MEDIATIC APPROACH TO URBAN SPACE: A COMPREHENSIVE DISPLAY PERSPECTIVE

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ABSTRACT

In the current urban development context, the image of cities, represented by smart cities, has become a showcase for social sustainability. This research explores the understanding and utilization of urban space by considering it as a broad exhibition medium, with a particular focus on its role in communication, expression, and information display. Urban space is not only a place for residents' daily lives but also an essential platform for various forms of information exchange, dissemination, and exhibition. The diverse mediatic attributes of urban space, including ecological, infrastructure, cultural, information, and social media, collectively contribute to the dynamic and continuous spatial order of the city. This order is particularly evident in the aspects of pedestrian and bicycle systems, visual connectivity systems, and social nodes and urban structures. By considering these elements holistically and utilizing urban space as a platform for information exchange and display, it is possible to establish and improve the spatial perception framework of smart cities, enhancing the coherence and fluidity of urban spaces to meet the growing demands of people's lives.

KEYWORDS _ *Urban space, mediatic attributes, smart cities, spatial experience*

INTRODUCTION

Urban space constitutes an essential component of people's daily lives, ranging from commercial districts to parks, towering skyscrapers to alleyways. The understanding of urban space extends beyond its material and spatial characteristics. Increasingly, research acknowledges its nature as an information carrier and a platform for displaying social relationships, positioning urban space as a "mediatic" medium. However, the theoretical research on urban space as a medium remains limited.

The display nature of urban space determines its ability to convey information and shape people's perception and behavior towards the city. Therefore, understanding and designing urban space from a mediatic perspective provide a novel theoretical framework to comprehend and conceptualize urban spaces. This study aims to contribute to the theoretical exploration of urban space as a medium by adopting a broadened display perspective, thereby promoting research on urban space as a mediatic medium.

DEFINITION AND THEORETICAL BASIS OF "EVERYTHING IS MEDIUM"

The theoretical background of "everything is medium" can be traced back to the theory of media ecology and the works of Marshall McLuhan. Media ecology is a theoretical framework that emphasizes the impact of media environment on human cognition, behavior, and society. Notable figures in this field include Harold Innis, Eric Havelock, and Marshall McLuhan. They argue that different media environments shape different modes of perception and thinking, thereby influencing the structure and culture of society.

Marshall McLuhan, a prominent member of the media ecology school, proposed the theory of "the medium is the message" in his book "Understanding Media: The Extensions of Man." He posited that media are not merely tools for transmitting information but also environments that shape everyday experiences and knowledge. Each medium has its specific mode of perception and cognitive structure, which determines how people receive and understand information and also influences their behavior and social relationships. McLuhan's theory challenged the traditional notion of media as mere information carriers and elevated them to significant factors in shaping human culture and society.

The idea of "everything is medium" emerged from this theoretical background. It further broadens the definition of media, expanding it from specific informational tools to encompass all material and immaterial phenomena, including the environment, the body, language, culture, technology, and social relationships. According to this perspective, all these elements play a mediatic role to varying degrees and participate in the production, dissemination, and processing of information. This viewpoint not only deepens our understanding of media and information but also provides a new perspective and tool for understanding and designing urban space.

John Durham Peters further extends McLuhan's ideas in his book "The Marvelous Clouds: Toward a Philosophy of Elemental Media." His perspective is even more expansive and elemental, including not only electronic media but also various elements in nature and the human body. He argues that these elements can be considered as media because they all participate in the transmission and communication of information. He emphasizes the role of the environment and ecosystems in media communication and asserts that everyday life takes place within the interaction of various media.

MEDIATIC PERSPECTIVES IN URBAN THEORY

Kevin Lynch: Kevin Lynch is a renowned scholar in the field of urban planning and design. In his work "The Image of the City," he introduced the concept of urban image. Lynch argued that cities are constructed based on people's perceptions and understanding of the urban environment, with media playing a significant role in shaping and conveying the urban image.

