

# Illustrated Books as Information Media for Pranata Mangsa (Old Javanese Astrology)

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**Abstract.** This research is an explanation of the design of illustration book media which aims to introduce Pranata Mangsa as one of Indonesian culture. Pranata Mangsa is a calendar system related to agricultural activities, especially for farming or fishing in Javanese society. Unfortunately, Pranata Mangsa is now less well known by the public because of changes in human lifestyles that affect mindsets and behavior patterns. Sophisticated technology can make it easier for humans, reducing the use of things about values, customs, and ancestral traditions. In this design, two methods are used, namely communication strategies and creative strategies. Communication strategies and creative strategies in this design are used to present and provide ideas and concepts that can make the public interested in Pranata Mangsa information media. The expected impact of this design is an increased sense of community awareness and participation in appreciating the cultural diversity of Indonesia. **Keywords :** Book, Illustration, Java, Calendar, Pranata Mangsa

## 1. Introduction

Culture is basically very attached to humans because of its important role in human life, namely being able to guide and be a guide for humans in their activities, one of which is the Old Javanese calendar, namely Pranata Mangsa. Along with the times, based on the results of questionnaire data analysis conducted in January – June 2021 to the general public as many as 50 Javanese who live in the Java Island area, it is known that 28 respondents do not know Pranata Mangsa, respondents think that there are limitations in the use of Pranata Mangsa in general. used for farmers, attracting more public attention from technological developments, and lack of introduction from parents or teachers to the next generation.

Although Pranata Mangsa is considered ancient, outdated, experiencing natural changes so that it is not appropriate, after all, Pranata Mangsa is still part of the ancestral heritage of the Indonesian people, especially the Javanese people, which must be preserved in order to maintain its sustainability. preserving ancestral values, and keeping nature back in balance and harmony with human life. Based on a survey conducted in April 2021, by browsing 29 online stores, only seven of them sell information books related to Pranata Mangsa. In addition, based on the attached image in one of the online stores, the book being sold only contains writing because it is an old book. This is an additional cause of the general public's lack of interest in knowing Mangsa Institutions. Therefore, the form of utilizing knowledge and information regarding Pranata Mangsa is channeled through the design of illustration book media. Books are the best objects that can contain a lot of information in them without the fear of being scattered and losing data. Books can also be used as collections or passed on to future generations, and can develop an interest in reading books. Rozin (2008) states that reading is an activity that has good benefits when done regularly to train the brain's ability to absorb all information [1].

In addition, the design can enrich the diversity of arts and culture so that people are able to recognize and adapt to natural conditions and provide early learning to present and future generations about the importance of maintaining environmental functions in order to remain sustainable. This research is an explanation of the design of the illustrated book media which aims to introduce Pranata Mangsa as one of Indonesian culture. The design uses a creative method with a Javanese cultural approach.

## 2. Method

In this design, two methods are used, namely communication strategies and creative strategies. Strategy is a science as well as an art that uses resources to achieve certain goals [2]. Communication strategies and creative strategies in this design are used to present and provide ideas and concepts that can make the public interested in Pranata Mangsa information media.

The object designed in the form of an illustration book is Pranata Mangsa, which discusses the meaning, history and distribution of Pranata Mangsa. Information about the estimated signs also differs for each mangsa. Pranata Mangsa is commonly called Pranoto Mongso which comes from the Javanese language. Pranoto means provision while Mongso means season. Pranata Mangsa utilizes natural signs as a reference in activities and work. [3]. The Pranata Mangsa calendar system has been around for centuries. Pranata Mangsa has also been developed into a calendar system in the era of the Islamic Mataram kingdom during the reign of Sultan Agung Hanyokrokusumo. Pranata divides the year into 12 mangsa, according to the book "Javanese Horoscope (Mystery Pranata Mangsa)" written by Ki Kanjeng Raden Haryo Tumenggung (Ki KRHT) Hudoyo Doyodipuro, as follows:

