

## Research Article

# Gringsing Textiles as Cultural Archives: Designing Story-Making Tools for Conservation

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Traditional textiles are central to understanding values and influences integral to regional design forms. For example, the various kinds of *gringsing* woven in Tenganan Pagringsingan, Bali, Indonesia, have a distinct ecology that is social, natural, and spiritual. How can this be sustained to attract a new generation of weavers and dyers within the community as well as ensure the appropriate use of natural resources? Woven textile motifs and patterns can capture cultural forces, and transcribe them into images, forming visual records or archives of significant relationships, perceptions, events, and stories. These images are semiotic and perceptual tools that can facilitate knowledge conservation by re-connecting textile makers/users with original sources of inspiration, myth, and other cultural information. Contemporary media, such as photography or illustrated books, can also be used as tools of connection when used to document textile motifs and cultural practices within these communities. Based on research conducted over 2014-2019, this article introduces 27 *gringsing* weaves as well as local knowledge associated with the usage of natural elements. Field observations, interviews, and discussions also helped co-create a story prototype and visual character design with some of Tenganan's inhabitants. These can be used as tools to help re-identify social-natural-spiritual resources in *gringsing*'s composition and acquaint the community's younger generation with their cultural inheritance.

**Keywords:** archives, knowledge conservation, participatory learning, story-making, visual design

## 1. Introduction

Textiles are important, non-verbal forms of knowledge and communication. A group of textiles called *gringsing* are so important to their community in southeastern Bali, Indonesia, that the village takes its name, Tenganan Pagringsingan, from cloth-making activity. Tenganan is an old Balinese (Bali Aga) village populated by around 240 individuals whose lives are dedicated primarily to fulfilling spiritual duties. The village is believed to be a representation of the cosmos and its inhabitants are responsible for maintaining cosmic balance through their practices, including weaving and the use of traditional textiles in various rituals. The belief system is a mixture of an ancient branch

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of Hinduism that worships the god Indra, and an indigenous belief system called *Kanda Pat* that honors nature. As a result, Tenganan's ritual activities and daily life revolve around worshipping natural elements and making offerings to appease the gods, as well as the purification of self and land to prevent calamities. For Tenganan's people, an offering that is built by natural elements mediates prayers to the divine, and is a sign of one's dedication and respect for nature. *Gringsing* textile is, thus, created as the highest offering to the gods.

*Gringsing* is widely known for its complex production technique, range of design patterns and ceremonial significance. While recognizing, and drawing upon, important research produced by scholars from various disciplines [1], [2], [3], [4], and [5], this article takes a different direction. It focuses on the relevance of textiles as story-telling or "the storage and transmission of information about the world" [6], and how this can relate to contemporary story-making as a form of cultural conservation.

In addition to following indigenous norms, Tenganan's women weavers have successfully incorporated external influences into their local weaving technology, whether historic, such as *patola* [7], or newer ones from the heritage and tourism industry. Together, these form a complex ecology that inspires motifs and patterns, and, thus, the communicative, perceptual, and knowledge-making importance of *gringsing*. Similar to the process of photography in which moments are captured and manifested as visual composition, the design of textile motifs lends itself to becoming a visual collection or archive of significant relationships, communal perceptions, worldviews, and events specific to the community that produces/uses the textiles. By translating ideas and values into visual form, *gringsing* serves as a container of meaning for Tenganan, and a vehicle of re-connection to original sources of inspiration.

Via the study of *gringsing* design [8], [9], this article introduces textiles/motifs that have become cultural archives through making and usage for hundreds of years in Tenganan Pagringsingan. Research focuses on exploring the representational and meaning-making qualities of *gringsing*, especially its relation to ecological knowledge wherein ecology is defined as the social-natural-spiritual environment. Together, textile names, motifs, and materials communicate different kinds of ideas, and help conserve the original production process via everyday skill and improvisation.