The environmental media school emphasizes how the material properties of media interact with human experience. In urban spaces, this interaction can be understood by analyzing the composition of spaces, patterns of use, and how they support or condition human experience. Kevin Lynch's Five Elements of the City provides us with a framework upon which we can explore the physical and social attributes of urban space. Roads are not just streets or traffic paths, they also define the mobility of cities and are places where people live and interact. Nodes, as traffic intersections or plazas, become gathering centers for people. Borders are not only the physical boundaries of cities, they also define the boundaries of communities and cultures. Landmarks serve as the identity of the city, providing people with key points for navigation and memory. Regions, on the other hand, represent specific social, cultural, and economic functions in a city, directly affecting people's way of life. To sum up, urban space is not only a physical structure, but also a vivid "medium" that affects our daily life and social patterns, and is a core part of our experience and cognition.

EVERYTHING IS A MEDIUM TO INTERVENE IN URBAN SPACE RESEARCH IDEAS

Based on the environmental media school, the material attributes of the media are sorted out and applied to the elements of urban space for classification. The classification is based on Kevin Lynch's five elements of the city, and on this basis, the social attributes of urban space media are further divided.

This study aimed to dissect urban spaces through their mediatized nature, drawing parallels between their components and various forms of medium. The ultimate goal was to underscore the importance of coherence and fluidity within cities, impacting the environment, social ambiance, and the residents' quality of life. An innovative concept was employed, wherein "urban space was likened to an exhibition hall". This allowed for a fresh lens - the 'pan-medium perspective' - to assess how different forms of media influence and shape a city's spatial order. Through field research, A thorough examination of urban spaces was undertaken, with a keen focus on their mediatized attributes. Observations led to a classification based on urban elements and their media characteristics. This stratification aimed to ascertain how each element contributed to the broader spatial connectivity framework.

The study would have benefited from directly referencing established literature. A comparative lens could have been applied to align or differentiate the research's findings from existing knowledge. Drawing from the methodologies employed, urban spaces, when perceived as a confluence of various media forms, stress the necessity for structural coherence and fluidity. While tangible infrastructure lays the foundation, it's the non-material attributes that infuse cities with meaning and charm. The 'pan-medium perspective' offers planners a novel tool to understand urban spaces, emphasizing the harmonization of the diverse media types to optimize spatial order and foster sustainable, holistic urban development.

CATEGORIZATION OF URBAN SPACE FROM A MEDIATIC PERSPECTIVE

Spatial categorization

(1) Foundational Media

The physical environment and facilities within urban space, collectively referred to as "foundational media," constitute the tangible components of the city and play a crucial role in daily life and the realization of urban functions. These media include spaces such as streets, squares, and buildings, with their material attributes and significance in urban life at the core of this concept.

Foundational media can be divided into several components:

Buildings: Including residential, commercial, and public facilities, the design and arrangement of

buildings influence the form and character of the city, providing spaces for various activities.

Roads: Connecting different parts of the city, roads facilitate the flow of people and goods, and their layout and design determine the efficiency and safety of urban transportation.

Public spaces: Such as squares and pedestrian streets, are important places for public activities and social interactions, influencing urban vibrancy, inclusivity, and reflecting urban culture and identity.

Infrastructure: Encompassing water and power supply systems, public transportation facilities, waste management facilities, etc., infrastructure forms the foundation of urban operations, impacting residents' lives and environmental quality.

Urban furniture: Including streetlights, public seating, trash cans, signage, etc., urban furniture provides basic services, enhancing the comfort and aesthetics of urban space.

The categorization of foundational media is based on their material form and functional purposes. For example, buildings are categorized based on the spaces they provide and their spatial forms, roads based on their flow and connectivity functions, public spaces based on their provision of public activities and social spaces, infrastructure based on their provision of essential services and environmental protection, and urban furniture based on their contribution to comfort and aesthetics.

(2) Cultural media

"Cultural media" within urban space carries and disseminates cultural values, such as museums, art galleries, and historical sites. These facilities and spaces serve as primary venues for urban cultural life, supporting the preservation and inheritance of urban cultural heritage and identity. Key components of cultural media include:

Museums and art galleries: Showcasing and preserving urban history, culture, and art, these institutions provide platforms for the public to understand and appreciate urban culture and art, enhancing the cultural influence of the city.

