

# Sino-virtuality: transcoding Chinese aesthetic principles to Jubensha's immersive economies

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## ABSTRACT

The concept of virtuality in Chinese aesthetics is deeply rooted in philosophical tenets of Daoism, Buddhism and Confucianism, prioritising emptiness and balanced fluidity over realism. This article analyses traditional Chinese art forms to trace their reincarnation in Jubensha – a new multimedia economy based on social deduction games and live action role play (LARP). This transition underscores how vernacular cultural aesthetics can drive inclusive design of participatory media. Case studies identified core principles of Sino-virtuality: abstraction (yijing意境), negative space (liubai留白) and codified interactivity. These elements coalesce to create immersive multisensory experiences, enabling audiences to co-construct meaning through imaginative engagement. The study then explored Jubensha's meteoric rise as a participatory successor to Xiqu (Chinese opera), where players collaboratively transform physical experiences into narrative virtualities through abstraction-immersion mechanisms. Empirical insights from gameplay analysis and host interviews position Jubensha as a hybrid cultural infrastructure, blending gamification, education and social connectivity. Framing Jubensha as a Sino-futurist medium adapting classical aesthetics for digital audiences, the study advocates recalibrating media theory through multicultural frameworks to foster inclusive digital ecosystems. Ultimately, Jubensha emerges as both cultural continuum and catalyst for reimagining heritage, demonstrating how ancient principles can shape equitable knowledge infrastructures globally.

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## 1. Introduction

Virtuality, defined as existing in a non-physical state, holds multifaceted interpretations across disciplines, with contemporary relevance in transforming human-machine interactions (Søraker, 2011). Its significance lies in reshaping remote collaboration, urban simulation and immersive experiences, as evidenced by pandemic-era workflows and the rapid surge in gaming industries (Ng et al., 2023, 2024). These global phenomena underscore virtuality's potential to redefine creation, experience and societal structures, with the need to study its potential implications beyond immediate value capture. Driving this exploration is the central inquiry to understand engagement in virtual spaces, identifying elements that construct shared, alternative realities.

Ancient Greek philosophy associated virtuality with abstract perfection beyond tangible measure; while western art frames it as socio-psychological interactivity between spectator and artwork (Guidi, 2019). Technologically, it manifests through virtual reality (VR) and video gaming; whereas architecture employs it for procedural worldbuilding (Pearson & Youkhana, 2020). This interdisciplinary lens reveals virtuality's role in evolving media ecologies, rooted in cultural history and perceptual shifts. However, eurocentric philosophies traditionally emphasise a virtual-real duality, theorising their dichotomised interplay rather than mutual actualisation. This binary framework risks stagnation, as oppositional perspectives struggle to reconcile into cohesive realities, obscuring nuanced understandings and potentially limiting innovation in virtual environment design.

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To address this, the study proposes diversifying conceptions of virtuality by integrating other cultural-philosophical epistemologies. With Chinese aesthetic principles as a case study, it explores how traditional art forms and contemporary media, such as Xiqu (Chinese opera) and Jubensha (Chinese LARP), operationalise virtuality. Amidst rapid metaverse advancements and algorithmic simulations, this cross-cultural analysis aims to uncover principles for designing collaborative digital spaces and reimagining attention economies. *How do traditional Chinese aesthetic-philosophical principles of virtuality inform and transform contemporary practices of immersive media cultures, such as Jubensha, and what implications does this evolution hold for the comparative study and design of virtual environments across cultures?*

The investigation's objectives are threefold: (1) to analyse virtuality's role in traditional Chinese art; (2) to examine environmental configurations in Xiqu and Jubensha that enable immersive experiences; (3) to derive action-based principles for synthesising new media ecologies with cultural preservation. By bridging historical practices with contemporary challenges, the study seeks to enrich global discourses on virtuality, offering fresh methodologies for interdisciplinary design and analysis.

The methodology blends art case studies (poetry, painting and Xiqu) with empirical data from participating in 10 Jubensha sessions and interviewing six game hosts in Shenzhen (2023–2024). The open interview structure gave rise to themes of role literacy, spatial transformation, cultural pedagogy, directly informing the theorisation of Jubensha as a neo-ritual practice. The analysis employs thick descriptions to study gameplay mechanics and snowball sampling for expert informant selection. In the process, verbal consent was prioritised to preserve the natural, dynamic flow of live gameplay and informal settings, obtained by providing informants with an explanation of the study, then confirming their agreement verbally and documented in detailed field notes. The procedure was reviewed and approved by the Chinese University of Hong Kong Survey and Behavioural Research Ethics committee as aligned with low-risk research guidelines. Overall, the research design hopes to balance contextual appropriateness, maintain participant comfort, spontaneity, and open communication, while avoiding disruptions to participant behaviour and ecological validity.

## 2. Virtuality in traditional Chinese art

Traditional Chinese arts are inherently multimedia and system-focused, integrating painting with calligraphy, calligraphy with poetry, and poetry with ritualised music (禮樂), a concept extending to practices like tea-drinking, chess and daily routines (QiKan, 2022). Xiqu (Chinese Opera) exemplifies this synthesis, blending poetry, dance, drama and visual arts into a cohesive whole, reflecting a holistic worldview where understanding individual arts necessitates engaging with the entire cultural ecosystem. This systemic approach, rooted in ritualised spaces and practices, raises questions about how such interconnectedness constructs virtuality – a notion explored by analysing poetry and painting to establish foundational terms for examining virtual dimensions in Xiqu and its modern, participatory analogue, Jubensha.

### 2.1. Poetry – a structural framework of sino-virtuality

Chinese poetry serves as a cornerstone of traditional Chinese art, profoundly shaping artistic expression through its integration with the Three Perfections (三絕) – poetry, calligraphy and painting. Scholar-gentlemen (文人), literati-bureaucrats (士大夫) and educated elites were expected to master these disciplines, which were seen as interconnected modes of noble expression. Painting was termed 'silent poetry'; while poetry was 'painting with sound', reflecting a holistic view where artistic mediums complemented and enriched one another. This synthesis meant roles like 'artist' or 'architect' were fluid, as excellence demanded proficiency across arts and philosophical classics, rooted in Confucian ideals of moral authority. Knowledge creation was tied to governance, with the Junzi (君子) – people of high moral character or status – embodying ethical leadership that ensured societal harmony.

Confucius's emphasis on meritocratic education laid the groundwork for imperial China's civil service examinations, which for over a millennium assisted with the selection of officials based on intellectual

and moral cultivation (Lagerwey 2010). Figures like Su Shi (苏轼), a polymath poet-official, epitomised this ideal. His 10th-century poem ‘Written on the Wall at West Forest Temple’ exemplifies the spatial and philosophical depth of Chinese poetry (poem translation by the author).

**《题西林壁》  
“Written on the Wall at West Forest Temple”**

宋·苏轼 – 公元十世纪  
Song Dynasty, SU Shi – 10th c. AD

横看成岭侧成峰,  
Viewed from the side, a whole mountain range; from the end,  
it is a single peak;

远近高低各不同。  
from far to near, from high to low, no two parts are alike.

不识庐山真面目,  
Why can't I tell the true form of Mount Lu?

只缘身在此山中。  
Ah. Because I myself am in the mountains.

