



Becoming Animated: Relational Techniques and Technologies in Pili Puppetry

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Abstract

This article focuses on Pili, a popular Taiwanese transmedia puppetry that features martial arts-based narratives and fight sequences through CGI (computer-generated image) animation, and examines relations mediated between puppetry, camera, and animation. Pili productions use the traditional performing art of puppetry and add novel elements—combining craft techniques with filming technologies—to create a new transmedia genre. This new genre is not easily classified based on traditional puppetry forms, such as the conventional ideas of a puppet show, “puppet animation,” or digital puppetry, as it is something in-between. Through exploring unfolding relations between puppeteering and filming, puppetry and animation, and old and new media forms, this study explicates how the transformation of traditional puppetry responds to the affordances of new media. Animation, camera movements, and digital editing collectively expand the possibilities of traditional puppetry craft and performance. The new form of puppetry rearranges disciplines, genres, and aesthetics. This analysis sheds light on Pili puppetry through animation and transmedia thinking to contextualize how animation’s life-giving potential transgresses screen and genre categories.

Keywords: Pili Puppetry, animation, computer-generated image, puppeteering, filming

Introduction: Relating Puppetry, Animation, and Live-Action Performance

In episode eight of *Pili Fantasy: War of Dragons* (2019), a short clip of a fight scene demonstrates how Pili puppetry combines digital animation technology and traditional puppeteering techniques. Before the two protagonists meet each other, the computer-generated image (CGI) shows a semitranslucent purple dragon flying across the sky, symbolizing the spirit of the protagonist, Su Huan-Jen, who uses the Dragon Bone Sword. Following that, an extreme close-up shows the other protagonist, Hua Xin Feng, whose eyes flash red, illustrating his determination in the decisive battle. The next shot is of the purple dragon and the red light shattering the ground. While Hua is holding his sword with the red beam splitting the ground, the purple dragon morphs into the figure of Su and floats down from the sky. Right in the middle of their fighting, the ground bursts into flames, and the two puppets fight in the fire.¹ The surreal visual components of a semitranslucent dragon transforming into a puppet figure, a red light shining in the puppet's eyes, and the two puppets fighting in fire mainly rely on animation. Yet, while animation can create a certain ambiance more easily than other media, what primarily catch the audience's attention are the puppet's fighting movements and somersaults that are manipulated by experienced puppeteers. The fighting scene miniatures the interrelated relation of animation and puppeteering in Pili puppetry.

Pili puppetry originally refers to a puppet TV series created in the 1980s in Taiwan and then gradually became a term that highlights the genre and style of transmedia puppetry. The name "Pili" is derived from the TV series *Pili City* (1984); each title of the series begins with "PiLi," which means "thunderbolt" in Taiwanese. In 1992, the Huang brothers, Chris Huang and Vincent Huang, who served as the playwright and dubbing specialist of the Pili series, officially founded the Pili International Multimedia Company. The studio further applied digital technology to transmedia puppetry productions and put puppetry on the silver screen. It also considerably altered traditional palm-sized glove puppets into puppets that were three times larger and refined the design of their faces, joints, and costumes to fit with the demands of cinematography (J. Chen 2019). Now, Pili puppetry is known as a transmedia production that combines traditional Taiwanese glove puppetry, Japanese popular culture, and digital animation among other aspects. Understanding the appeal of Pili puppetry requires attention to their distinct oscillation between

animation and puppeteering to create transmedia productions steeped in the origins of Taiwanese puppetry.