Historical sites and cultural heritage: Encompassing historical buildings, sites, monuments, etc., these elements provide tangible evidence of urban history and culture, reflecting the historical changes and cultural heritage of the city. Their preservation and activation contribute to the safeguarding and transmission of urban history and culture.

Public art: Such as sculptures, murals, street performances, etc., enhances the aesthetics of urban space, elevating the city's image and embodying urban culture and innovation.

Cultural events and festivals: Including concerts, film festivals, cultural celebrations, etc., these events provide rich cultural experiences, increasing urban vitality and attractiveness.

Educational facilities: Such as schools, libraries, science museums, etc., are important places for knowledge dissemination and learning, playing a critical role in talent cultivation, knowledge dissemination, and enhancing urban cultural literacy.

Each form of cultural media conveys cultural significance in unique ways, such as the design of historical buildings or the themes of artistic works, embodying specific cultural values and concepts. They serve as tangible expressions of abstract ideas, providing pathways for people to understand and perceive these concepts. Furthermore, cultural media serves as significant venues for social communication and cultural innovation, as creators express and showcase innovative ideas, driving cultural development and transformation.

(3) Ecological Media

"Ecological media" refers to urban spatial elements closely associated with the natural environment, which have profound impacts on urban space quality, residents' living experiences, and urban environmental health. The following are the main components of ecological media:

Parks and green spaces: Providing outdoor activity areas, parks and green spaces help alleviate the urban heat island effect, improve air quality, maintain biodiversity, and offer opportunities for recreation, sports, and environmental education.

Water bodies: Such as lakes, rivers, and streams, these elements enhance the visual appeal and biodiversity of the city while regulating the urban microclimate, increasing recreational spaces, and providing ecological services.

Urban greening: Improving the urban microclimate, enhancing air quality, reducing noise pollution, and providing shaded and visually screened areas, urban greening strengthens community identity and sense of belonging.

Nature reserves and ecological corridors: These areas protect urban biodiversity and environmental quality, providing habitats for wildlife and opportunities for nature appreciation, outdoor activities, and ecological education.

The significance of ecological media lies not only in their natural and aesthetic attributes but also in their ability to mitigate negative impacts of urbanization, such as noise pollution, declining air quality, and the urban heat island effect. Proper design and planning can effectively utilize ecological media to improve the urban environment and enhance residents' quality of life. Well-planned ecological media can help cities reduce carbon emissions, adapt to and mitigate the impacts of climate change, and enhance urban ecological resilience. Therefore, ecological media hold a key position in urban planning and design, as they are integral components of urban ecosystems, highlighting the close connection between humans and the natural environment.

(4) Social Media

As significant elements of urban space, social media primarily manifest in public places and communities, such as parks, squares, and community centers. These spaces serve as venues for people to exchange ideas, build interpersonal relationships, and engage in social activities, thereby constructing the social fabric of the city. The secondary attributes of social media include fostering community identity and cohesion. Their presence allows residents or users to enhance their sense of belonging to the community or public space through communication and interaction, thereby reinforcing urban social cohesion.

Social media plays an important role in driving urban cultural development and enhancing the efficiency of information dissemination. Public places and communities, as gathering spaces for people, often become carriers of urban culture. Social media provides a platform for the flow of information within the city, facilitating the rapid dissemination of societal information.

Social media embodies human sociability, providing spaces and platforms for the exchange of ideas, emotions, and information, helping individuals and groups construct and affirm their social identities. By participating in community and public activities, people can affirm their position and roles in society, strengthening their sense of belonging. It serves as a channel for the dissemination of urban culture, conveying the city's history, culture, and values, enriching the city's cultural life, and shaping its characteristics and identity. The fluidity of information flow in social media drives knowledge renewal and social exchanges in the city, becoming a driving force for urban innovation and development.