Ostensibly describing a mountain, the poem explores the role of perception through metaphorical vantage points. Such works illustrate how poetry and landscape were intertwined, embedding philosophical inquiry into artistic form. This tradition underscores a worldview where art, governance and nature coalesced, reflecting systemic thinking that blurred boundaries between creative expression and ethical stewardship.

Through its exploration of Mount Lu's ‘true face’, there encapsulates three philosophical teachings. First, it embodies Buddhism's Impermanence (無常), illustrating how human perception, constrained by our embeddedness within phenomena, cannot grasp an unchanging reality. Second, it reflects Confucian zhōngyōng (中庸) – the state of equilibrium and harmony, also known as the Doctrine of the Mean – which represents the advocacy of humility in acknowledging perspectival limits, while pursuing a more balanced personal understanding through self-cultivation. Third, it evokes Taoist Wùhuà (物化) – a state-of-flow where the self and the object dissolve into one – achieved through metaphors of shifting landscapes. The poet's realisation of his own existence in the final line symbolises unity with nature, merging subject and object into harmonious oblivion. This immersive state epitomises a virtuality central to Chinese aesthetics, where artist and art become indistinct, a transcendence celebrated as the pinnacle of creative expression.

Su Shi's syncretic mastery is mirrored in his dual identity as the Iron Crown Taoist and the Dongpo Hermit Buddhist, reflecting the literati's (文人雅士) adeptness in blending the three teachings. This philosophical fluidity underpinned Chinese intellectual tradition, where wuwei (無為, unforced actions or non-actions) and zhōngyōng (中庸) coexisted as guiding principles. The poem's synthesis of aesthetics and philosophy exemplifies how educated elites navigated and enriched these interconnected systems, shaping a worldview where art, governance and spirituality were inseparable. Such integration underscores the systemic thinking inherent to Chinese culture, where virtuality – as a liminal space of unity and flow – was not merely artistic but a lived, philosophical practice.

Wang Wei (王維), celebrated as the Hermit of Vimalakīrti (摩詰居士), exemplifies multi-layered virtuality in his poem ‘The Deer Enclosure’ (鹿柴) (poem translation by the author).

《鹿柴》  
“The Deer Enclosure”

唐·王維 – 公元六至七世紀  
Tang Dynasty, WANG Wei – 6-7th century AD

空山不見人，  
So lone seem the mountain, with not a person in  
sight,

但聞人語響。  
Yet one hears the sound of human voice.

返景入深林，  
Light reflects and penetrates deep into the woods,

復照青苔上。  
Shining on once shady moist moss.

Through sparse imagery of a mountain scene, the poem intertwines Zen Buddhist enlightenment with the concept of Śūnyatā (空), emphasising the interdependence of phenomena amid apparent emptiness. This virtuality unfolds through four structured layers:

- a multimedia space, where poetry and painting merge, creating an artistic conception (Yijing, 意境) that transcends literal depiction;
- a sensory space, evoked through minimalist language that activates imagined sounds, sights, and textures;
- a syncretic space, blending imported Buddhist philosophy with Confucian and Taoist thought into a uniquely Chinese intellectual synthesis (三教合一); and finally,
- a void, where deliberate omission (negative space 留白) encodes profound messages within minimal information, inviting contemplation beyond the text's surface.

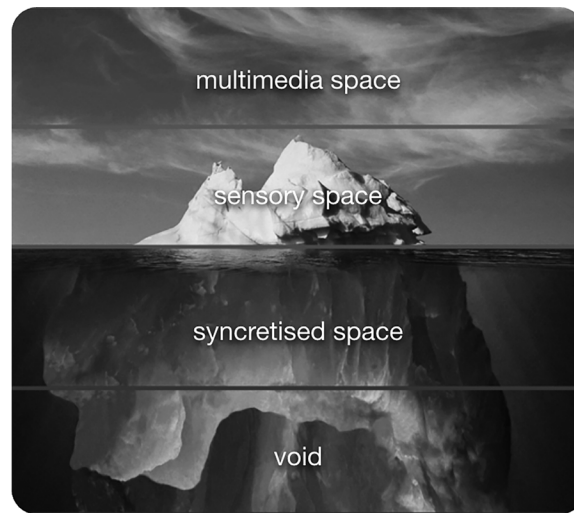
The poem's virtuosity lies not in literary complexity but in its latent cultural codes, which construct a shared virtuality accessible only through systemic understanding. While the first two layers – multimedia imagery and sensory immersion – are broadly appreciable, the deeper strata demand familiarity with syncretic philosophies and the intellectual milieu of Tang-era literati. This reflects a cultural paradigm where enlightenment and education enable perception of embedded values, transforming mundane details (a forest, moss) into vessels of metaphysical insight. Such virtuality, as Wang Wei's work demonstrates, hinges on the interplay of presence and absence, where unstated truths resonate through disciplined simplicity.

The Iceberg of sino-virtuality (Figure 1) formalises this hierarchy, distinguishing surface-level engagement from submerged cultural-philosophical strata. Access to the latter requires immersion in the systemic interconnections of Chinese arts and thinking – a tradition where appreciating individual elements (a poem's words, a painting's brushstrokes) necessitates grasping their place within a holistic intellectual ecology. This framework underscores how traditional Chinese virtuality operates as both an aesthetic and an epistemological practice: to see the parts, one must first comprehend the system.

## 2.2. Ink paintings: abstraction and its four spaces

Chinese ink painting, though executed in monochromatic simplicity, achieves rich diversity through masterful manipulation of ink and water density. Eschewing rigid control, artists embrace the fluidity of water to cultivate abstraction over realism, constructing a distinct Chinese-style virtuality. This practice centres on principles of Imago (意境, artistic conception), vitality (精神, spiritual essence) and character





**Figure 1.** The iceberg of sino-virtuality. While the first two layers – multimedia imagery and sensory immersion – are broadly appreciable, the deeper strata demand familiarity with syncretic philosophies and the intellectual milieu of literati.

(氣韻, rhythmic energy), which guide the creation process. To illustrate these concepts, four ink paintings are analysed, each selected for their immersive qualities – negative space (留白), delayed space (藏景), layered space (疊景) and cognitive space (意景). These cases exemplify how abstraction shapes immersive virtual environments through intentional spatial and perceptual dynamics.

### 2.2.1. Negative space – the master's artistic process

Master Chang Dai-chien's (張大千) ink painting exemplifies par excellence the use of negative space (留白), a technique central to Chinese aesthetics that shapes virtuality through deliberate emptiness, contrasting Western practices of layering. The master's splashed-ink process, captured in a video documentary (Whatsart, 2021), unfolds through seven acts of strategic spontaneity (Figure 2).

The first acts establish the foundation: beginning with emptiness, he splashes ink and water intuitively, guided by the flow of qì (氣), which is the vital energy permeating all life.

The second act, through spontaneous brushstrokes and unforced actions, the master captures the essence (精) of his subject. The initial chaos gradually coalesces into abstract forms, as ink and water synthesise organically.

By Act Three, the imago (意境) emerges – an artistic conception of natural landscapes transcending literal representation. Here, the master's early, seemingly random strokes reveal their purpose: water becomes a co-creator, guiding ink to 'grow' into forms imbued with vitality (精神).

Act Four refined this abstraction through harmony and restraint. The master harmonises between territories of ink splash with Yùn (氣韻) – rhythmic elegance and implicit order – arranging strokes in ordered combinations.

