

Affective encounters and urban heritage: Unpacking the interface/city assemblages of online Hanfu performances

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ABSTRACT

This paper engages with the discussions on affective platforms and digital urban scholarships by drawing on digital mundane practices and networked affect theory. In urban China, a growing trend involves visitors wearing Hanfu (a traditional Han Chinese clothing style) in heritage spaces and presenting themselves distinctively online. By employing multiple qualitative media methods on Xiaohongshu, a Chinese social media platform, we demonstrate how Hanfu performances involve certain interface/city assemblages of urban heritage spaces, through which digital, imaginary, and physical elements relationally converge. We argue that affect and emotion serve as vital mechanisms for mixing these multiple assemblages, facilitating their circulation and reproduction on social media platform that heavily relies on the algorithms of feedback loops. This specific affective-algorithmic mechanism enables individuals to collectively generate new expressions of and form attachments to heritage spaces, embedded within their mundane practices as they engage with collective memories, histories, heritage materiality, and urban public life. Moving beyond merely examining the digital-urban spectacle as an outcome of social media fashioning of urban spaces, this paper extends our understanding of digital-urban space-making by illuminating the ongoing process of (re)production and dissemination of the networked affect of urban space.

1. Introduction

Social media-driven space-making is a prominent urban phenomenon. Around the world, various urban regeneration and branding programs are increasingly promoted online, contributing to the creation of “Instagrammable” places, such as Amsterdam, Seoul, Lembang, and Beijing (Boy and Uitermark, 2017; Chang and Spierings, 2023; Qian, 2022). In particular, urban heritage spaces, which encapsulate a place’ uniqueness and cultural richness, are often revitalized as part of initiatives designed for online consumption and social media visibility, raising critical questions about their spatiality and authenticity in the context of urban regeneration (Kádár and Klaniczay, 2022; Schwartz and Halegoua, 2015; van der Hoeven, 2019). In response to these digital-urban trends, urban geographers have explored how platforms affect urban economies, development models, and landscapes, and how cities benefit from additional digital and cultural value generated by urban spectacles (Degen and Rose, 2022; Zhang et al., 2022; Cao, 2024). Meanwhile, a significant strand of scholarship on the digital mundane has critiqued approaches for focusing primarily on specific outcomes that digital

technologies and urban spaces are instrumentalized to achieve, often overlooking the contingent and dynamic contexts of ordinary people’s daily life (Leszczynski, 2020a). More attention should be given to understanding the relational processes embedded in mundane practices of heritage space-making – those that involve lived experiences, heritage materiality, personal and collective memories, technologies, and social meanings (Lundberg, 2023; Walker et al., 2023). In this regard, the mundane offers a valuable lens for examining how digital technologies intersect with everyday feelings and decisions, reshaping urban heritage spaces and amplifying their impact. This paper thus aims to contribute to the digital urban scholarship by investigating the underexplored process through which urban heritage spaces are (re)produced and gain attention in online environments, and how their mediatization is furthered by the platforms.

By centering on digital mundane perspectives, we introduce the concept of interface/city assemblages to explore digital-urban space-making, emphasizing how individuals actively assemble spatial elements tied to their everyday experiences through platform interfaces. To deepen this exploration, we build on the literature surrounding affective

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platforms (Liu, 2022; Rose, 2017; Elwood, 2021), incorporating networked affect theory (Hillis et al., 2015). This theoretical framework highlights the diverse ways through which algorithmic digitalities interact with embodied and performative practices, shaping how people perceive the truth and engage in public life (Sumartojo et al., 2016; Bolter and Davis, 2018). Our inquiry then revolves around the following questions: What are the assemblages involved in the recreation of digital-urban space? How does affect engage in the (re)production of it? Accordingly, multiple qualitative and media methods have been employed and data is collected from a Chinese social media platform, Xiaohongshu. It includes a digital walkthrough, critical visual analysis, and digital ethnographic techniques such as online participant observation. We take Hanfu performances around heritage sites in Chengdu, China, as an empirical study. Here, Hanfu refers to a traditional Han Chinese style and consumption culture of clothing, rather than a rigid, defined costume category.

In urban China, the activity of wearing Hanfu attire and visiting heritage sites to capture photographs and present oneself in a distinct manner is a nascent phenomenon closely linked to a growing discourse of cultural identity and a sense of national pride (Cui, 2023). However, it is important to note that Hanfu used to be marginalized within specific historical contexts in contemporary China. Certain Han traditions, including traditional clothing, were once denigrated as “backward” during efforts to revolutionize feudal China and establish the People’s Republic of China (PRC). This marginalization continued during the Open Up and Reform period in 1990s when China embraced the global market. Additionally, the promotion of Hanfu is considered sensitive by the PRC government, as there are concerns that Hanfu’s development may represent a predominantly Han Chinese ethno-nationalism. Since the 2000s, grassroots Han movements have occurred with the aim to preserve and promote traditional Han culture and clothing, distancing themselves from ethnocentric views (Law and Qin, 2022).

More recently, during the COVID-19 pandemic, Hanfu and its associated festivals provided a sense of belonging and attachment, served as an “affective apparatus” during the collective hardships (Ip and Fan, 2024). This reinvention of fashion helps boost the cultural tourism industry related to Hanfu. Local businesses, including make-up and clothing stores, as well as Hanfu festivals organized by local governments, began to follow this trend to revive the regional economy. Therefore, the popularity of Hanfu experiences is embedded in the simultaneous rises of consumerism, nationalism, tourism, social movement, and neoliberal governance in China. Nowadays, its cultural consumption predominantly attracts women; these women come from diverse socio-economic backgrounds, each with their own multifaceted motivations, encompassing entertainment and cultural promotion (Zhang et al., 2023; Zhong et al., 2023). The socio-historical background informs the scope of our research, and the time distribution of data is from 2020 to 2023, during the pandemic and post-pandemic period. Chengdu (Fig. 1) is one of the main cities where Hanfu movement early occurred. It holds reputation for modern Hanfu enthusiasts and events, benefiting from its experiences in the Hanfu movement, great Hanfu and cultural tourism market, as well as a constellation of heritage spaces (NewsCN, 2020).