(5) Information Media

With the development of modern technology and digitization, information media is profoundly transforming the use and understanding of urban space. Its primary characteristic is real-time information, such as real-time updates on bus locations, traffic conditions, and air quality, enabling more effective and efficient use of urban space. Additionally, information media provides personalized experiences, such as customized services in smart city projects that recommend travel routes based on user preferences and behavior, or provide information on nearby facilities, enhancing the quality of urban services and enriching the experience of urban space.

Information media also adds a new dimension to urban space by connecting the virtual and physical worlds, utilizing technologies such as virtual reality, augmented reality, and the Internet of Things (IoT). This integration makes urban facilities and services more intelligent and interconnected, leading to more diverse and enriched experiences of urban space for individuals. However, information media also brings new challenges, including protecting personal privacy and avoiding the digital divide, ensuring equal access to the benefits of information media for all.

CRITERIA FOR ATTRIBUTE CLASSIFICATION

(1) Comprehensive attributes

As a stage for human social activities, urban space exhibits a distinctive comprehensiveness due to its highly complex and diverse nature. These spaces are not limited to physical or functional entities alone but constitute a holistic integration of multiple media attributes, such as ecological media, infrastructure media, cultural media, information media, and social media. These media attributes interact and permeate each other within urban space, endowing it with complex and unique characteristics.

For instance, a park represents not only an ecological medium, focusing on the natural environment, but it can also serve as a social medium for community gathering, a cultural medium with historical sites, or even an information medium equipped with smart facilities. All of these attributes rely on the support of infrastructure media. This complexity and comprehensiveness highlight the necessity of considering the interplay and interaction among various media attributes when understanding and planning urban space.

To illustrate further, enhancing the utilization of a park requires not only improving the natural environment but also enhancing its social functions, utilizing historical and cultural resources, employing information technologies to enhance user experiences, and optimizing infrastructure. Furthermore, it is essential to understand that different urban spaces place varying weights and importance on different media attributes. For example, a nature reserve may prioritize ecological media, while a central business district (CBD) may place greater emphasis on infrastructure and information media.

Therefore, comprehending and analyzing urban space from a comprehensive perspective entails considering both the individual and intersecting impacts of various media attributes, as well as their evolution under different spatial and temporal conditions. This understanding contributes to revealing the essence of urban space and provides profound insights for urban planning and design.

(2) Main attributes

The complexity of urban space is related to its main constituent elements: ecological media, infrastructure media, cultural media, information media, and social media. These media possess distinct main attributes while also incorporating their specific secondary attributes.

Ecological media's main attribute is its connection to the natural environment, encompassing elements such as parks, green spaces, and bodies of water. Its secondary attributes include contributions to social functions like leisure and well-being, as well as enhancing the aesthetic value of urban space.

Infrastructure media forms the material foundation of urban space. Its main attribute lies in providing essential services for daily life and transportation, while its secondary attributes involve shaping the city's image and character, as well as guiding and influencing human activities.

Cultural media encompasses cultural facilities and sites such as museums, libraries, and historical landmarks. Its main attribute lies in the dissemination and preservation of culture, while its secondary attributes are associated with enhancing a sense of urban identity and brand image.

Information media, as an emerging medium in urban space, primarily involves various digital devices and smart systems. Its main attribute is information dissemination and management, while its secondary attributes manifest in enhancing the efficiency of urban operations and influencing human behaviors and lifestyles.

Social media's main attribute lies in providing spaces for social interactions, while its secondary attributes include boosting urban vitality, community cohesion, and shaping community culture.

These various media attributes not only determine the basic functionalities and characteristics of urban space but also have a profound impact on the direction and form of urban development. Understanding these attributes and functionalities enables precise urban planning and design that caters to the actual needs of residents and enhances urban livability. Moreover, it aids in effective urban management and operation, the formulation of rational urban policies, and the maintenance and renewal of urban facilities. In-depth research on these attributes and functionalities provides insights into the operating mechanisms of cities and offers new perspectives and theoretical tools for urban studies. The main and secondary attributes of these media collectively contribute to the diversity and complexity of urban spaces, holding significant theoretical and practical implications for understanding, planning, constructing, and researching cities.

