The Theatre of “Glass Puppetry” Enhanced With The Use of The Technology of Lighting

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The life of a Wayang Artist is an honorable role to have in the society of the Balinese people. Storytellers using the art of the wayang are highly respected, whose role in the community is to pass on the precious stories about the history, the culture and the spiritual heart of the Balinese people. The Wayang artist, known as the dalang goes on a life journey in sharing their philosophies through stories for the enrichment and soul of society.

The process of internalization of the Puppet master from an early age through the world of wayang, forms a cognitive map of the creator who is immersed in the stories and characters of wayang art figures. The wayang artist continues to strive for innovation in form, exploring new techniques and exciting presentations, and with that in mind, the invention of the Glass Wayang enables the creator to explore the new technologies in developing a new way forward in the shadow puppet world.

The process of creating Glass Puppets using the technology of lighting as a medium, opens one up to reflect on the mirroring of the self-image to self-awareness and the inner workings our role in this human life. Dramatic depictions of life processes are conveyed through the medium of glass puppets. Experiences and realities of life from the past until now. The search for identity is awakened.

Wayang Kaca’s work ranges from the making of various styles and forms of puppets supported by one hundred and six dancers accompanied by digital musical instruments (midi) and Bebonangan and Semarandhana gamelan. Digital musical instruments (midi) and gamelan are not only accompaniment but are an important part in providing a traditional and modern feel. The performance venue at Sanggar Paripurna Bona, Gianyar includes a side stage along with the traditional proscenium stage. allowing for a full presentation for displaying this Glass Wayang work. The facilities the sanggar offers allow for all aspects of the creation process in developing, rehearsing, and presenting a final performance.

Keywords: life, glass puppets, and lighting technology.
Introduction

The Shadow puppet Art Form has been around for more than 3000 years and has remained a popular art form today for the Indonesian people, in particular across Java. In the development of wayang throughout its history, there are two theories directly related to its historical success and longevity. Firstly the Wayang is related to wayang morphology, its theory explains the origins of the wayang, which began when temple reliefs were transferred to sheets of paper called wayang beber. A second theory of the development of the is based on historical sources, inscriptions, fibers, notes or books (Sunarto, 1997:16).

![Figure 1. People start drawing on the cave walls](image)

In the book written by Sri Mulyono, it is explained that the Wayang in Javanese means "Shadow". There are many words to give meaning to the wayang across Asia: in Malay it is called Bayang-shadow; in Acehnese, Bayeng; in Bugis- Wayang or Bayan; in Bikol the word is known: Baying means "things", namely "what is seen is real". The root word of Wayang is yang. The root of this word varies with yung, yong, among others found in the words laying - "flying", doyong- "tilting", unstable; royong-always moving from one place to another: poyang- "to stagger, not calm" etc. By comparing the various meanings of the root word and its variations, it can be stated that the definition of wayang is basically: "unstable, uncertain, restless, flying, moving here and there" (Mulyono, 1979: 9).

The origins of wayang itself has seen many debates among the experts. Some say that the wayang comes from India, others say that wayang is an original Indonesian art that was born in Java, whilst others theorize that the wayang art is an acculturation and fusion of two cultures, namely Javanese and Hindu (Mulyono, 1980:53).

Let's take a look at the wayang Purwa story where the definition of wayang Purwa is taken from the Big Indonesian Dictionary: It is suggested that Shadow puppets convey stories from the Mahabharata and Ramayana books. The Mahabharata is one of the great literary works of a by the famous poet, Bhagawan Wyasa, whilst the Ramayana is also a great epic classic written by Valmiki (Pendit, 2003:2)

Pischel, a wayang researcher, believes that wayangs origins come from India and is seen in the word "Rupparuakam" which is located in the Mahabharata wayang book and with the word "Ruppapanjipane", found in the Therigata, both of which mean the same thing, namely Shadow. Pischel also added to his theory that, the wayang purwa story in Indonesia was also taken from the Mahabharata and Ramayana books which belonged to the Hindu and Indian Nation.

This particular opinion regarding the origin of wayang originating from India was denied by another researcher Brandes, who said that the evidence shown by Pischel was very weak because it was only a hypothesis. Though still related to Hinduism, another expert, researcher, Kram, believes that wayang is the result of a fusion of Hindu-Javanese culture, proven by the distribution of wayang which only covers two regions, Java and Bali, where these
two regions experienced a lot of influence from Hinduism in their development (Wahyudi, 2011: 14).

