

Research Article

Applying Knowledge Graph to Analyze the Historical Landscape Based on CiteSpace

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The theory of “urban historical landscape” is gradually emerging in cultural heritage protection and urban planning in recent years. It was first proposed and promoted by UNESCO. In this study, the identification and evaluation are taken as the prerequisite for the protection and management of historical landscape. This paper uses CiteSpace to analyze the map of knowledge data to collect and sort out the global research status of urban historical landscape. In addition, the clustering function of knowledge graph software VOSviewer is used to analyze the knowledge clustering in the research field of urban historical landscape, and the research process and interdisciplinary development of urban historical landscape are obtained, to make some guiding suggestions for the future study of urban historical landscape. The results show that the study of urban historical landscape has experienced three stages. The early stage is the introduction and tracing stage, the middle stage is the diversification and enrichment stage, and the recent stage is the practice and construction stage. At present, it has become a multidisciplinary and multiperspective international research. The in-depth study of urban historical landscape undoubtedly opens a door for the traditional thought of urban heritage protection. At the same time, it gradually turned to more active management of urban historical landscape and also promoted the intersection of city, architecture, landscape architecture, anthropology, sociology, economics, and other disciplines from the side, with far-reaching influence. Reviewing and looking forward to studying urban historical landscape is more conducive to sustainable construction of the future. CiteSpace, as an excellent bibliometrics software, can help researchers sort out and display past research tracks in a novel visual way, to conduct future research better.

1. Introduction

International theoretical research on urban historical landscape is fairly mature, and the government has formulated relatively complete protection laws and regulations. For example, the English Historical Landscape Characteristics Assessment System and Ballarat 2.0 City Historical landscape Digital Heritage Information Service System have made experimental and demonstrative innovations in using digital information technology to serve urban historical landscape protection. It provides experience for exploring the preservation of urban historical landscape. With the in-depth understanding of the urban historical landscape, the cognition of heritage also extends to the social dimension

of the city, especially the dynamic process of its historical layering [1–3]. The concept of urban heritage has also been transformed from commemorative dimension to regional dimension and then to social dimension [4, 5].

2. Data Graph Analysis

CiteSpace is a visualization tool for scientific mapping knowledge. It was developed by Professor Chen Chaomei's team in 2004. Based on the cocitation theory and pathfinder network algorithm, this software conducts multivariate, time-sharing, and dynamic citation analysis on bibliographies of specific fields, to explore the critical path and knowledge inflection point of the evolution of the subject field. Finally, the mapping

knowledge domains reflecting the evolution process and development frontier of knowledge of this discipline was drawn by visualization technology [6]. CiteSpace is a Java application. Its primary function is to effectively identify the new research trends and dynamics reflected in the research literature, and at the same time, to visualize and data the research trends. In this study, the method of mapping knowledge domains was adopted and the visualization software CiteSpace was used for the visualization analysis of historical landscape. In practical methods, Author, Institution, Keyword, Cited Reference, and other options are selected in the software. Node strength, threshold, and parameters of network clipping functional area are set according to the different characteristics of the literature in Web of Science (WoS) and CNKI databases. After running the software, the statistical data and cooccurrence map of historical landscape research can be obtained, and then, the research status, hot spots, and frontiers can be analyzed.

Mapping knowledge domains are maps used to show the relationship between the development process and structure of scientific knowledge. It is not only a visualized knowledge graph but also a serialized knowledge pedigree with dual properties of graph and spectrum. The mapping knowledge domains can express and describe the network structure, interaction, crossover, derivation, and other complex relationships between the research field and related research fields. The mapping knowledge domain is an image that shows the relationship between the development process and structure of scientific knowledge by taking knowledge domain as the object [7]. According to the instructions in CiteSpace Chinese operation manual, the author uses the following steps to analyze the literature data. The system framework is as shown in Figure 1.