Puppetry and animation are two comparable media forms—each attempting to bring inanimate objects to life and rely upon the audience’s imagination. These forms converge in Pili puppetry, which has recently drawn scholarly interest. Anthropologist Teri Silvio expands the concept of animation by exploring the media genre’s broader ontological significance, emphasizing that animation means bringing objects to life. Centering on this ontological understanding of animation, she analyzes Pili puppetry and its fan culture to explore puppets as anthropomorphic figures that express not only characters but also higher beings and projected personhood (Silvio 2019). Pili fans cosplay (i.e., “costume play”), which is a media process of fans embodying their obsession with Pili puppets by designing costumes to represent specific puppet characters and dressing up as them. According to Silvio and other scholars, this illustrates another way in which the puppets’ materiality can be brought to life (Teri Silvio 2010, 2019; Manning and Gershon 2013). Pili puppetry and cosplay show how the definition of animation might be broadened to include new media forms and fan practices. However, how Pili puppetry combines digital technology with the traditional techniques of Taiwanese puppetry has yet to be the focus of academic discussion. Differing from the anthropological approach, my analysis explores how Pili sheds light on the relations between animation and puppetry performance.

Can filmed puppetry count as animation? The phrase “puppetry animation” is subject to controversy among puppeteers, animators, and computer graphics designers. Puppet animation may fall between the cracks of what is strictly defined as an “animated film.” Considering Silvio’s discourse, it is reasonable to argue that since filmed puppetry brings inanimate objects to life, and the puppet characters are being “animated” by the hand of a human performer, therefore puppet films can be considered animation. However, animator Tess Martin believes that even though animation is a very broad medium that is hard to precisely define, “puppetry is not animation” (Martin 2015). Comparing stop-motion puppet animation with filmed performances of puppetry, she believes that the fundamental difference is about “manipulating a puppet one frame at a time versus manipulating it in real-time” (Martin 2015). It is generally agreed that animation cinema is “a special technique of making movies shot frame by frame, or stop motion”

(Manvell and Weis 2020). Martin’s argument echoes this idea, as she claims that animators “are not actually moving objects, [they] are making them appear to be moving by stringing together all the frames afterwards.” In this sense, animators’ skill comes from knowing how to get one shot right in the camera and “how to break down these movements into twelve or more pictures per second.” On the other hand, puppeteers “are actually moving their character in real-time,” so “their skill comes from being able to effectively move all the parts of their character at the same time” (Martin 2015).

The discussion is further complicated if we consider the case of digital puppetry. Digital puppetry uses the technology of motion capture to manipulate and animate figures and objects in real-time. It brings “performers into the animation picture by enabling them to choose the movements of the character image using gadgetry and/or their bodies as controllers” (Searls 2014, 296). Pili puppetry further adds another layer to the genre debate, as it is mainly filmed in real-time but seldom involves motion capture technologies. Different from digital puppetry, which uses the puppet as a performative interface for animation, moving images of puppets in Pili productions are mostly not digitized but rely on puppeteering. Hence, Pili puppetry is a hybrid form, creating its singular relationship with animation.



Figure 1: Pili’s most well-known character Su Huan-Jen in the TV series *Pili Prestige: Dragon Clash & the Code of War* (2010). The puppet design is famous for its uncanny resemblance to a living person. Reproduced with permission from the Pili International Multimedia Company.

Pili puppetry is a unique hybrid form, created from its distinctive ontology. It blurs the boundaries between animate subjects and inanimate objects. The relation of animation and puppeteering in Pili puppetry differs from digital puppetry and other filmed puppetry (e.g., the Muppets) in several ways. For instance, instead of targeting a young audience, Pili puppetry consistently targets adult audiences and features bloody fight sequences that borrow from traditional martial arts (J. Chen 2020). The use of CGI and camera movements visually enrich the fighting scenes. In addition, similar to the specific texture of traditional Taiwanese puppetry, many Pili puppets are modeled so that they closely resemble living people (see Figure 1). They lack the soft and hyper-expressive qualities of many American puppets made for children. Moreover, in Pili puppetry, the puppeteers do not appear alongside the puppets, as they do in some American children's filmed puppet shows.

By exploring the relationality between puppeteering, animation, and live-action filming, this article seeks to understand the interactions between Taiwanese puppetry and new media. Combining visual analysis with artists' interviews, this article articulates how the use of transmedia technologies changes puppeteering and the expressiveness of puppetry. Pili puppetry also demonstrates how cultural commodification and developing technologies have inspired the merging and supplanting of traditional boundaries and genres.