Another researcher, Rassers, states his opinion and theory with an easy-to-understand analogy, that wayang is a mixed culture or the result of the meeting of two ancient cultures, namely Hindu-Javanese. The living proof of mixed culture is that the wayang characters and Purwa wayang stories developed in Java-Bali use typical Indian characters. According to Rassers, the Javanese wayang purwa in its performances brings to life the shadows of its ancestors in the stories contained in the Mahabharata and Ramayana books, evidence of a Hindu culture. On the other hand, if wayang is entirely a Hindu culture brought from India, why do the shapes of some of the statues (Semar, Petruk, Gareng and Bagong, which are original Javanese figures) not resemble the shapes of the ancestors of the Indian nation (Sucipto, 2009:362) ? This idea is also a justification for Brandes' theory, meaning that there is a merger, fusion or cultural acculturation that occurs here between Javanese culture and Hindu culture (Mulyono, 1980: 27-28).

It is important to know that when creating wayang works, you can use creative sources from everyday life such as personal experiences, literature, phenomena and the social environment. The creative process always requires the inventiveness of new ideas - new ways of looking at life and how we fit into the social network that is always in a state of change.

These experiences open up the possibility of creating new works, of making new ideas, finding fresh ways of exploring the various shadow forms and styles.

Discussing the wayang I Made Marajaya explained in his book “The Meaning of Ruwatan Wayang Cupak Dalang Dalang” I Wayan Suaji (2020:1), that in the current era of globalization, traditional (conventional) wayang kulit performances are starting to experience decline due to developments in science and technology which produce new entertainment products in accordance with the aesthetic tastes of today's society. Various efforts have been made by the Bali provincial government through the Department of Culture to preserve and conserve wayang which is recognized by UNESCO as a World Cultural Heritage Art Form. As magnificent an art practice is the wayang, the form in these contemporary times has struggled to compete with the broader performing arts and indeed television and film which are aimed much more at a wider audience.

Responding to this statement that wayang is experiencing a decline in interest and with the art form struggling to compete with the broader performing arts, this is forms the basis for the creator's idea of wanting to continue preserving and developing wayang as a performance medium that reinvents itself in ways that can recapture wider interest from the public.
The art of wayang has also made creators aware of the art of dance, because in shadow puppet performances there are dance movements that make the puppets look alive as if they have a spirit or soul. If you pay attention, there are several similarities between dance movements and wayang movements, usually often referred to as tetikesan. The similarity in question is when the puppet makes movements that contain meaning such as: nabdab gelung, nabdab bracelet kana, metetayungan, petangkilan and many more. Tetikesan is one of the most important parts of a shadow puppet performance, because by looking at the tikesan of the puppet, the audience can discover the extent of the ability or flexibility of the puppeteer.

Starting from the experience of drawing human puppets in an electric puppet show, often referred to as multimedia puppetry, the creator acts the role of one of the shadow puppet characters and in turn transforms into a human puppet (wayang wong). The creators therefore has the opportunity to play the dual role of a wayang kulit and wayana wong, often the case when there are few puppeteers to call upon. Usually the number of puppeteers involved in this multimedia wayang performance is between six and ten puppeteers, but when taking part in the festivals, often there is only three performers.

As one of the descendants of a family deeply involved in the Art of Puppetry, the creator was lucky to have the opportunity to participate in various types of International Wayang Festivals including Spain 2016, India 2017 and the Europalia Festival which was held in Belgium in 2017, plus many other festivals throughout the world which also feature wayang. The experience gained from participating in each of these festivals has opened up my world and furthered opportunities to engage in cross cultural projects with a variety of International artists, each informing and contributing to the development of my own craft. Even though the creator comes from a family with a background as a wayang artist, the creator does not focus on studying this art, either from the process of making wayang, or the literature that is the basis of a wayang performance. On the basis of this knowledge, a desire arises to know and dig deeper into the art of wayang, especially leather wayang.

Figure 3. Balinese leather puppets depicted on cloth are known in the Kamasan wayang area (becoming wayang kamasan)

According to the Old Javanese language, wayang comes from the words "wod" and "yang" which means repetitive movements that are not fixed. It can be understood that wayang means a shadow that sways, moves back and forth, or moves back and forth without a fixed place (Mertosedono, 1994:28). There are various types of wayang spread across Indonesia, namely, Wayang Purwa, Wayang Gedhog, Wayang Klithik, Wayang Golek, Wayang Topeng, Wayang Wong, and Wayang Beber.