### 1. Mangsa Kaso

Mangsa Kaso (June 23 – August 2) has Candra mangsa "Sotya murca ing embanan" which means Gems are released from their binding rings. It symbolizes the dry season where the leaves fall, the trees have withered (dropped their leaves), and the soil loses its water so that the soil becomes dry because the water begins to shrink [4]. The wind blows from the east to the west. Kaso's mangsa is "Udan roso mulya" which means that the rain that occurs cannot provide freshness and coolness. The fish in the river hide themselves, while the buffalo and horses are getting tired and lazy to work. However, for this mangsa, farmers started working on dry land in the fields and fields and started to plant secondary crops such as beans, corn, and sweet potatoes [5].



Figure 1. Mangsa Kaso

### 2. Mangsa Karo

Mangsa Karo starts from August 3-25, Candra's mangsa is "Bantala Rengka" meaning cracked or cracked soil, because groundwater has run out due to the dry season [4]. The natural state of this mangsa really feels arid, but the bare mango tree will blossom again. In this mangsa the air becomes hot, so humans start to get restless because of the dry nature [5].

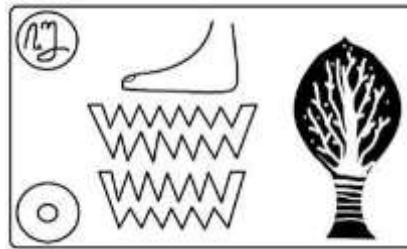


Figure 2. Mangsa Karo

### 3. Mangsa Katelu

Mangsa Katelu (26 August – 18 September) has Candra, namely “Suta Manut Ing Ayah” which means that the child obeys the Father. This means that all advice from parents is followed by their children [4]. In this mangsa, the wind blows from the north to the south with moderate strength. The air will feel hot because it is caused by the dry season [4]. Mangsa Katelu has an "official" nature, meaning that the trees have leaves and look green. On this mangsa creepers begin to grow. This plant is likened to a child and its vines are likened to a father. However, due to the hot conditions and the lack of water, the wells dried up and the land could not be planted. However, palawija plants can start to be harvested this season, while plants such as bamboo, temu and turmeric begin to grow [5].



Figure 3. Mangsa Katelu

### 4. Mangsa Kapat

Mangsa Kapat starts on September 19 to October 13. This Mangsa is the beginning of the rainy season, but the condition of the springs is still difficult to find. The water still hasn't spilled and flows, so Mangsa Kapat has Candra "Waspa Kumembeng Ironing Kalbu" which is tears welling up inside [4]. The mangsa of Kapat is the transition from the dry season to the rainy season called the Labuh season. This causes it to feel arid during the day and moderately strong winds blow from the Northwest to the Southeast. Farmers are still unable to plant rice, but secondary crops such as beans, corn, sweet potatoes) are ready to be harvested [4].



Figure 4. Mangsa Kapat

### 5. Mangsa Kalima

Mangsa Kalima starts from October 14th – November 9th. This mangsa has an effect on the state of the universe, so it has the candra "Pancuran Emas Sumawur ing Jagat" which is a golden shower spread over the earth. The air feels cool, because of the cloudy sky [4]. It often rains very heavily.

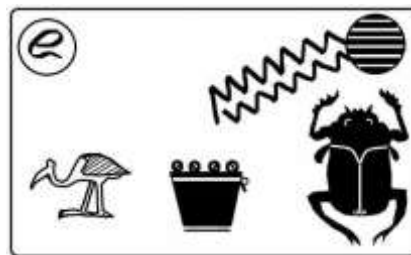
Sometimes very heavy rainfall can even cause flooding. Strong winds accompanied by heavy rains from the Northwest to the Southeast. The air became cold. The tamarind tree began to blossom. With the arrival of the rainy season, farmers will start to work on their fields [4].