In the following sections, we first develop the theoretical framework of interface/city assemblages that combines relationality, posthuman agencies, and networked affect into consideration. The explanation of media methods and their conditions will be presented as follows. Empirical materials demonstrate the entanglement of online performances with affective technologies, physical experiences, and social imaginaries. We then extend the theoretical framework to delineate the relational configuration, mediation, and platform principles that constitute the space’s (re)production. Our concluding thoughts encapsulate our reflections on the urban future shaped by the profound digital transformations of spaces entangled with our lived experiences and imaginaries.



Fig. 1. Jiuyuan Bridge, Chengdu; source from the open-access website Shutterstock

2. Interface/city assemblages, relationality, and networked affect

In a “platform society” (Dijck et al., 2018), platforms and technologies carry meanings beyond mere tools for exchanges; they reconfigure and connect them. Our encounters with platform, videos, interfaces, and various other forms are affective, allowing us to experience diverse sensation of connectivity, interest, and attachment (Degen and Rose, 2022; McQuire, 2017). From big projects such as Google Street View to everyday photographs and videos on social media, users can often feel as if they are (engaging) *in* the scene-space when watching those digital products which invite people to enter and navigate their urban scenarios by “transporting the observer” (Verhoeff, 2012). In digital urban scholarships, terms like “platform/city interfaces” (Leszczynski, 2020b) and “digital-urban interfaces” (Fields et al., 2020) have been used to describe the way digital platform governances and enterprises operate (in) cities by assembling the city with technologies, and how they affect the residents, policies, and governance structures. Moving beyond the merely technocratic approach and discourses, we introduce the concept of interface/city assemblages to investigate digital-urban space-making, highlighting how individuals actively engage in and experience the urban space through digital mundane practices.

Our theoretical framework combines the ideas of relationality and networked affect to develop spatial thinking around interface/city assemblages. Mainly, we draw inspiration from digital feminist and post-human geographers who conceptualize space as a socio-spatial assemblage organizing human and non-human elements on becoming and encountering (Elwood, 2021). Lived space is tied to individuals’ embodied feelings and imaginaries, emphasizing the relational complexities and differences in living with technologies (Liu, 2022). In this socio-cultural analysis of heritage spaces, we focus specifically on social imaginaries (Taylor, 2004), which are shaped by histories, identities, and collective memories, and influence how individuals perceive and enact dynamic relationships in their daily life. Meanwhile, relationality perspectives expand focus to explore posthuman agencies, highlighting the entanglement between digital networks, body-mind, and urban spaces (Fields et al., 2020). The individual is not a separate entity from the external environment but rather an existence intertwined and mutually influenced with the environment (Kleinman and Barad, 2012). Posthuman geographers claim that reinvention occurs through individualization and its exteriorization via the recurrent changing process, emphasizing the processuality and performativity of sociospatial relations (Rose 2016; Merriman, 2024). This raises the pertinent question of how human and (urban) environment’s *relations* are mediated in the process of digital-urban space-making.

We further employ the networked affect concept to examine the productive role of affect in bringing the sociospatial relations of interface/city assemblages into being (Müller, 2015). Networked affect refers to the ways in which emotions, feelings, and affective responses are interconnected and circulated within social networks, online communities, digital platforms, and communication technologies (Hillis et al., 2015). In this study, we approach three forms of networked affect – intensity, sensation, and value – of online performances by exploring the user-generated content, algorithmic design, and users' behaviors (likes, shares, comments, and following, etc.), drawn primarily on Hillis et al.'s (2015) framework. Particularly, the display of networked affect emphasizes the features of functionality and relationality of digital platforms which provide "action possibilities that emerge from a given technological form", as "algorithmic architecture" affects the expressiveness and dissemination pattern of users' emotions (Serrano-Puche and Solís Rojas, 2019). For instance, codified scripts, sounds, flashes, and colors of digital products constitute users' experiences and intrigue people's embodied reactions (Zebracki and Luger, 2019). The digitality, including spreadability and malleability, of (spatial) image requires us to look further into who and how to participate in the contingent, ongoing, and open process of (re)production of the living world in its mediation (Jenkins et al., 2013).

In geographical research, it is imperative to acknowledge the unique agency of algorithmic technology which modifies space and time according to its own evolutionary logic (Keating, 2024). Networked affect approach can provide nuanced insights into how individuals collectively produce and get attachment to certain urban spaces within the online environment. Particularly, among many UGC (user-generated content) platforms, including Xiaohongshu, the principle of feedback loop (Fitzgibbons, 2019) is a crucial algorithmic mechanism. It personalizes user experience through users' behavior and emotional feedback on social media platforms, and further channels personal data into algorithmically mediated products, returning content to users accordingly. In this way, platforms retain users within the interface and loop through algorithmic design and learning. Bolter and Davis (2018) use "affective feedback loop" to describe the "reciprocal" relationship between individuals and media platforms, where affective responses are generated, transmitted, and reinforced, forming a "culture of like". It is through this affective mechanism of feedback loops that internet celebrities and associated economy have successfully proliferated (Abidin, 2018). This conceptualization expands on the traits of personalized, data-driven, connected, and easily polarized emotional digital experiences within social media platforms. To understand the continuous reshaping of urban landscapes and its dissemination process, we investigate the interface/city assemblages of online heritage performances and examine how they form sociospatial encounters on affective platforms.