In this study, CiteSpace was used to draw all the scientific knowledge maps of urban historical landscape at home and abroad during 1988-2019. The emphasis is to deeply excavate and study the countries of urban historical landscape, find the keywords related to the urban historical landscape, and record and summarize the relevant literature that can be cited. To ensure a comprehensive analysis of the historical context of the historical landscape, the China National Knowledge Network (CNKI) database is used for relevant literature in China. CNKI has the broadest coverage, the most significant number, and the richest resource types. The global relevant literature data were selected from the core collection database of Web of Science, with the theme of "Urban Historical Landscape." The article type was set as unlimited, and the retrieval period was 1900-2019. Eight hundred ninety-four retrieval results were obtained (retrieval time on September 15, 2019). The retrieval results were screened one by one, irrelevant articles and nonacademic articles such as book reviews were removed, and duplicate literature were deleted. Finally, 772 valid literatures were obtained. In this paper, the selected literatures are downloaded and saved as plain text files in the format of "abstract and full record (including cited references)" as data samples for foreign literature analysis. By selecting journals, master's and doctor's databases in CNKI, and using advanced search, 367 results were obtained based

on "Urban Historical Landscape" (search date: September 15, 2019). The retrieval results were screened and irrelevant articles were eliminated, and 293 useful articles were obtained. The selected literatures were saved in RefWorks format as data samples for Chinese literature analysis.

Finally, we can accurately grasp the appropriate situation of urban historical landscape research and the relevant research direction that experts and scholars have been keen on in recent years. In addition, the clustering function of knowledge graph software VOSviewer is used to analyze knowledge clustering in the field of urban historical landscape research [8].

3. Overview of Urban Historical Landscape Research

3.1. Research Status of Urban Historical Landscape. We can get the spatiotemporal distribution characteristics of urban historical landscape research at home and abroad by combining the relevant literature of urban historical landscape. From the perspective of time distribution, the literature on the study of historical urban landscapes, first published in 1988. Since 2005, the research on urban historical landscape has shown an increasing trend year by year, but it has declined in 2019. 2005 is an important time node for studying the urban historical landscape, which is attributed to the fact that in 2005, the World Heritage Center and other professional institutions jointly held a conference on "World Cultural Heritage and Contemporary Architecture [9]." At the international conference on historic town landscape, the concept of urban historical landscape was formally put forward in Vienna Memorandum for the first time. Subsequently, the research on urban historical landscape began to spread rapidly, as shown in Figure 2.

From the perspective of spatial distribution, we find that the cities where the current institutions studying urban historical landscape are mainly located in Europe, America, and East Asia, such as the United States, Italy, Spain, and China. As shown in Figure 3, from 1988 to 2018, two years were taken as a time slice. The study took each country as a node, and then drew the national time slice map of urban historical landscape. The documents issued by various countries are as follows: The United States has the most significant amount of records in the urban historical landscape, followed by Italy and Spain. In addition, the research on urban historical landscape in Britain and Turkey is also wealthy. For the study of urban historical landscape, Europe has always been in the forefront of the world, paying special attention to the idea of integrated conservation. As early as the "European Year of architectural heritage" in 1975, EU countries jointly negotiated and issued the European Charter of architectural heritage. One of them clearly states: for European architectural heritage, the protection of those very important and commemorative buildings must bear the brunt. However, some neglected architectural groups with historical value in old towns, as well as typical villages surrounding them, also need to be taken as objects of protection. Britain has always been at the forefront of the world in