Act Five, a balance of time. Areas that were painted in the far past are now dry, adding water to them does not make the ink sparse but gives it depth. The process exemplifies wuwei (無為), where planned outcomes arise through natural, unforced actions, blending control with surrender to the medium's inherent logic.

Act Six. Negative spaces (留白) are meticulously crafted through controlled brushwork. The tummy of the brush contains water, but the master uses only the brush tip, so he releases the water little by little. He who is gentle and patient. These voids, paradoxically, give form to mountains and landscapes, activating the viewer's imagination to 'fill in' the unseen.

In the final act, poetry and painting merge to encapsulate essence, qì, and spirit (精氣神). The master's focused strokes collect and channel energy, vitalising the artwork's 'delayed space' as forms crystallise over time. This layered abstraction – rooted in imago, vitality and character – invites viewers into a meditative engagement, urging them to seek coherence within the interplay of presence and absence.

Chang's technique thus transcends mere aesthetics, embedding Daoist and Confucian principles into a virtuality where mind, medium, and nature converge, exemplifying Chinese ink painting's unique capacity to encode profound systems within minimalist forms.



**Figure 2.** The integration of brush-holding techniques and calligraphic practice mirrors a – with a holistic philosophy where artistic actions reflect life principles, as seen in Master Chang Dai-chien's casual, magnanimous strokes embodying sincerity (隨心), non-mannerism (不矯揉造作), and liberal expression (奔放), epitomising his attainment of Tao; Image credits: Wikimedia.

### 2.2.2. *Delayed space – a thousand Li of Rivers and mountains* (千里江山圖)

This renowned 10th-century Chinese landscape painting employs scattered perspective – a hallmark technique – to craft a panoramic, metre-wide composition that evokes delayed space (Fardjadi et al., 1994), where implied potential activity coexists with stillness (Figure 3). Its undulating blue-green mountains, mist-shrouded rivers and vibrant flora depict spring's vitality, while winding paths guide viewers through temporal immersion, inviting exploration of majestic, secluded vistas. Sensory richness intertwines with philosophical depth: a later-added poem at the scroll's opening reflects on impermanence (無常) and life's transience, juxtaposing the landscape's grandeur with temporal contemplation. As viewers traverse the scene's physical and metaphorical layers, the delayed revelation of its essence – harmonising natural splendour, artistic mastery and existential meditation – culminates in a multimedia virtuality where space, time and meaning unfold progressively.

### 2.2.3. *Layered space – the Double Screen: Emperor Li Jing watching his brothers play Weiqi (Game of Go)* (重屏會棋圖)

Dating to the 9th–10th century, The Double Screen challenges traditional Chinese scattered perspective by employing parallel projection to construct layered space, superimposing three-dimensional scenes – a chess game, a physical screen and a landscape painting within the screen – to amplify virtuality through nested realities (畫中有畫、屏中有屏) (Figure 4). Volumetric spaces expand from foreground to background, exaggerating depth, while perspectival cues, such as the checkerboard's invisible lines directing gaze into the painted screen, blur boundaries between physical and depicted realms. This sophisticated layering, achieved through meticulous spatial orchestration, demonstrates advanced perspective techniques in pre-modern Chinese art, revealing a deliberate expansion of media space where everyday





**Figure 3.** Selected sections from the scroll, which was over 1 m long, accompanied by calligraphy and poems, creating a delayed space that can only be experienced over time. Image credits: Wikimedia.



**Figure 4.** The Double Screen: Emperor Li Jing Watching his Brothers Play Weiqi. Image credits: Wikimedia.

objects become portals into interconnected virtualities, long before similar innovations emerged in Western traditions (Palace Museum, [n.d\(a\)](#)).

#### 2.2.4. Cognitive space – One or Two (乾隆皇帝是一是二图)

Emperor Qianlong's 18th-century painting *One or Two* reimagines *The Double Screen's* layered virtuality, synthesising Chinese Gongbi (工笔, meticulous brushwork) with Renaissance techniques acquired through Qing-era Western contact (Figure 5). This intercultural hybridity is evident in its precise depiction of objects – a scholar's studio adorned with Han and Manchu artifacts – blending Eastern and Western artistic traditions into a singular aesthetic statement (Chen, 2018). The work's philosophical core lies in Qianlong's inscribed poem, which interrogates duality: 'One or two? Neither joined nor apart; Confucian or Mohist, why ponder?' (是一是二? 不即不离; 儒可墨可, 何虑何思?). Here, the emperor posits harmony over division, likening the interplay of portrait and reality to the inseparability of rival philosophical schools, reflecting his governance ideal of syncretic unity (Palace Museum, [n.d\(b\)](#)).

Qianlong's self-portrait, unusually clad in Hanfu (汉服, Confucian-style robes) rather than Manchu Qizhuang (旗装), carries profound ethnic-political symbolism. As a Manchu ruler presiding over a multi-ethnic empire, his sartorial choice projected 满汉一家 ('Manchu and Han as one family'), visually reconciling his identity with Han-majority cultural norms. This rare depiction of cross-ethnic regalia underscores Qing efforts to legitimise rule through cultural integration, transcending ethnic boundaries to forge a cohesive, pluralistic state. The painting thus becomes a cognitive space where philosophical, ethnic and artistic dichotomies dissolve into relational unity.

By embedding these syncretisms within nested virtualities – a painted emperor gazing at his painted portrait, surrounded by artifacts of hybrid heritage – Qianlong's work epitomises Chinese systemic thinking. Rather than dissecting reality into isolated elements, it embraces contextual rationality: contradictions coexist, harmonised through interdependence. This approach, mirroring *The Double Screen's* spatial layering, reframes diversity as complementary forces within a holistic cosmos. In doing so, the artwork transcends mere aesthetics, becoming a political and philosophical manifesto that asserts coherence amid multiplicity – a hallmark of Chinese intellectual tradition.



**Figure 5.** One or Two, Yangxindian (Hall of Mental Cultivation) version, Qing dynasty, Qianlong period © Palace Museum, Beijing (Sotheby's, 2022). Image credit: Wikimedia.

All in all, by studying closely Chinese poetry and painting, we can observe that a sino-virtuality is often activated through operations of Abstraction – Imago (意境), Vitality (精神), and Character (氣韻), as well as creating Immersion through spatial operations, including negative space, delayed space, layered space, and cognitive space. With this lexicon of sino-virtuality collected, we will now venture into territories of Xiqu – the ultimate embodiment of this systemic virtuality practice.

### 3. Virtuality in Xiqu

Xiqu (Chinese opera) embodies a millennia-old multimedia tradition where ancient 樂 ('music') transcends auditory boundaries, integrating singing, dance, instrumentation and poetry into a holistic performance art accessible to all social strata (雅俗共賞) (Chan, 2006). Evolving from Song-Yuan Southern opera (宋元南戏) to Ming-Qing legendary dramas (明清传奇杂剧) and Qing local operas (清代地方戏), its development reflects a synthesis of aesthetics from poetry, painting, sculpture, and architecture. Troupes, historically itinerant, mastered minimalist staging – 一桌两椅 (one table, two chairs), 三两步 (sparse steps) – leveraging abstraction to conjure vast landscapes (万水千山) or epic battles (千军万马) through symbolic gesture and audience co-creation. This interplay of austerity and complexity, where scant props and coded movements evoke immersive virtualities, epitomises Xiqu's ingenuity in transmuting simplicity into multisensory grandeur.