Puppeteering and Filming in Relation: Transforming a Traditional Performance Art

Pili's transmedia production is the outcome of coordination between the puppeteer, cameramen, director, and others to enhance and expand traditional puppetry. In a digital age when many films are becoming animated, human actors and live-action are gradually withdrawing from the scene, while CGI is taking on a life of its own (Langer 2002). This shift changes how puppeteers train, from puppeteering as a craft into a transmedia process that both animates an immobile puppet and supports the post-production of a virtual character. Distinct from traditional puppeteering, in which puppeteers directly manipulate each puppet in one hand in front of an audience, Pili cannot be simply viewed as puppetry, as each production is a process of mediating techniques and technologies.

Puppeteers play an essential role in relating the puppeteering to the filming in Pili's productions. Pili's puppeteers give special attention to how their performance can interact with the camera. For instance, a puppet's representation of sadness may require various camera shots. The scene might begin with a medium shot of a puppet's head, and if so, the puppeteer would need to slightly turn the puppet's head thirty to forty-five degrees to prepare for a following close-up shot that displays the puppet slowly closing its eyes. Since the puppet's eyelids are controlled by gears, the puppeteer has ultimate control over the pace of its blinking and might make the puppet's eyes move more slowly and evenly than a real person's, dramatically demonstrating the character's sad emotion. The sequence might end with a long shot that displays a bleak landscape while the puppet's chiffon costume flutters in the night breeze. In this and all other instances, puppeteers have to be highly aware of the different visual features of various shots and handle the puppet's angles accordingly, or else they will disrupt the delicacy and intensity of the scene.

Filming technology has also intervened in the training of puppeteering. To best interact with the camera, Pili puppeteers' training is different from traditional Taiwanese puppetry. The puppet master Ting Chen-Ching, who has learned traditional puppetry and has been a core puppeteer at Pili since it was founded, mentioned how the filming process changes puppeteers' training. Traditional training entails first practicing whole-body movements (e.g., the puppet's walking posture) and then practicing detailed gestures (e.g., female characters brushing their hair). Finally, puppeteers master acrobatic movements, such as fighting, doing somersaults, and throwing and catching motions. At the same time, apprentice puppeteers have to learn how to assemble a puppet and make tiny props. By contrast, Pili's training for novices begins with script reading, differentiating among various puppets, and preparing their weapons and props accordingly. In Pili, the apprentices only focus on the performance and are not involved in other handicrafts. Since Pili puppets are more than three times larger and heavier than traditional puppets, novices should first practice keeping a Pili puppet's head posture upright. Unlike traditional training, controlling a puppet's head is a skill learned before making the puppet walk (C. Ting 2019, interview). This change in puppeteering technique results from the labor division of Pili's transmedia productions. Usually, the feet of Pili puppets are made and shot separately

from their bodies. In most close-up shots of a puppet's foot movements, a puppeteer uses their hands to hold each puppet's foot. This makes it easier for a second puppeteer to control the puppet's body movements. Videographers can use camera angles and digital editing to hide this separate manipulation of a Pili puppet's body, something entirely unfeasible in traditional puppet shows.

The filming process of Pili puppetry also expands the possibility of puppeteering. Distinct from fighting scenes in traditional puppetry, in which puppeteers directly throw and catch puppets on a small stage, the lines of motion are highly sophisticated in the Pili studio. Although some traditional stages are two-tier, thus allowing the puppeteer to toss the puppet up from the first tier so that it falls back into their hands on the second tier, most traditional puppetry takes place on a single horizontal plane of the stage. In Pili's spacious studio, a puppeteer can throw a puppet very high and let another puppeteer catch it so that the camera can capture a puppet flying through the air. The parabola a puppet follows can be stereoscopic, with a camera filming its flight across a three-dimensional background setting. The puppeteer who throws the puppet needs to practice withdrawing their hands immediately; otherwise, the camera might film the puppeteer's hands (C. Ting 2019, interview). In addition to the traditional somersault, Ting Chen-Ching invented a way to wind a puppet up with strings, so that a puppet can spin in the air as it tumbles and flies. With these strings, the puppet can even do backward somersaults (C. Ting 2019, interview), and editing can easily hide the strings so that the performance looks natural. The visual components selected by the camera frame the audience's visual field, and picture editing expands traditional puppetry's lines of motion from flat and horizontal into three-dimensional space.

