage. During the personal communication with Fithra he says, "There is a play of texture while performing 'Lawing'. The different kinds of Kledik when played in harmony, creates a very unique texture in the drone" (P3.M.31,13). The texture and density of the drone transforms as Anugerah changes the reeds of the Kledik. "At some point, he changed the reed of one of the longest Keldiks and a bass drone appeared, creating a therapeutic harmonic effect" (O.P.8). Gug says during the personal communication, "Of course there is harmony, because he uses different klediks with different tonic notes. Even though it's a dissonant or harmonious" (P4.M.27.30). Tonic is the base pitch, which an artist chooses in order to construct the melodies during a raag rendition or a musical performance, and all accompanying instruments are tuned using the tonic pitch (Gulati et al., 2014: 1).

Sound 2. Harmonies in 'Lawing' (Recorded by Author 1)

In the Sound 2, Anugerah has used texture, tone and harmony in 'Lawing' to create a unique harmonic and contemplative expression. The complete harmony elevates the listening experience, which is dynamic and collective in nature. It can be said that creating drone music requires a certain amount of creativity, as we need to manipulate only one note to create progressions. Later, Anugerah can be observed controlling the pressure of air through the knobs of the compressor, controlling the dynamics of the Klediks. Fithra says, "I can hear a whole spectrum of Kledik's when played together. There is an organic wavering frequency when the Kledik's are played together" (P3.M.31.17). Purves describes a similar feeling in his study of drone music by Keiji Haino. "There are interludes of relative harmony which alternate with periods of dissonance, where interference patterns emerge; both of these kinds of passage-work precipitate effects of rhythmic pulsation, shifting between a deep, swaying throb and accelerating, pitched-up palpitations" (Purves, 2020). As the performance builds up, he automates the pressure of the air into a rhythmic constant. The sound evolves into a pulsating rhythmic drone. "He was changing the reeds in different Klediks resulting in different harmonic effects accompanying the rhythmic drone" (O.P.10). (Purves, 2020: 1) says that "Minimalism as a musical phenomenon has been marked by the interaction of the drone with permutational rhythm".

In the Interview (P1.M.36.21), Anugerah explains that "the act of blowing and suctioning in the instrument can create a rhythmic effect". Purves (2020) asserts that within the domain of music, minimalism is characterized by the interplay between sustained drone elements and rhythmic permutations. He uses the air compressor in a similar minimalistic way in the

performance, creating the phenomenon of a rhythmic drone. "But sometimes, Anugerah changes the reeds slowly, and the notes between the notes can be heard" (O.P.11). Listeners have perceived the same effect within the microtonal changes in Indian classical music as well. "La Monte Young texturized his composition like alaap[7] and opened up the layers one after another with harmonic arrangements, he bound all the sequences and synchronicities in regard to Indian classical music" (Clinica & Orrore, 1980: 2). Alaap is the opening section of a typical North Indian classical performance. It is a form of melodic improvisation that introduces and develops a raga or melodic scale chosen for the performance. The feeling of alaap and the dynamics used by La Monte Young in his music can be heard in Anugerah's artwork. Notes between the notes create an aesthetic tone and harmony in the performance, displaying a unique approach to drone-based sound art.

"As the performance progresses, the melodic Kledik tone transforms into noise and creates a chaotic and uncomfortable environment" (O.P.12). There are interludes of relative harmony which alternate with periods of dissonance or noise. (Cox, 2009) says, "Noise is the constant sonic flow, the background din of life." Noise fills the auditory field in the same way as objects do the visual field. This includes radio static, road noise, the hum of fluorescent lights, and the rustle of leaves or fabric. Any signal that rises above this backdrop draws our attention briefly away from the background noise and towards the signal itself". The uncomfortable sound takes the listener to a space where the melodic tone of kledik's transforms into a chaotic auditory experience. Fithra says, "May be the reed of the Kledik is vibrating faster when the pressure of air compressor is increased by Anugerah, creating a noise in the drone" (P3.M.31.16). It reminds us that behind the sweet tones of Kledik, forests are suffering and the local Dayak people disturbed by the very real experience of environmental chaos in Kalimantan.

