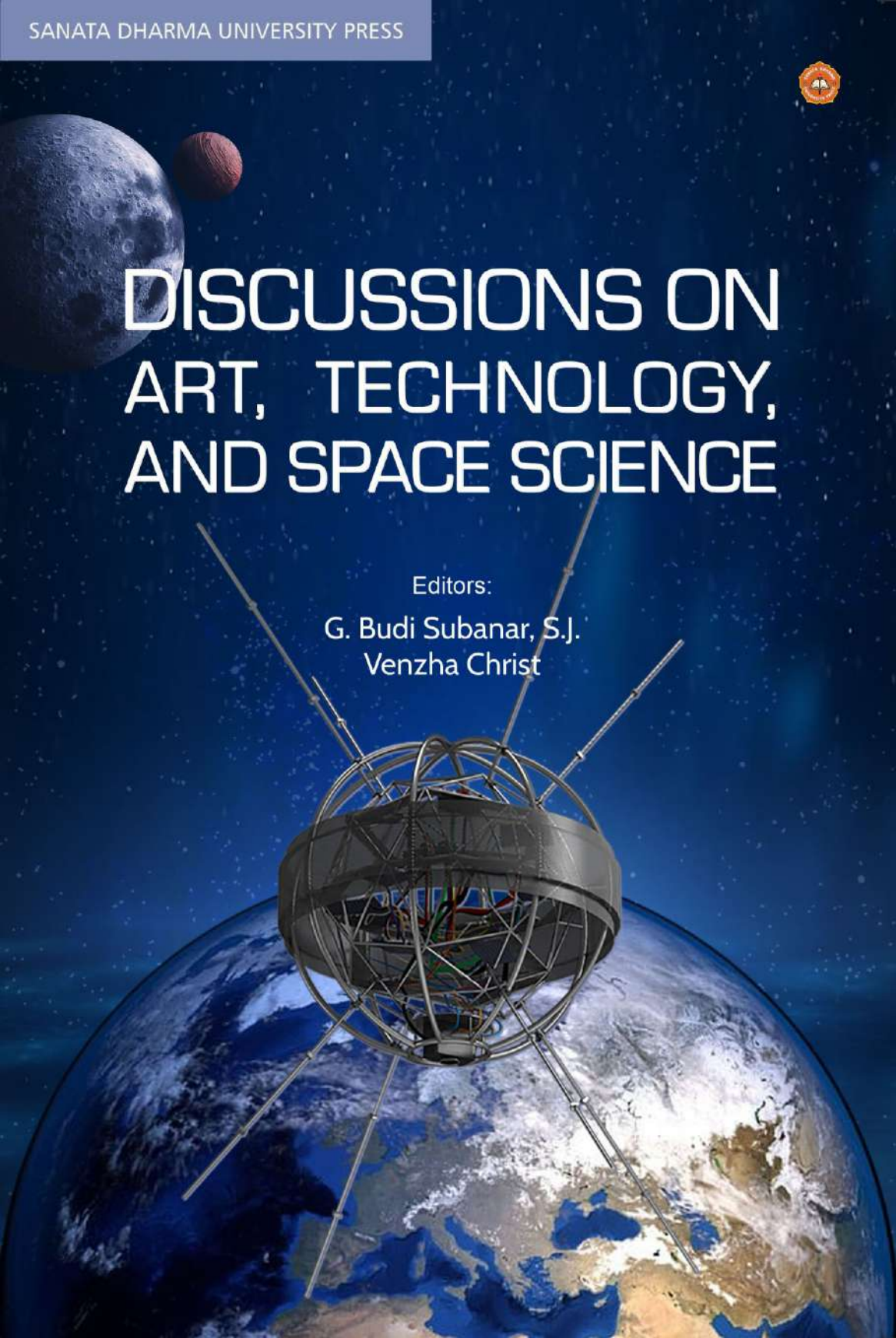




# DISCUSSIONS ON ART, TECHNOLOGY, AND SPACE SCIENCE

Editors:

G. Budi Subanar, S.J.  
Venzha Christ



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## Foreword

This volume presents a curated selection of papers and reflections derived from the INTERNATIONAL S.E.T.I. CONFERENCE 2024 – International Conference on Art, Technology, and Space Science. The conference convened a multidisciplinary assembly of scholars, researchers, and practitioners from across Indonesia and internationally, including representatives from the United States, the Netherlands, Japan, and Singapore.

