

# LOOM: A SPECULATION OF ORAL TRADITION IN IMMERSIVE MEDIA

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## ABSTRACT

Through an analysis of our in-progress Virtual Reality opera "Loom", this paper explores the potential and limitation of immersive media in its intersection with musical heritages which are passed down as oral traditions. "Loom" is based on our fieldwork in the villages of Kam people, an ethnic minority group in the southwest of China, whose polyphonic group singing tradition has been passed down orally for hundreds of years. Given the shared prominence of immersion and embodied experience in the practice of Kam music and in the medium of Virtual Reality, this paper proposes the creation of immersive media as a way to engage with and speculate on oral traditions.

## 1. INTRODUCTION

In recent years, immersive media, an emerging field of audiovisual technologies and modes of perception known as Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), and various related configurations, have attracted artists and researchers who engage in the documentation and speculation of oral traditions [1–3]. Approaching older traditions with new technologies, the interaction of such seemingly contrasting time continua reveal shared challenges and potentials in both paradigms of experience and transmission. Broadly speaking, both mediums foreground a sense of presence and immersion through embodied experiences, while negotiating displacement resulted from their underlying technical apparatuses and sociocultural conditions. In this paper, we will discuss our Virtual Reality opera "Loom", a work based on our field research of the musical tradition of the Kam people in southwest China, to reflect on the intersection of these two mediums, their possibilities, and limitations.

## 2. PRESENCE AND DISPLACEMENT IN THE PRACTICE OF CONTEMPORARY KAM GRAND CHOIR

The Kam, or known as Dong (侗族) in Chinese, constitute one of the 55 ethnic minorities officially recognized in China. They mainly inhabit Guizhou, Hunan and Guangxi Provinces in southwestern China [4]. Still the dominant language used in the Kam areas, the Kam language has no

widely used written form [4], and the singing of Kam songs has traditionally served the important role of transmitting knowledge across generations [5].

Da ge (大歌), known in English as "Big Song" or "Grand Choir", or ga lao in the Kam language, is a category of Kam vocal music, characterized by polyphonic singing performed by single-sex groups, without instrumental accompaniment. The most well-known form of Kam music outside of the Kam community, the Kam Grand Choir was recognized as an Intangible Cultural Heritage by China in 2006 and by UNESCO in 2009 [6]. Its "discovery" by Chinese researchers in the 1950s as a polyphonic tradition and its subsequent promotion to battle older Western claims that Chinese music was entirely monophonic played an important role in the monumental changes in the musical practices of Kam villagers in the next sixty years [7].

This section discusses issues of presence and displacement the contemporary practice of Kam Grand Choir, based on research on Kam music since the 1950s and our fieldwork in Kam villages between 2017 and 2023.

### 2.1 Historical Overview

Several studies on Kam music have focused on the evolution of the Kam Grand Choir, which reveal that prior to its recognition as Intangible Cultural Heritage on both national and international levels, this song genre had already been a subject of discussion and promotion, particularly in association with ethnic cultural development. Influenced by the new Chinese state's ethnic policies and the goal to enhance the image of the nation's music [5, 8, 9], since the 1950s the Kam Grand Choir began to expand outside of its traditional village context and became adapted to different staged settings [10]. Despite this wave of initial promotion, the following decades saw the Great Leap Forward (1958 - 1960) when the singing tradition was virtually abandoned due to famines and the Cultural Revolution (1966 - 1976) when village singing was prohibited and the stage singing focused on pro-communist rearrangement of songs [5]. Although the village singing resumed with increased political freedom in 1980s, the disruption of the previous decades and the various major socioeconomic shifts in the 1990s meant that earlier modes of performance and transmission of Kam Grand Choir have been faced with disintegration. Following the Economic Reform of 1978, large numbers of young Kam villagers migrated to coastal cities for work opportunities, leading to an absence of young people in the village most of the year. In Xiaohuang, the Kam village where our main fieldwork took place, many of these young or middle-aged migrant Kam workers returned to

the village when cultural tourism became a viable source of livelihood after the 2000s, especially following the Kam Grand Choir's promotion to Intangible Cultural Heritage status. Those of them who grew up during the decades when the village singing tradition was suspended were then relearning the songs for tourist performances, often with influences from staged performances. As a form derived from the village singing tradition, due to its growing popularity since the 2000s, staged performance of the Kam Grand Choir began to affect significant changes to the village performances, ranging from its repertoire, aesthetics, and social nature [5].

## 2.2 The Influence of Staged Performance on Village Singing

First, traditional Kam Grand Choir repertoires are deeply rooted in the specific locales of distinct villages, with each piece's name often signifying its origin, thereby emphasizing the music's strong connection to its village context. In contrast, the derived format of staged performance transcends these local boundaries, adopting a pan-Kam style that lacks the same depth of context, as the repertoire often feature songs from various areas that have often gone through aesthetic processing by non-Kam music professionals, no longer tied directly to specific villages [11].