After a while, the noise brings the listeners to a space of transcendence, and the listeners can feel more connected to their breath and body. "Listeners are able to experience something deeper with the dynamics evolving from harmony to noise" (O.P.13). Fithra says, "The use of an acoustic ethnic instrument to create noise is something I have never experienced before" (P3.M.31.21). Gug also mentions during the interview, "I have not heard of any other Indonesian sound artist using an ethnic acoustic instrument for creating textures like noise" (P4.M.27.25). The chaos of noise from the Kledik transforms into a meditative space. Aesthetically, noise becomes the new resonance of the performance. "Noise creates a separation between ourselves and our environment, as well as between ourselves and our thoughts" (Westerkamp, 1988: 124). Increased air-flow through the air compressor, creates the effect of noise in the sound of 'Lawing'. "This materialist model of sound allows humans to feel their bodies vibrate empathetically (embodiment); locate themselves in space via reverberation (spatial orientation in an environment); and capture and distribute sound via technological mediation (produce and circulate music and culture" (Hawk, 2018: 315). "He carefully plays with the dynamics of the monotonal Klediks and brings down the pressure of air, slowly bringing back the original tone of Klediks, before he ends the performance by switching off the compressor" (O.P.15). Subba Rao and Raghavan (1956) offer that "any form of melodic, and indeed any musical, progression induces a state of agitation or stimulation that ultimately necessitates resolution into a state of rest or tonality. Failure to achieve this resolution would result in a biologically unsustainable state of tension within the sound."

For music psychologists and musicologists,

[7] The Alaap is the opening section of a typical North Indian classical performance. It is a form of melodic improvisation that introduces and develops a raga or melodic scale chosen for the performance.

> AI offers a framework within which models of human musical cognition and behaviour can be built and tested in a simulated social setting, allowing the exploration of how melody, harmony, and rhythm may emerge through interactions between listening and performing individuals, and of how musical cultures can be built up through repeated such interactions over extended periods of time (Williamon et al., 2006).

The use of ambisonic sound systems makes 'Lawing' an immersive and therapeutic experience for the listeners of drone-based sound art. "Ambisonic is a complete theory, covering encoding, recording, postproduction, transmission and reproduction, based on physical principles of the acoustic field." (Arteaga & Laboratories, 2023: 5). Ambisonic sound system is a new technology aimed at creating an immersive sound experience. Ambisonic creates a 360 degree sound image compared to Dolby sound systems, which create a 3D image of the sound. "Ambisonics has 4 fixed channels, in contrast to object-based approaches, where every audio object is characterized by a mono track and a set of metadata indicating the location and other properties" (Arteaga & Laboratories, 2023: 5). During the observation of the performance of 'Lawing', the performance arena was reverberating with the drones of Kledik. Four speakers on the left and four on the right created an ambient spatial sound experience. Gatot Danar Sulistiyanto is an expert sound engineer who was responsible for the sound installation during the performance. He is well known in Indonesia for his unique approach to ambisonic sound systems and for building his own monitors and sound systems.

During the personal communication (2023) with Sulistiyanto, he noted that "The experience is unique to each listener depending upon their perspective" (P2.M.46.2). Ambisonic sound is enjoyed by those who are looking for an embodied experience of the drone. Frontal sound systems are enjoyed by listeners looking for a musical experience, and the focus is on the musical part of the performance. However, for sound art installations like 'Lawing', ambisonic sound system is a more appropriate choice. The complete spherical sound experience enables the listener to pay attention to the drone and have a sound immersive experience. A sound engineer is an active part of the performance in sound art. During the observation of the setup for the ambisonic sound system, Sulistiyanto could be seen in his creative space, listening deeply to the sounds of the ambisonic system he had designed for the performance.