3. Media research and methods

We employ a methodological framework which includes a walkthrough of the everyday use of social media, a critical analysis of visual content, and other digital ethnographic methods to examine the production and circulation of UGC data within digital mundane practices. First, the walkthrough method was employed to explore the intricacies of the app's design, navigation, usability, and functionality, shedding light on how diverse technical and cultural relations are mediated (Light et al., 2018). This process primarily involved direct engagement with the app's interface and a thorough review of the designer's visions and the operating models underlying the app, complementing the interpretation and analysis of our data. Second, critical visual analysis was employed to discern the digital visual products' form, subject, environment, color, and lighting condition, alongside an examination of the photographer's vantage point, focus, aesthetic preferences, and ideological inclinations (Schroeder, 2006). Third, digital ethnographic methods offered valuable methodological insights into algorithms as multiple and cultural, constituted by rational procedures, institutions, individual practices,

social contexts, and pre-existing cultures (Seaver, 2017). Specifically, we conducted online participant observation to examine how users interact with communities, content, and interfaces. This involved capturing data on user actions such as commenting, discussing, following, sharing, liking, and saving.

Our research platform, Xiaohongshu, is a Chinese lifestyle sharing platform whose vision is to inspire people to discover and connect with diverse lifestyles; through establishing its distinctive community rules, Xiaohongshu aims to empower, guide, and encourage users to build a supportive community focused on practical topics.¹ Although Xiaohongshu is not the social media with the most users in China, it has cultivated a predominately large community focused on product, travel, and experience reviews, while also nurturing a significant number of key opinion leaders (KOLs). It is considered to be exceptionally informative and women focused, offering vibrant first-hand user-generated content about traveling, food, education, arts, entertainment, and many other aspects that contribute to diverse lives and lifestyles (Guo, 2022). In Xiaohongshu, Hanfu performance creators encompass a diverse range of individuals, including artists, cultural advocates, amateurs, and visitors, with photographers exerting a particularly prominent influence.

The first author conducted an eight-month digital ethnography in Xiaohongshu from October 2022 to May 2023. Throughout this period, Xiaohongshu also observed and learned the researcher's preferences through user-behavior-driven model (clicks, repost, likes, etc.), combined with interests analysis using a large language model that cross-analyzed the content of texts and videos users spent significant time on (REDTech, 2023b). By March 2023, our online activities and the feedback suggestion provided by Xiaohongshu had stabilized, and we began to collect data on post content. We typed the keyword "Chengdu Hanfu" into Xiaohongshu search bar and selected the auto-suggested sub-keyword "photograph location" to gather the most relevant data for our focus on urban space. We also use "Chengdu Hanfu photograph location" and "Chengdu Hanfu photography" as supplementary search terms to collect further relevant materials. Each search was limited to first thirty pages of retrieved portals and non-sponsored content. Repeat searches existed but it does not compromise the integrity as the retrieved results of "head queries"² maintain stable in our data collection. Then we used the "save" function to archive the resulting 347 posts in Xiaohongshu and employed elimination criteria before coding. First, posts without any descriptive contents or comments were excluded for lacking sufficient data to interpret their meanings and audiences' responses. This step resulted in 167 remaining posts. Second, posts that shared very repetitive contents were excluded to enhance data diversity and improve analytical quality, prioritizing depth over mere quantity. Posts by the same creator would not be coded more than three times, since works by the same creator often show similar styles and communication patterns. Afterwards, we downloaded and coded the 70 most informative posts, including the audio and visual data of pictures and videos and the textual data of titles, descriptions, comments, and observation notes.

In the online social environment, researchers navigate an increasingly "open, archivable, searchable, and traceable space" (Markham, 2012). This context makes privacy protection in online research particularly challenging. To address this, we archived the data in a de-identification form, using codes such Post ## and Comment ##, ensuring all archived information is anonymized. Furthermore, the definitions and expectations of privacy are often ambiguous,

¹ See Xiaohongshu's official English website: <https://www.xiaohongshu.com/en>.

² Head queries typically consist of popular and frequently used search queries, characterized by short and common keyword combinations. Retrieved results for these queries demonstrate high relevance, influence, and intense competition, thus maintaining stability over relatively extended periods unless disrupted by significant turning points, such as pandemics or a sudden surge in the popularity of a particular trend.

controversial, and subject to change across different individuals and cultures, especially for content creators (Willcox et al., 2023). The ambiguous nature of concepts such as privacy, harm, or vulnerability necessitates a comprehensive approach to protect participants' privacy rights. This includes clear communication with participants about the research purpose and any related risks that they may not foresee (Zhao, 2024). In response to these challenges, we adhere to a self-checking standard: 1) assess the sensitivity of the topics and contents; 2) evaluate how public is the content; 3) see possibility to have an online interaction with the content creator. Finally, we re-evaluate the representation of visual materials to determine the essential information needed in the article. By adopting this approach, we minimize the risks of potential harms throughout the research process.

We employed the networked affect framework (Hillis et al., 2015) – intensity, sensation, and value – to deductively code the qualitative data in Nvivo. Aesthetics, atmosphere, and knowledge production emerged as inductive thematic codes, marking the typical data produced in the interactions between humans, algorithms, and space. These themes guided the ongoing and recurrent categorization of posts. Meanwhile, we are aware of social media's embeddedness in the wider social-economic-political structures, which conditioned our data and this study's scope. These concerns will be discussed in Section 5.3 as platform economy, censorship, and gendered knowledge.