**Figure 5.** Mangsa Kalima

### 6. Mangsa Kanem

Mangsa Kanem has an orbital length of 43 days from November 10 to December 22. Candra his mangsa "Rasa Mulya Kasucian" means getting a sense of happiness because of good deeds [4]. This Mangsa is the rainy season, which is accompanied by strong winds from West to East and a frightening roar. It rained frequently and lightning flashed, and the air grew cold. At that time it was fruit season, such as mango, durian and rambutan. The rice fields that hold rainwater are now sufficient, and aquatic animals such as ladybugs have begun to appear. Farmers also spread rice seeds in the nursery [4]. Mangsa Kanem has the nature of "Nice tasting mulyo" meaning that the fruit trees are starting to ripen and the farmers are happy, and there are more cockroaches in the ditches [5].



**Figure 6.** Mangsa Kanem

### 7. Mangsa Kapitu

Mangsa Kapitu starts on December 23 to February 3. Candra's mangsa is "Wisa Kentas Ing Maruta" which can be swept away by the wind or clean and happy [4]. A strong wind was blowing from the West. The rain did not subside, spreading floods that hit the mainland. This results in birds having difficulty in finding food and shelter [4]. Many of these Mangsa contracted the disease. Longan, Dutch jackfruit, durian, and barking kepundung trees are starting to bear fruit. Even though the nature is not good, farmers can start spreading seeds in the fields [5].



**Figure 7.** Mangsa Kapitu

### 8. Mangsa Kawolu

Mangsa Kawolu starts on February 4th to March 1st, with the candra “Hajrah Jroning Kayun” meaning to languish in the heart, cry inside. This mangsa is still in the rainy season, heavy rains often flush the earth. A strong wind was blowing from the southwest to the northeast. The air at night is very cold until dewy. The rice is starting to turn green. Noisy cats start to lust, fireflies emit a beautiful light and fly in the fields. In this mangsa, the farmer is harvesting corn in the field [4].



Figure 8. Mangsa Kawolu

### 9. Mangsa Kasanga

Mangsa Kasanga starts on March 2nd until March 26th. Candra Mangsa Kasanga is "Wedharing Wacana Mulya" namely the spread of happy news [4]. This mangsa is the rainy season with a thundering roar. The air is cold all day, even in the highlands it is often dewy. A strong wind was blowing from the south. Meanwhile, sweet oranges and duku can be harvested [4]. In this mangsa, the durian and sapodilla trees are still flowering and the rice is starting to contain some even yellowing. Seen the cats began to get pregnant [5].



Figure 9. Mangsa Kasanga

### 10. Mangsa Kasadasa

This mangsa starts on March 27 to April 19. Candra's mangsa is "Gedhong Minep Jroning Kayun" which means the door of his heart is closed. This mangsa, the sound of strong winds can be heard to the ears of humans, because of the transition from the rainy season to the dry season, which is called the Mareng mangsa [4]. The cold air is still felt on this mangsa, and the highlands are still cold. Strong winds rushed from the southeast, to the point of knocking leaves. On this mangsa the scenery looks amazing like a sea of gold because the rice is yellowing and the farmers are starting to harvest [4]. Mangsa Kasadasa has the mangsa trait of "Genteng mineb in lautan " meaning the rice is getting old, the birds are singing, making nests and incubating the eggs. Meanwhile, cows and buffaloes are getting pregnant. However, this mangsa feels a little gloomy because soon the dry season comes. For this reason, people with this mangsa are easily lethargic and dizzy [5].



**Figure 10.** Mangsa Kasadana

### 11. Mangsa Desta

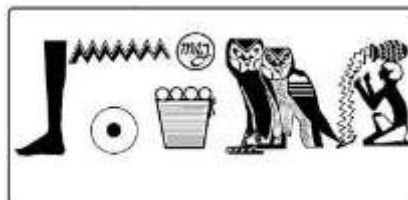
Mangsa Desta starts on April 20th until May 12th. Candra mangsa is "Sotya Sinara Wadi" which means jewel of the heart (ie full of love, while the wind that blows from the Northeast with hot air during the day) [4]. This mangsa has entered the dry season with infrequent rains. The weather was not as cold as before and the wind was traveling from the southeast to the northeast. These winds have an impact on the condition of waves and sea waves, such as tidal storms. The peasants began to harvest rice in their fields, and sweet potatoes were harvested. The sparrows begin to seek and give food for their children. An atmosphere that seemed like a lot of affection was pouring out [4].



