



# DISCUSSIONS ON ART, TECHNOLOGY, AND SPACE SCIENCE

Editors:

G. Budi Subanar, S.J.  
Venzha Christ



# DISCUSSIONS ON ART, TECHNOLOGY, AND SPACE SCIENCE

## Authors:

Wataru Okamoto | Tatsuki Horii  
Ariesa Pandanwangi | Ratnadewi | Arleti Mochtar Apin,  
Belinda Sukapura Dewi | Nur Agustinus  
Dina Lestari | Venzha Christ | Dominicus Judiarta Kuspargianta  
Erika Ernawan | Ariesa Pandanwangi | Wawan Suryana  
Rendra Agusta | Wawan Suryana | Erika Ernawan | Belinda Sukapura  
Arleti Mochtar Apin | Erika Ernawan, Ratnadewi | Wawan Suryana  
Michael Yudanta Kuswandi | Gunawan Admiranto  
Gunalan Nadarajan | Dieni Nuraini | Ariesa Pandanwangi  
Martinus Dwi Marianto | Dina Lestari | Chris Salim | Aloysius Baskoro Junianto  
Ratnadewi | Ariesa Pandanwangi | Arleti Mochtar Apin  
Anastasia Rita Widiarti | Chris Salim | Etika Filashofia  
Muhammad Jalaluddin Usman | Adriana Knouf  
Rochus | Verena | LTK4 Köln Germany | Rochusaust.De  
St. Sunardi | Felipe Cervera | By Barry Whittaker  
Erianto Rachman | G. Budi Subanar | Venzha Christ

## Editors:

G. Budi Subanar, S.J.  
Venzha Christ



SANATA DHARMA UNIVERSITY PRESS

# DISCUSSIONS ON ART, TECHNOLOGY, AND SPACE SCIENCE

Copyright © 2024

G. Budi Subanar, SJ, Venzha Christ, dkk.

Program Doktor Kajian Budaya, Universitas Sanata Dharma

---

Editors:

**G. Budi Subanar, SJ**  
**Venzha Christ**

Language Editors:

Yulianus Febriarko

Idha Saraswati

Dina Vitalienitas

Literacy Supervisor:

Martua Febrianto Samosir

Electronic (*e-Book*):

**ISBN 978-623-143-123-3 (PDF)**

EAN 9-786231-431233

Arts and Culture

First Edition, July 2025

vii+312 hlm.; 15,5 x 23 cm.

Cover Illustration:

Indonesia UFO Festival (IUF)

Final Cover and Layout:

Thomas A.H.M.

PUBLISHED BY:



SANATA DHARMA UNIVERSITY PRESS

1<sup>st</sup> Floor, Library Building USD

Jl. Affandi (Gejayan) Mrican,

Yogyakarta 55281

Telp. (0274) 513301, 515253

Ext.1527/1513; Fax (0274) 562383

e-mail: publisher@usd.ac.id

COLLABORATION AND SUPPORT OF

Program Doktor Kajian Budaya USD  
Indonesia Space Science Society (ISSS)  
HONF Foundation  
Indonesia UFO Network (IUN)



Sanata Dharma University Press Member of APPTI

(Affiliates of University Publishers in Indonesia)

APPTI member number: 003.028.1.03.2018

---

**All rights reserved.**

No parts of this book may be reproduced, in any form or by any means without permission in writing from author, editors, and the publisher.

## 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.

Editor:

G. Budi Subanar, S.J.

Venzha Christ

## 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</i> Jayengrana .....	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

# Visual Language: Visual Transformation of Ancient Manuscripts *Serat Menak* Into Batik Motifs

Ariesa Pandanwangi\*, Ratnadewi\*,  
Arleti Mochtar Apin\*, Belinda Sukapura Dewi<sup>4\*\*</sup>