SPATIAL ORDER FROM A PAN-MEDIA PERSPECTIVE

Understanding and constructing spatial order from a pan-media perspective provides new depth and dimensions. Urban spatial order is no longer simply the organization of physical space but an organic system formed by the interaction and collaboration of various media, such as ecological media, infrastructure media, cultural media, information media, and social media. In this system, the intertwining and interaction of these media collectively construct and maintain the spatial order of the city. The effective integration and coordination of these media are crucial for ensuring an orderly and harmonious urban space.

Spatial connectivity is an important way to enhance urban accessibility and mobility. The construction of visual connectivity systems can enhance the city's recognition and attractiveness. Simultaneously, the design of effective social nodes and urban structures can promote communication and interaction within urban communities, thereby enhancing cohesion and vitality.

INTEGRATION AND COORDINATION

Urban spatial planning and design encompass a wide range of factors beyond functional layout, including ecological environment, infrastructure, cultural elements, information dissemination, and social activities, achieving the integration and coordination of multiple media. Such planning aims to optimize efficiency of use and create vibrant, attractive, and sustainable urban environments.

Urban space can become a vibrant and dynamic living environment through the integration of various

media. For example, social media can increase social space by adding public facilities such as parks, squares, and community centers. Cultural media can enhance the city's cultural charm by showcasing historical heritage and artistic works. Ecological media can improve ecological quality and living comfort through the protection and restoration of natural environments. Information media can provide convenient information services and interactive experiences through the application of smart devices and digital technologies. Infrastructure media can ensure efficient and safe transportation by optimizing transportation facilities.

In the process of media integration, it is also necessary to address the conflicts and contradictions arising from their specific characteristics and demands. This requires scientific decision-making and flexible strategies to achieve harmonious coexistence among media.

"Spatial connectivity" is an important means to achieve media integration and coordination, including pedestrian and cycling systems, visual connectivity systems, and social nodes and urban structures. Optimizing pedestrian and cycling systems can enhance travel efficiency and urban vitality. Visual connectivity systems enhance the city's visual charm and sense of identity through landscape and signage design. Optimizing social nodes and urban structures can provide more social spaces, improve spatial structure, and enhance efficiency and comfort of use.

When planning for spatial connectivity, it is necessary to comprehensively examine and analyze the urban spatial environment, understand the distribution and conditions of various media, address existing problems and needs, and make predictions and plans for future development. Flexible strategies and plans should be formulated to adapt to ever-changing demands.

SPATIAL CONNECTIVITY

Spatial connectivity plays a key role in the mediatized urban space, linking various elements of the city and driving organic integration and development. This connectivity includes both physical space connections and virtual space connections. Elements such as streets, parks, squares, and buildings form the physical space connections, creating an organic, holistic, and diverse urban space. Simultaneously, information technology and network technology provide infinite extension and geographical distance bridging for virtual space, enhancing the connectivity and fluidity of urban space.

From a macro perspective, spatial connectivity enables the formation of an organic whole in urban space, resulting in a well-functioning and structurally rational urban system. From a micro perspective, spatial connectivity enhances the quality of life for urban residents by providing more convenience and choices in daily living. The deepening of urbanization increases the complexity and dynamism of urban space, making the understanding and application of spatial connectivity crucial for urban planning and research.

(1) Pedestrian and cycling systems

Pedestrian and cycling systems are integral parts of urban spatial order, particularly in urban spatial planning with a pan-media perspective. Pedestrian and cycling systems are not only basic infrastructure in urban space but also social media that influence and shape the form and use of urban space.

Pedestrian and cycling systems represent the most fundamental modes of transportation in cities, characterized by their demand for spatial connectivity and environmentally friendly attributes. The design and planning of these systems need to consider their media attributes, which means they are not just channels connecting different areas of the city but also crucial spaces supporting various social, cultural, and economic activities.