"The original performance was automated through software connected to the compressor, controlling the pressure of the air during the performance" (P1.M.36.3). Currently, Anugerah prefers to control the pressure of the Kledik manually, so as to make the performance more organic and improvised. The aesthetic and experiential quality of 'Lawing' bring the listeners to a deep state of relaxation and transcendence during the performance. "The intention to create this music is purely joy and exploring the spontaneous feelings during the performance" (P1.M.36.2). "At its best, sound art opens up or calls attention to an auditory unconscious, a transcendental or virtual domain of sound that has steadily come to prominence over the course of the twentieth century" (Cox, 2009: 19).

Innovation with Drone Through 'Lawing' in Kalimantan, Indonesia

In the personal communication 1 (2023) with Anugerah, he explains how 'Lawing' was conceptualized. The concept of 'Lawing' had appeared from a project called Hnnung (2017) with Bulan Tamaan Ensemble. Hnnung was based on the connection of humans and breathing at a personal level.

"Playing Kledik was a personal experience, as it connects us with our breathing through the instrument and body" (P1.M.36.19).

The ensemble were listening and breathing together. During this process of playing the Kledik, they figured out that one of the shortcomings of the instrument is that it cannot sound precise, with a consistent tone, for more than thirty minutes. "The reed of Kledik is made of wood, and the material for the resonator is made of gourd, and since the breath has humidity, Kledik can't be played continuously for more than 30 minutes" (P1.M.36.22). So they needed to stop playing after a thirty or forty-five minute duration, for the tone to return to normal until the instrument was warm again. When Anugerah was exploring the instrument by himself, he could allow the rest time for the instrument as it came back to its normal tone. But when there were four people playing together, it was a complicated task to wait for thirty minutes after playing the instrument for thirty minutes. Their practice hours would finish in the time they had to wait for the Kledik to be warm again. Thus, Anugerah says: "So we started thinking, there must be another way to deal with this limitation. That's how the idea of an air compressor appeared" (P1.M.36.24).

According to personal communication with Anugerah in the first interview, usually the way a Kledik player blows creates different kinds of tone. On the other hand, the air through a compressor is constant and can be controlled through the pressure. "They started getting different results through their exploration with the air compressor" (P1.M.36.24). In Video 1, we can see how this phenomenon sounds, when they are performing together.

According to Niblock's approach to music composition "Rhythmic structure is avoided, while careful attention is given to frequency relation of the sounds that are present at a certain time. The tones, usually combined in four to sixteen layers, are slightly out of tune, thus creating beating patterns of different and/or changing speed." (Straebel, 2008: 227). Balaan Tumaan[8] observed, the beat frequency between the bipa (the pumpkin resonator of the Kledik) and the reed before connecting the two became a significant aspect of this exploration, and something new they discovered in the process. Earlier, the exploration had been a personal one, between the player and the instrument, but now the exploration was between an instrument and a machine which made them observers or listeners. They therefore had a new position in the phenomenon of music through 'Lawing'.

"The playing technique of Kledik is like a harmonica, so it makes a sound when the player blows the instrument or sucks the air inside" (P1.M.36.21). In 'Lawing' they used the phenomenon of blowing and sucking the air to create a rhythmic effect, or either one of these to create a continuous drone like sound. The use of the drone in 'Lawing' created a creative experience for both the performer and listeners. "David Perkins (1981) concurs: The kind of creating we are talking about is the kind of creating that leads to creative results. Creative people are people who often produce creative results. The idea of a creative outcome or product is the conceptual center; all the other words in the family get their meanings from it (p. 245) (Elliott, 1989)".

Muka et al., (2015) says, "The vast territory of Kalimantan stretches from west to east and from south to north, which is inhabited by various sub-ethnic groups of the Dayak tribe, and has its own diversity and unique culture, making Kalimantan a cultural realm with a richness in their traditional music". "The Dayak tribe has the concept of unity, balance and wisdom in managing nature as their place for living, so that their life order unites with nature. Their main livelihood has been farming, gardening and taking forests product. Dayak people's behaviour can be interconnected with their respect for and preservation for their nature" (Ghozali, 2018).