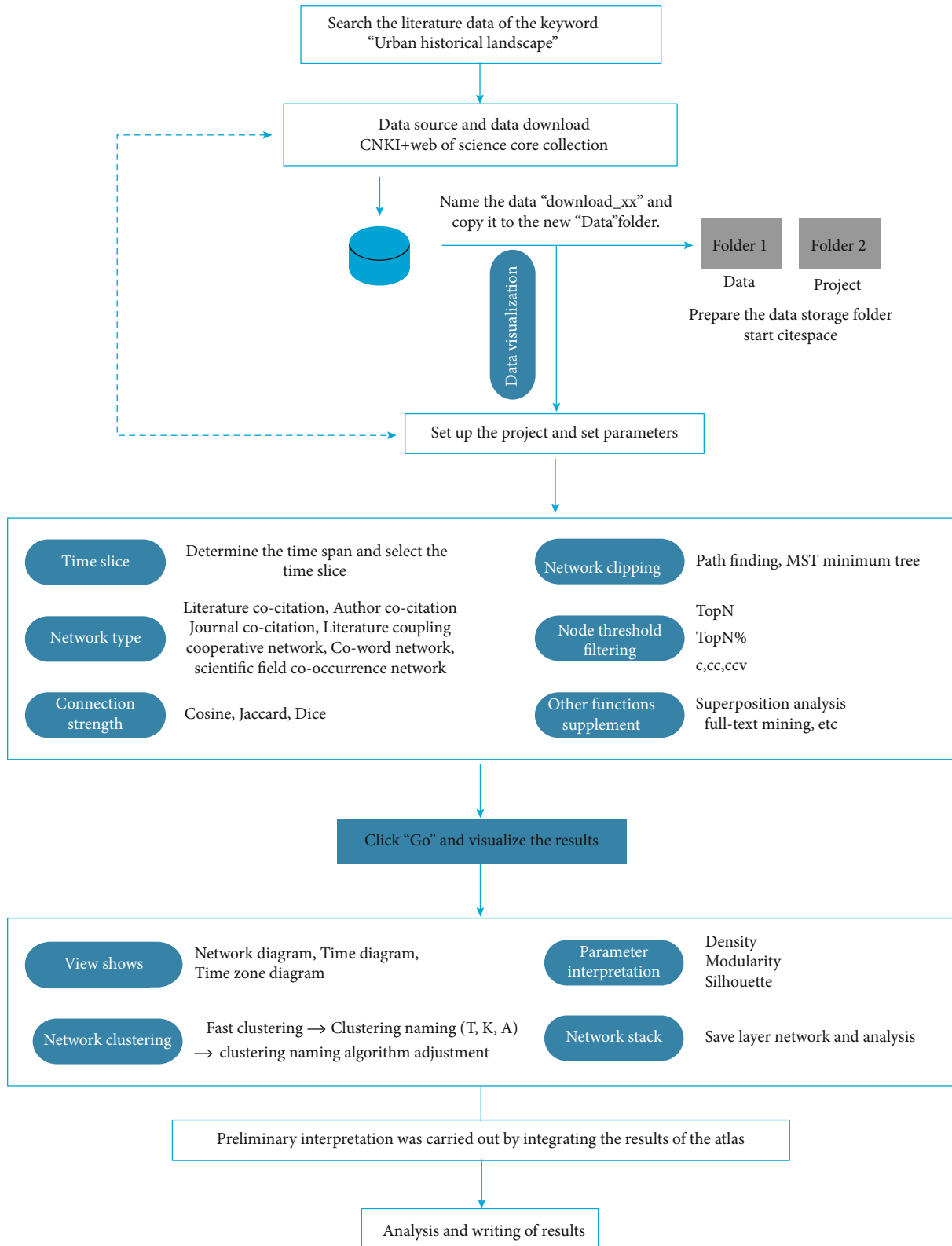


FIGURE 1: Using the CiteSpace to apply study flowchart.

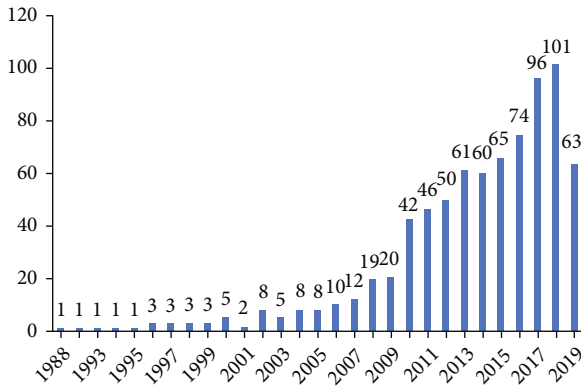


FIGURE 2: The number of documents in the study of the urban historical landscape over the years.

the protection of the urban historical landscape. It made a thorough study of the contradiction between urban historical landscape protection and development, which provides a theoretical and practical basis for other countries' research in this area.

In CiteSpace, if the centrality of a node is relatively high, it means that the node plays a significant role in the field of this discipline, and it plays a crucial role in connecting other nodes. As for the research field of urban historical landscape, the central intermediary data of various countries are as follows: (1) the Netherlands, Britain, Belgium, France, and Australia are 0.27, 0.20, 0.21, 0.16, and 0.11, respectively, which are in the first-class position among countries. Although these countries have relatively few documents in urban historical landscape, they have a great influence. (2) The United States, Italy, Spain, and China are 0.06, 0.06, 0.03, and 0.03, respectively. Although the number of documents issued in the field of urban historical landscape in the four countries is much higher than that in other countries, the output quality of these documents is uneven, and their breadth and depth are insufficient compared with the first category of countries.