## Introduction

Ancient manuscripts are one of the cultural heritages that reflect the rich local wisdom of the archipelago (Harken, 2021; Sukaesih et al., 2016). These manuscripts not only record past events but also hold various historical values that are important to the nation. (Pandanwangi, Alya, et al., 2023). Among the various ancient manuscripts, *Serat Menak* has a deep meaning, especially regarding the epic stories and morals reflected in its narrative. (Rahmawan & Tiyasmala, 2023; Simon & Alexander, 2013). However, despite the importance of these ancient manuscripts, many of the contents and images contained in them have not been widely explored or used as inspiration in the creation of modern artworks, including batik art. Batik itself is a medium that has visual appeal and has been recognized as one of the intangible cultural heritages by UNESCO. (Nababan & Hendriyana, 2012). Batik has great potential to interpret various visual elements from ancient texts such as *Serat Menak*. In the process of creating batik motifs, the diversity of shapes, colors, and patterns inspired by ancient texts can bring a unique new touch. However, the implementation of these visuals is not an easy task, especially due to the complexity of the process of transforming visualizations from ancient texts into batik motifs. The main challenge is how to adapt the story elements and images from the manuscript into a form that can be recognized and appreciated by the wider community, without losing the original essence contained in the

---

\* Universitas Kristen Maranatha, Indonesia

\*\* Institut Teknologi Harapan Bangsa, Indonesia

manuscript itself. The problem in this research is that ancient manuscripts as a source of inspiration in the creation of batik motifs are very large, their implementation into the visual form of batik motifs is not optimal. There are still few batik works that specifically raise themes or motifs inspired by ancient manuscripts such as *Serat Menak*. This is due to several factors, such as the lack of knowledge about the contents of the ancient manuscripts, as well as limitations in adapting traditional visual forms into modern batik media. (Pandanwangi, 2020; Saraswati, 2016). This research has the challenge of re-visualizing elements from ancient manuscripts so that they can be accepted by the wider community. This requires a process of interpretation and adaptation that not only considers the authenticity of the text but also requires a creative and innovative approach to produce batik motifs that can represent the story and values contained in *Serat Menak* aesthetically.

To answer this problem, the research team traced several documents related to similar research. The study of the visualization of ancient manuscripts into contemporary art media, such as batik, has become an interesting topic for researchers. Several studies have shown that ancient manuscripts have great potential as a source of inspiration in the creation of innovative works of art. One of the researchers who studied ancient manuscript research is researcher Syarif. His research is focused on the illumination found in Javanese script. The object of his research is one of the aesthetic forms and is considered a special feature of Javanese tradition. This causes almost all Javanese characters to be surrounded by illumination. According to Syarif, illumination has a sacred meaning and function, such as: (1) beautifying the shape of the script; (2) Illumination can be considered a form of worship or good deeds; (3) has a high aesthetic value, and a depth of religious value. Illumination art in Javanese script in the Islamic period is a special expression of Javanese society influenced by local wisdom. Javanese script in the Islamic era, including its illumination, is a cultural heritage that can be classified as traditional literature and a picture of Javanese culture at that time. Illumination today needs to be studied and discussed to be able to explore the quality and excellence of the script as one of the Javanese cultural heritages. (Syarif, 2017). In 2023, Pandanwangi wrote a scientific article about the potential of 18th and 19th-century Javanese manuscripts that were developed into batik motifs and implemented into the creative industry. The descriptive qualitative method

was used in her research, and data was collected through literature study, observation, note-taking, and interviews. The result of this research is that the illumination of classical Javanese manuscripts that contain meaning and carry the ideology of Javanese society has the potential to be developed into batik motifs and can be directly used in the creative industry. (Pandanwangi, Himatul Alya, et al., 2023). In addition, Pandanwangi also examines the transfer of visual space contained in the illumination art contained in *Babad Dalêm Sri Narpati* into batik motifs. The problem in this research emphasizes more on the visual transformation of complementary objects contained in the art of illumination into the form of batik motifs. The qualitative method is used to examine the visualization of the transformation of batik motifs. The research location is Ngayogyakarta Hadiningrat Palace. The research stages are data reduction, data presentation, and conclusion drawing or verification. The results showed that illumination in Javanese script became the vehicle of ideas in the process of creating the *Kawung Yogya Arum Kusuma* motif. The batik created takes over the space in the main part of the dominant motif found in the illumination art with the kawung motif as the background. The color of the batik is dominated by a dark brown background, with the main motif having a combination of blue, light brown, and black. (Pandanwangi, Darmayanti, et al., 2023).