**Development**

The development of wayang performances today is in line with social changes in a society that supports wayang, namely from a traditional agrarian (agricultural) society to a more urban society, as stated by Adolph S. Thomars in his article Class System and the Arts.
He comments that art is definitely influenced by the nature of the structure of society where art resides (1964: 472). This shows that the development of wayang/pedalangan in Bali is also influenced by the set of cultural values or ideological systems that apply in Balinese society itself. In this regard, the development of wayang performances essentially includes three components; aesthetic concepts, artistic techniques, and social groups which who are the forum for art.

First, the aesthetic concept values the form that is the basis of a wayang performance, which is adhered to by the puppeteers and members of the community who support wayang. Secondly, the development of the world of wayang in the conditions of urban society which will move towards industrial society requiring high artistic techniques and complicated/sophisticated ones (sophisticated), meaning artistic techniques that do not fool the public as examples that choose the theme of a play and working out the details of the storyline and content of the work. Pakeliran accompaniment, tetikesan/sabet and so on. Advanced techniques will certainly require mature thinking, vivid fantasy, rich feelings and sharp intuition. And thirdly, the social group that supports the art form of puppetry as part of their way of life. Art as a social institution does not live in the air. Within the Balinese community there are supporters, coaches and movers as well as consumers that follow the progress and advancement of the wayang through its story telling. (Soetarno, 1999:2).

Modifying the forms of presentation of Balinese shadow puppets as an experiment was first carried out by puppetry students from the Indonesian Arts High School (STSI) Denpasar. Along with the change in ASTI Denpasar’s status to STSI (Indonesian College of Arts) in 1987, all of its graduates created works of art composition in the Dance, Karawitan and Pedalangan departments. In 1988, I Ketut Kodi together with I Dewa Ketut Wicaksana (first batch of Bachelor of Pedalangan) worked on a revolutionary form of puppetry with the title Pakeliran Layar Berkembang "Anugrah", with the play Arjuna Tapa (Kekawin Arjuna Wiwaha by Epu Kanwa). The work basically focused on the storytelling process and the technique of cultivating space and time, including the creation of an atmosphere by building a screen larger than the traditional wayang with electric lighting. The term "developing" has a more quantitative connotation, meaning, developing, enlarging, and expanding (1988: 1-2). In 1992, the creator experimented with wayang by expanding his work with the Pakeliran Dinamis "Sumbah" label, in the context of the final exam at STSI Denpasar. In presenting the dramatic plot, it was based on Bima Swarga's play, processing the characters wayang (two-dimensional) along with human figures (three-dimensional) in the medium of revealing shadow puppets on dynamically arranged screens. The showing is presented with two large displays/screens, one measuring (8x4.80 meters) and smaller screen (5x2.40 meters) using electric light projection from either an overhead projector, a spot light, strip light or follow spot controlled by a dimmer. There are a variety of materials in the making of the puppets including the traditional leather, mica plastic, styrofoam, Solex paper, cardboard, plywood and so on. The variety of materials available today in creating the wayang is extensive. Perhaps the greatest change through experimentation and exploration in Balinese puppetry in contemporary wayang theatre has been the use of computer technology and Laser Compact Dist (LCD) to project puppets and backgrounds scenery. Examples of these include forests, rice fields, seas, palaces, places of worship (pure), gardens, ponds. This form of pakeliran experiment was carried out...
by lecturers and students of Pedalangan STSI Denpasar during the Siwaratri celebration at Puputan Badung Field, Denpasar on Tuesday, February 12 2002. With a special wide screen made of plastic (original screen) measuring 8x4 meters, it was installed like a step screen with the involvement of the crew, numbering 75 people. This attracted thousands of spectators until dawn. This idea emerged from the desire to accommodate the various abilities, experiences and skills possessed by lecturers and alumni of Pedalangan STSI Denpasar.

Figure 5. Scene of Ravana and Patih Merica. (doc, I Made Sidia Wayang Electric)

Mr. Dr. Drs. I Gusti Ngurah Semasara, M. Hum. in his delivery, when giving an Art History course, said that: “Puppet works initiated by academic artists are aesthetic reinterpretations that depart from the aesthetics of traditional Balinese wayang with full innovation are transformed into an artistic communication medium. He went on to say "in creating a new work or experimental work, it is necessary to pay attention to forms of artistic work that are based on traditional artistic concepts. Although there will definitely be changes, the creation on new ideas and stories requiring experimentation, it was important to remember the basis of tradition and where the original ideas emerged from. All artists will express their work in slightly different ways which is what keeps the art form always alive and interesting.

The definition of "new" does not mean a total overhaul of traditional art forms. Traditional characteristics remain prominent, but the values contained and the character of their expression are adapted to the demands of contemporary developments. The concepts of renewal that underlie campus artistic works/productions show flexibility, freedom and creativity, so that these characteristics are identical to the nature of the campus as an environment where academic freedom is the main characteristic.