4. Experiencing heritage space digitally: affective intensity, sensation, and value

4.1. Intensity: aestheticization of space against the homogeneity of the urban environment

By intensity, we refer to how the platform and its algorithm encourage users to create specific forms of intensive content that are

characterized by heightened affective experiences (Milan, 2015). Upon entering the keyword “Chengdu Hanfu” and selecting the “photography location” category, the interface displayed is as follows (see Fig. 2). Xiaohongshu's grid sorting juxtaposes every post, enabling audiences to make comparisons, while implicitly urging content creators to employ more eye-catching cover images and more compelling titles to garner likes and entice viewers to click on the post for more details.

Creators tend to employ an intensive form of visualization, composed of elements like framing, filters, and brightness. In fact, they must have visual content (images or videos) to create a new post. When the creator is preparing the post, Xiaohongshu asks them to consider applying filters, editing brightness, adding stickers, and using other editing functions to make close-to-perfect pictures through constant revision and editing. Once posted, the visual and textual contents are immediately integrated into platform data and are often labelled with hashtags to facilitate the process of viewing and searching for similar topics later within the feedback loop system.

The allure of Hanfu performance is rooted in its aestheticization and the romanticization of idyllic ancient China. This is not only evident in the visual elements of Hanfu performance, but also in the title keywords used by most posts, such as “antiquity” [古风], “traveling across history” [穿越], “sense of serene” [清冷风], or “Jiangnan” [江南, a Chinese geographical concept symbolizing the ambient and elegant cultural China, known for its picturesque landscapes, abundant waterways, rich history, and refined cultural traditions]. These words are used to capture the transcendent beauty of Hanfu performances: an ethereal, nostalgic, and extraordinary experience that surpasses the urban mundane. This strategy – which maximizes the aesthetics of heritage spaces by symbolically linking them to historical memories, the unique aesthetics outstanding from the homogeneity of the urban environment – works intensively to attract audiences. Comments on many Hanfu performances, especially very popular ones, frequently compliment the beauty



Fig. 2. The interface after typing in “Chengdu Hanfu” (authors’ screenshot in March 2023).

of this antique style and vibe. For instance:

Post 8-C2: So beautiful, so beautiful, so beautiful! I like it, I also want to take a similar picture.

Post 11-C4: Such a fairy girl! It is so gorgeous and beautiful, isn't this "comely face and peach blooms together did glow"?

By making these comments, people invest additional time and effort to express their appreciation through liking, saving and commenting. These affective responses are quickly captured by the feedback loop algorithms which significantly impact the intensity of online posts by reinforcing popular content, amplifying emotional responses, and magnifying polarizing topics (REDTech, 2023a, 2023b). As such, online Hanfu performances are transmitted and becoming trends by showcasing their aesthetics, possibly labelled with the same or similar hashtags, in a series of digital processes which include likes, shares, hashtags, comments, responses, and continuous searching, fueling the accrual of intense affect in user-generated content.

4.2. Sensation: digitally producing place atmospheres of poetic ancient China

Online Hanfu performances depict and present specific sensory regimes and affective vibes. Atmosphere [氛围感] is a popular discourse across Chinese social media which describes a visual image's capacity to make people feel moved, and it often appears in Hanfu posts' descriptions and comments. This concept of atmosphere highlights an image's aesthetic, emotional, and cognitive effects, thereby amplifying the affective capacities of space (Anderson, 2009; Nomeikaite, 2023). A certain atmosphere is created by these "engineered" visual products (Degen et al., 2017) and impacts people's feelings about heritage spaces.

As depicted in this selected video frame (Fig. 3), a range of visual narrative strategies is employed, such as the symbolic use of bamboo, focused manipulation of sunlight, and centered positioning of women. These techniques collectively contribute to the creation of a poetic image, evoking a sense of divinity bestowed upon the woman within an ethereal and transcendent environment. In this cinematic video, the integration of music, editing techniques, and descriptive elements significantly contribute to the construction of an ambient and immersive atmosphere, facilitated by the malleable nature of the digital products. The most common choices are traditional Chinese music and the soundtracks of historical dramas. To create a poetic atmosphere digitally, people tend to select spatial elements (rivers, trees, and ancient buildings) which are either contrived cultural products or natural elements carrying a repertoire of symbolic cultural meanings. They attentively exclude typical modern infrastructure (like asphalt roads, water pipes, and fire hydrants) because these objects are "modern industrial" products that are likely to destroy the poetic, imaginary scenes of idyllic antique China. Meanwhile, images can not only be viewed but also be sensed in "synesthetic interconnection" (Bieh-Missal, 2013). The post shown in Fig. 4 shows how transmedia cultural works create an aesthetic atmosphere capable of sensation and emotions:

Post 10:

Title: Song Dynasty "As spring breeze blows with intent, I cannot bear to resist this longing."

Content: The wind gives form to my yearning.

In this sample, a kinesthetic and haptic sensation of wind is visualized in text and image; it is associated with the mental activity of longing for the wind and is a metaphorical messenger to deliver yearning in many ancient Chinese poetries due to its mobility, given the inconvenience of commuting in ancient times. Additionally, the photographic



Title: Does it look like the fall of a goddess? I had already given up hope on the Chengdu's sunny day, but surprisingly, it did not disappoint us.

Fig. 3. A screenshot of a UGC video shoot in Wangjiang Park (authors' screenshot in March 2023).

angle of this picture is partial, from top to bottom, showing an intention which invites the audience to enter and peek at this scene. This post thus creates an aesthetic atmosphere that is not limited to the imagery's symbolical meanings but is a fusion of experiencing cultural symbols and immersive feelings. Interestingly, using Chinese literature and literacy to express emotion is a common communication pattern in Xiaohongshu's Hanfu experiences, as traditional Chinese poetry is one of the most potent mediums for capturing nostalgic sentiments and emotional experiences of heritage spaces (Lin et al., 2020; Paiva, 2020). Artist works, including literature and films, are effective in enhancing the affective landscapes by connecting audiences to place and inspiring people's perceptions of the place (Amey, 2018). The trans- or cross-media narratives presented through texts, pictures, videos, descriptions, and comments are not solely based on original literature and artworks but also rely on individuals' interpretations and expression due to different subjective and intellectual experiences (Hasebrink and Paus-Hasebrink, 2016).