Suryani et al. (2019) state that "humans are active determining agents to change

[8] Balaan Tumaan Ensemble is a community lead by Anugerah and his friends in Pontianak.

and develop their natural environment. Their attitude towards the environment is important in their culture. The quality of the environment, education to care for it is significantly determined by human behaviour. Human consciousness at the individual as well as society level is very important for sustainability". Chrisan Alya et al. (2021) say that, "In general, music in Kalimantan is intended as an accompaniment to rituals, both in guest ceremony and in the recitation for the mantras in healing". "Drones, after all, have routinely been identified with ritual, acts of worship, trance-states, the use of hallucinogenic drugs, the stirring of martial or nationalist sentiments, and austere avantgarde aesthetics" (Purves, 2020: 3).

Picture 3. Picture of the Kledik (*Kledik*, n.d.)

"Kledik is one musical instrument that still has the value of local wisdom and maintained traditionally in West Kalimantan. Because of various things, Kledik has value, function, and meaning for indigenous people, it has begun to be very difficult to find, both the musical activity and musical instrument" (Ghozali, 2018: 41). In the Nanga Pinoh region, this instrument is referred as 'kadede' while in the Huli Mahakam/Kapuas, it is called Keroni Burong. Kledik is a traditional mouth organ composed of six bamboo pipes, each equipped with a reed (vibrating tongue) made from uthyang stems, which are cured in the sun for building this instrument. These pipes are combined and the resonator is constructed from white pumpkin. Menzies (2007) states that it has been reflected in the production of music through the ages, though the spatial acoustics of auditoria and the way sound is projected from musical sources. Beyond its cultural significance, Kledik serves a functional purpose by producing tones. The musical notes in the Kledik fall in the pentatonic category.

Sound 3. Traditional Kalimantan music by Abang Bunau (Aural archipelago, 2017)

"Different forms of Kledik are found in various regions of South East Asia and East Asia. kledik is a longitudinal bamboo with gourds at the bottom and top of the instrument. The smaller kledik features a gourd at the bottom, while the longer kledik incorporates an additional element: a slender, hollow bamboo stick connected to a gourd positioned at the top of this junction. The bamboo stick is equipped with extra holes" (Ghozali, 2018: 43).

Trisnawati (2018) states that art reflects

the socio-cultural life of its supporting communities. Dayak people[9] have been using the Kledik for entertainment in rural society, especially at happy times such as harvest. It is also used in ritual or customary ceremonies held for certain specific purposes. "They used kledik as a communication between residents through the language of speech, which was delivered intermittently between poetry or advice through playing kledik (Asmara, 2013: 9)" (Ghozali, 2018: 43). Clearly, the Kledik is deeply connected to the socio-cultural aspects of the Dayak people's life in West Kalimantan. Drones, like the Kledik, often seek to capture the essence of nature and create sonic landscapes that reflect the organic rhythms, textures and atmospheres found in the natural world. "The structure of drone not only shows the minimalist aspect but also shows a disciplined, formative perspective of life as well as nature" (Clinica & Orrore, 1980: 3).

"Tradition can be translated by inheritance or forwarding of norms, customs, rules, and treasures. However, this tradition is not something that cannot be changed: tradition is instead combined with various kinds of human actions and raised as a whole. It is the man who makes something with that tradition: he accepts it, rejects it, or changes it" (Parmadil et al., 2023: 43). Anugerah has chosen Kledik as the instrument for innovation in 'Lawing'. 'Lawing' is an example of the paradox of the concrete and the abstract. Anugerah used the empirical data of deforestation maps in Kalimantan in this performance, through a software manipulating the dynamics in conjunction with the data (web 4). "Lawing is based on, or inspired by, the events caused by deforestation in Kalimantan. It weaves memories and experiences that grow around the events and issues caused by deforestation in Kalimantan. Memories come from empirical data and the data from deforestation maps, which the composer collected between 2006 and 2013" (*Lawing - Nursalim Yadi (Web 3)*. The data was then translated into a musical composition and installation piece which included the modified Kledik. Gershon (2013) says that the sonic can serve as a strong means for considering how people live their lives and, as such, is significant for qualitative research—vibrations that resonate in our bodies, feelings, ideas, ideals, and processes. Anugerah's interpretation of the drone sounds of the Kledik echoes the philosophy of Dayak people in an innovative and unique way.