**Figure 11.** Mangsa Desta

### 12. Mangsa Saddha

Mangsa Saddha starts on May 13 to June 22. Candra's mangsa is "Tirta is valid because of the gym" which means the water is missing from its place. In this mangsa is the dry season. It will start to get hot during the day, but it's still cold at night. A light breeze blows from East to West [4]. Fruits such as tangerines and pineapples are ready for harvest. The rice is ready to be harvested, the straw is burned and prepared to plant secondary crops. Meanwhile, the reservoir is starting to run out because it is no longer raining. The wells started to become shallow and people started looking for water. The fishermen began to prepare themselves to dive into the shallow seabed, to install support poles for people to fish for advertisements in the sea, because at that time the sea waves were not so big. In this season, Nus fish or squid are often found on the seashore [4].



**Figure 12.** Mangsa Saddha

The data collection procedure used in this design is based on a literature review and previous research sources. The next step is to distribute questionnaires conducted in January – June 2021, which has been filled in by 50 respondents, the majority of whom are Javanese people aged 20 – 45 years, who live on the island of Java. A review of literature and sources from previous research was carried out to find and complete data regarding Mangsa Institutions in a complete and in-depth manner according to the experts. In this method, core data is found in the form of understanding, history and distribution of mangsa.

To find out and measure public knowledge about Pranata Mangsa, a questionnaire was distributed to the Javanese community. It is known that out of 50, 28 respondents did not know about Pranata Mangsa. Audience is an important element in the realm of communication, especially in the sphere of mass communication for the sake of the continuity of a good communication process. The audience is the target with the help of the mass media to receive messages from the messenger with the aim of providing information [6].

The target audience for this design is the Javanese people who are both in the Provinces of Central and East Java and who have lived in other provinces on the island of Java, aged 20-45 years, with student status, not yet working and those who have worked, are also located in middle to upper middle economic status. It is known at that age, humans are in the process of searching for identity both from themselves and external factors such as culture and environmental factors. Starting to be future oriented and live a healthy life. The communication strategy used in this design is to use information book media which is dominated by attractive illustrations. The concept used is also related to Javanese culture, and is packaged in a modern way. The purpose of communication in the design of Pranata Mangsa information media is to provide knowledge to the general public, remind and preserve the values and guidelines of the ancestors, get new hobbies and personal experiences, and increase self-awareness and sensitivity to nature and its surroundings.

The communication approach in the design of Pranata Mangsa is divided into two, namely the visual approach and the verbal approach. The Pranata Mangsa information media uses simple illustrations combined with attractive colors. The concept used also represents several cultures that are still attached to Javanese society. Meanwhile, the delivery of information on Pranata Mangsa uses the national language, namely Indonesian. Aims to be understood by the general public other than Java.

### **3. Results and Discussion**

The design of this illustration book displays pictures that support Pranata Mangsa's information as a complement and attraction for the audience. The image or illustration can also provide emotion and exploration of the imagination of each reader. The main information media used are illustrated books. The illustrated book is printed in a 17 x 17 cm size format. The cover of the book will use a hardcover coated with Artpaper paper, with the contents of the book containing about 44 pages.

#### **Layout**

The media for illustration books is 17 x 17 cm, with a left and right margin of 2 cm, a top margin of 1.5 cm and a bottom margin of 0.5 cm. On the front cover of the information book, the placement of the title is in the middle and has a large size. At the bottom of the title, there is additional information about the title which will be filled in as additional information about the Presbyterian Institution, such as Ancient Javanese Astrology. At the very bottom is the identity of an illustrator. While on the back of the book, there is the writing of the title of the book, the publisher's logo and the symbol of mangsa. On the back cover of the book there is a synopsis and the serial number of the book.