Fig. 4. Hanfu photography in Chengdu Intangible Cultural Heritage Expo Park (saved by authors in March 2023 with copyright permission).

4.3. Value: knowledge production of Chengdu’s temporal and spatial qualities

Many Hanfu posts give practical and timely information by sharing original Hanfu experiences. This process is highly dependent on the exchange value of the platform economy, in which diverse users can exchange information and take what they need smoothly (Sutherland and Jarrahi, 2018). At the spatial level, they provide tacit knowledges of the spatial and temporal qualities of heritage space, emphasizing the photogenic value of space to take stylistic Hanfu photographs. This includes appropriate lighting and shadow, sunshine, timing, season, (seasonal) flowers, (suitable) weather, and moderate tourist population density, which are common topics in Xiaohongshu. Take these posts as examples:

Post 34: Inside “The Thatched Cottage of Du Fu [one of China’s most famous ancient poets]”, there are bamboo forests, red walls, small streams, and thatched huts. The downside is that there are a lot of people, especially around the thatched huts where there are continuous streams of tourists. Taking photos requires waiting for people to leave.

P68: In March, the temperature in Chengdu has risen sharply, and all kinds of spring flowers are blooming! The white magnolia and purple magnolia flowers in Chengdu are already in bloom! You don’t need to go to the Forbidden City, you can also take pictures of magnolia flowers on the red wall! Antique, very suitable for shooting Hanfu!

In these cases, photographic strategies are provided, telling people which sites to visit at certain times, and through which lenses they can capture a photogenic scene in these heritage spaces (see Fig. 5). These are original and sometimes very professional reviews. In this way, first-hand experiences save the cost and time for wider audiences who are planning a similar trip or inspired to do so. Sometimes, users who hold different opinions, experienced different situation, or additional details would leave comments and communicate with other users. This pattern underscores the ongoing and iterative features of data (information) production. Indeed, Xiaohongshu actively promotes the production and consumption of original travel/cultural tips as originality make them and the platform special, and these contents also contribute to the reproduction of attractions of Chengdu.

Typically, most posts include hashtags, added manually or from automatic suggestions, which encourage engagement with recently trendy topics which are recognized as valuable in the app’s algorithm.



Fig. 5. A post that teaches how to frame Wangjiang Park for Hanfu performances (authors’ screenshot in March 2023).

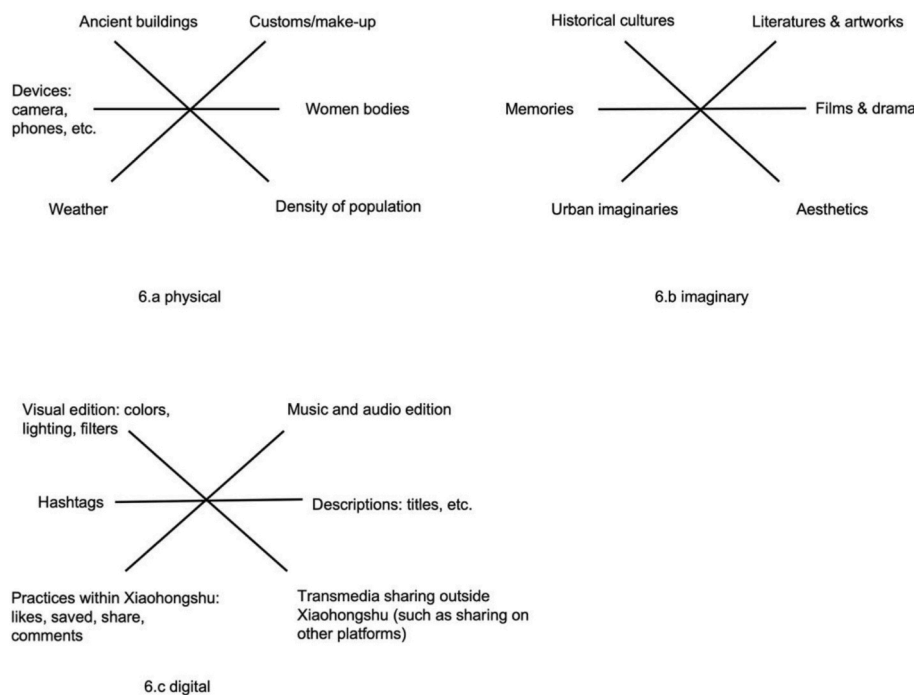


Fig. 6. Interface/city assemblages of Hanfu performances (based on our empirical data).

Hanfu posts often involve some Xiaohongshu-launched activities' hashtags³ like "Pictorial of Beautiful Women in Traditional Han Clothing",⁴ "National Style Appreciation",⁵ "Unconventional Excursions around Chengdu".⁶ If users include these specific keywords in their posts, Xiaohongshu will send them a private message, informing them that the platform will give priority to recommending their posts. Other user-generated hashtags include "Chengdu photoshoot meetup", "Daily Hanfu", etc. By incorporating these tags, a post can attract a larger audience due to the popularity of the associated topics in the Xiaohongshu community. Urban developments and projects have been frequently mentioned in these topics because they provide ideal "stages" for Hanfu performances and, consequently, immersive travel-across-history experiences. For instance, the new wetland park originated from the urban project, "Five Lakes and Four Seas" has been given credit in Chengdu Hanfu posts:

Post33: The parks in Chengdu are too competitive. There are enterprise flower theme parks, camping theme parks, music theme parks ... and now there are ancient style theme parks. When I saw those posted online, I didn't expect too much. I thought there were only a little ancient building. When you arrive, you will find that Xiaohongshu sincerely does not deceive you ... yellow walls and black tiles, pavilions, pavilions, and ancient charm ... Ladies and sisters who like Hanfu to take pictures must not miss this place!