Participants brought with them a broad spectrum of academic and professional backgrounds - spanning the natural sciences, technological innovation, communication studies, visual and performing arts, cultural studies, and philosophy. This diversity underscores the interdisciplinary ethos of the conference and affirms the necessity of cross-disciplinary dialogue in addressing complex contemporary questions.

In addition to academics and researchers, the conference also welcomed artists and independent scholars, including contributors from the United States, Japan, the Netherlands, Singapore, Mexico, and Germany. Their presence enriched the discourse and expanded the scope of inquiry beyond conventional academic boundaries.

While the overarching framework of the conference was organized around the intersection of art (space), science, and technology, the breadth of contributions reveals a dynamic interplay of perspectives and methodologies. This interdisciplinary structure enabled a robust engagement with the central theme of Search for Extra-Terrestrial Intelligence (SETI), viewed not merely as a scientific pursuit, but also as a cultural and philosophical inquiry.

The proceedings documented in this volume reflect the intellectual vitality and discursive plurality that emerged from this international forum. The event was held through the collaborative efforts of the Doctoral Program in Cultural Studies (Art and Society) at Sanata Dharma University, Yogyakarta, and the Indonesian Space Science Society (ISSS), as part of the Indonesia UFO Festival (IUF) 2024.

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## Table of Contents

Foreword .....	iii
Table of Contents .....	v
Air Pollution Observation and the Development of Mars UAS and UGV: Toward Sustainable Planetary Exploration .....	1
Wataru Okamoto & Tatsuki Horii	
Visual Language: Visual Transformation of Ancient Manuscripts <i>Serat Menak</i> Into Batik Motifs .....	8
Ariesa Pandanwangi, Ratnadewi, Arleti Mochtar Apin, Belinda Sukapura Dewi	
A Phenomenological Review of Cosmic Consciousness in the Context of Experiences of Interaction with Extraterrestrial Entities .....	23
Nur Agustinus	
Inspiring Future Explorers: SCOBY Kombucha as a Sustainable Space Food Through Educational Workshops	
Dina Lestari, Venzha Christ, Dominicus Judiarta Kuspargianta	
Repositioning <i>Serat Menak</i> in Multi-layered Local Wisdom in Indonesia .....	44
Erika Ernawan, Ariesa Pandanwangi, Wawan Suryana	
Javanese Cosmology and Its Relevance to Space Exploration .....	56
Rendra Agusta	
Acculturation and Visual Narrative of <i>Serat Menak Jayengrana</i> .....	60
Wawan Suryana, Erika Ernawan, Belinda Sukapura	

Indonesian Local Cosmology as Depicted in Batara Kala Batik ....	66
Arleti Mochtar Apin, Erika Ernawan, Ratnadewi, Wawan Suryana	
Information Technology in Enhancing SETI Research .....	79
Michael Yudanta Kuswandi	
Understanding Space Weather: Implications for Earth and Beyond	88
Gunawan Admiranto	
The Limits of Human Biology in Space Exploration: Challenges and Transformations .....	95
Gunalan Nadarajan	
Fine Art Expression of Srabat Tradition in Contemporary Artworks	99
Dieni Nuraini dan Ariesa Pandanwangi	
Exposing Endangered Pucung Tree Through Graphic Novel .....	108
Martinus Dwi Marianto	
Experiential Learning in Space Food Packaging: A Collaboration Between ISSS and Product Design Students .....	126
Dina Lestari, Chris Salim, Aloysius Baskoro Junianto	
Digitization Transformation of Ancient Manuscript of Serat Menak with Turtle Graphics Algorithm .....	137
Ratnadewi, Ariesa Pandanwangi, Arleti Mochtar Apin	
“Stars in the Night” Noise in Document Images: its Noise Reduction Algorithm and its Benefits in AR Technology .....	151
Anastasia Rita Widiarti	
SCOBY: A Sustainable Biomaterial for Space Exploration and Planetary Colonization .....	160
Chris Salim	
Beyond the Veil: Correlating Alien Phenomena in Islamic Narratives <i>Badaiuz Zuhur</i> .....	165
Etika Filashofia, Muhammad Jalaluddin Usman	
Cyborg Futures in Space Exploration: Human-Machine Symbiosis Beyond Earth .....	180
Adriana Knouf	