In addition to enriching the visuality, filming technology also improves the working environment for puppeteers. Technological innovations considerably change the nature of explosion scenes, making them both livelier and safer. In traditional puppetry training, puppeteers need to learn how to mix explosives to create pyrotechnic effects during fight scenes. In a traditional performance, the gunpowder is usually placed within the puppet's head. As soon as the puppeteer charges the gunpowder with electricity, the puppet explodes. It is pretty challenging to control the timing, so puppeteers have to wear wooden gloves and conduct a ritual

to pray for their safety before a performance. The filming intervention fundamentally changed how these explosions work. In Pili, the puppets, trees, or other objects designed to explode are disassembled in advance. Instead of using gunpowder, Pili puppeteers now use multiple strings to pull apart a puppet or an object in front of the camera. The strings can be out of the camera frame or easily removed by film editing. Another method is to edit together multiple shots. The puppeteer first throws a handful of potato starch to create the smoke effect of a sword beam, which is a damaging beam that emanates from the tip of a sword and is believed to be able to attack its target. After the sword beam hits the target puppet, the first shot pauses. Then, after removing the puppet, a second shot depicts debris flying up from the point where the puppet is hit. When the two shots are connected together, they produce the visual effect of a puppet exploding in place (C. Ting 2019, interview). Additionally, Pili's creation of sound and lighting effects during the fighting and exploding scenes usually rely on video editing and computer-generated special effects instead of real explosives, so that the ability to use explosives is not as important for Pili puppeteers as it is within traditional puppetry.

The integration of technique and technology has also broken through previous limitations so that filmed puppetry can now have overhead shots. Previously, overhead shots of a puppet were impractical, because puppeteers, who were supposed to be excluded from the audience's field of vision, needed to hide under the puppet's costume. To overcome this limitation, when Pili filmed its first puppetry feature film, *The Legend of The Sacred Stone* (2000), the team deliberately designed a new set of scenery that was around 5 feet in height so that the puppeteers could control the puppets while hidden underneath the set. In this new method, Pili puppeteers sometimes have to manipulate a puppet while lying down and without being able to see its actions. In outdoor scenes that depict puppets on a river, the puppeteers might even hide underwater and perform from there (Ban 1999).

Recently, the technology of chroma key has also been integrated into the filming of Pili puppetry. Puppeteers can now wear clothing that matches a blue or green screen background and can thus be made invisible in the subsequent editing. A puppet can now appear to be in any location around the world, or even in an entirely imaginary landscape created by an artist. This technique of incorporating CGI images is remarkably different from puppets manipulated

directly in front of a camera. As new puppeteering techniques develop, they now do so in interaction with new media, and thus can spark new technologies in turn. These technological innovations change the existing understanding of the performances, as puppeteering turns from being a craft into a transmedia process, which animates an immobile puppet in more dramatic ways and supports the film-editing of a virtual character.