The research above has similarities in the methods used, but the object of research is different from one researcher to another. The results are also different, for the research conducted by Syarif the result is that the illumination contained in Javanese script can be studied further and utilized widely, while in the two studies conducted by Pandanwangi, the results are in the form of batik motifs that were initiated from ancient manuscripts whose data came from the Ngayogyakarta Hadiningrat Palace and implemented into the creative industry. The ancient manuscripts are *Babad Mataram* and *Babad Dalêm Sri Narpati*. This research has a great opportunity to examine the idea of *Serat Menak* which is focused on the figure of Jayengrana, this is still rarely studied through visual language in batik motifs. So this research has an important position to be studied further in the effort to revitalize batik that raises local and historical themes derived from ancient manuscripts. The research specifically focuses on the aim of exploring the potential of the ancient manuscript of *Serat Menak* into visual ideas into batik motifs. Therefore, this research is here to fill the

void by digging deeper into how ancient manuscripts can be adapted into batik artworks that have visual appeal while still respecting their historical values. This process involves the analysis of visual language, towards the visualization contained in batik motifs that have aesthetic value while being able to convey the message contained in *Serat Menak*. In the future, this research can contribute to the development of contemporary batik art through the integration of traditional elements from ancient manuscripts. The resulting batik works are not only a medium of artistic expression but also a means of education for the public to get to know the history and culture of the archipelago more closely.

This research, focused on *Serat Menak*, can show that the visual and narrative richness in ancient manuscripts can be “brought to life” through the medium of batik. This process is expected to create a new relationship between the community and their cultural heritage, as well as elevate the image of batik as an art medium that is dynamic and adaptive to the times. In the long run, this research can provide a foundation for the development of other artworks based on ancient manuscripts, so that the art of batik is not only seen as a tradition but also as an evolving form of expression.

## Method

The data of this research was sourced from *Kawedanan Hageng Punokawan* (KHP) *Widya Budaya* in Ngayogyakarta Hadiningrat Palace. This location was chosen because it is a continuation of previous research on the art illumination of ancient manuscripts. For the research objectives to be achieved under the research design, an appropriate method is needed, namely the descriptive qualitative research method using the visual language approach. (Creswell & Clark, 2017; Creswell & Creswell, 2018; Pandanwangi et al., 2015). The visual language in question is a tool for reading images, the images that are read can be recognized instead of abstract images (Tabrani, 2014, 2017). The visual language approach was chosen because it will be used to examine batik motifs initiated from ancient manuscripts, through the way *wimba* (images) can be explained how to describe the object so that the visual narrative can be more communicative and can be understood by the public. The stages in this research are:

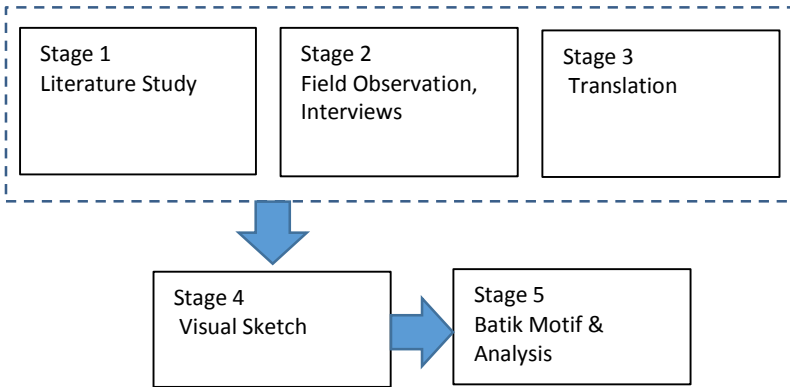


Fig 1. Research Stage  
(Source: Team research. 2024)