#### 3.1. Abstraction of movements

The Xiqu performance 'Six States Installation of Minister' (省港紅伶大會串1981年之六國大封相), from the 1981 Hong Kong and Guangdong Grand Parade, exemplifies par excellence abstraction's role in crafting immersive virtuality, using minimalist staging to evoke grandeur. Within a confined space, performers deploy principles of 'seeing the forest for the trees' (以小见大): three steps symbolise traversing vast distances, while six actors embody an army of thousands. This spatial economy hinges on stylised movements that transcend literal representation, inviting audiences to co-create expansive narratives through imagination.

Central to this abstraction are the Four Skills and Five Methods (四功五法), which fuse singing, chanting, choreography, and combat with precise gestures, eye expressions and steps. Each motion encodes



character psychology and plot: measured, rhythmic strides suggest arduous journeys, while abrupt flips abstractly convey battle chaos. These techniques distil essence over realism, as seen when horse-drawn carriages are evoked through fluttering flags rather than physical props, prioritising symbolic resonance over mimetic accuracy.

Symbolic vocabulary extends to collective choreography. Dragon-runners (跑龍套), forming 'armies' in groups of four, orbit the stage in circular walks (走圓場), conjuring marches across virtual landscapes. Flag crafts (耍旗) and tumbling techniques (毯子功) amplify dynamism – undulating banners simulate galloping steeds, while acrobatic rolls metaphorise terrain obstacles. Such artifice, though divorced from reality, crystallises narrative and emotional truths, as when ministers' post-meeting departures are framed through ritualised bows, embedding Confucian etiquette into spatial syntax.

Audience interaction further dissolves the stage's literal boundaries. Improvisation with spectators – a carriage servant bantering amid cheers – blurs high art with popular entertainment, reflecting Xiqu's 'appeal to all tastes' (雅俗共賞). Temporal abstraction emerges in sequences like the carriage's 'journey': actors remain stationary while undulating flags simulate motion, elongating narrative time. This interplay of stasis and dynamism mirrors Daoist wuwei (無為), where action arises through calibrated non-action.

Ultimately, Xiqu's immersion stems from its relational abstraction – a synthesis of coded movement, audience participation and metaphorical props that transmute simplicity into psychological and spatial depth. By externalising inner states (anxiety via hurried steps, resolve through held gazes) and layering cultural codes (ritual decorum, ethnic aesthetics), it forges a cognitive space where spectators navigate unspoken narratives. The performance thus becomes a systemic virtuality: every gesture, prop and silence interlinks, compelling viewers to discern coherence within intentional voids, much like ink painting's negative spaces.

### 3.2. Embodied spaces

Regional variations in Chinese opera (Xiqu) reveal how spatial and performative abstraction adapts to cultural geographies. Cantonese opera thrives in intimate, makeshift venues like bamboo theatres or teahouses, where proximity between performers and audiences fosters lively interactivity – akin to a 'livestream' with spectators eating, chatting, and reacting spontaneously. This 'architecture of vitality' prioritises communal energy over formality, though its boisterousness contrasts with the refined restraint of Southern styles like Kunqu, performed in minimalist settings with delicate movements and subdued audience engagement, epitomising profound elegance (雅). Northern traditions, notably Peking opera, favour grand theatres where technical virtuosity – xpansive gestures, acrobatics – takes precedence, yet the proscenium's physical separation reduces direct interaction, focusing instead on spectacle. These spatial dynamics, shaped by Qing-era stage architectures (Figure 6), from Hong Kong's bamboo scaffolds to Beijing's imperial Changyinge, reflect divergent regional identities and audience expectations (Liu, 1996).

Abstraction's flexibility emerges through each style's treatment of virtuality. Cantonese opera's improvisational looseness allows performers to weave narratives fluidly, compressing time via a circular walks (走圓場) or conjuring armies through symbolic dragon-runner roles (龍套). Conversely, Peking opera's codified precision – larger-than-life movements, elaborate tumbling (毯子功) – transforms sparse stages into epic battlegrounds, while Kunqu's lyrical subtlety implies vastness through poetic restraint. All leverage negative space and minimal, symbolic props – one table, two chairs (一桌兩椅) – to transcend literal



**Figure 6.** As Xiqu thrived across the Qing dynasty, stage architecture presented diversified characteristics. From left to right, respectively a bamboo theatre in Hong Kong, Tianyi Pavilion Theatre in Ningbo, and Changyinge in Beijing Image credit: Wikimedia.

representation, yet their approaches diverge: Southern styles evoke intimacy through understatement, Northern through technical bravura, and Cantonese through participatory dynamism.

This regional diversity underscores abstraction's core function: constructing anticipatory virtuality by engaging the audience's imaginative co-creation. Whether through Cantonese opera's interactive 'vitality', Kunqu's meditative elegance, or Peking's choreographed grandeur, simplicity becomes a canvas for associative thinking. A lone flag signifies armies; a circular stroll spans continents (一堂龍套可以成為百萬大軍, 一個圓場可以壓縮與跨越時空). By distilling narrative and emotion into stylised gestures, each regional Xiqu cultivates a unique cognitive space where cultural values – communal spontaneity, poetic introspection, imperial majesty – are encoded into performative syntax, proving that abstraction's power lies not in uniformity, but in its adaptive resonance with localised sensibilities.

### 3.3. Roles and programmes

Xiqu's abstraction is codified through traditional roles (行當) and programmes (程式, also called programmed actions), which are systems that decouple performance from physical reality. Roles categorise characters by archetype – warrior, maiden, clown – while programmes standardise gestures, melodies, and movements into a formal lexicon. Actors master these conventions to transcend their own traits: a burly man becomes a delicate Dan (旦, female role), or a petite woman embodies a general, proving Xiqu's virtuality lies in disciplined artifice rather than literal representation (Chen, 2005).

Gender in Xiqu operates as a performative abstraction. Male Dan actors, like the legendary Mei Lanfang, employ meticulous techniques – subtle finger tilts, swaying gaits, nuanced eye movements – to craft hyper-feminine illusions. Mei's 1956 'Farewell My Concubine' (霸王別姬) sword dance reveals how age and physique dissolve under codified grace: at 62, his choreography merged Tai Chi's fluidity with Dunhuang's celestial flying apsara motifs, transcending corporeal limits to evoke youthful ethereality. This virtuosity underscores Xiqu's core tenet: identity is not fixed but a repertoire of learned gestures.

Programmes derive philosophical rigour from Xunzi's notion of Chéng (程) – 'the standard of things' (Zhong, 2016). These rules harmonise music, poetry and movement into multisensory syntax. In Mei's 'Drunken Concubine' (貴妃醉酒), each lyric aligns with a melody (唱腔), each melody with choreographed action (動作), elevating opera from auditory to visual spectacle. The concubine's drunken sorrow is abstracted into balletic staggers and controlled waist dips, her dignity preserved through restrained footwork that never breaches her dress's hem.

Emotional abstraction thrives in programmes. Water sleeves (水袖) flutter like liquid despair, amplifying the concubine's anguish upon the Emperor's betrayal. Three Wò yú (臥魚) poses – lowering her waist to 'smell flowers' – encode melancholy into ritualised geometry, while a lone table and chairs (一桌兩椅) symbolise marital distance. Such stylisation distils inner turmoil into aestheticised form, where physical strain (e.g. knee lifts) externalises psychological tension, rendering emotion legible through metaphor.