Figure 6. Scene of the preachers, Tuwalen and Werdah, (Doc, I Made Sidia)

In observing one of the environmental conservation programs and responding to the many issues regarding family conflicts, and the results of the discussion above, the creator, is free to create and display their work of art. Related to this, this production takes the form of a wayang theater which is hoped will raise national awareness of the importance of maintaining family, harmony and the balance of the natural environment. This wayang theater performance is a pakeliran composition that harmoniously synergizes between puppeteer,
wayang, choreography, dramaturgy, music/gambelan, natural setting, home setting, stage, circle and environmental choreography.

The play that underlies this pakeliran theater work most is the Ramayana epic with the title: Kaca Wayang Theatre, meaning a theatrical work that gives us a reflection on life. This play suggests philosophical values contained in the Ramayana story whereby, for example, Rama is exiled to the forest with his wife Dewi Sita and Admiral. The meaning of this play shows how family conflict can impact upon the environment and what outcomes are revealed, particularly by Sri Rama in the Dandaka forest.

![Figure 7. Rama Sita and Laksamana (Doc, I Made Sidia.)](image)

The developments made by the creator to create the work will be implemented through movement motifs, then shaped into a form of wayang movement performance, and studied based on choreographic knowledge (Suteja, 2018: 19). The design of this work appears when a choreographer has received ideas and themes that are used in the creation of this work. The idea for glass puppets emerged after watching, reading and studying the influence of the daily environment. A number of things inspired the birth of the idea to be transformed into Wayang Kaca from the process of making glass puppets which was linked to the searching for identity. The design concept for this work cannot be separated from the creator's source of inspiration according to the explanation in the background.

Below we try to outline several considerations for raising glass puppets:

1. There is an integration of various local wisdom values, unique from glass which is very flexible, transparent and can be transformed through creative ideas into an experimental wayang work

2. This work was produced through a process of studying the forms of wayang, including glass puppets that have ever been created.

3. The meditation culture of Balinese Hinduism gives the works of art, a magical/sacred/tactful aura, as well as various modern wayang, vocals/tembang as symbolic media, and sounds or tones have the same essence as mantras.

4. These creative ideas are expressed by interpreting through the concept of glass puppets, the effects the lighting technology offers giving a more flexible realisation and magical effect upon the audience.

The design contained in the wayang perspective is a glimpse of the place/space that will be used for the presentation of the work. By using an LCD projector to produce lighting for glass puppets, you can support the artistic vision.

The screen displays directly what happens to the light from the glass puppets so that the audience can more clearly observe the visual effect that eminates from the puppet across
the shadow screen. I remind us of the use of several stages, designed to reflect the intimacy between the audience and the artists. This is done so that the venue/performance space can reflect the atmosphere in which experimental performing arts are staged.

As an experimental work that still uses wayang as its central medium, this work is a performance that explores the glass puppet games using the Ramayana play Gamelan players are still critical to maintaining the traditional heritage and in the collaboration with midi music in certain situations the presentation is most interesting. The karaya design runs for 60 minutes and ends with a collaboration of several types of wayang including wayang kulit, wayang golek, wayang orang, which are displayed and illuminated using LCD and artistic lighting. Things that have not yet been designed and displayed will be completed in line with the development of ideas in realizing the totality of the performance.

**Glass Puppet Works**

Sanggar Paripurna Bona, Gianyar is the location for the research and creation of the ‘Reflection of Life’ glass puppet work. The reason the creator chose Sanggar Paripurna Bona, Gianyar, was because this place offered the perfect environment for the staging of the glass puppet works in accordance with the original concept. The help given by members of the sanggar offer a very supportive environment to stage this work. The address of Sanggar Paripurna Gianyar is Jl. Yudistira, Banjar Dana, Bona Village, District. Blahbatuh, Bona, District. Gianyar, Gianyar Regency, Bali 80581 and based on sources from Google maps.

This work originates from my reflections of upon human life and the possibilities of how one is able to transform the concept into glass puppets. Glass puppets made of glass/mica are painted with acrylic and then illuminated with helon lamps and projectors to produce dancing shadows in the context of the Ramayana wayang story.

To fulfill the achievement of a work idea that reflects novelty, this work will be supported by wayang players in glass/mirrored cloth costumes which are the medium for the wayang light. Several gamelan instruments, Semar Pegulingan and Gong Gede, are combined with midi music to produce an exquisite sound to support the Ramayana story. Performers for the work will be selected based on their ability/skills in playing puppets and be able to dance and dance puppets, so that the production process will be faster and smoother. In addition to the shadows produced through wayang, body and other dimensions are also used in processing shadows as a medium for conveying the Ramayana story to enrich the embodiment of wayang works.