### 1.1. Case study: *gringsing* in Tenganan Pagringsingan

*Gringsing* is a double-ikat textile produced intergenerationally, and both a sacred ceremonial item as well as an article of traditional clothing. The main artisans are female, trained from a very young age in the knowledge of textile-making. A considerable amount of cultural meaning and communal value is attached to the textiles' production, form, and usage. In ikat weaving (ikat, meaning to bind or tie in Bahasa Indonesia), the threads are colored through a resist-dye method. That is, they are tied with pre-arranged patterns before being dipped in dye baths, such that the tied parts remain uncolored. Much time is needed for tying, dyeing, and untying, and the clarity of the motif/design depends upon the skill of tying. In Tenganan, the finished ikat cloth is believed to be sanctified via a making process that symbolizes creation as a whole, and of birth and life in particular [8]. In the double-ikat process, patterns are tied into both the warp and weft threads, and woven later on a back-strap loom so that the two—warp and weft—conjoin almost perfectly to form an image involving cross-like motifs.

Due to metaphysical symbolism and psychological analogies between the production of ikat, the cosmic creation process, and giving birth and nourishing new life, spinning and weaving are traditionally envisaged as the divine assignments of female members of the community. The production process of *gringsing* has been kept consistent for generations and involves ritual codes of conduct where the working space and time are appointed. *Gringsing* is also believed to have supernatural properties, and is used as protective talismans against sickness or defilement. According to a textile artisan and a village scholar [8] for the community of Tenganan Pagringsingan, the making of the textile is similar to 'giving birth to a child' and the entire making process symbolizes the 'journey of life'.

### 1.2. Theoretical framework

In keeping with our use of a semiotic approach, traditional textiles can be considered as sign-vehicles, possessing a semantic value for the producing/usage community. Further, the information that is conveyed may be depicted realistically (representationally) or in abstract form (stylized) by patterns, while the information stored in symbols can be portrayed in a non-representational style [10].

Following Peirce's [11] triadic semiotic system of sign, object, and interpretant, we can investigate *gringsing* as a process of meaning-making, references, and how the

interaction of elements could create signs as icons, symbols, or indexes. For example, a specific geometrical pattern in *gringsing* can be considered an icon of the village's spatial organisation; the cloth can be considered an index that denotes its object by being physically linked to it (as in the action of cutting the warp off the loom); and the textile can be considered a symbol representing the village, defined by social convention. Combining Saussure's [12] theory that all symbolic systems in a culture function like a second-order language or text, we can consider various kinds of information as sign-making materials, including spoken language and repetitive cycles of symbolic activity. The word *gringsing* is itself derived from the word *gering* (sickness) and *sing* (not) in Balinese, suggesting communal belief about the textile's protective quality. This sign system is, thus, part of the foundation or storehouse that contains all kinds of information for a community's ecology and daily life.

With regards to meaning-making as a cultural activity, it is important to understand symbolism from the 'native' perspective, wherein humans spin "webs of significance" that they are subsequently suspended within. Geertz [13], In reality, individuals in a culture may have greater/lesser knowledge or access to relationships and content for meaning-making through a learned, rather than given, activity. The question, therefore, is what kind of system is used to educate and engage the individual in learning encodable cultural knowledge? In the case of Tenganan, it was observed that textile-making culture, specifically the creation of visual elements such as pattern and motif, is a form of ancient craftsmanship that mediates social symbols and local narratives to facilitate inheritance through production and usage. In line with this discovery, this article proposes that the visual/formal aspects of textiles could be considered ecological archives, containing the community's traditional knowledge and relationship with an environment. Design elements such as motif, pattern, and color, act as codes that translate intangible cultural symbols into tangible objects.

## 2. Methods: participatory learning and action

In design research, it is important to implement an approach where design researcher/practitioners can position themselves as active learners. Participatory learning may enable the researcher to directly experience things as well as acknowledge the importance of making relationships within the community through immersion in daily life.