#### **Typography**

Sihombing, D. (2001) in his book entitled "Typography in Graphic Design" explains that typography is useful for conveying messages to readers, and providing information on an image [7]. Fonts are files with TTF (True Type Font) or OTF (Open Type Font) extensions that contain letters, numbers, symbols, punctuation that have been designed using digital devices [8]. In the process of delivering the message, the main title or headline Pranata Mangsa uses a decorative typeface that has a shape that represents the Javanese script, namely the Upakarti font created by Gunarta, A. (2015). However, because of the lack of legibility, the designer made a few changes to the word "Pranata Mangsa" only, to make it easier to read even from a distance that is not too close.

While the title description is written in capital letters with the Sans-Serif typeface. The Sans-Serif digital font used in Pranata Mangsa's information media is "Old Djakarta" which can give the impression of being simple, classy and has a high level of legibility.

The use of various types of letters to be used in titles, subtitles, and the body of messages or information can reduce audience boredom in reading.

#### Illustration

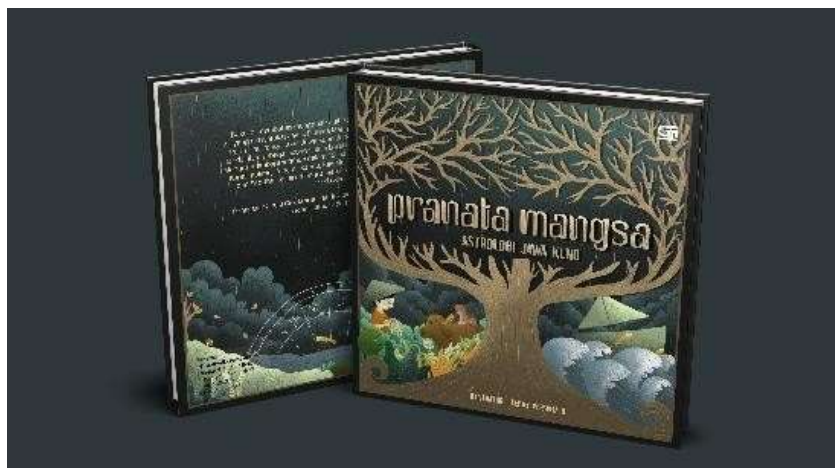
In designing Pranata Mangsa information media, using illustrations based on daily life, so that it can be accepted by modern society.

#### Color

Color is a verbal marker that can encourage someone's interest [9]. Referring to the relationship between Pranata Mangsa, the colors used are the colors of the culture that represents Java, namely Wayang. The puppets used are the oldest puppets in Indonesia, namely, Wayang Beber is found in two different areas, namely Pacitan, East Java, Wayang Beber is stored and preserved [10]. The main colors use these colors as the coloring of the characters displayed in the Pranata Mangsa information book illustrations, such as Farmers, Fishermen, animals such as fish and birds.

#### The Final Result

After going through several stages in designing Pranata Mangsa's information media, he produced an illustration book measuring 17 x 17 cm with 44 pages, as follows:



**Figure 13.** Book Cover

The illustration book is printed with a hardcover type of book cover to give a firm impression and attract the attention of the audience. While the contents of the book which contains 44 pages are printed with paper material made from 260 gsm Artpaper. This book discusses the Javanese calendar briefly, its meaning, history, and the distribution of the 12 mangsa.





**Figure 14.** Book Content

#### 4. Conclusion

Pranata Mangsa is an ancient Javanese calendar system that has existed for many years. Ancient Javanese people used natural signs in estimating natural conditions and seasons. The design of information media in the form of an illustrated book that is designed to measure 17 x 17 cm with many contents of 44 pages, which briefly discusses the Javanese calendar, understanding, history and distribution of Mangsa Institutions. The illustrations used are also simple illustrations that provide a representative picture of certain mangsa information. With this design, it can remind us that culture must be preserved because it has good benefits for life. In addition, it can also increase the public's sense of concern and appreciation for the beauty and diversity of nature and culture.

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