Mei's innovation, 'walking without changing one's gesture' (移步不換形), revolutionised Xiqu by synthesising diverse arts. His Dan roles integrated Tai Chi's circularity, Daoist swordplay, and Buddhist mural aesthetics, creating composite femininities that resonated across eras. This systemic approach allowed programmes to evolve while retaining core principles, as seen in Shi Yihong 'Sotheby's 2022 performance (Figure 7), where Mei's choreography persists, proving abstraction's timelessness.

Ultimately, Xiqu's abstraction constructs a virtual humanity. Gender, emotion, and narrative are rendered through stylised codes that prioritise essence over realism. This systemic language – where a sleeve's flicker conveys heartbreak, or a table signifies imperial neglect – transforms the stage into a cognitive space (yǐjǐng, 意境) through artistic conceptions (yǐjǐng, 意境). Audiences, well versed in its syntax, decode gestures into layered meanings, engaging not with imitation but with cultural memory distilled into form.

### 3.4. Reflecting on Xiqu's interactivity

Altogether, the multimedia nature of Xiqu shifts the focus of the performance from the storyline to the process of performing programmed actions, creating a virtuality that must be experienced. The ceremonial movements, intricate dances, exquisite scenes, rich accompaniments, and all complexities are





**Figure 7.** More than half a century since Dr. Mei passed away, his stylised programmes remained in use. Video Access: 京剧《贵妃醉酒》史依弘 国家大剧院录播版, 2022. Image credit: Wikimedia.

developed through syntax of abstraction. This creates a magic circle – a common virtuality that the performer constructs with the audience – achieving a neural-synchronicity through programmed actions. It is an alternate reality that transcends the physical realm, giving rise to corresponding aesthetic habits in Xiqu performances – a form of programmed interactivity:

- Spontaneity – Strategic improvisation within strict framing and programming.
- Feedback – Instead of passively receiving the storyline, the audiences' imaginative engagement and reaction to the performers' programmed actions co-constructs a participatory virtuality.
- Magic circle – The cognitive space in which rules of reality are suspended and replaced by those of artificial reality. It is developed from a common understanding of abstraction amongst a community, connecting performers with their fans and audiences.
- Representation – The way in which physical reality is portrayed in a form of virtuality that resonates with the viewer culturally and personally; for instance, women's role in society.
- Literacy – The performer 'trains' the audience into understanding their abstractive syntax through real-time feedback – an educational process to cultivate appreciation. Simultaneously, the performer adapts their performance to audience preference, creating a mutual learning process.

#### 4. Principles of Sino-virtuality

The principles of Sino-Virtuality in Chinese Xiqu are rooted in four interconnected tenets (Table 1): Multimedia, synthesising music, poetry, singing, dance and acting into a layered, immersive experience; virtual sensory, where stylised gestures (e.g. simulated flower-smelling) evoke intangible sensations, bridging physical absence and imaginative perception; syncretism, blending diverse traditions – Tai Chi's fluidity, swordplay's rigour, Dunhuang's celestial motifs – into a cohesive aesthetic language; and Void, the strategic use of empty stage space as a canvas for audience co-creation, where imagination animates the gaps between abstraction and narrative. Together, these principles transcend stage limitations, constructing a hybrid reality where sensory, cultural, and cognitive layers are activated through abstraction (codified roles, programmed movements), immersion (multisensory engagement), and interaction (audience interpretation), enabling Xiqu to oscillate between tangible artifice and evocative virtuality.

#### 5. Jubensha (Chinese LARP) (劇本殺)

While traditional Chinese arts such as poetry, ink painting, and Xiqu are rooted in systemic thinking, ritualised space and immersive abstraction, their core principles have not remained static. As contemporary society embraces novel forms of mediated experiences, these aesthetic frameworks have continually adapted and reconfigured to new cultural contexts and media practices, such as Jubensha (剧本杀).

**Table 1.** Principles of sino-virtuality.

Category	Principles	Definition
Abstraction – Technique capturing essence, qi (energy or the flow of life), and spirit without realistic depiction.	Imago (意境)	Blending artistic conception (意) and emotional context (境), where the unsaid resonate deeper than explicit imagery.
	Vitality (精神)	Animating life force or energy.
	Essence (精)	Depiction of a subject's intrinsic nature, prioritising inherent traits over superficial details.
	Spirit (神)	Conveyance of unique character and emotional depth through an animating principle.
	Character (氣韻)	Harmonious interplay of <i>qi</i> (energy) and <i>yùn</i> (resonance).
	Qi (氣)	Vital force expressed through dynamic flow and movement.
Immersion – Deep absorption in an environment or narrative, creating a sense of cognitive presence.	Yùn (韻)	Implicit harmonisation through elegant arrangements and subtle order.
	Negative space (留白)	Strategic use of emptiness to provoke imagination and depth.
	Cognitive space (意景)	Mental engagement through abstraction, inviting active interpretation.
	Layered space (疊景)	Superimposed plots or spaces creating metaphorical complexity.
Interactivity – Dynamic exchange between user and system.	Delayed Space (意景)	Manipulation of space/time using associative elements to delay understanding.
	Spontaneity	Improvisation within structured parameters.
	Feedback	Active participation influencing outcomes (e.g., audience-performer interplay in <i>xiqu</i> ).
	Magic circle	Alternate reality suspending real-world rules.
	Representation	Virtuality inspired by life but heightened to resonate emotionally.
	Literacy	Mutual learning between actor and viewer to decode abstract performance.
	Synthesis	Integration of ideas to sustain complexity and virtuality.

Jubensha is a form of Chinese live action role play (LARP) that synthesises narrative, performance, and social deduction mechanics. This transition is not merely a shift in format, but a dynamic evolution: the codified programmes (程式) and immersive virtuality of Xiqu, the negative and delayed spaces of ink painting, and the participatory imagination cultivated by poetry all find renewed expression within Jubensha's interactive frameworks. This continuity underscores how the foundational tenets of Chinese virtuality persist – bridging tradition and modernity by enabling new forms of shared, embodied, and culturally resonant virtual experiences.

Contemporary sino-virtuality is epitomised by the meteoric rise of new Jubensha economies, blending gaming, theatre and interactive storytelling to immerse players in co-created fictional worlds. Unlike more passive forms of entertainment, Jubensha players simultaneously embody roles of performer, spectator and narrative architect. Thus, it demands participatory learning: players decode roles, negotiate plot twists, and improvise actions in real-time, fostering a first-person perspective that merges performance with agency (Montola & Stenros, 2004). This hybrid form – part game, part theatre, part social experiment – reflects a generational pivot towards experiential, multimedia engagement that prioritises active creation over passive consumption.

The Jubensha economy has exploded into a \$2.5 billion industry, with over 30,000 studios nationwide by 2021. Supported by regional government policies, cities like Beijing and Chengdu now integrate Jubensha tourism, offering historical role-play at heritage sites to blend leisure with cultural pedagogy, endorsing its dual role as entertainment and economic catalyst. Yet its cultural footprint extends beyond revenue: online platforms host LARP streams – hours-long gameplay videos dissected by global communities – while avant-garde iterations experiment with multi-day immersive narratives. In an attention-scarce era, Jubensha's endurance hinges on its capacity to transform protracted play into meaningful time, where cognitive and emotional investment outweigh temporal cost.