Puppetry and Animation in Relation: Becoming the “Asian Disney”

Animation can make puppet performances either more surreal or realistic. These interlinked effects of animation are both embodied in Pili puppetry. Since the early 1990s, Pili’s TV productions have commonly applied digital CGI animation to enhance the visual strength of fighting scenes. Animation technology has transformed the surreal imagination described by narrators in traditional puppet shows into visible scenes. Vincent Huang, who has dubbed over a thousand Pili characters, has mentioned that animation technology makes up for traditional puppetry’s deficiency of not being able to show what the narrator says. With the aid of new media, Pili can now visually demonstrate the narration. When the narrator describes a scene of mountains falling and the earth parting asunder, the audience can see the scene on the screen (Yang 2001, 28). Pili’s productions during the 1990s had used computer-generated special effects to mainly enhance the surreal visuality of fighting. In the last two decades, the use of animation in Pili puppetry has more comprehensively and significantly paid consideration to the interactive relationship between puppets and animation. Accompanying close-ups, animation has enabled detailed effects in a puppet’s body language. Animation can vividly and realistically show a character’s blood vessels bulge due to emotions such as anger, excitement, or nervousness. An example case occurs in episode twelve of *Pili Fantasy: War of Dragons* (2019), when the antagonist Hua Xin Feng is fighting with Hong Zhao from the Realm of Chaos, and Hong’s blood vessels bulge before he raises his sword.ⁱⁱ These techniques give the impression that the puppets have facial expressions and make the performance livelier.

The most significant changes in Pili’s use of animation took place in the late 1990s when the company created *The Legend of the Sacred Stone*, the company’s first attempt to expand its products of transmedia puppetry from a TV program to a film. In order to fit with the demands of

cinematography and the high visual requirements of the big screen, Pili not only changed the design of their puppets but also invested heavily in adjusting their performance methods and shooting processes for the new medium, while also introducing the use of 3D animation. The animated scenes center on the flames and lava of a place called Hell Valley. These animated scenes are only about eighteen minutes in total, but they cost TWD thirty million (about CAD 1.34 million) to produce. The entire film production process took three years and cost TWD 300 million (about CAD 13.4 million), which could be regarded as a significant upgrade for Pili. This investment in human and material resources was rewarded accordingly. The film debuted in 2000, and the first week's box office numbers in Taiwan topped those of Disney's animated hit *Toy Story 2*, which was being screened at the same time. The success of *The Legend of the Sacred Stone* became a new milestone in Taiwanese puppetry. This success encouraged Pili to further attempt to develop its plan to become the "Asian Disney" and to integrate puppets into animation.

Pili ambitiously proposed to further create "puppet animation" (*oudongman*), which reveals the intention to further transform the puppet show into a new genre of animation. To produce its first 3D puppet animation feature film, *The Arti: The Adventure Begins* (hereafter *The Arti*), Pili established two subsidiaries, the Puppetmotion Entertainment Co. and the Bigger Picture Inc. in 2011 and 2012. Puppetmotion Entertainment Co. is in charge of the development of new creative themes that demonstrate Asian aesthetics based on the three media of puppetry, animation, and comics. Bigger Picture Inc. mainly focuses on producing animated images, stereo vision, and effective shooting processes for 3D movies. It took about nine months to film *The Arti*, but postproduction lasted three years—a whole year longer than originally expected.ⁱⁱⁱ The main character Robot A-Xi was very difficult to manipulate because it had almost no costume in which puppeteers could hide their hands. The whole film included around 1700 shots and nearly 90% of them were added in through animation effects (He 2015). The team paid tremendous attention to details and made the visual impact impressive with a big production budget of TWD 400 million (about CAD 18 million).

Unexpectedly, the failure of *The Arti* pushed Pili to reconsider the relationship between puppetry and animation. *The Arti* was released in 2015; however, to Pili's surprise, it was a box

office flop and incurred financial losses of TWD 190 million (about CAD 8.56 million). This outcome disappointed the film's playwright and art director Huang Liang-Hsun and forced him to suspend the project of "puppet animation." It is believed that problematic scriptwriting and dialogue dubbing were the main reasons for its failure (Wu 2018). However, I argue that the film's unique yet awkward location at the intersection of the two media forms—puppetry and animation—also played a role in its disappointing reception. *The Arti* turned many aspects of Pili's filmed puppetry into digital puppetry and targeted children rather than its adult fanbase. The turn to digital puppetry sacrificed some of the original texture of Pili's materially-constructed background settings as well as the nuance of live puppeteering. On the one hand, the fundamental changes to visual and vocal narrations were difficult for Pili fans to accept. On the other hand, the film also struggled to attract new audiences who preferred animation.