In this way, Hanfu performances impact on a sense of place and on social imaginaries of Chengdu as a dream Hanfu destination at a city

³ These hashtags are online marketing activities; and people engage in these activities by adding their hashtags.

⁴ Xiaohongshu's description of "Pictorial of Beautiful Women in Traditional Han Clothing[汉服美人图鉴]": Wearing Hanfu beauty, like people in paintings.

⁵ Xiaohongshu's description of "National Style Appreciation[国风大赏]": National style award, makeup trend! Come to Xiaohongshu to share the national style makeup notes, show your new look of national style!.

⁶ Xiaohongshu's description of "Unconventional Excursions around Chengdu [成都小众周边游]": Do you know undiscovered good sites near Chengdu? Let's explore and discover together!.

level. The materiality of urban infrastructure underpins and enhances the discourse that "Chengdu is so suitable for Hanfu performances and photography" (Post 13) and "you have to experience Hanfu dressing in Chengdu" (Post 37). As mediated memories shared and circulated in society, Hanfu performances are productive in enhancing the image of heritage sites as "cultural enclaves", contributing to Chengdu's reputation as an ideal "ancient style" city. The production and circulation of the Hanfu values of Chengdu and its associations indicate that Chengdu is culturally dense, photogenic, and livable, and this also demonstrates the multilayered affective capacities of online Hanfu performances.

5. Networked affect: assemblage, posthuman agency, and mediated urban space

5.1. Creating spatial scripts through relational assemblage

We now expand our perspective to discuss the online Hanfu performances' dissemination flow within the platform society. We argue that online Hanfu performances serve as an experimental avenue for (self-) exploration and new expression, which emerges and spreads through a convergence of physical, imaginary, and digital aspects. In this process, affect is a vital means for mixing these multiple layers of interface/city assemblages.

In Section 4, we described the online performance by delineating how the affect of space – encompassing intense aesthetics, poetic atmosphere, and urban knowledge – is created and circulated digitally. Through unpacking this mysterious process, we sorted through the typical assemblages of Hanfu performances, which contain human-nonhuman, physical-virtual, material-immaterial, and objective-subjective elements (Fig. 6) – they all work for the coherent, poetic spatial script designed by those users. Thinking with relationality, we further discuss how assemblages are networked and intersected of multilayered physical, imaginary, and digital spaces, and we believe that this occurs through their nested and scattered convergences. It is multilayered as online Hanfu performances selectively involve the elements of their physical experiences, social imaginaries, and digital practices (see Fig. 6) – only when parts of them are connected and overlapped can they be integrated and thus experienced as a coherent

spatial script – this is how the multilayered performances nest. Notably, Hanfu served as affective apparatus that evokes the emotions embedded in Chinese imaginaries of traditional cultures (Ip and Fan, 2024), greatly enhances the affective capacities of heritage space. It helps bridge the communication between each aspect to find a common place where the convergence can sit. In this regard, the nested characteristics complicate criticisms of online performances as fragmented and inauthentic “fashioning” of urban space, especially when conclusions are drawn solely from the analysis of networked dissemination outcomes overlooking the processes involved (Schwartz and Halegoua, 2015).

The convergence assemblage is also scattered because spatial elements might be practiced and incorporated in various ways for different people, given the overlapping and interacting nature of urban heritage spaces, which contain cultural, tourism, leisure, and urban projects, and other meanings. While Hanfu performances rarely deviate, the data and information – about season, light, weather, visitors’ subjectivities, and digital practices of editing – all contribute to making each image slightly different; therefore, they perform in a scattered manner in that each relational configuration of spatial elements diverges (Nomeikaite, 2023). In this assemblage approach, the networked affect of digital cultural activities is not only (horizontally) circulating *within* the digital world but also (vertically) interacting with the imaginary and physical world, which – in the meantime – recreates the physical, imaginary, and digital aspects continuously. The “intra-action” (Kleinman and Barad, 2012) between them will be further discussed in the following section.

5.2. Mediated space: posthuman agency and changing urban spatial-temporalities

How does the process of ongoing redefinition and change of space occur? We found the posthuman agencies involved in cocreation of human and nonhuman actors, continuously generating new spatial-temporal expressions through producing real-time data; these new expressions are influenced by the pre-existing built and natural environment (Rose, 2017). Online (self-)performances in a way individualize the environment by assembling the interface/city elements, as each Hanfu photograph serves as a means of embodying expressions with users’ personal and intimate narratives. Meanwhile, platform technologies facilitate the datafication of spatial elements (Elwood and Leszczynski, 2013), making new spatial and temporal relational configurations accessible and actionable for general users, thereby contributing to the system for subsequent rounds of feeds and suggestions.

Interface/city assemblages are mediated, relational, and processual. We have delineated how users can experience, sense, and learn the new expressions of space through Xiaohongshu. For instance, people are easily intrigued by intensely aesthetic visual materials, as is evident through their clicks, comments, and likes. Those visual materials invite audiences to immerse themselves in the depicted scenarios, intellectually interpret the cultural connotations, and relate to the emotions conveyed by these digital works. Additionally, many users adopt the suggestions given in posts to plan similar journeys – this performatively influences the spatial rhythms of the individuals who would visit these locations. In this way, individuals engage in the production and dissemination of affect, data, and space that is generated by experiences affected by the platform.