During field research in three separate trips over 2014-2016, the principal investigator [8] moved extensively inside the village compound, and conducted interviews with many *Gringsing* artisans concerning motif design and the potential of 'social-spiritual-natural' resources as ecological sources of inspiration. In-depth interviews and semiotic analyses of the textile surface design (layout and element composition) were conducted with the village's senior members and textile artisans. This was to discover and record original sources of inspiration, and to determine the 'treasures' or core ideas and forms of the community through which pattern and motif design as well as textile-naming are created as codes.

The first study was to identify several problems that exist within the *gringsing*-producing community, the diminishing values of *gringsing*-making culture, to map the patterns of *gringsing* and motif correlations, and to define them as cultural treasures that made up the ecological archive of Tenganan Pagringsingan. The next action was to make an initial effort towards conservation and facilitate the younger generation's re-connection with cultural knowledge. This was to see if these treasures could inspire a visual media tool such as a storybook and character design.


























### 3. Results: determining 'treasures' of tenganan

Amidst economic urbanization, *gringsing* production is aimed at both making new cloths for ritual use and the sale of heirlooms to sustain families. Mass production, however inevitable, is slowly altering the form of these textiles. Village chiefs and scholars have repeatedly underlined the importance of learning in sustaining *gringsing*'s core meanings.

#### 3.1. Treasure-mapping: gringsing textiles with older motifs

From the perspective of 'archive-making', cultural symbols and meanings inspired by indigenous philosophies can be represented by size, color, and pattern. Based on field research [8], as many as 353 pieces of *gringsing* textile heirlooms of various sizes and patterns were documented in the property of 180 Tenganan families from their safehouses in 21 residences. This was to study the textiles' aesthetic qualities, physical details and family usage. From this data, as many as 27 patterns of older designs were retrieved and classified according to their color hue, *barak*—reddish/containing three colors of white, black, red; *selem*—dark/containing two colors of white and black;

concentration of pattern construction; name signature; and possible gender indications. These traits were used to analyze representative features associated with cultural information.




















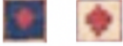




	SELEM	BARAK		
Specialized Pattern Designs	Feminine	Genderless		
	 Pat Likur Isi  Wayang Kebo  Wayang Candi  Wayang Putri Dedari  Wayang Putri  Wayang Mesila	 Lubeng Luhur (3 pattern repetitions)  Lubeng (2 pattern repetitions)		
Non-Specialized Pattern Designs				
	Feminine			Genderless
	 Cemplong  Cicempaka  Teteledan  Batun Tuung (old)  Batun Tuung (new)  Sri Gading  Tali Dandan  Patola  Gegonggangan	 Injean Siap  Cemplong Memedi  Watun  Sitan Pegat  Sridatu  Dinding Ai / Batun Cagi  Kotak Gambir	 Pepare	

**Figure 1:** Patterns of *gringsing* classified according to design and hue. Image by Lira Utami.

Based on the application of decorative elements (basic motifs), *gringsing* patterns were classified into specialized and non-specialized designs (Figure 1). The primary element was the 4-pointed star, also known as *Panggal Asu*, a symbol of the village developed indigenously. According to artisans and village scholars, the patterns that displayed clear 4-pointed star motifs were traditionally considered the most sacred and aesthetically pleasing [8]. Therefore, the patterns with clear display of 4-pointed star motifs are classified as specialized designs (Figure 1, row 1), while the ones without are classified as non-specialized designs (Figure 1, row 2). The pronounced 4-pointed star motif identifies geometrically arranged patterns: the distinctive style of pattern designs/names for specialized designs characterizes their special nature while the motifs that adorn patterns in non-specialized designs, along with their name signatures, represent forms of nature. From the perspective of color, all non-specialized *gringsing* pattern designs are called *barak* cloths (red-hued), symbolizing the interconnection of the three divine forces of nature— birth, life, and death. It is also worth noting that



textiles are assigned gender through feminine, masculine and/or neutral (genderless) patterns, thus, associating them further with who could wear it.