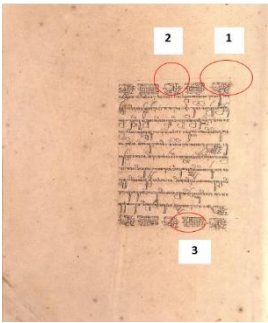

Figure 1 explains that in the first stage, the research team conducted a literature study, searching for data from reference books, journals, papers, and the internet to support the information needed. (Apin et al., 2023; Pandanwangi, Darmayanti, et al., 2023); the second stage conducted observations for field acquisition to obtain data from ancient manuscripts containing *Serat Menak* and interviews with informants who had been contacted previously to obtain data that could help the selection of works in the study and support the analysis. (Dewi et al., 2021; Pandanwangi et al., 2021; Ratnadewi et al., 2020); the third stage was the process of script transfer from Javanese Pegon to Javanese and then translated into Indonesian. The goal is for researchers to understand and interpret the existing text, its relation to the image, and the mindset of the past described through narration; the fourth stage is for researchers to make visual sketches, the selected images are in the form of wayang figures, and objects contained in ancient manuscript texts; the fifth stage is the visualization of batik motifs.

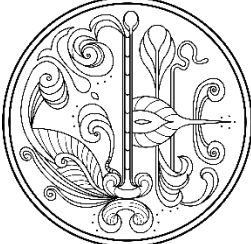
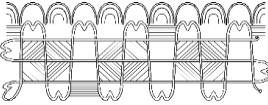


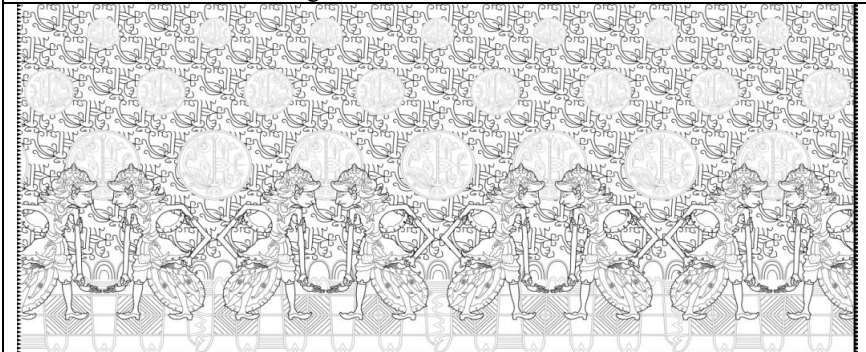
## Results

The results of the data search on *Serat Menak* at *Kawedanan Widya Budaya* were a challenge in itself because the research team was greeted by some officers who stated that the data did not exist. However, after searching through the catalog, data on *Serat Menak Sarehas Dumugi Menak Lare* was found with the code W.268, 347 pages thick. This data

can only be accessed partially based on official permission given by the library. The description of the catalog states that Yasadipura I is a partial copy of the Menak text, coinciding with pupuh 1-13 of *Menak Sarehas*, and pupuh 1-54 of *Menak Lare*, according to the Balai Pustaka edition published in 1933. Yasadipura I's work has been published several times, in 1854, 1871, 1883, and 1889. Publisher van Dorp, Semarang, without year number published into 4 volumes. Furthermore, Balai Poestaka in 1933, was published in 20 volumes and circulated by the Ministry of Education and Culture. This publication of Balai Pustaka by Depdikbud was transliterated and translated into Indonesian in the 1980s. The data explains the Islamic Color of Government combined with Hindu traditions with the concept of *Astabrata* leadership. The values contained in this manuscript are leadership values based on religious teachings; where such values are needed to support development, both physical and spiritual. (Tashadi et al., 1993). From the synopsis of *Serat Menak*, it is known about the heroic value of the Arab knight as expressed through his character. The description of this text will be visually visualized into a wayang motif. According to Safari, the illumination of the wayang model can explain the narrative of the story contained in the text. Illuminations will also be explored based on parts of the existing text. The illumination (illustration) of the wayang model is depicted en-profile (looking from the side) (Safari, 2011). The text that will be selected from the *Serat Menak* can be seen in Table 1, which explains the main idea of the visual form.