The Arti showed Pili what they would pay out if they were obsessed with animation technology and unable to distinguish their works from other animation films. The resources, funding, and experience for creating 3D animated films were relatively limited in Taiwan, so it was very hard to compete with the well-established animation industry in the United States or other countries. Other animation films screening at the same time with *The Arti* included *Penguins of Madagascar* produced by DreamWorks Animation, and *The SpongeBob Movie: Sponge Out of Water* produced by Paramount Animation. Compared to these globally distributed works, *The Arti* could hardly attract audiences who were interested in animation (Hsu 2015, C5). Huang later confessed that *The Arti* is a failed work, as the intention of creating a Pili puppet film for children was good, but the lack of execution threw everything off track (Huang Liang-Hsun 2020). Thus, the transition to puppet animation placed Pili in the dilemma of losing viewers from its dedicated adult fanbase while simultaneously failing to attract new young audiences who preferred typical American animation. This experience stimulated Pili to adjust the proportion of animation it uses in its productions and redefine its products based on the company's specialty of transmedia puppeteering.

After its introspection on the failure of *The Arti*, Pili's next transformation occurred when the company officially collaborated with the Japanese animation industry in *Thunderbolt Fantasy* (2016). With the lessons learned from *The Arti*, Huang soon realized the importance of

identifying a target audience. He thus set a clear goal for *Thunderbolt Fantasy*—to reach an audience of animation fans unfamiliar with puppetry (T. Chen 2019). The genesis of producing *Thunderbolt Fantasy* was the prestigious Japanese animation screenwriter Gen Urobuchi’s visit to Taiwan. Urobuchi was present at a Pili puppet exhibition, which fascinated him. Huang, a fan of Urobuchi, then invited him to write the script that became *Thunderbolt Fantasy*. The whole project was a cross-cultural collaboration between Japan and Taiwan. The Japanese animation team designed the puppets and dubbed the Japanese narration, while Pili manually crafted the puppets and completed the puppeteering, filming, and editing. The CGI Director Ting Tzu-Chin mentioned that what made *Thunderbolt Fantasy* most different from Pili’s previous projects was the minimization of animation effects. *Thunderbolt Fantasy* changed the ubiquitous use of animation in fighting scenes to find a much more refined style. CGI animation was only used when movements were difficult or impossible to create through live performance, such as when a crack slowly spread on a mountain or a puppet used supernatural powers to pass through a wall. In these cases, the team would use animation to create the fantasy scenes (T. Ting 2019, interview).

Instead of highlighting “puppet animation,” Pili currently brands their works as Japanese *tokusatsu* films (T. Ting 2019, interview). *Tokusatsu* (literally means “special filming” or “special effects, SFX”) is a Japanese word for live-action productions that make use of extensive special effects. These live-action productions may not always involve puppets, as the roots of *tokusatsu* are in traditional Japanese theater, specifically in *noh* (dance-drama with masks), *kabuki* (dance-opera with action and fight scenes), and *bunraku* (puppetry that utilizes some of the earliest forms of special effects) (Rhoads and McCorkle 2018, 5-18). These Japanese traditional performance arts are similar to traditional Taiwanese puppetry in that they follow conventional movement patterns rather than attempt to mimic reality. *Tokusatsu* filming is founded upon the power of *not* being realistic, which aligns with Pili’s style and its highlighting of special effects and fancy fighting. At present, most of Pili’s works use puppetry and animation in complementary ways, without trying to replace the former with the latter. In adjusting the proportion of each, the animation is commonly the subordinate factor that is adjusted to match

the path of the puppeteering. It can be said that “puppet animation” intends to make puppetry part of the animation, while *tokusatsu* filming intends to use animation to enrich the puppetry.