Cosmonaut, Astronaut, Soundtronaut .....	184
Rochus and Verena	
YM–Ropor · Manual in Futurum · Weltraumformat: Stille 2019 .....	189
LTK4 Köln Germany	
Cosmonaut/Astronaut/Soundtronaut The Future Projects of Rochus Aust 2001-2023	
Rochusaust.De	
Melancholia is not About The Past, but The Future .....	277
St. Sunardi	
Towards a Galactic City .....	280
Felipe Cervera	
The Search for Extraterrestrial Intelligence: Communication, Miscommunication, & Perception .....	286
By Barry Whittaker	
Wave Function Collapse .....	293
Erianto Rachman	
The Plausible (Possibility) Art Project for the Outer Space Being ....	299
G. Budi Subanar	
Southeast Asia’s Path to Mars: ISSS’s Vision for Space Science and Community Engagement .....	303
Venzha Christ	
Editor's Biography .....	310

# Indonesian Local Cosmology as Depicted in Batara Kala Batik

Arleti Mochtar Apin<sup>\*</sup>, Erika Ernawan<sup>\*\*</sup>, Ratnadewi<sup>\*\*</sup>, Wawan Suryana<sup>\*\*</sup>

## Introduction

The ancestors of the Indonesian in the past had many ways to convey knowledge. One of which was through oral language (Lutfi et al., 2019; Rahadian Rundjan, 2022). This pattern was commonly conveyed by parents or older family members in the form of folktales, presented as bedtime stories or during afternoon leisure time. This method was used so that the material was not heavy and could be easily accepted by children or younger generations (Fitroh, 2015; Rukiyah, 2018). Generally, in the delivery, emphasis was given, either dramatically, emotionally, enthusiastically, and in various styles of delivery. The more creative a storyteller, the more interesting the folktale delivered. This method was very suitable for children, as it was not difficult to imagine in their imagination (Garlock, 2016; Stuckey & Nobel, 2010).

Of course, every method has its advantages and disadvantages, seldom completely perfect. Likewise, oral language passed down from generation to generation provides possibility for distortion, reduction, or addition to the story. Following the development of the times, folktales are often also supplemented by phenomena at the time the story was told. Folktales, which were once only told orally, are now written and printed, so they can be easily found in bookstores. In addition, many also distribute folktales through the internet, making it easy for enthusiasts to access information quickly. The growth of technology in this modern era has

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opened up new opportunities in the dissemination of these folk tales (Dewi et al., 2021; Haerudin & Cahyati, 2018; Janottama et al., 2017).

However, although we can easily find various types of folktales, it is difficult to determine when and where these folktales originated. This has led to many variations of the story circulating in society. Each region or culture often has its own version of a folktale, making the authenticity of the story a challenge in itself. In addition, the varied naming of folktales and changes in toponyms—place names—also make identification difficult. Many folktales have undergone changes over time, so that the characters, plot, and even the moral message in the folktales can vary. These differences can be caused by variations in the way they are delivered, cultural backgrounds, and the social context that underlies a story. These obstacles make the search to find the folktales closest to their original form increasingly complex. Even so, efforts to preserve and preserve folktales remain important, as these stories are part of a cultural heritage that can provide valuable lessons for future generations. By understanding the existing variations, we can better appreciate the cultural richness contained in every folktale told.

## Method

In this research, to achieve optimal results, an appropriate method is needed. Therefore, it is decided to use a qualitative descriptive research method with a visual language theory approach (Creswell & Clark, 2017; Creswell & Creswell, 2018; Pandanwangi et al., 2024). Through visual language, we can trace how to understand images and construct visuals so that readers can easily comprehend them due to their familiarity with the form (Alya et al., 2022; Pandanwangi & Dewi, 2014; Tabrani, 2012). This method is used to analyze images in visual data sources, how an object is visualized, and then how to construct a visual narrative so that the message can be easily conveyed. Its application will be divided into several stages.