Material collection in creating glass puppets can be divided into two areas, namely primary data and secondary data. Primary data is data obtained personally through interviews, observations, tests, questionnaires (list of questions), physical measurements and laboratory experiments. Secondary data is obtained from a second source, institutional documentation. The data collection methods used to create the material in the creation of this work are: 1) Observation: observations involving all the senses (sight, hearing, smell, mental and taste), by noting and recording them with the help of electronic devices. 2) Interview: Collecting data through direct verbal interviews with the source face to face and the source’s answers are recorded and summarized by the writer himself. 3) Documents: collecting data via written or electronic means from institutions/institutions. This document data is very important to support the completeness of the data, processed and analyzed in such a way as to form literary language in wayang.

In realizing the musical compositions, glass puppet go through several stages of creativity. The chronological creation process is based on a coherent, coordinated flow of thought and considers various other supporting aspects. The creation process uses the method of creating works of art based on local wisdom by I Wayan Rai S.
The creation of a work of art begins with an idea that arises from one’s imagination. Then there is a creation process until the work from the initial germ of an idea to the realisation of that idea (Rai S, 2021:62). The emergence of ideas can be influenced by several closely related factors, both physical and mental within the creator. The factors that influence it are internal and external factors. Internal factors relate to the personal life and experience of the creator, while external factors are the social environment around him.

Glass puppet works are influenced by the two factors described above, namely internal and external factors. The creator, who was born into a family of wayang artists with the history that goes with ones performing and creative inspirations. The creator's experience of often dancing wayang and seeing the process of making wayang in the home environment inspired by the creator's interest in using wayang as a creative source for this dance work. This wayang work focuses on the appearance of shadows in the context of the Ramayana story until they are realized and can be danced. Armed with these creative sources, a theory of the process of creating works of art based on local wisdom is needed to help realize the ideas that the creator has obtained.

Ideas as the first stage are the main capital in the form of an inherent talent or skills. Talent that can be seen from the results of the dance arrangements and the dance experience that the creator has. The second stage, the existence of creative capital, means that a creative artist must always have ideas that can produce experimental work. Glass puppet works of course use new ideas as a basis for creation by transforming glass puppets into experimental works. The third stage requires an understanding of the local culture, knowing the history and origins of wayang. This dance work uses creative sources originating from local culture in the form of shadow puppets. This has been understood by the creator regarding the local wisdom that exists in the Bali area, so that wayang kulit can be used as a source of creation. The fourth stage requires a new concept or design to create a work of dance art. A clear concept or design is very necessary to carry out the creativity process. The concept in this glass puppet work has been dissected into the concept of creation, the concept of movement, the concept of supporting the puppet, the concept of musical accompaniment, the concept of nature (promenan), the concept of make-up and clothing, the concept of lighting and the concept of presentation. The fifth stage, by praying to the God Almighty in order to receive blessing and guidance in realizing the concept into a fully realised work of art. In the sixth stage, the creator carries out the process of realizing the work until the glass puppet work is completely formed, both the puppet work and the accompanying music. Then the seventh stage is the process of ngebah (trial). Ngebah is the first performance of a wayang work with the aim of evaluating or changing several elements that support the work. And finally is the eighth stage is the final step in determining the work, the show itself when the work is ready to be performed to an audience.

Each of these stages provides different benefits according to the creative process carried out by the creator. Every creative process has been carried out in detail and seriously to get maximum results.

**Conclusion**

The design contained in the wayang perspective is a glimpse into the space used for the presentation of this work. The LCD projector is used to support artistic performance. The screen displays directly the results of the illumination of the glass puppets that appear on the screen. Several stages of varying sizes are designed to reflect the intimacy of the audience to the performers. The atmosphere of the venue/performance space becomes an experimental performance with a new feel.

This new experimental wayang used in the Ramayana play opens up new possibilities with the use of LCD games and artistic lighting. The Gamelan players are required to maintain
the traditional heritage in their collaboration with midi music into an atmosphere of fresh and new sounds through the new musical compositions. The 60-minute work concludes with a collaboration of shadow puppets, wayang golek, wayang orang, the marriage of traditional wayang with the human form. My Message to the audience is about the importance of self awareness in the process of searching for one’s identity; about transforming oneself through wayang media into the new glass wayang theater. The performance venue is located at Sanggar Paripurna Bona, Gianyar using a specific side stage (the environment around the studio) and a proscenium stage.

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