Thunderbolt Fantasy found its own way to integrate Taiwanese puppetry into *tokusatsu* filming, and Pili hopes to replicate its success to gradually turn Pili puppetry into a global phenomenon much like Japanese anime. Following *Thunderbolt Fantasy*, the brand-new series *Pili Destiny: War of Dragons* (2019) became the first Pili installment to receive a worldwide release on Netflix. For many non-Taiwanese audiences, *Thunderbolt Fantasy* and *Pili Destiny* may seem like an interesting novelty that challenges their existing understandings of both filmed puppetry and digital puppetry. New technologies put puppetry, live-action performance, and animation in relation and evoke new ontological debates about the definition of each.

Epilogue: Puppetry’s Irreplaceable Charm

Combining traditional techniques and modern technologies, puppeteers are not alone in performing the puppetry; cameras, subsequent editing, and the use of animation also determine what the audience will view. In other words, the sense that Pili characters are moving, and thus “alive,” comes not only from the puppeteers’ hidden manipulation of the puppets but also from the mediating techniques and technologies of cinematography and digital editing. Puppeteers’ training has evolved from a craft into a transmedia process. Moreover, these additional animating forces lend the puppets subtler facial expressions and bodily gestures, creating an entirely new aesthetic of simulated life.

At the same time, the pleasures of Pili puppetry still hinge on a traditional performance art. Improvements in animation technology have made the digitization of puppetry possible, and these days any live-action effect seems to be replaceable by CGI. However, instead of letting CGI override puppetry, Pili highlights that the charm of live-action puppetry is irreplaceable by the dramatic visuality of animation. Ting Tzu-Chin has said that the materiality of a puppet, such as the delicate texture of its costume fabric and the way its hair flies in the wind, is very hard to naturally reproduce in animation. Thus, Pili has no plan to digitize puppetry performance; rather, it will continue to be conducted by puppeteers. Animation mainly functions to enrich the visuality in Pili’s productions (T. Ting 2019, interview). Puppets have an additional affordance.

In comics, animation, and 2D or 3D animation, the modeling design of characters needs to be as distinctive and simple as possible. If the modeling is too complicated, it will greatly increase the time and budget for the production. In Pili puppetry, the modeling of puppets can be extremely exquisite without impacting the duration of the filming. Fighting scenes are another advantage that Pili puppetry has over Japanese animation. It is almost impossible for animation to efficiently and naturally produce the fighting scenes that Pili has achieved. Animation requires a very high budget to produce high-speed martial arts movements, so producing many of these scenes rarely has commercial benefits.

Time-lapse photography is a new method that Pili has recently used to animate puppets in the film *Thunderbolt Fantasy: Bewitching Melody of the West* (2019). In this film, the director uses a time-lapse effect to depict how the leading character Lang Wu Yao uses his magic singing to make a small tavern famous and attractive for crowds. Through a constant stream of patrons, his clothes increasingly change to become nobler and the tavern's interior more gorgeous. The animation-like time-lapse photography indicates the income he brings to the tavern. This once again enriches how inanimate puppets might be brought to life. As new technologies collectively transgress traditional norms of puppetry performance, Pili's transmedia productions point the way toward some of puppetry's possible new futures.

Notes

ⁱ The clip of how animation intervenes in the scene of Hua and Su's fighting can be viewed on YouTube: <https://www.youtube.com/watch?v=qtBplm6FWCI>

ⁱⁱ This clip of how animation creates the scene of Hong's blood vessels bulging can be seen on <https://www.youtube.com/watch?v=z1xz5eDYUto>

ⁱⁱⁱ *The Arti*'s trailer can be seen here: <https://www.youtube.com/watch?v=dSQFEU3FHTw>

Bibliography

Ban, Guo. *Shengshi Chuanshuo' dianying quanjilu* [The making of *The Legend of the Sacred Stone*]. Taipei: Pili Xinchaoche, 1999.