Central to Jubensha's appeal is its magic circle, a conceptual space where fiction transcends physical rules (Montola, 2012). To decode this allure, my research involved participating in 10 Jubensha games, analysing how physical spaces are transformed into narrative virtualities. Interviews with hosts and players revealed a craving for embodied literacy – mastery of role-play's abstraction syntax – and a desire to rehearse alternate identities.

### 5.1. Gameplay analysis: a virtuality in physical reality

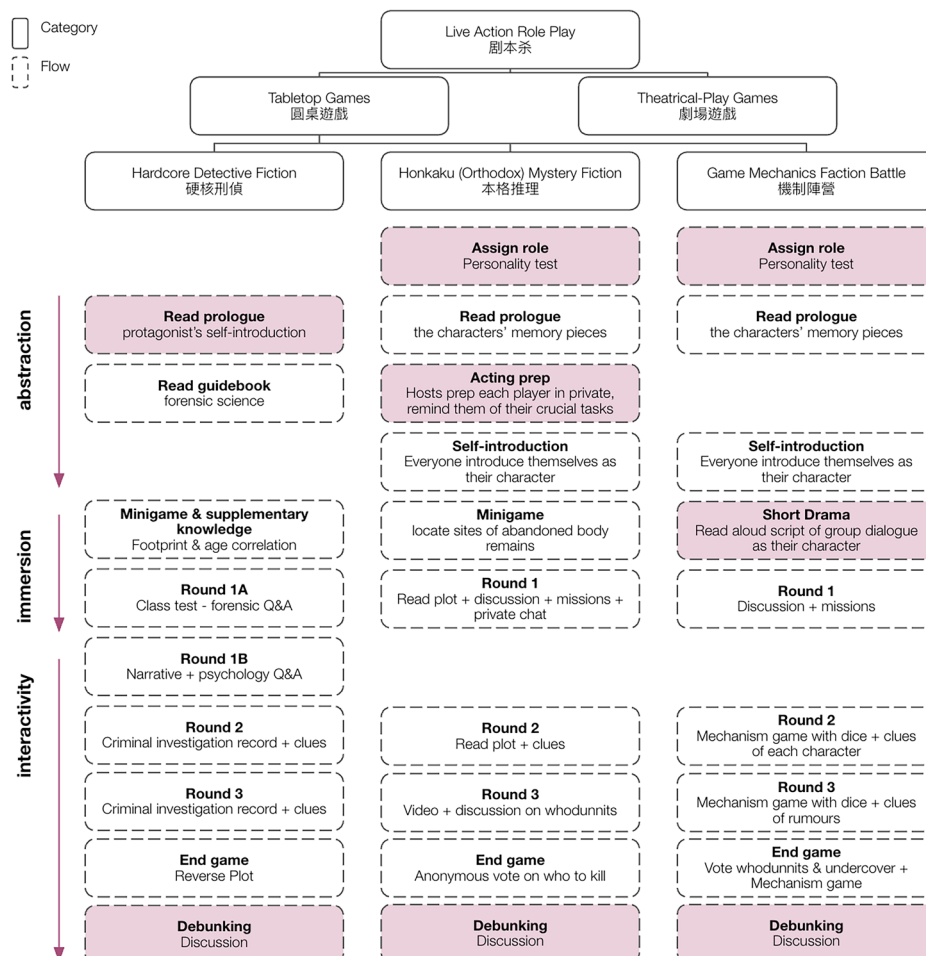
The games generally begin with an 'Abstraction Phase', which dislodges players from daily reality via structured role-assumption. The process orchestrates a ritualised shedding of the everyday self, as hosts

deploy imago through narrative prologues to seed mental landscapes and players channel character vitality (角色精神), embodying their assigned roles through voice and bearing. This democratised echo of Xiqu's programmes (程式) enables a shopkeeper to become a Tang dynasty spy with a mere shift in posture and a scripted introduction, eschewing costumes for cognitive recombination.

The 'Immersion Phase' deepens *via* spatial and temporal manipulation. Virtuality is constructed not through elaborate props but through collaborative abstraction, as participants map relationships, motives and environments in the mind's eye – mirroring Xiqu's minimalist staging, yet opening its codified rules to all. Negative spaces in narratives – omitted clues, ambiguous motives – become voids for players to colonise with social deduction mechanics. Cognitive spaces emerge through investigative tasks (e.g. decrypting 'murder' clues), while layered/delayed spaces unfold as hosts drip-feed riddles, forcing players to re-evaluate truths from shifting perspectives. Here, immersion is not passive absorption but active rehearsal of alternative epistemologies, where a clue's misinterpretation reroutes collective plotlines.

The 'Interactivity Phase' crystallises the overarching narrative. Increased velocity in players' feedback through improvised dialogue reinforced narratives through factional alliances or betrayals. The magic circle flexes as rules bend to emergent dynamics – a truce forged mid-battle, a villain's redemption through peer persuasion. In this fluid narrative ecosystem, emotional truths surface from collective improvisation rather than scripted fidelity, marking a decisive departure from the rigidity of traditional programmes and foregrounding the participatory, emergent nature of contemporary Sino-virtuality.

In the end, post-game debriefs anchor fiction to reality: hosts dissect how historical events or social issues inspired the plot, prompting reflection on performative choices while enhancing players' understanding of representation and literacy. This structured yet fluid interplay—documented in [Figure 8](#)



**Figure 8.** First-hand documentation of Jubensha game mechanics.

– reconciles attention economy demands with tactile presence, proving that sustained engagement thrives not despite but through abstraction's collaborative rigour.

## **5.2. Unstructured interviews: operationalizing virtuality as participatory learning**

Interviews with game hosts revealed a tectonic shift in creative industries and careers, drawing cinema professionals into Jubensha's economic folds. Many had transitioned from film production, leveraging directorial skills to coach players in role abstraction and narrative resonance. This localisation has catalysed and transformed Chinese LARP from a niche hobby to a mainstream phenomenon, diverging from Europe's subcultural status. As screenwriters and directors rechannel cinematic storytelling into interactive playwriting, one host likened their role to filmmaking: 'It's about guiding players to inhabit characters, bridging personal experience with fictional arcs—just without cameras'.

Hosts cited disillusionment with traditional industries' saturation and rigid hierarchies as motivators, alongside pandemic-induced economic precarity. Shenzhen-based creators highlighted LARP's interdisciplinary appeal, merging literature studies, forensic science, prop design and game mechanics. A single 5-h script now commands fees from CN¥1000–100,000, attracting graduates across disciplines – from humanities to tech – to this hybrid economy where new thinking intersects. The pandemic further accelerated LARP's meteoric rise, with projections valuing the sector at 45 billion Yuan by 2025.

A player cited innovative LARP experiences in cities like Chengdu and Hangzhou, which pioneered 'theatre+LARP' hybrids and educational role-play, while leveraging heritage sites for immersive tourism. Hosts described converting AAAAA-rated scenic spots – like The Juguo Ancient Town – into LARP backdrops, blending tradition with techno-futurism. This new 'Bilbao Effect' manifests not through physical landmarks but collective imagination, as virtual narratives breathe new life into rural and urban spaces, driving tourism and local economies through mythopoetic placemaking. Emerging business models are reshaping urban landscapes beyond megacities.