Name and Meaning	Manifestation in real world	Motif Adoption	Resulting Pattern Design
Tridatu Three colors	element of life: air, fire, water  element of offering: charcoal, chalk, blood		
Cicempaka Cempaka flowers	 yellow Cempaka  white Cempaka		
Dinding Ai Sunlight shade	 the nest of wasp <i>Nyawang dinding ai</i>		
Dinding Sri Gading the Wall of Sri Gading flowers	 strings made of <i>Sri Gading</i> flower		
Batun Tuung Wild eggplant seeds	 wild eggplant used for medicinal food	 New Old	 Old      New
Batun Cagi Tamarind seeds	 Tamarin tree of the temple <i>Batun Cagi</i>		
Kotak Gambir Gambier cubes	 <i>gambier cubes, chewed with Betel leaves as herbal medicine</i>		
Patola Indian textile/ Cotton flower	 the cotton flower of Tree Cotton		

**Figure 2:** *Gringsing* pattern designs that communicate the utilization of nature and its significance in ritual settings. Image by Lira Utami.

### 3.2. Treasure-mapping: visual design communicates ecological knowledge and the use of natural resources

Among 27 pattern designs, there are several that specifically reflect the ways people utilize nature and relate it to ritual significance (Figure 2). These patterns show closeness with nature through certain types of vegetation, animals, and geometric objects that bear significant religious meaning.

For example, the information that *gringsing* used to be made of local thread, hand-spun from a specific type of cotton called *Kapas Keling*, and associated with the weave called *Gringsing Patola*. It refers to Tree Cotton (*Gossypium Arboreum*), a rare species of cotton brought from the Old World, native to, and only cultivated commercially in India and Pakistan. Further, knowledge of this cotton is represented by a story recorded in the book of origin, *Usana Bali Pulina*. There, it mentions the procreation of humans by the god Indra through the ancestral couple, the male *Kaung* and the female *Keling*, who also received the divine assignment of producing the offering textile, *gringsing*. The word *keling* is also the term used by people from Bali and Tenganan Pagringsingan to designate Indians, and is linked to the historical Kalinga kingdom of Eastern India [14].

Another example is the *Dinding Ai* pattern whose name is derived from *Nyawan Dinding Ai*, a type of wild bee (*Apis Dorsata*) well known in Tenganan region for its marvelous nest-making ability. The name *Dinding Ai* is itself derived from the word for wall (*dinding*) and sunlight (*ai*), with a Tenganese textile artisan and scholar explaining during an interview, “The nest is broad and large that it blocks the sunlight” (Utami 2019, 83). *Dinding Sri Gading* means the ‘wall made by Srigading’ and indicates a type of sacred fragrant flower called the Night Blooming Jasmine (*Nyctanthes Arbortristis*), native to South Asia and South-east Asia, and used heavily in Tenganan for offerings called *Srigading*. The trees are planted inside the village for every village member to use. Another pattern is called *Batun Tuung*, which means ‘the seeds of eggplant’, and refers to the use of a type of wild eggplant that can be found inside the forest. In an interview, a community member explained that these eggplants (*Tuung*) are prepared and cooked together with other leaves and herbs that contain a fat-neutralizing nutrient to create the dishes *Lawar Terung* and *Brancuh*, eaten during festive days of a ceremony (Utami 2019, 83). That is, by exploring the meaning and form of *gringsing* patterns, the placement of decorative ornaments and distinctive names can be connected to natural resources and other communal activities.



Based on the categorization of pattern designs, we know that themes of nature are highly pronounced in Indonesian textiles. By studying each pattern, we are able to clarify what each pattern may communicate, thus, framing *gringsing* as tangible cultural treasures that record intangible treasures within the community.