Table 1. Main Idea of Visual Form

Text on Ancient Manuscripts	Main Idea	Descriptions
	<p style="text-align: center;">1</p> 	<p>The sentence-opening text becomes a visual object that will be placed on the batik background.</p>
	<p style="text-align: center;">2</p>	<p>The text in the third sequence becomes a visual idea for the development of batik motifs. This object seems to have a group of curved rhythms that</p>

Text on Ancient Manuscripts	Main Idea	Descriptions
		<p>combine with vertical and horizontal lines to create a grouped and harmonious impression.</p>
	<p style="text-align: center;"><b>3</b></p> 	<p>This visual object is found at the top as well as at the bottom, repeated several times, hence the importance of this repetition, so it was chosen to be positioned at the base of the fabric.</p>
		<p>The visual form of Jayengrana has not undergone any visual changes, taken according to the original pattern.</p>
<b>Digital Sketch of Batik Motif</b>		
		

The visual ideas contained in Table 1, in the opening section of the ancient manuscript text, are selected as the first visual object that is creatively processed to be placed as the background of the batik, thus

giving rich depth and dimension to the overall motif. This element makes it important in the creation of motifs on the batik background, as it gives a strong artistic impression repeated many times in the horizontal direction, and vertically fills the background. The use of this element not only beautifies the appearance but also conveys the meaning and story to be conveyed in the batik motif. Furthermore, the visual ideas in the third sequence in the opening text can be seen in Table 1 were developed as the main inspiration for the development of batik motifs. This object has characteristics in the form of dynamic arches and moves rhythmically, combined with vertical and horizontal lines. The rhythm of the arches combined with the lines creates the impression of a harmonious and balanced composition, featuring grouped motifs that seem to be unified and positioned in a circle, the placement is repeated towards the horizontal and vertical collar. Increasingly smaller, this shape becomes very important because it is artistically able to create a visual balance that attracts attention, so it becomes the main element in the development of motifs. The next visual object is taken from the text data that occupies the bottom of the text in the third sequence and is placed at the bottom of the batik cloth, providing visual balance to the design. The repetition of this object along the fabric creates a consistent rhythm and adds harmony to the overall look of the batik. This repetition is considered important as it unifies the visual elements and reinforces the message. Thus, this motif was chosen to be placed at the base of the batik cloth, reinforcing the motif identity of the batik cloth and conveying a strong and elegant impression.

## **Discussion**

Batik, inspired by the Menak Jayengrana fiber, presents visual richness processed from ancient manuscript texts. The visual form created after the digital sketching process is the coloring process focused on Ngayogyakarta Hadiningrat style batik. The motifs are as follows:



Fig 2. Batik Ngayogyakarta Hadiningrat Motif Jayengrana  
(Source: Team research. 2024)

Figure 2 visualizes an object initiated from the ancient manuscript text of *Serat Menak* found on page 1. In the creation process, the first visualization chosen as the background of the batik motif is taken from the object in the opening text of the manuscript. The use of this visual object is not just a decoration but has a deep meaning as it gives a rich depth and dimension to the entire batik motif. This visual object is creatively processed, its pattern form is repeated to fill the batik background with a regular rhythm. This element is an important key in the creation of batik backgrounds, not only enhancing the appearance but also giving a harmonious impression of order and beauty. The visual objects in this background play an important role in giving aesthetic value to batik. The resulting motifs can attract attention because of their consistent order and repetition that form visual harmony. With a repeating pattern in a circle made with the rhythm of getting smaller and smaller circles, the overall impression of the motif appears more dynamic and lively. The curves contained in this circle are designed with a composition that blends harmoniously, creating movement as if flowing along the motif. The repetition of this object in the horizontal and vertical directions results in a composition to emphasize a strong sense of grouping in the motif. This element also presents its narrative and can be appreciated by batik connoisseurs, adding a deep story dimension to the fabric.