Paradoxically, LARP counters digital isolation by re-rooting virtuality in physicality. Despite its narrative abstraction, players expressed a crave for tactile camaraderie – an antidote to screen-bound loneliness. Hosts observed that sessions replicate gaming's escapism while restoring face-to-face spontaneity. 'It's the group alchemy', one explained, 'strangers bonding over shared make-believe, like a live-action TikTok'. This interplay of virtual role-play and real-world interaction redefines sociality in post-pandemic China.

Successful venues, hosts noted, prioritise 'conversational spark' over scripted perfection: players return not for plot twists but for communities forged through improvisation. Regulars emerge when hosts curate environments where 'a CEO and a student debate Ming Dynasty politics as equals'. This ethos mirrors Arabic café dynamics, but turbocharged by narrative stakes that transcend socioeconomic or gender divides. The industry inadvertently cultivates 'Third Places' – neutral, inclusive hubs where social hierarchies dissolve.

Some hosts would design or improvise plots around historic events such as the Three Kingdoms, transforming participants into active chronologists. One noted, 'Players don't just hear about battles—they strategise as historical figures like Zhuge Liang or Sun Quan, forging emotional ties to heritage'. This synthesis of education and entertainment fuels an 'immersive tourism', where attention economies revitalise regions by merging online hype with offline footfall, threading historical consciousness into leisure. Here, LARP's virtuality materialises historical pedagogy.

Another host who studied game design suggested how the global LARP landscape could reflect profound cultural ontologies, with regional practices diverging sharply in focus and philosophy, thus constructing various forms of virtuality. For instance, Japanese LARP prioritises meticulous game mechanics and strategic intricacy, embedding complexity in rulesets akin to puzzle-solving. Nordic traditions embrace political allegory and 'playing to lose', where narrative stakes hinge on character vulnerability and dramatic failure, privileging collective storytelling over individual victory. In contrast, US iterations lean into subcultural fantasy – elaborate combat scenarios and world-building drawn from niche genres – while European LARPs channel Tolkien-esque lore and historical reenactment, weaving immersive tapestries from literary and archival traditions. These regional idioms underscore how LARP's virtualities are filtered through local cultural prisms, transforming universal play into culturally resonant praxis.



“Many people in the industry can see the **cultural value of LARP**.

Some excellent ones will **reflect contemporary social issues**, such as the pressure of students, problems of families, working environment, etc.,

which can **resonate with participants within a short period of time and cause reflection.**”



“There is no substitute for LARP.

Everyone wants to go offline. Although there are online platforms, players prefer to meet with a person offline, **strangers, friends**, communicate and chat, **do something together**, and feel something.

Therefore, LARP will not be replaced in the short term.”



**Figure 9.** Interviews of game hosts and players of Jubensha, the portrait was generated by AI to protect interviewee's identity.

Ultimately, Jubensha epitomises a reimagining of cultural infrastructure. By fusing cinematic rigor, gaming interactivity, and Third Place sociability, it constructs a participatory ecosystem where virtuality and reality co-evolve. As hosts pivot from film sets to LARP studios and ancient towns morph into playful historiographies, the industry crystallises a new paradigm: one where attention becomes a communal currency, traded not in clicks, but in collective endeavors. Additionally, emerging themes suggest Jubensha could evolve into an immersive knowledge infrastructure, leveraging gamified learning to simulate historical events, ethical dilemmas, or scientific concepts (Figure 9). As Xiqu's spiritual successor, Jubensha exemplifies how sino-virtuality could adapt: preserving abstraction's essence while democratising its tools for a generation fluent in collaborative world-building.

## 6. Discussions

The gameplay analysis and interview outcomes suggest how emerging multimedia economies can transform heritage preservations from a form of cultural 'rescue' into a participatory sino-futurism. Chinese poetry, ink painting and Xiqu traditions – grounded in abstraction, immersion, and interactivity – find radical continuity in Jubensha, reincarnated as a living medium.

A key component of this study's methodology involves integrating case study derived frameworks as a lens to engage empirical fieldwork. Interviews with game hosts provided nuanced insights into how players interpret and embody cultural-philosophical concepts within roleplay contexts. Additionally, by participating in multiple Jubensha games, the researcher documented the performative dynamics, spatial arrangements, and moments of collective imagination that paralleled traditional media such as Xiqu and ink painting. These qualitative accounts were systematically coded for recurring themes relating to abstraction, immersion, and interactivity that gave form to a structured, collaborative meaning-making. This empirical grounding not only enriched the theoretical synthesis but also allowed for the identification of specific mechanisms – such as the use of negative space in narrative design, codified gesture for

abstracted role embodiment, or the ritualisation of gameplay – that demonstrate the evolution of historical principles into contemporary forms. By explicitly linking lived experience and informant perspectives to the study's conceptual framework, the exploration reinforces its empirical foundation and interdisciplinary relevance.

While the study's approach presents opportunities in cross-context analysis, several limitations should be considered before future implementations. First, the reliance on culturally specific terminology (e.g. *qi*, *yùn*) and philosophical frameworks (Confucianism, Taoism) may alienate readers unfamiliar with local traditions, potentially restricting intercultural engagement. Second, the transition from historical practices like *Xiqu* to modern *Jubensha* was abrupt, leaving gaps in explicating how centuries-old principles dynamically adapt to contemporary contexts. Third, while advocating for multicultural virtualities, the exploration currently lacks concrete examples beyond Chinese traditions, weakening its argument for global inclusivity. Fourth, the focus on iconic figures such as Su Shi and Mei Lanfang risks privileging elite artistry, potentially overlooking grassroots or vernacular expressions of virtuality. Finally, the data on *Jubensha* derives from a limited sample of urban hosts, raising questions on its applicability to rural or global contexts.

These limitations underscore broader challenges in decolonising media theory. The cultural specificity of Sino-virtuality highlights a tension in academic discourse: how to honour localised knowledge while fostering accessibility. Future work could adopt glossaries and analogies bridging Eastern and Western concepts, such as comparing the ink techniques of 'negative space' to Brechtian 'distancing effects' to enhance intercultural dialogue.

The call for multicultural virtualities, though underexplored, presents a compelling frontier for comparative research. For example, in West African traditions, the Yoruba masquerade (*Egungun*) employs codified gestures, layered costuming and ritual performance to mediate between physical and spiritual realms, creating immersive communal experiences that parallel systemic and participatory virtuality (Drewal, 1978). Similarly, in Latin American contexts, the Day of the Dead (*Día de los Muertos*) celebrations transform urban and domestic spaces into sites of collective remembrance and imaginative worldbuilding, blending ritual, art, and narrative to construct shared virtual realities (Brandes, 1998). These examples could test and demonstrate the universality of virtuality principles as a framework to understand emerging media phenomena.

Most importantly, such investigation could build a shared foundation to focus not only on cultural differences and polarisation, but shared realities and reciprocal mechanisms that transcend cultural boundaries. For instance, the culture of participatory imagination is not unique to Chinese tradition but manifests across cultures – from Japanese reality games to African oral storytelling traditions – affirming the need for a global recalibration of media theory attentive to shared modalities and beyond. Additionally, examining how vernacular practices or marginalised groups reinterpret virtuality could democratise the framework beyond elite paradigms. The situated and cross-contextualised analysis of virtuality underscores the significance of multicultural resonance and pluralism in a new media ecology.