> To hear the work is to enter it as a world produced from the actuality of its ideas extending into the possibilities of its materialities the sound artwork is a sonic possible world that has a concrete semantic materiality which we inhabit in listening and that we thus build presently from the time and space of our perception, and that we extend in negotiations to build the actualities of the real world (Gilmurray, 2016).

Anugerah has dedicated his work to preserving the cultural and social environment of Kalimantan. He often organizes residencies and workshops in the rural area, documenting Kalimantan's rich culture. Fithra says, "The use of an acoustic ethnic instrument to create noise is something I have never experienced before" (P3.M.31.21). Gug also mentions during the interview, "I have not heard of any other Indonesian sound artist using an ethnic acoustic instrument for creating textures like noise" (P4.M.27.25). Anugerah mentions that he learnt about reed making for Kledik in one of these workshops. He shows the reeds to the Author[1], carefully pasted in a notebook (P1.M.36.19). Currently, he is researching in the rural areas of Kalimantan, and it will take him approximately eighteen hours to reach his next destination. Recently, he organized a residency in one of these areas where he documented the local artists after a series of workshops. During the Covid pandemic, he was visiting the local communities, preparing

[9] Dayak People: The non-Muslim Indigenous people of the islands of Borneo, most of whom traditionally lived along the banks of large rivers

for the Holland Theatre festival, and kept his connection with the local communities alive through the process of creativity. He has been active in the local communities since 2012.

> "Making music is a communal endeavour. Music can scarcely be considered to exist without someone to compose it, perform it, and listen to it. Building artificial systems that can assist humans in creating music, or even better, that can try to produce music on their own, should aim to incorporate the social component" (Williamon et al., 2006).

Anugerah mentions during the personal communication (2023), that in a way, he has to play several overlapping roles wherein he has to organize, create and perform, but that is a condition he has to contend with. "We are trained to be like that, but the important point is how they distribute that knowledge and the abilities to deal with the problem to everyone in the environment" (P1.M.36.5). Anugerah enjoys the process of meeting people in the community and creating greater solidarity together. Once they connect, he knows that these are his people, and he wants to build something with them. It is very important to him to collaborate without hierarchy, not only with the artists but also universities or the government. Although he understands that the government does not have the resources or energy to think about the problems, their community must deal with the problem in their own way. "Especially the problems we face while working with the community in Kalimantan. Most of the process in the community is organic and spontaneous" (P1.M.36.9). The work is produced intuitively, with friends coming together to enjoy a process without prior planning. Still, he does have a tendency to extract something productive from these meetings. The most important thing is that he really enjoys the process of meeting local communities, and the intention is not just to extract information but to observe their ways of life and culture: how they eat, how they take baths and swim, how they cook, how they sleep and wake up, for example. As Anugerah says, "I am understanding these experiences by observing, more than the regular ways of research in the research community. It is more of a learning experience about my roots in Kalimantan, and that's why I do this" (P1.M.36.12). "The fieldworker must spend at least a year in the field, use the local vernacular, live apart from his own kind, and above all make the psychological transference whereby 'they' becomes 'we.'" (Lam et al., 1999: 108). Anugerah has integrated well with the indigenous communities, and ethically produced his artwork with the community of Balaan Tumaan Ensemble to bring the world's attention to the socio-ecological issues of Kalimantan.