Besides the first element chosen for the background, other visual ideas from the *Serat Menak* were also creatively developed. Furthermore, another visual object developed from the third sequence in the text of the *Menak Jayengrana* fiber is placed at the base of the batik cloth. This object was chosen to emphasize the bottom of the cloth, thus creating a visual

balance between the top and bottom of the batik cloth. The repetition of this object along the bottom of the cloth results in a consistent rhythm, adding harmony to the batik motif as a whole. This rhythm of repetition plays an important role in unifying the visual elements, reinforcing the sense of storyline that is conveyed through the motif. In the center of the cloth, the figure of Jayengrana is shown larger than the other objects, indicating that this figure is considered important. (Lutfi et al., 2019; Tabrani, 2012). The position occupies half the body of the fabric, made facing each other in a mirror position, to emphasize the character displayed, and between the elbows back to back to form a triangular angle, reinforcing the firm and strong character.

The base color of the batik is chosen to be dark blue-black with the background motif camouflaged, while the motif within the circle is made *sogan*-colored, as is the color of the Jayengrana figure visualized in the form of a wayang. The wayang form is made white to indicate a leader who is 'clean, authoritative, honest'. (Hariyanto, 2023; Mulyono., 1987). This color choice carries an authoritative, luxurious, and strong character in the Njawani identity. (Banindro et al., 2024; Trixie, 2020).

Overall, the visual elements of batik motifs that are carefully selected and repeated, not only enrich the appearance of batik motifs but also combine creativity, and historical depth and also act as a medium for conveying the culture to be conveyed from the *Serat Menak*. Each repetition has a symbolic value, providing an implied meaning that can be interpreted. Batik inspired by ancient texts is not just a beautiful cloth, but also a medium that conveys historical and cultural narratives through the beauty of its motifs.

## Conclusion

This research can encourage batik artists to be more explorative in creating works derived from the wealth of ancient literature so that the cultural values contained in ancient manuscripts can still be preserved and relevant in the modern era. Increase appreciation for ancient manuscripts among the wider community. Batik motifs inspired by *Serat Menak*, people are expected to not only recognize batik as a cloth with beautiful patterns but also understand that each motif has a deep story and history. The

findings in this research are that the wealth of ancient texts, both textual and visual, can be implemented into a piece of batik cloth so that it becomes a reflection of cultural wealth that can be revived through every stroke of the motif on the batik cloth. Through this motif, historical and cultural values can continue to be immortalized in the form of art that can be enjoyed by various groups. Therefore, this research is expected to be a bridge between the past and the present, connecting traditional values with the aesthetic and cultural needs of modern society.

### **Acknowledgment**

Thanks to BRIN for funding this research through the *Program Riset dan Inovasi untuk Indonesia Maju Kompetisi Gelombang V Lembaga Pengelola Dana Pendidikan (LPDP)* with Contract Number 67/IV/KS/07/2024 dated July 08, 2024, concerning Funding for the Implementation of the *Program Riset dan Inovasi untuk Indonesia Maju Kompetisi Gelombang V*. Special thanks to the Ngayogyakarta Hadiningrat Palace which has given official permission for this research, as well as the cross-institutional research team.

## References

- Adisasmito, N. Y. D. (2010). Illustration on Javanese Manuscripts: The Intellectuality and the Capability of Thinking into Indonesian Art and Writing Culture. *Tawarikh*, 1(2), 123–138. <https://www.journals.mindamas.com/index.php/tawarikh/article/view/372>
- Apin, A. M., Pandanwangi, A., & Darmayanti, T. E. (2023). Secret Value Guriang Tujuh Folkstory From Java To Batik. In G. P. Pamungkas (Ed.), *SETI International Conference* (Vol. 1, Issue 1, pp. 26–30). Lembaga Penelitian dan Pengabdian Masyarakat (LPPM) Institut Teknologi Telkom Purwokerto. <https://centive.itelkom-pwt.ac.id/index.php/seti/article/view/265>
- Banindro, B. S., Sobandi, B., Pandanwangi, A., Mutmainah, B., & Hartono, B. (2024). The Transition of Hindu Era Garuda Visual Element Into Islamic Era Batik Patterns in Java. *New Design Ideas*, 8(2), 467–489. <https://doi.org/10.62476/ndi82467>
- Creswell, J. W., & Clark, V. L. P. (2017). Designing and Conducting Mixed Methods Research. In H. Salmon & C. Neve (Eds.), *Encyclopedia of Research Design* (Third Edit). SAGE Publication. <https://doi.org/10.4135/9781412961288.n245>
- Creswell, J. W., & Creswell, J. D. (2018). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. In H. Salmon, C. Neve, & M. O’Heffernan (Eds.), *Research Defign: Qualitative, Quantitative, and Mixed Methods Approaches* (Fifth Edit). SAGE Publication.
- Dewi, B. S., Apin, A. M., Pandanwangi, A., & Damayanti, N. (2021). Inspirasi Batik Tamarind dari Cerita rakyat. *Jurnal Budaya Nusantara*, 4(April), 269–275. <https://doi.org/https://doi.org/10.36456/b.nusantara.vol4.no2.a4056>
- Hariyanto, P. (2023). Representasi Sifat Manusia Dalam Tokoh Cerita Ramayana. *Sirok Bastra*, 11(1), 63–76. <https://doi.org/10.37671/sb.v11i1.470>
- Harkeni, A. H. (2021). Aksara Incung Sebagai Inspirasi Motif Batik Masyarakat Kerinci. *Jurnal Khazanah Intelektual*, 5(1), 1008–1027. <https://doi.org/10.37250/newkiki.v5i1.98>