Second, compared to its traditional village context, where the Kam Grand Choir is sung in New Year celebrations not simply as a musical performance, but also an important social activity that functioned as a form of dialogue and exchange between different singing groups, the staged performance could happen at any time of the year, often in front of a listening non-Kam audience. Instead of facilitating cultural transmission within the ethnic group, the derived format broadens its appeal to attract broader audience, including tourists and individuals from various ethnic backgrounds [5].

Third, the derived format tends to exhibit both an increasing rhythmic and melodic complexity and a shift towards the professionalization of singing and performance. This evolution reflects broader cultural shifts, where the younger generation often no longer learns to sing the Kam Grand Choir through years of immersion in childhood singing groups taught by the village sang ga, also known in English as "song experts" or "song masters", but instead receives musical education in Mandarin at schools outside their native villages. When they return to their communities, they blend these newly acquired techniques and styles to the local music practices [5]. This sometimes leads to confusion and misalignment when people gather to sing the songs in the village style but cannot stay in sync due to the different ways they have been taught to sing the song outside of the village.

Thus, due to the increasing influence of staged performance and the displacement of village singing practice at the confluence of drastic socioeconomic, cultural, and political shifts in recent decades, "tradition" in the contemporary practice of Kam Grand Choir is no longer a stable concept.

## 3. THE PERCEPTUAL MODE IN VIRTUAL REALITY

Virtual reality today merges the experience of controlled isolation with the immersive sensation of being close to a digitally constructed reality, enabled by highly individualized apparatus. Although primarily considered within the realm of visual technologies, this apparatus signifies a broader historical shift of perception, nuancing the relationship between the observer and the observed. American art historian Jonathan Crary's works offer insights to understand this perceptual paradigm by tracing the development from the camera obscura's mode of mediated observation of the 17th and 18th century to the emergence of subjective perception in the 19th century.

### 3.1 The Perceptual Paradigm of Camera Obscura

Crary's work elucidates that during the 17th and 18th centuries, the camera obscura exemplified a vision paradigm characterized by a fixed interior-exterior relation between the observer and the observed [12]. Within the confines of the camera obscura, the observer became an isolated subject, trapped within a dark chamber that distinctly separated them from the external environment. The camera obscura lends credibility to the individual's perspective, yet the experience it provides is a carefully orchestrated depiction of the external environment.

### 3.2 The Paradigm of Subjective Perception

Although the camera obscura's perceptual mode persisted into the modern era, the 19th century witnessed the emergence of a new paradigm, influenced by extensive research on the human body and the rise of psychophysics. A defining characteristic of this period was the blurring of the line between interior and exterior, with the observer's body emerging as a pivotal site for the management, measurement, and production of reality [13]. This new perceptual paradigm highlighted a double-edged development in the perception field. It empowered the individual, affirming the sovereignty and autonomy of the body in the perceptual experience; yet, it also made the body more vulnerable to control and annexation by external agencies, facilitating a path toward the increasing standardization and regulation of perception [13].

### 3.3 The Dual Perceptual Modes in VR

It is within the convergence of these two perceptual paradigms that we attempt to locate the potentials and limitations of the medium of VR. Through Crary's framework, virtual reality can be seen as representing an integration of both perceptual paradigms. It maintains an isolated environment, mirroring the camera obscura's distinct separation between inside and outside, the observer and the observed. While providing a close proximity for the audience to observe the virtual world, the apparatuses of bulky goggles and the confinement of physical space also keep the audience at a small distance away from full immersion, highlighting a sense of displacement and leaving space for critical reflection. At the same time, VR also enables a

highly individualized and subjective experience through controlled apparatus, echoing the emergence of subjective perception in the 19th century, where the body became a site for the management and production of reality. While interactive VR experiences often emphasize the possibility of evoking empathy through presence and immersion and giving agency to the spectator [14], they also make the body especially vulnerable to manipulations or biases of the authors of the experiences. In our VR opera "Loom", we work with the various possibilities and contradictions inherent to the medium and create a space for a nuanced engagement with the oral tradition of Kam Grand Choir.

#### 4. "LOOM": A POLYPHONIC OPERA IN VR

"Loom" is a new exploration of polyphonic opera in VR by the authors. The project began with our fieldwork in Xiaohuang in 2017 - 2018, a popular Kam village for tourists celebrated for their rich heritage of Kam Grand Choir [15]. An in-headset single-player 6DOF interactive VR experience, the work-in-progress version of "Loom" was presented at the Oregon Shakespeare Festival in November 2022 and the Sound and Color Symposium at the Park Avenue Armory in New York in January 2023. It transports the audience into Lemon's (one of the authors) poetic reconstruction and speculation on her encounter with the presence and displacement of Kam music tradition in the village, as a Han Chinese composer who was briefly immersed in the learning and experience of Kam Grand Choir.