Conclusion

'Lawing' is an extraordinary piece of work, representing drone, resonance and noise with a distinctive aesthetic approach. The tonality and innovation with drone makes 'Lawing' a unique work to study in sound studies. Sound art is an inclusive and interdisciplinary approach for creating such work.

As of yet, sound art is still not enjoyed by the middle class. However, it has been addressing socio-political and ecological issues for a significant period of time. Anugerah has successfully accomplished the focus of 'Lawing', that is, to point towards the deforestation trends in Kalimantan.

Kledik is an ethnic instrument, and it is beautiful to observe the ways in which it symbolizes the act of nature in 'Lawing'. According to ethnic cultures, land is suitable for farming for some time, and it needs to rest before the next plantation. Similarly, Kledik can also be played for some time, and the instrument needs rest to warm up again. The instrument is definitely limited, but it is synchronized with the concept of nature in certain ways. However, The use of

technology in this artwork or sound art does contradict this concept of nature, and the Kledik, in some ways. The use of technology, however, is inevitable and has become a trend in contemporary sound art. The use of air compressors in 'Lawing' symbolizes how technology has affected our existence. An artist's environment shapes his work, and we cannot ignore the fact that we are living in the modern era where the use of technology in any artwork is very obvious.

However, Anugerah's work with the local communities in archiving the ethnic music of Kalimantan is an act of preservation and unlearning the influences of the modern era. It can be said that he is using his full potential to do whatever he can and to be righteous with the local ethnic communities and human experiences in Kalimantan through his artwork. The new understanding of art through sound art in Indonesia is intuitive and contemporary. Further, Anugerah's use of an air compressor to bring the element of air in his performance demonstrates the highly innovative nature of his approach, as well as of Indonesian sound art. Through his work, he is transforming the traditional rhythmic drone into a continuous drone. Anugerah's interpretation of the Kledik represents the new era of Indonesian contemporary sound. He has created a unique sound with Kledik, which has led to a new sound of the drone itself.

Anugerah has been involved with the Dayak communities in his own unique way. His experience of the modern world and inquiry into indigenous traditions have led to the creation of 'Lawing'. The presence in his music of the drone of the Kledik points towards the existence of an environmental crisis in Kalimantan. 'Lawing' creates awareness about the Dayak communities and the problems they face. The drone sounds of 'Lawing' take the listener on a journey of transcendence and stillness. However, every listener will have their own perspective and subjective experience, as the dynamic of Lawing contains a range of textures, colours, and resonance. The minimal and dynamic aspects in 'Lawing' bring about a new innovation in the use of drones in sound art in Indonesia.

'Lawing' reminds us that behind the sweet tones of Kledik, forests are suffering and the local Dayak people disturbed by the very real experience of environmental chaos in Kalimantan. The integration of traditional instruments like the Kledik into contemporary sound art helps preserve the cultural heritage of the Kalimantan ethnic communities. It ensures that traditional sounds and techniques are not lost to time. This combination allows for innovative artistic expressions that keep traditional music relevant in modern contexts. It bridges the gap between ancient cultural practices and contemporary artistic trends, creating a new form of cultural expression. The use of air compressors to create sound effects symbolizes technological impact on nature. The combination reflects a deep philosophical engagement with life, emphasizing the interconnectedness of all things. It embodies the concept that everything, including technology and nature, is part of a larger, interconnected system. By demonstrating the potential of combining tradition with innovation, these works inspire future generations of artists and musicians to explore new creative possibilities.

Recommendation for Further Studies

For further study on the use of drones in sound art within the context of 'Lawing' by Nursalim Yadi Anugerah and related topics in the field of sound art and technology in Indonesia, the following recommendations can be considered:

Impact of Technology on Sound Art; Explore the evolving role of technology in sound art practices, including the use of drones, digital tools, and interactive technologies, and how these advancements influence artistic expression and audience engagement. The impact of ambisonics on the listening experience of drone can be further explored

Community Engagement in Sound Art; Study the collaborative processes between sound artists, local communities, and environmental activists to create sound art pieces that raise awareness about social and environmental issues in the global scenario. Further interviews and interactions with Balaan Tumaan Ensemble can be done to understand the social engagement by their community.