- Lutfi, M., Dewi, T. K. S., & Putra, G. M. N. (2019). Visual Narrative as Strategy of Traditional Texts: A Study on Serat Menak Mochtar. *Opción, Año, 35(24)*, 713–730. <https://produccioncientificaluz.org/index.php/opcion/article/view/30709/31758>
- Mulyono., S. (1987). *Wayang dan Karakter Manusia*. PT Gunung Agung.
- Nababan, R.-, & Hendriyana, H.-. (2012). Parole, Sintagmatik, dan Paradigmatik Motif Batik Mega Mendung. *Panggung, 22(2)*, 181–191. <https://doi.org/10.26742/panggung.v22i2.60>
- Pandanwangi, A. (2020). Transfer of Knowledge : Educational Value in Cold Wax Batik Technique Training. In A. Rahmat & P. Chaube (Eds.), *Variety of Learning Resolutions in the Covid 19* (pp. 51–55). Novateur Publication, India. <https://novateurpublication.com/index.php/np/catalog/book/11>
- Pandanwangi, A., Alya, S. H., Budiman, I., Apin, A. M., & Darmayanti, T. E. (2023). Batik Naskah Kuno: Transformasi Iluminasi Dari Naskah Kuno Ke Dalam Motif Batik. *Panggung, 32(4)*, 467. <https://doi.org/10.26742/panggung.v32i4.2157>
- Pandanwangi, A., Darmayanti, T. E., & Apin, A. M. (2023). Transfer of Illumination Art Visual Space in Kidung, Babad Dalêm Sri Narpati Into Batik Motifs. In G. Pamungkas (Ed.), *SETI International Conference* (Vol. 1, Issue 1, pp. 37–40). Lembaga Penelitian dan Pengabdian Masyarakat (LPPM) Institut Teknologi Telkom Purwokerto. <https://centive.itelkom-pwt.ac.id/index.php/seti/article/view/268>
- Pandanwangi, A., Himatul Alya, S., Budiman, I., Mochtar Apin, A., & Eka Darmayanti, T. (2023). Art illuminations in 18th–19th centuries manuscripts from Ngayogyakarta Hadiningrat Palace as a creative industry development. *Cogent Arts and Humanities, 10(2)*, 1–18. <https://doi.org/10.1080/23311983.2023.2277070>
- Pandanwangi, A., Piliang, Y. A., Adisasmito, N. D., & Sumintardja, E. (2015). Drawing Expression of 8-10 Year-Old Girls with Learning Disabilities in Regular Elementary Schools in Indonesia. *Arts and Design Studies, 31(0)*, 1–8. <https://iiste.org/Journals/index.php/ADS/article/view/22232>