**The first stage** is to collect data sources from literature studies, both from reference books, journals, papers, and the internet as an important part of the explanation. **The second stage** is to analyze image data according to the theme, which can be in the form of *wayang* characters, *candi* ornaments, and other cultural objects that can be obtained to sharpen

the analysis. **The third stage** is the process of understanding and interpreting the content and message in the story because it is certainly arranged according to the mindset at that time. The connection of perspectives closely through culture, society, and history will lead to the meaning behind the story with a greater focus on accuracy. **The fourth stage** is the creation of initial sketches that are arranged based on the obtained data, then the complete sketch becomes a composition and the addition of objects that will strengthen the message for a wider and easier understanding space for the audience. Some technical corrections are applied so that they can be processed through the tamarind batik technique (Arleti M Apin, 2016; Arleti M Apin et al., 2021; Pandanwangi, Apin, Belinda Sukapura, et al., 2020). **The fifth stage** is the final sketch is copied onto silk fabric to facilitate the batik process. The process of applying tamarind paste as a resist can be applied. Followed by coloring according to plan and then continued with refinement (Pandanwangi, Apin, Sukapura Dewi, et al., 2020). **The sixth stage**, this final work can be directly appreciated by the wider community when it is exhibited, and at the same time be used as an example for batik makers in particular that the source of ideas can be obtained by exploring ideas from myths is very possible to do.

## Results and Discussion

### Batara Kala Batik

The story of Batara Kala is an interesting myth, focusing on the theft of the immortal water, *Tirta Amertasari*. Batara Surya and Batara Chandra, who saw this action, immediately became concerned. When Batara Kala was about to succeed in drinking the water, the Deity of Wisnu appeared to prevent him. Using his *chakra* weapon, Wisnu destroyed Batara Kala's body. However, even though his body was destroyed, his head persisted to float because he had managed to swallow a drop of immortal water, causing deep resentment towards Batara Surya and Batara Chandra. Batara Kala's resentment made him try to chase the two gods. In this myth, eclipses are a symbol of this conflict. When an eclipse occurs, the Deity of Wisnu gives instructions to the people of the earth to beat the *lesung*, which is a rice pounding tool. This action serves as a sign for Batara Surya and Batara Chandra to remain vigilant against the threat of Batara Kala.

This myth is still remembered and preserved in various village communities. Until now, when an eclipse occurs, there are groups of people who are encouraged to beat the *lesung*. This behavior becomes part of a tradition that is passed down from generation to generation. Although many of them do not fully understand the meaning behind this action, they do it as a form of respect for the teachings of the elders (Arleti Mochtar Apin et al., 2023; Indianti & Dodol, 2017). Thus, the story of Batara Kala is not merely a story, but also reflects how culture and tradition can be preserved through practices carried out by the community. Through the ritual of beating the mortar, they maintain a connection with this myth and remember the warning of the threat posed by Batara Kala. This myth becomes a symbol of the preservation of culture and values that continue to live among the people. Evidence that teachings in the form of oral traditions still exist and are practiced by some groups of people, although they may not fully understand the advice, let alone the values or teachings that are inserted neatly and subtly within it.

The myth of Batara Kala is not only known as an oral tale, but is also presented in the art of puppetry. In *wayang* performances, Batara Kala is depicted as a terrifying figure with a red face and a pair of striking large eyes, reflecting his extraordinary power. His strong and stout body further emphasizes his nature as a powerful and dangerous entity. On top of his muscular body, Batara Kala is equipped with a pair of wings, giving the impression that he can move quickly and intimidatingly. The crown that adorns his head adds to his aura of divinity and arrogance, indicating his status among the gods. In addition, the bracelets he wears on his arms and legs reinforce the impression of mysticism and power that he possesses.

The appearance of Batara Kala in puppetry not only serves as an attractive visual, but also as a symbol of various concepts, such as power, threat, and conflict in mythology. Batara Kala becomes one of the important and iconic figures in cultural traditions, especially in puppetry, continuing to convey, complement the story and meaning contained therein for future generations.



Figure 1. Wayang Batara Kala

(Source: <https://radarpurworejo.jawapos.com/budaya/2144960439/mengenal-batara-kala-dewa-penguasa-waktu-berwujud-raksasa-yang-menyeramkan>)



Figure 2. Batara Kala Candi Jago

(Source : [https://id.wikipedia.org/wiki/Batara\\_Kala](https://id.wikipedia.org/wiki/Batara_Kala))

Besides being found as a character in *wayang* puppet shows, we can also find a unique depiction of Batara Kala in temple reliefs, usually located at the top front of the temple.