- Chen, Jasmine Yu-Hsing. "Transmuting Tradition: The Transformation of Taiwanese Glove Puppetry in Pili Productions." In *Journal of the Oriental Society of Australia* 51 (2019): 26-46.
- Chen, Jasmine Yu-Hsing. "Bleeding Puppets: Mediating Genre in Pili Puppetry." *M/C: A Journal of Media and Culture* 23(5) (2020).
<https://doi.org/10.5204/mcj.1681>
- Chen, Ting-Chun. "Pili xiongmei gang laoba yewang: budaixi laodian tuweiji" [The Brother and Sister Shoulder Their Father's Ambition: The Breakout of Traditional Taiwanese Puppetry]. *Jin zhoukan [Business Today]* 1179, (July 2019): 86-89.
- He, Chun-Mu. "Zhuanfang *Qiren mima: guluobu zhimi* bianju ji yishu zongjian Huang Liangxun" [Interview with Huang Liang-Hsun, the Playwright and Art Director of *The Arti: The Adventure Begins*]. Posted March 1, 2015 at Taipei Film Commission.
<https://www.filmcommission.taipei/tw/MessageNotice/SpecialRegionDet/3889>
- Hsu, Shih-Ying. "Qiren mima canpei 1.9 yi, Zhongchuang Pili" [*The Arti: The Adventure Begins* Caused the Losses of One Hundred Ninety Million Dollars; Heavily Hit Pili]. *Zhongguo shibao* [China Times], March 15, 2015.
- "Huang Liangxun: yong xinmeiti tiaozhan budaixi shidai jiaoti" [Huang Liang-Hsun: Challenging the Generational Alternation of Taiwanese Puppetry through New Media]. Posted May 26, 2020 at *104 Be a Giver*.
https://bravo.104.com.tw/104bravo-lianghsunhuang/?utm_source=CW&utm_campaign=miranisa-lin
- Langer, Mark. "The End of Animation History," unpublished essay, 2002.
- Manvell, Roger and Elisabeth Weis. "Animation." Accessed August 5, 2020 at Encyclopedia Britannica.
<https://www.britannica.com/technology/motion-picture-technology/Animation>

- Manning, Paul and Ilana Gershon. "Animating interaction." *HAU: Journal of Ethnographic Theory* 3, no. 3 (2013): 107-137.
- Martin, Tess. "Puppetry is Not Animation." Posted August 17, 2015 at Animation World Network.

<https://www.awn.com/animationworld/puppetry-not-animation>
- Rhoads, Sean and Brooke McCorkle, *Japan's Green Monsters: Environmental Commentary in Kaiju Cinema*. Jefferson: McFarland, 2018.
- Searls, Colette. "Unholy Alliances and Harmonious Hybrids: New Fusions in Puppetry and Animation." In *The Routledge Companion to Puppetry and Material Performance*, edited by Dassia N. Posner, Claudia Orenstein, John Bell, 294-307. London: Routledge, 2014.
- Silvio, Teri. "Animation: The New Performance?" *Journal of Linguistic Anthropology* 20, no. 2 (2010): 422-438.
- Silvio, Teri. *Puppets, Gods, and Brands: Theorizing the Age of Animation from Taiwan*. Honolulu: University of Hawaii Press, 2019.
- Wu, Ming-De, "Pili 3D dianying: Qiren mima de juben yu koubai celue xilun" [Pili 3D Film: The Analysis of Playwriting and Dialogue in *The Arti: The Adventure Begins*]. In *Taiwan budaixi de bianyan, xushi yu shenmei* [The Performance, Narrative and Aesthetics of Taiwanese Puppetry], 301-332. Taipei: Xuesheng, 2018.
- Ting, Chen-Ching. Interview by the author. Yunlin, Taiwan. June 24, 2019.
- Ting, Tzu-Chin. Interview by the author. Taipei, Taiwan. June 14, 2019.
- Yang, Nan-Chien. "Tianzi chuanqi chaopili" [The Legend of Pili Puppetry]. *Ziyou shibao* [Liberty Times], December 11, 2001.

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