Comparative Analysis with Global Sound Art Practices; Compare the approaches and techniques used by Indonesian sound artists with those from other nationalities to understand the unique characteristics and contributions of Indonesian sound art to the global artistic landscape. Sound art by artists like John Cage and La Monte Young can be observed to find the similarities and differences in their approaches and artistic practices.

Sustainability and Sound Art; Investigate how Anugerah and other Indonesian sound artists address sustainability concerns in their artistic practices, including the use of eco-friendly materials, engagement with environmental themes, and promotion of cultural heritage conservation.

Audience Reception and Experience; Explore the impact of drone sounds and immersive soundscapes on audience perception, emotional engagement, and sensory experiences in the context of sound art installations and performances. Listening sessions and interviews with the listeners can provide deeper insights into the experiential qualities of 'Lawing'.

By delving into these areas of study, researchers can contribute to a deeper understanding of the multifaceted nature of 'Lawing'. There can be further research on the intersection of technology and culture in artistic expression, and the potential of drone-based sound art to engage with pressing social and environmental issues in innovative ways.

Recommendation for the Applicants

This article is useful for sound artists, researchers exploring sound, and listeners with a background in drone music. Researchers can enhance the transparency and validity of their study findings, consider alternative methodologies to address potential constraints, and provide a more nuanced interpretation of the complexities and challenges inherent in studying sound art practices in Indonesia.

Limitations of the Study

The limitations of the study on the use of drones in sound art within the context of 'Lawing' by Nursalim Yadi Anugerah and related topics in the field of sound art and technology in Indonesia may include:

Scope Limitation: The study may focus on multiple artists or artworks, potentially expanding the generalizability of the findings to the broader sound art community in Indonesia.

Resource Constraints: Limited access to funding, equipment, or technical expertise may restrict the depth and breadth of the research, impacting the quality of data collection and analysis. There can be an ethnographic inquiry into Dayak communities and their relationship with the Balaan Tumaan Ensemble to derive more introspections into the case of 'Lawing'.

Cultural Context: Challenges in fully capturing the cultural nuances and significance of drone sounds in 'Lawing', especially in relation to traditional practices and beliefs, due to potential language barriers or cultural differences.

Subjectivity: The interpretation of data, interviews, and observations may be influenced by the researcher's subjective perspectives, potentially introducing bias into the analysis of the aesthetic and experiential quality of the data. There can be interviews with listeners or audience post Anugerah's performance.

Ethical Considerations: Ethical dilemmas related to the representation of indigenous knowledge, community engagement, and the use of technology in sound art practices may pose challenges in maintaining ethical standards throughout the research process. Interviews with the local Dayak communities and their perspective on 'Lawing' can be conducted to understand the ethical considerations by Anugerah and in his artwork.

Interdisciplinary Collaboration: Limited collaboration with experts from diverse fields such as musicology, technology, environmental studies, and cultural anthropology may constrain the holistic understanding of the intersection between sound art, technology, and culture in Indonesia. Further themes and sub themes can be explored to understand the interdisciplinary nature of 'Lawing'. In some exhibitions, like at the Yogjakarta Biennale (2023), Anugerah has used the sound of 'Lawing' in very different ways, presenting a more visually aesthetic concept with the sounds of Kledik through sound systems.

Data Availability: Constraints in accessing relevant literature, archival materials, or sound recordings related to Indonesian sound art practices may limit the depth of historical analysis and contextual understanding. There is very limited academic literature on drone-based sound art in Indonesia, which limits the citations in the context of the research topic.

By acknowledging these limitations, the researchers can enhance the transparency and validity of their study findings, consider alternative methodologies to address potential constraints, and provide a more nuanced interpretation of the complexities and challenges inherent in studying sound art practices in Indonesia.

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