## 7. Conclusion

This study advances the discourse on virtuality by situating Chinese aesthetic-philosophical traditions at the heart of media ecological inquiry, tracing their evolution from systemic, multimedia practices in poetry, ink painting, and *Xiqu* to the participatory frameworks of *Jubensha*. Its principal strength lies in the construction of a layered analytic model – exemplified by the 'Iceberg of Sino-Virtuality' – which illuminates the submerged cultural and philosophical strata underpinning immersive experiences, and challenges the prevailing binary of the virtual and the real. The empirical fieldwork are not merely illustrative, but serve as generative sites for observing how codified abstraction and participatory imagination are reconfigured in contemporary practice, anchoring the mechanisms by which historical logics persist and adapt within new media ecologies.

The research functions as a conceptual experiment to extract principles transcending East-West binaries, arguing that diversifying our theoretical lexicon cultivates a more equitable media ecology. Such recalibration could transform digital knowledge infrastructures through dynamic, immersive interfaces – fostering mutual learning and empowering marginalised voices in collaborative innovation. Crucially, this framework invites dialogue with traditions like Japanese *ma* (間), where negative space in Noh theatre orchestrates temporal-spiritual virtuality, or Yoruba *Egungun* masquerades embodying communal



co-creation. These synergies affirm abstraction and immersion as universal mechanisms, catalysing plural virtualities (Afro-, Indo-, Meso-) and recalibrating media theory beyond singular paradigms.

The significance of the findings is particularly evident in its call for a broader, comparative dialogue that reimagines virtuality as a dynamic, plural phenomenon. By establishing methodological pathways for integrating cultural heritage with contemporary design, the work positions itself as a crucial intervention in global media ecology discourse.

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## Ethics statement

This study was reviewed and approved by the CUHK Survey and Behavioural Research Ethics Committee (Approval No. SBRE-23-0613/SBRE-24-0068/SBRE-22-0081). All procedures involving human participants were conducted in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study prior to their participation.

## Author contributions

CRedit: **Provides Ng**: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

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## Data availability statement

The datasets used and/or analysed during the current study are available from the corresponding author upon reasonable request.

## References

- Brandes, S. (1998). The day of the dead, Halloween, and the quest for Mexican national identity. *The Journal of American Folklore*, 111(442), 359–380. <https://doi.org/10.2307/541045>
- Chan, S. (2006). *Demonstration lecture series: Exploring Xiqu through Jing, Kun, and Cantonese Opera*. Hong Kong Education Bureau. <https://www.edb.gov.hk/attachment/tc/curriculum-development/kla/arts-edu/resources/mus-chinese-opera/xiqu-summary.pdf>
- Chen, J. (2018). From "The Qianlong Emperor in Two Realms" to the Qianlong Garden: Creating illusory spaces with Renaissance visual techniques. Wen Hui News. <https://wenhui.whb.cn/zhuzhan/wybj/20181114/224551.html>
- Chen, S. X. (2005). On the programmatic body language in Chinese opera. *Taiwan Drama Journal*, 11, 359–399. <https://doi.org/10.7021/PAJ.200507.0359>
- Drewal, H. J. (1978). The arts of Egungun among Yoruba peoples. *African Arts*, 11(3), 18–98. <https://doi.org/10.2307/3335409>
- Fardjadi, H., Mostafavi, M., Carl, P., Hays, K. M., & Rowe, P. G. (1994). *Delayed space: Work of Homa Fardjadi and Mohsen Mostafavi*. Princeton Architectural Press.
- Guidi, S. (2019). Virtuality beyond reproduction: Remarks on the history of metaphysics. *Numanities: Arts and humanities in progress* (pp. 181–210). Springer. [https://doi.org/10.1007/978-3-030-24751-5\\_12](https://doi.org/10.1007/978-3-030-24751-5_12)
- Lagerwey, J. (2010). *China: A religious state* (Vol. 1). Hong Kong University Press.
- Liu, H. F. (1996). 中國古代廟宇戲臺研究 (下) [Research on ancient Chinese temple theatres (Part 2)]. 美育 [Aesthetic Education], 72, 45–56. [https://ed.art.gov.tw/uploadfile/periodical/1251\\_%E7%BE%8E%E8%82%B272%E6%9C%9F-045056\(%E4%B8%AD%E5%9C%8B%E5%8F%A4%E4%BB%A3%E5%BB%9F%E5%AE%87%E6%88%B2%E8%87%BA%E7%A0%94%E7%A9%B6-%E4%B8%8B\).pdf](https://ed.art.gov.tw/uploadfile/periodical/1251_%E7%BE%8E%E8%82%B272%E6%9C%9F-045056(%E4%B8%AD%E5%9C%8B%E5%8F%A4%E4%BB%A3%E5%BB%9F%E5%AE%87%E6%88%B2%E8%87%BA%E7%A0%94%E7%A9%B6-%E4%B8%8B).pdf)
- Montola, M. (2012). *On the edge of the magic circle: Understanding pervasive games and role-playing*.
- Montola, M., & Stenros, J. (2004). *Beyond role and play: Tools, toys and theory for harnessing the imagination*. Ropecon ry.
- Ng, P., Eloy, S., Raposo, M., González, A. F., da Silva, N. P., Figueiredo, M., & Zuberi, H. (2024). Challenges and opportunities of using metaverse tools for participatory architectural design processes. *Virtual Worlds*, 3(3), 283–302. <https://doi.org/10.3390/virtualworlds3030015>
- Ng, P., Li, Y., Zhu, S., Xu, B., & van Ameijde, J. (2023). Digital common (s): The role of digital gamification in participatory design for the planning of high-density housing estates. *Frontiers in Virtual Reality*, 3, 1062336. <https://doi.org/10.3389/frvir.2022.1062336>
- Palace Museum. (n.d. (a)). *Qianlong emperor in two realms scroll*. <https://www.dpm.org.cn/collection/paint/233351>
- Palace Museum. (n.d. (b)). *Zhou Wenju's "Double Screen Chess Game" scroll*. <https://www.dpm.org.cn/collection/paint/230460.html>
- Pearson, L., & Youkhana, S. (2020). *Videogame urbanism: Using game spaces to challenge the future of cities*. The Site Magazine, 40.
- QiKan. (2022). *The integration of poetry, painting, and theatre in Chinese opera*. Journal Article Network. <https://www.sciqklw.com/wylw/17938.html>
- Søraker, J. H. (2011). Virtual entities, environments, worlds and reality: Suggested definitions and taxonomy. *Trust and virtual worlds: Contemporary perspectives* (pp. 44–72). Peter Lang.
- Sotheby's. (2022, September 30). *How a Qing dynasty cabinet captured the marvel of an emperor*. <https://www.sothebys.com/en/articles/how-a-qing-dynasty-cabinet-captured-the-marvel-of-an-emperor>
- Whatsart. (2021). *Reading Paintings | See How Chang Dai-chien Painted*. [https://youtu.be/hxObUjyZuTk?si=kzeZmJLK75v\\_T\\_xj](https://youtu.be/hxObUjyZuTk?si=kzeZmJLK75v_T_xj)
- Zhong, Y. (2016). 中国戏曲表演艺术程式化特征分析 [Analysis of the stylized features of Chinese opera performance art]. 鞍山师范学院学报 [Journal of Anshan Normal University], 18(4), 76–79. 沈阳师范大学戏剧艺术学院 [Shenyang Normal University, College of Drama Arts].