### **The Meaning of Batara Kala**

In many folktales prevalent in society, the giant figure of Batara Kala plays a significant role as a fearsome character. Batara Kala is depicted as a ferocious creature ready to devour anything, and this character is often used by parents to educate their children. When children refuse to obey their parents' orders or wishes, they are often threatened with stories about

Batara Kala. For instance, if a child is reluctant to go to sleep or finish their homework, they will be told that Batara Kala will come and eat them. In this way, parents hope that their children will be more obedient and willing to follow instructions.

Stories about Batara Kala also appear in other situations. For example, when children play too long into the night, parents will tell them that Batara Kala can eat the sun. In their view, if even the sun can be eaten by Batara Kala, then children must go home immediately before darkness falls. This approach is not merely meant to scare children, but also as a way to teach them about the importance of time and responsibility.

Additionally, there is a custom practiced by rural communities during eclipses. At this moment, they will beat a *lesung* as a ritual to drive away Batara Kala, hoping to avoid evil or misfortunes that may be caused by it. This ritual demonstrates the community's belief in the power of myths and traditions to protect them from unwanted things. Through this action, they also express their fear and hope towards a figure believed to have powers beyond ordinary humans.

The myth of Batara Kala also becomes part of moral education for children. Through these stories, children are taught to appreciate their parents' orders, discipline, and the importance of coming home on time (M.N & Listiani, 2022; Putra Kurniawan & Hasanat, n.d.). Furthermore, this story emphasizes broader social values, such as togetherness and mutual protection within a community. Thus, although Batara Kala is a frightening figure, he is also an important symbol in teaching and preserving community culture. Such myths remind us that folktales have a significant role in shaping the norms and social values that prevail in a community (Windy Eka Pramudya, 2019).

Moreover, in *ruwat* ceremonies, Batara Kala is often involved. There are *ruwat* ceremonies to eliminate disasters or obstacles in life or bad luck. Sometimes *ruwat* ceremonies are performed in connection with marriage, birth, and even death, solely to avoid disturbances believed to be caused by Batara Kala. *Ruwat* activities are familiar with *wayang* performances featuring the role of Batara Kala. In this community, it is believed that *wayang* performances are not merely entertainment, but there is another purpose through the *wayang* play, as well as the completion of the ceremony

and a number of prayers to eliminate and distance misfortune from them. Generally, this activity is still widely carried out by the people of Java.

The meaning of Batara Kala in this study consists of two words, Batara and Kala. Batara itself means one who is highly respected, exalted, or worshipped. Kala is an interval or period of time, sometimes used to mark the moment of an event. When combined, it is a respect or worship of time, a complete understanding of time in its inevitable cycle, which cannot be stopped or controlled. The awareness that no one can escape from time from birth until death, and even all creatures including animals, plants, stones, and everything in this world is certainly subject to the law of time. Proof that creatures change from small to old, plants and animals are no different, even strong stones have their age, will eventually be damaged and then destroyed.

The understanding of the absolute law of nature is very well understood by the intelligent ancestors of the Indonesian nation. They realized that every action has consequences, both in this world and in the afterlife. Therefore, this knowledge was passed on to the next generation with the aim that they would not have to experience detrimental conditions. Through this legacy of knowledge, ancestors tried to teach how to manage and utilize time efficiently, so that every moment can be used to do useful and beneficial things.

In this context, it is important to remember that conveying positive guidance to children, especially young ones, can be tricky. Children often do not fully understand the consequences of their actions, so they need interesting and easy-to-understand ways to receive life lessons. This is where the role of folktales and myths becomes very important. Folktales not only serve as entertainment but also as effective educational tools. Through colorful stories, myths, and folktales convey essential moral values. The characters in folktales often face various challenges that depict the laws of nature and the consequences of their actions. For example, in many folktales, children learn that careless actions or not listening to their parents' advice can lead to difficulties or even danger. In this way, children can reflect on and understand the importance of listening and learning from other experiences.