- Pandanwangi, A., Ratnadewi, & Prijono, A. (2021). *Narasi Visual Dibalik Motif Batik Purwakarta* (1st ed.). Gumun. [https://books.google.co.id/books?id=KM5GEAAAQBAJ&pg=PA15&source=gbs\\_selected\\_pages&cad=1#v=onepage&q&f=false](https://books.google.co.id/books?id=KM5GEAAAQBAJ&pg=PA15&source=gbs_selected_pages&cad=1#v=onepage&q&f=false)
- Rahmawan, A., & Tiyasmala, M. (2023). Local Wisdom in the Serat Menak Lare As Teaching Materials in Secondary Schools (a Study of Literature Anthropology). *Jurnal Javanologi*, 6(1), 1107. <https://doi.org/10.20961/javanologi.v6i1.71564>
- Ratnadewi, Prijono, A., & Pandanwangi, A. (2020). Application of turtle graphics to Kawung Batik in Indonesia. *International Journal of Innovation, Creativity and Change*, 13(2), 643–658.
- Safari, A. O. (2011). Iluminasi naskah Cirebon. *Manuskripta*, 1(2), 43–58. <https://doi.org/10.33656/manuskripta.v1i2.17>
- Saraswati, U. (2016). Meaning and Function of Ancient Manuscripts for the Culture and National Development Through Teaching History. *Historia: Jurnal Pendidik Dan Peneliti Sejarah*, 14(2), 179. <https://doi.org/10.17509/historia.v14i2.2025>
- Simon, S., & Alexander. (2013). Serat Menak Yogyakarta. In *Journal of Chemical Information and Modeling* (1st ed., Vol. 53, Issue 9). Potter Craft.
- Sukaesih, S., Winoto, Y., Rusmana, A., & Kurniasih, N. (2016). Preservation Of Ancient Manuscripts As Efforts Building Knowledge Management (The study of ancient manuscripts preservation activities by. *E-Journal.Unair.Ac.Id*, 2(022), 176–187. <https://doi.org/10.20473/rlj.V2-I2.2016.176-187>
- Syarif, M. I. (2017). Illumination on The Javanese Script in Islamic Era : Local Wisdom of The Javanese Culture Tradition. *Javanologi*, 1(1), 188–191. <https://portal.uns.ac.id/javanologi/wp-content/uploads/sites/26/2021/07/Illumination-on-The-Javanese-Script-in-Islamic-Era-Local-Wisdom-of-The-Javanese-Culture-Tradition.pdf>
- Tabrani, P. (2012). Komunikasi : Nyata , maya dan hubungannya dengan pendidikan. *Wimba, Jurnal Komunikasi Visual & Multimedia*, 04(1). <https://doi.org/10.5614/jkvw.2012.4.1.1>

- Tabrani, P. (2014). *Proses Kreasi-Gambar Anak-Proses Belajar* (1st ed.). Erlangga.
- Tabrani, P. (2017). Bahasa Rupa Dan Kemungkinan Munculnya Senirupa Indonesia Kontemporer Yang Baru. *Jurnal Komunikasi Visual WIMBA*, 8(1), 1–12. [http://jurnalwimba.com/index.php/wimba/article/view/127/pdf\\_80](http://jurnalwimba.com/index.php/wimba/article/view/127/pdf_80)
- Tashadi, Sudewa, A., Susilantini, E., Albiladiyah, S. I., & Sunjata, I. W. P. (1993). *Serat menak (yogyakarta)*. Departemen Pendidikan Dan Kebudayaan. [https://repositori.kemdikbud.go.id/7839/1/SERAT MENAK %28YOGYAKARTA%29.pdf](https://repositori.kemdikbud.go.id/7839/1/SERAT%28YOGYAKARTA%29.pdf)
- Trixie, A. A. (2020). Filosofi Motif Batik Sebagai Identitas Bangsa Indonesia. *Folio*, 1(1), 1–9. <https://journal.uc.ac.id/index.php/FOLIO/article/view/1380>

# 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.

COLLABORATION AND SUPPORT OF



SANATA DHARMA UNIVERSITY PRESS  
Jl. Affandi, (Gejayan) Mrican, Yogyakarta 55281  
Phone: (0274)513301; Ext.51513  
Web: [sdupress.usd.ac.id](http://sdupress.usd.ac.id); E-mail: [publisher@usd.ac.id](mailto:publisher@usd.ac.id)



ISBN 978-623-143-123-3 (PDF)



Arts and Culture