### 3.3. Cicempaka flower as an example of a social-natural-spiritual resource

The *Cicempaka* pattern is built in square lattices with the floral motif displaying diagonal reflection. It falls into the category of *gringsing barak* due to its clear red hue. The name signature *Cicempaka* is derived from the sacred *Cempaka* tree (*Magnolia Champaca*) whose fragrant flowers are used as offerings. To Tenganan's people, the pattern reflects feminine identity, and the responsibility that awaits women and girls. The wood of the tree is considered holy and is used traditionally for making the beams and poles of sacred structures. *Gringsing Cicempaka* is used as ritual costume (Figure 3) both in the large size or paired with *Wayang* or *Lubeng* patterns in a pattern assembly called *masemayut* (two patterns sewn together) as well as *prembon* (three or more patterns sewn together). It is also incorporated in a small size (*cenik*) combined with specialized patterns for textile offerings. This pattern is one of the most produced patterns by artisans, and so together with several young members of the community, the *Cicempaka* pattern was chosen to develop a story narrating the significance of the flower/tree as interpreted from textile motifs.

### 3.4. Interpreting Gringsing Cicempaka for character design and story-making

The project was planned with the collaboration of the community, and the narrative was supervised by Tenganese artisans and scholars to ensure the accuracy of cultural aspects and relationship to the environment. It was to design an illustrative story and character (Figures 4, 5, 6) with episodes following the order of a child's stages of growth. The stories would include the old patterns, and follow Nyi Sekar, a curious and lively girl child, in her quest to understand her culture and her community. The first story would be about the patterns of *Gringsing Cicempaka*.



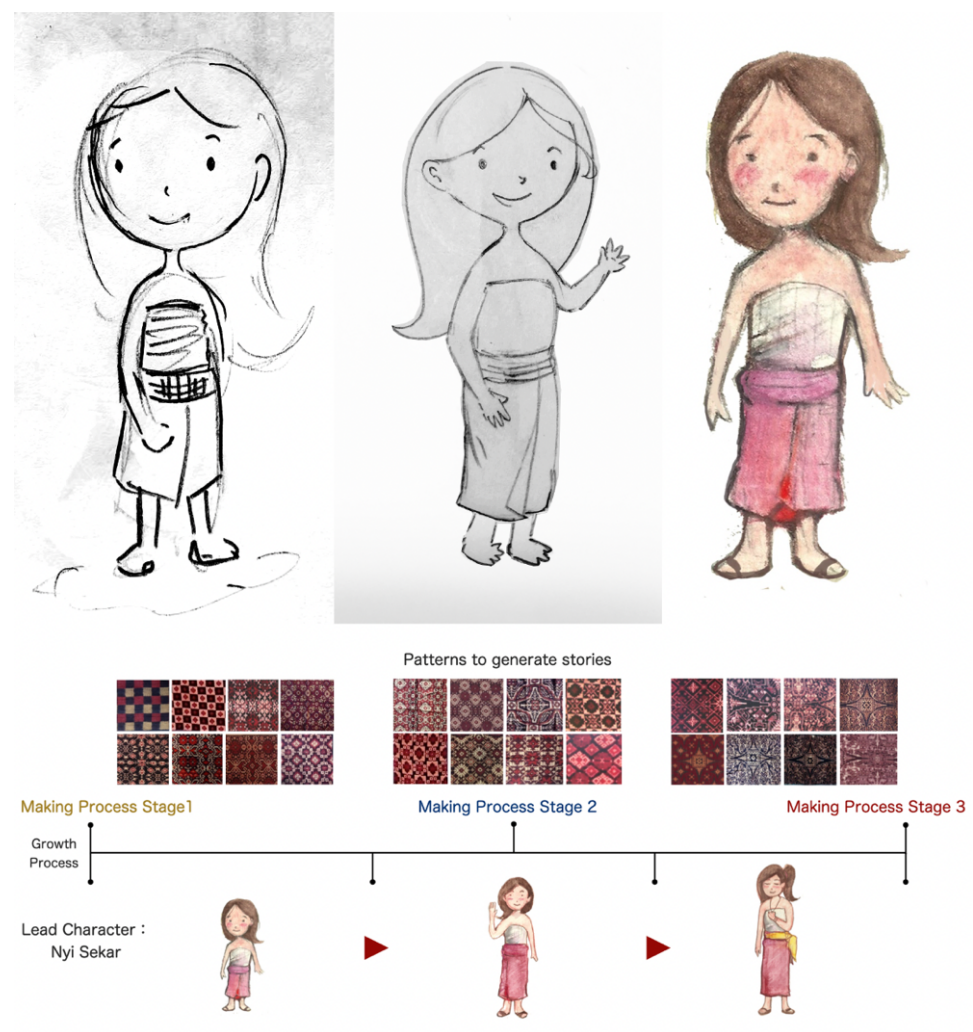
**Figure 3:** Girls and man wearing Gringsing Cicempaka in Abuang courtship dance where young men and women greet one another. Photo by Lira Utami. 2018. Tenganan Pagringsingan.