Additionally, the use of symbolism in folktales and myths also helps children to understand deeper messages. Characters such as giants, talking animals, or gods and goddesses in stories often represent certain traits or moral lessons to be conveyed. This makes the learning process more interesting and easy to digest. Folktales also provide a space for children to imagine, so they can internalize the values taught in a broader context. By understanding and internalizing the messages contained in folktales, children are expected to avoid making the same mistakes made by the characters in the story. This not only helps them avoid detrimental conditions but also equips them with the knowledge and wisdom to face everyday life. Therefore, folktales and myths are one of the most effective tools for transferring knowledge and important values from one generation to the next. Through this approach, the culture and traditions of a nation remain alive and relevant, providing a strong foundation for children in living their lives.



Figure 3. Batik Batara Kala  
(Source: Private documentation)

The core message of Batara Kala is an understanding of a natural provision regarding space and time. That every creature cannot escape from this law of nature, and time itself can never be stopped or repeated, so everyone should be aware of this. Every moment is a precious moment and needs to be appreciated, understood, and respected, so that no time is wasted in vain.

### **Application of Visual Ideas of Batara Kala in Batik**

The application of the visual concept of Batara Kala in batik is a groundbreaking innovation in modern times, as it has never been done before. The choice of this figure is due to the valuable significance of the concept of Batara Kala, especially for the younger generation who have limited opportunities to obtain adequate knowledge of this value. It is an approach to cultural literacy through a different medium, as they may not have access to this knowledge, whether through libraries, tourism, or other means.

This work is created with a vertical composition measuring 50 cm x 120 cm, using real silk fabric. The vertical direction is chosen to emphasize the celestial impression related to space and time. The depiction of Batara Kala is placed at the bottom of the field, 15 cm from the bottom edge, with an image size of approximately 25 cm. It is visualized with a flaming red head, with a somewhat irregular flame-like shape at the top of the head and a wide open mouth. Inside the mouth, there is a shape of the sun, partially inside Batara Kala's mouth and partially outside. The sun is depicted in a bright yellow with a white circle in the center, and a sharp triangular shape surrounds the yellow circle, resembling flames. Then, in the middle of the field, there are seven shapes resembling water droplets with flames on top, arranged in a scattered formation with two at the bottom, two in the middle, and two at the top, and one at the very top. These seven shapes represent the seven nymphs (seven sisters) in connection with the arrangement of constellations used by farmers to read the seasons. The background of the work is dominated by blue with several shades, dark and light. Accompanied by stylized cloud shapes scattered in each part, to strengthen the narrative that this is an event related to the sky.

## **Conclusion**

The results of this research are compiled to provide fresh ideas for batik makers to be more daring in processing various sources to initiate works sourced from anywhere, including the wealth of mythology and legends, so that the cultural values within them can continue to spread, develop, and be preserved until now. Batik works that highlight myths as a source of ideas can also serve as a means of learning cultural values through the visualization of valuable stories that are almost unknown. Of course, this work can provide several benefits, namely providing visual satisfaction as a work of art, and conveying a cultural message about the importance of the meaning of Batara Kala in human life. Filling every precious moment with usefulness for anyone and anything, because time can never be repeated. The view that oral folktales in the form of myths are merely fictional creations intended to entertain or even without substance will certainly change. Not many people today are able to realize the content of knowledge and advice, even universal and very important teachings. The ability of our ancestors to package it in the form of mythical stories is indeed very clever and has proven to be able to convey a substantial message in a very simple way. This will certainly bridge the gap related to science in the past with the current conditions, which are still very closely related.

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# DISCUSSIONS ON ART, TECHNOLOGY, AND SPACE SCIENCE

This volume presents a curated selection of papers and reflections derived from the INTERNATIONAL S.E.T.I. CONFERENCE 2024 - International Conference on Art, Technology, and Space Science. The conference convened a multidisciplinary assembly of scholars, researchers, and practitioners from across Indonesia, and internationally, including representatives from the United States, the Netherlands, Japan, and Singapore.

The proceedings documented in this volume reflect the intellectual vitality and discursive plurality that emerged from this international forum. The event was held through the collaborative efforts of the Doctoral Program in Cultural Studies (Art and Society) at Sanata Dharma University, Yogyakarta, and the Indonesian Space Science Society (ISSS) as part of the Indonesia UFO Festival (IUF) 2024.

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