In summary, pedestrian and cycling systems, as important components of spatial connectivity in urban space, should be designed and planned with full consideration of their media attributes, forming organic integration with other parts of the urban space to achieve the maximum value of urban space.

(2) Visual connectivity systems

The visual connectivity system in a city is a distinctive form of spatial connectivity that emphasizes guiding vision and spatial orientation, providing information, and further influencing people's spatial behavior. As a powerful medium, the visual connectivity system plays a significant role in constructing the spatial order of urban space.

Firstly, the visual connectivity system influences people's behavior and decision-making by guiding their line of sight. For example, a unique city landmark or a group of prominent buildings can serve as visual focal points, guiding the flow of pedestrians or vehicles and thus influencing the overall traffic layout and behavior patterns of the city. Moreover, the line of sight through windows allows people to perceive the surrounding environment intuitively, understanding their position in the urban space, which contributes to improving spatial navigation abilities and the legibility of the city.

Secondly, the visual connectivity system is an essential medium for conveying urban information and culture. For instance, a representative public art installation or historical building can communicate the history, culture, and social values of the city through visual imagery, enriching people's visual experiences and enhancing their sense of identity and belonging to the city.

In conclusion, the visual connectivity system in a city is an important component of spatial connectivity, shaping the spatial order of the city through effective guidance of vision and information transmission. In urban planning and design, the media attributes of visual connectivity systems should be fully utilized to create urban spaces that are both functional and attractive.

(3) Social nodes and urban structure

In the context of a pan-media perspective, social nodes and urban structure play a crucial role in the spatial order of the city. Social nodes, such as parks, squares, cafes, bookstores, etc., serve as the core carriers of urban life, providing various social activity spaces and embodying urban culture. On the other hand, urban structure serves as the material foundation and spatial carrier of social nodes, composed of streets, squares, buildings, green spaces, etc., offering possibilities for the development of social nodes.

The interaction between social nodes and urban structure is essential for the formation of the spatial order in the city. A well-designed urban structure provides development space for social nodes, further influencing the formation of the spatial order. Conversely, a disorganized urban structure may limit the development of social nodes and reduce their impact on urban life.

Therefore, social nodes and urban structure are integral components of the spatial order in urban space, and they require particular attention from urban planners in the process of urban planning and design. Proper management of their relationship helps improve the functionality, comfort, and aesthetics of the city, promoting economic development and social stability. It also contributes to the creation of a harmonious, organized, and vibrant urban space.

CONCLUSION

Considering the components of urban space as different forms of media within an exhibition hall, the importance of coherence and fluidity in the city becomes evident in relation to the city's ecological

environment, social atmosphere, and residents' quality of life. To achieve this, it is necessary to approach urban space from multiple perspectives, considering both its material and non-material attributes, as well as how various media influence and shape the spatial order of the city.

Treating urban space as an exhibition hall does not imply turning the city into a mere showcase of materialism and consumption. On the contrary, it calls for an understanding and design of urban space from a holistic and systemic perspective. While it is essential to focus on the material structure of the city, equal attention should be given to its ecological environment, social interactions, cultural heritage, information exchange, and other non-material attributes. These non-material attributes, akin to the arrangement and stories within an exhibition hall, possess their intrinsic value and provide the city space with unique meaning and charm.

The pan-media perspective offers a new tool for understanding and designing urban space. Different types of media play crucial roles in urban space, influencing its spatial order and fluidity through various means. It is important to actively utilize these media, integrating and coordinating their relationships to enhance the coherence and fluidity of urban space.

Integrating and coordinating various media and optimizing the spatial order of the city are essential approaches to enhance its coherence and fluidity. In this process, attention should be given not only to the layout of physical spaces but also to people's perceptions and experiences. The relationship between social nodes and urban structure should also be considered, as providing public spaces and facilities can stimulate social vitality and enhance urban cohesion. In this sense, integrating and coordinating various media and optimizing the spatial order of the city fundamentally contribute to achieving the city's integrity and diversity, balancing its material and non-material attributes, and promoting its sustainable and harmonious development.

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