## 4. Discussion

*Gringsing* was once made for ceremonial usage and produced strictly according to *adat* (customary law in Bahasa Indonesia). With textile production increasingly taking place to meet economic needs, the village high council in Tenganan is concerned about the loss of sacred knowledge and meanings especially in the younger generation. The late village high priest Mangku Widia expressed that the village needs communal determination (Utami 2019, 7) to work on building a communication system in which inherited knowledge can be preserved and decoded for the purpose of sharing and developing ideas and relationships.

### 4.1. Ecological awareness represented in gringsing motifs

The community of Tenganan Pagringsingan depends on their forest as the reservoir of natural elements and food sources. Materials for making offerings are grown closer to home, within the village compound. The way people use and treat *gringsing*, for instance, incorporating natural materials in its making, indicates the closeness of Tenganan's inhabitants with the environment. Story-making and illustration books can act as tools to conserve, engage, and stimulate the younger generation in Tenganan to know



**Figure 4:** Character Design: Nyi Sekar and story development plan. Sketch by Lira Utami. Digital illustration by Ardhi Graha.



**Figure 5:** Example of a storybook page. Nyi Sekar collects fragrant *Cempaka* flowers. (L) Sketch by Lira Utami. (R) Digital illustration by Ardhi Graha.

their textile-making culture, and re-identify social-natural-spiritual resources as represented in textual and visual compositions. By investigating inspirational sources that influence *gringsing*'s cultural meanings, one can also confirm endogenous sociocultural





**Figure 6:** Example of a storybook page. Nyi Sekar's mother finishes weaving *gringsing* for her rite-of-passage. Her grandmother explains its significance to her. (L) Sketch by Lira Utami. (R) Digital illustration by Ardhi Graha.

processes—some of which are still in usage. These processes specifically help identify the community of Tenganan as one in which *gringsing* is both a singular object and a social, relational 'experience'. That is, *gringsing* can be approached as this community's documentation and conservation tool. Recognising the significance of *gringsing* as a design resource may help trigger more endogenous development in the future.

## 5. Conclusion: story-making as conservation

From the study of several motifs and patterns, *gringsing* textiles can be considered as socio-cultural objects that archive experiences in the form of signs. They record information that is gathered through processes of wondering, imagining, representing, and remembering. The patterns woven into *gringsing* textiles constitute a model of objectified meanings, communicating accumulated experiences in the form of images. The visual images on textiles are semiotic, perceptual tools facilitating re-connection to original source(s) of inspiration, and giving new form to cultural conservation. For the young generation, re-connection can be facilitated through visual media such as photography or storybooks. Further, the character design and narrative presented in this article can form a basis for the next stage of media tools through which engagement can be enhanced.

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## Conflict of interest

The authors have no conflict of interest to declare.

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