This first reveals that users’ involvement in platform activities is akin to *charting* the city map in real-time instead of *reading* a city map wherein these activities took place. Space refers no longer to a static frame within which bodies move but to a continually evolving tableau that can be redefined in real time (Rose, 2016; Thrift, 2014). Particularly, urban experiences are increasingly influenced not only by physical factors but also by the insights derived from data representation. Individuals attribute personal meanings to these (re)productions and expressions of the built and natural environment; meanwhile, by interpretation, learning, and sensory and emotional resonances, they also transform

their understanding and perception of the world. In other words, data and its calculation have performative effects (Thrift, 2014). These data-driven insights, derived from how others portray the urban landscape, illustrate the distinct posthuman agencies of humans and technologies; they co-contribute to the mediatization of the urban environment and experiences, which in turn accelerates rapid changes in urban settings. We argue that the resulting urban forms and structures are shaped by platformization processes that are both mediated by algorithms and infused with emotional and affective elements. This interplay easily leads to polarization and can propel certain spaces into viral prominence in social media that is dominantly algorithmized by feedback loops (Boler and Davis, 2018; Abidin, 2018). As seen in the intensity of online Hanfu performances, certain contents and spaces that resonate with most users and elicit the strongest emotional responses get the most attention, leading to heightened visits to these spaces for a time (Zhang et al., 2022; Cao, 2024).

Meanwhile, technologies and algorithms are never neutral (Elwood, 2021). Technology enterprises greatly intervene in shaping the development of platform urbanism or *wanghong* (internet celebrities in Chinese) urbanism in China and globally (Morris and Cong, 2024; Boy and Uitermark, 2017). On Xiaohongshu, content creators who already possess influence, produce posts that align with the marketing activities organized by Xiaohongshu tend to garner higher viewership and engagement. Xiaohongshu’s community rules and associated algorithms also limit many expressions. Some principles governing the platform economy dictate what we readily encounter on social media. This leads to a reflection of what we can see or not in the platform.

5.3. What we don’t see? Social differences in mediated contexts

Indeed, different groups have varying understandings of and feelings about the same environments and representations (Anderson, 2009). In our case, we are mindful of problematic issues related to cultural, ethnic and gender relations embedded in the Chinese social-economic-political contexts. First, as we mentioned in the introduction, there exist many different stances within Hanfu communities, each holding different attitudes towards the mass commercialization of Hanfu clothing and distinctive stances in the debate over what Hanfu represents (Cui, 2023; Law and Qin, 2022). Additionally, we are concerned about the potential conflicts regarding the promotion of Hanfu as the most representative custom of authentic China (Law and Qin, 2022). The lack of data about cultural and ethnic tensions may be partly attributed to the state censorship which can silence or exclude content deemed sensitive to ethnic issues (Clothey et al., 2016). It is also because when searching Hanfu-related content with the term “Chengdu”, Xiaohongshu’s algorithm tends to provide feedback based on its interpretation of our searching intentions (REDTech, 2023a). Consequently, it suggests content primarily focused on urban Hanfu experiences in Chengdu, viewing the researcher-user as a potential visitor planning a similar trip, rather than offering topics on cultural differences.

Furthermore, to engineer an atmosphere of cultural authenticity, online Hanfu performances strive to evoke emotional responses by embodying the “essence” of traditional Chinese culture, encompassing heteronormative imageries and associated cultural connotations. Through our critical visual analysis, we found that visual compositions within Hanfu performances adhere to traditional aesthetics and perpetuate feminine characteristics of women’s bodies, like “slim but fleshy”, “clear and sentimental eyes”, and “elegant bodily gestures”, which represent a patriarchal and male-oriented gaze (Wen, 2017). However, it is important to note that these aesthetic qualities are not fully accepted for emerging feminist women in urban China, who increasingly pursue a strong, powerful, healthy, and athletic body (Chen and Jablonski, 2022). The complexity of the aesthetic affect and intersectional identities require extensive research on the “off-line” stage. We need to further asks questions about who cannot resonate with the dominant digital-urban performances and how various groups assemble

interface/city elements and interact with the system and peers differently.

6. Concluding thoughts

This paper reveals the process by which individuals recreate urban space and resonate with them collectively within algorithmic-mediated affective platform that heavily depends on feedback loops. By approaching digital-urban space-making as interface/city assemblages, we illustrate how physical, imaginary and digital aspects converge in online Hanfu performances, with characteristics that are nested and scattered. Users selectively assemble digital, imaginary, and physical elements that reflect their imaginaries of emplaced cultures, allowing individuals with shared ethnic, cultural, and national backgrounds to easily understand, feel, and relate to them on the affective platform. Certain performances that elicit most affective and emotional responses, manifested in clicks, likes, comments, and shares, are likely to garner increased attention due to the feedback loop algorithms, leading to specific urban heritage spaces gaining visibility. For future research interested in the interaction between platforms and cities, the concept of interface/city assemblages is particularly helpful for unpacking the black box of algorithms (Fields et al., 2020) through user behaviors and narratives. By examining how individuals engage with, contribute to, and emotionally respond to these algorithmic products, this concept enables a deeper investigation into their sociospatial relations and the impacts of accelerating digital transformation.

By identifying the situated dynamics within digital mundane practices that affect users' perception and experiences, we complicate critiques that frame the digital-urban heritage spaces as merely inauthentic or spectacular (Lundberg, 2023). Instead, we highlight a form of post-human agency, where users actively engage in creating and amplifying their spatial narratives with a wide range of peers, connecting seemingly discrete elements such as heritage materiality, personal and collective

memories, cultural imaginaries, and digital technologies (Liu, 2022; Rose, 2017). In this digital (re)production of heritage spaces, users demonstrate high levels of participation, resonance, and engagement, drawing on their identities and cultural backgrounds (van der Hoeven, 2019; Walker et al., 2023). However, while exploring the possible ways in which urbanites contribute to creating the city space, we refrain from endorsing the notions that citizenship rests upon participation in digitizing the city. As digital platforms increasingly mediate urban life, reshaping landscapes and social structures where we reside, we raise pertinent questions about social differences and power relations (Elwood, 2021) by reflecting on what remains invisible and unengaged in media discourses. Comprehending the mechanisms and agents involved in the mediatization of urban experiences, including perceptions, senses, and emotions, becomes essential for examining power dynamics (Boler and Davis, 2018) within the multiple interface/city realities in both local and global contexts.