##### 4.1 Process Overview

Initially, we engaged in field research within Kam villages in Guizhou province, particularly in Xiaohuang, capturing the soundscape, recording footage, conducting interviews, and learning traditional singing techniques from village song masters between 2017 and 2023. The empirical data collected during this period informed the creation of our PCVR project. We transposed the visual and auditory elements from our archive into 3D models and environments, utilizing tools like Cinema 4D, Substance Painter, and Unity for the development process. This project, designed in Unity with SteamVR, offers an immersive experience accessible through devices like HTC VIVE, Oculus Rift, or Meta Quest 2. By employing 3D visualization, storytelling, and spatial sound, we crafted a VR environment rich in detail and depth. The development was based on a comprehensive approach, incorporating archival research, interviews, field recordings, photography, and video footage, which together provided a multifaceted foundation for the VR composition and narrative. Through this workflow, music and sound design derived from recorded sounds with techniques such as impulse response, were integrated as a core element, producing an immersive soundscape in the virtual realm that reflects on our engagement with the complexities of Kam musical practice.

##### 4.2 Immersive Presentation of Social Context

Compared to music intended as auditory experiences or audiovisual works on 2-dimensional surfaces, music presented through immersive media could provide more context on the sociocultural conditions and physical environment within which the music is produced, experienced, and transmitted, and thus allow for a more nuanced engagement with the music tradition. In the case of "Loom", we situate the audience in a CGI-modeled village centering around the dare low (wooden pagoda, also known as drum tower) [11], an important Kam site charged with multiple dimensions of time and place. Over the course of the experience, the audience sees a new drum tower gradually form from a few desolate wooden beams, while ghostly figures and ruptured village landscape emerge from a murky field. Echoing the haunted transformation in the visuals are processed recorded samples of Lemon's voice and field recordings captured in Xiaohuang, which are re-embodied in various forms of spatialization, some as if coming from the audience's own body, some as if speaking through the drum tower, the trees, and the cicadas.



Figure 1. Still of the fractured landscape in "Loom".

Traditionally the place where Kam Grand Choir singing took place during the lunar new year period, in Xiaohuang and other Kam villages, most drum towers were torn down during the Cultural Revolution due to the repression of folk practices [16]. The destruction of the drum towers marked the prohibition of village Grand Choir singing practice during this period. Although many drum towers were rebuilt in recent decades at the original sites, the disruption of the village singing practice created a chasm and generational divide in the community's relation to the village singing practice. Due to the drastic social, economic, and cultural shifts in the villages since the 90s, such as the influx of cultural tourism, the earlier village modes of Kam Grand Choir singing gave way to influences from staged performances, leading to changes ranging from repertoire, aesthetics, social functions, and modes of transmission [5]. The emergence of a new drum tower from ruins in "Loom" points towards the lingering effect of this collective cultural trauma in the Kam music tradition today, the palpable presence of a past that comes back and haunts the here and now.



Figure 2. Still of the wooden beams of the drum tower in "Loom".

### 4.3 The Mode of Speaking Nearby

"Loom" does not claim to represent the reality of Kam Grand Choir, but rather leans towards the mode of "speaking nearby", a term coined by Vietnamese filmmaker and composer Trinh T. Minh-ha in her 1982 film "Reassemblage" featuring the everyday village life in Senegal [17]. It could be understood as a reflexive mode of presenting ethnographic materials that attempts to avoid laying claim to authority, leaves the space of representation open and through distance, fragmentation, and abstraction evokes the peculiarity of the medium and the fraught nature of ethnographic work. With its immersive evocation of fractured landscape, re-embodied voices, and disjointed time and space, "Loom" employs a poetic mode of expression that similarly seeks to avoid claims of authority, leaves open the space of representation and interpretation, while drawing attention to the shared state of presence and displacement the authors observed underneath both the mode of perception in Virtual Reality and the contemporary Kam Grand Choir tradition.

## 5. CONCLUSIONS AND DISCUSSIONS

To be developed into a full-length opera in VR, the current in-progress version of "Loom" presents a new exploration at the intersection of Kam music traditions and virtual reality technology. By immersing users in a digitally reconstructed Kam village, the project offers an interactive and reflexive encounter with the cultural and historical nuances of the Kam Grand Choir. Rather than treating the medium of VR as a 3D snapshot of a stable object, the immersive experience contemplates on the fluidity and multidimensionality of the oral tradition.

Our exploration through "Loom" allows us to dissect and reflect upon the broader implications of using VR as a medium to convey complex cultural narratives. It raises pertinent discussions about the role of immersive technologies in documenting and interpreting oral traditions. While VR offers a compelling platform for an immersive re-encounter with cultural practices, it also prompts a critical examination of how these practices are represented, experienced, and understood in a digitized context. These are important cultural and technical challenges that we will be tackling in our ongoing development "Loom" in the com-

ing years. As we continue to meld the realms of traditional art forms and cutting-edge technology, it is imperative to foster a dialogue that acknowledges the complexities, challenges, and opportunities presented by this confluence.

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