CRedit authorship contribution statement

Chu Xu: Writing – review & editing, Writing – original draft, Software, Methodology, Investigation, Formal analysis, Conceptualization, Visualization. **Ajay Bailey:** Writing – review & editing, Supervision, Methodology, Conceptualization.

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Appendix I. Codes

| Major themes | Organizing themes | References | Files | References |
|----------------------|---------------------------|--|-------|------------|
| Aesthetics | edition | filters, inframing, captioning | 21 | 39 |
| | dramatization | super stylist | 20 | 55 |
| | nostalgia | Jiangnan, travel cross time | 19 | 33 |
| Atmosphere | landscapes | ancient building, natural environment, density of population | 37 | 165 |
| | camera language | lens, lighting | 42 | 53 |
| | body | facial emotions, postures | 24 | 25 |
| | literature and arts works | music, descriptions | 21 | 29 |
| Knowledge production | travel tips | routes, travel memories | 27 | 44 |
| | urban projects | heritage space construction | 16 | 23 |
| | cultural promotion | historical knowledge | 13 | 21 |
| | city branding | Chengdu is so suitable for Hanfu performances and photography. | 11 | 18 |

Appendix II. Operationalization of key concepts

| Concepts | References in texts | Operationalization |
|-----------|--|--|
| Intensity | By intensity, we refer to how the platform and its algorithm encourage users to create specific forms of intensive content that are characterized by heightened affective experiences (Milan, 2015). | <ol style="list-style-type: none"> 1. Identify platform features and algorithmic mechanisms <ol style="list-style-type: none"> 1) Platform features: <ol style="list-style-type: none"> A. content creation tools: investigate tools provided by the platform that enable or encourage the creation of emotionally charged content (e.g., filters, effects, music, reaction buttons). B. engagement interface design: look at how likes, shares, comments, and other forms of user interaction are emphasized and displayed. C. algorithmic mechanisms: learning the algorithms and vision through development team's website, such as content recommendations and personalization algorithms. 2. Measure intensity of the content |

(continued on next page)

(continued)

| Concepts | References in texts | Operationalization |
|-----------|--|---|
| Sensation | Online Hanfu performances depict and present specific sensory regimes and affective vibes. Atmosphere [氛围感] is a popular discourse across Chinese social media which describes a visual image's capacity to make people feel moved, and it often appears in Hanfu posts' descriptions and comments. This concept of atmosphere highlights an image's aesthetic, emotional, and cognitive effects, thereby amplifying the affective capacities of space (Anderson, 2009; Nomeikaite, 2023). | <ol style="list-style-type: none"> 1) Visual analysis of pictures and videos, especially title pages, color, filters, lenses, edition 2) Content analysis of titles, content, and comments to examine the emotional strength or forcefulness expressed in the comments 3) Behavior observation: we can also see the intensity of content and comments by observing the behaviors of clicking "likes", "saves", and "comment" bottom, such as from the numbers of likes. <ol style="list-style-type: none"> 1. Identify sensory and affective elements in online Hanfu performances <ol style="list-style-type: none"> 1) Sensory regimes: <ol style="list-style-type: none"> A. visual elements: the visual aesthetics of Hanfu performances, including costume, colors, settings, and cinematography. B. auditory elements: the soundscapes, music, and other auditory components accompanying the performances. C. kinesthetic elements: observe movements, gestures, and choreography that contribute to the sensory experience. 2) Affective vibes: <ol style="list-style-type: none"> A. emotional tone: identify the emotional tone conveyed through performances, such as calmness, excitement, nostalgia. B. atmosphere: consider the overall atmosphere created by combining visual, auditory, and kinesthetic elements. 2. Measurement of sensation in users' engagement <ol style="list-style-type: none"> 1) Content analysis: <ol style="list-style-type: none"> A. emotional responses: look into comments to capture their emotional reactions to the performances. B. cognitive impact: examine the cognitive effects, such as memory recall, cultural understanding, and interpretation of the performances 2) Behavioral analysis: <ol style="list-style-type: none"> A. engagement: user engagement with Hanfu performances (likes, shares, comments) as indicators of affective impact B. interaction patterns: to see how users interact with the content from comments, such as if they would like to follow or share with friends. |
| Value | This process is highly dependent on the exchange value of the platform economy, in which diverse users can exchange information and take what they need smoothly (Sutherland and Jarrahi, 2018). | <ol style="list-style-type: none"> 1. Identify components of exchange value <ol style="list-style-type: none"> 1) Types of information: how the type of content (e.g., tutorials, entertainment, commercial) is considered valuable in the platform 2) Information exchange tool: tools and functions that facilitate information exchange (e.g., messaging, comments, forums) and how users can exchange services or information. In this case, we mainly focus on the knowledge production and information exchange. 2. Measurement of value in users' engagement <ol style="list-style-type: none"> 1) Content analysis: interpret how users think this content useful (or not) and what elements they think particular useful (or not) and give responses to. 2) Behavior analysis: examine the interaction pattern in the platform. We observe the consistent knowledge production process of post-comment-interact as an action of co-creation of information in real-time. Adding specific hashtags is believed to enhance knowledge within particular topics. |

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