3.2. Overview of Important Literature in the Field of Urban Historical Landscape Research. As for the study of urban historical landscape, the documents of UNESCO and BANDARIN F are presented in the citation network diagram as the documents with the highest citation rate. According to Figure 4, five classical literatures with the most critical value in the field of urban historical landscape research are listed in the order of frequency and number of citations:

- (1) The 36th Session of the General Conference of UNESCO (2011) adopted the Recommendation on the Protection of Historic Urban Landscape in Paris, formally proposing the definition of urban historical landscape, as well as related concepts and guiding methods [10, 11]
- (2) F. Bandarin wrote "The Historic Urban Landscape: Managing Heritage in an Urban Century," which suggests that the urban historical landscape is a new method of urban heritage management advocated by

UNESCO. He draws and analyzes examples from global urban heritage sites from Timbuktu to Liverpool and then proposes key issues and measures to address the conservation of urban historical landscapes. His research reflects the latest progress in HUL theory, practice, and related interdisciplinary research [12]

- (3) Veldpaus wrote "Urban Heritage: Putting the Past into the Future," which argues that the management of urban historical landscapes is undergoing a process of change in both theory and practice, from focusing on isolated architectural heritage assets to a landscape-based approach that incorporates elements such as environment and context, as well as concepts such as urban sustainability. It also discusses the landscape-based approach to urban heritage management, its challenges and possible contributions, and proposes to promote sustainable development and the protection of urban heritage. In addition, there is a need not only to talk about development but also to assess the adequacy of the tools and methods used to support the implementation of an integrated approach to urban development [13]
- (4) Through "Historic Urban Landscape: Fashion, Paradigms and Omissions," J.L. Lalana found that after six years of expert meetings and debate since the Vienna Memorandum, the UNESCO General Conference plans to adopt a recommendation at its 36th session in autumn 2011. This paper presents a new approach to the protection of historic buildings in cities. Historical urban landscape refers to the adjustment of urban heritage protection according to the requirements of sustainable development and the direction of comprehensive consideration of different heritage types, but at the same time, it also produces serious application problems, such as the use of the word landscape, so that the term becomes imprecise, difficult to apply, and prone to distortion. And, the urban historical landscape is considered to be the solution to the overall protection of the city; at the same time, there is a lack of critical reflection on the revitalization of the historic urban system [14]
- (5) L.F. Girard wrote "Toward a Smart Sustainable Development of Port Cities/Areas: The Role of The "Historic Urban Landscape" Approach," he proposed that after the 2008 financial crisis, the smart and sustainable development of port cities should carry out the principles of synergy (between different actor systems, especially sociocultural and economic systems), innovation, and cycle on the original basis. The urban historical landscape approach, based on specific local cultural resources rather than merely technological innovation, has become the guarantee for the transition to a smart city development model. In other words, the ecocity strategy becomes culturally dominant, which stimulates the place as a spatial trajectory, achieving synergistic and circular processes. The absence of new

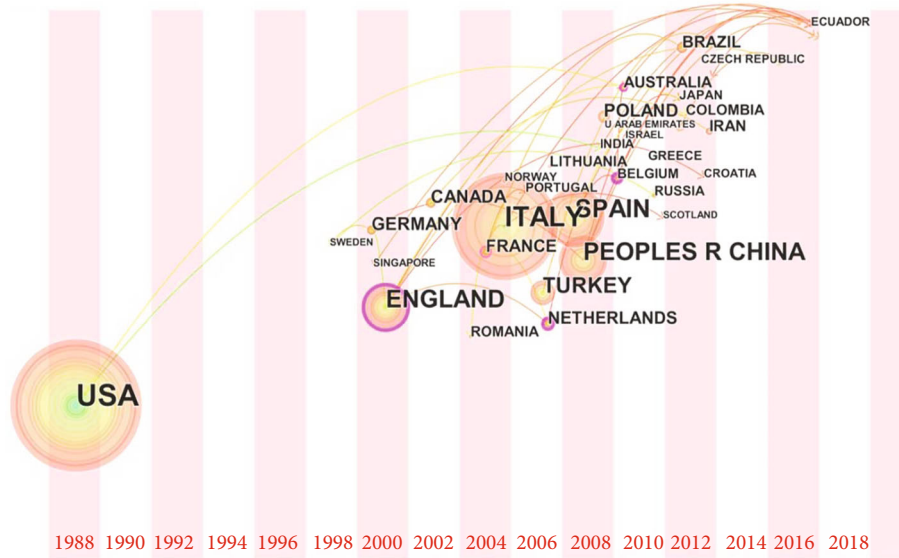


FIGURE 3: National time slice graph of urban historical landscape research.

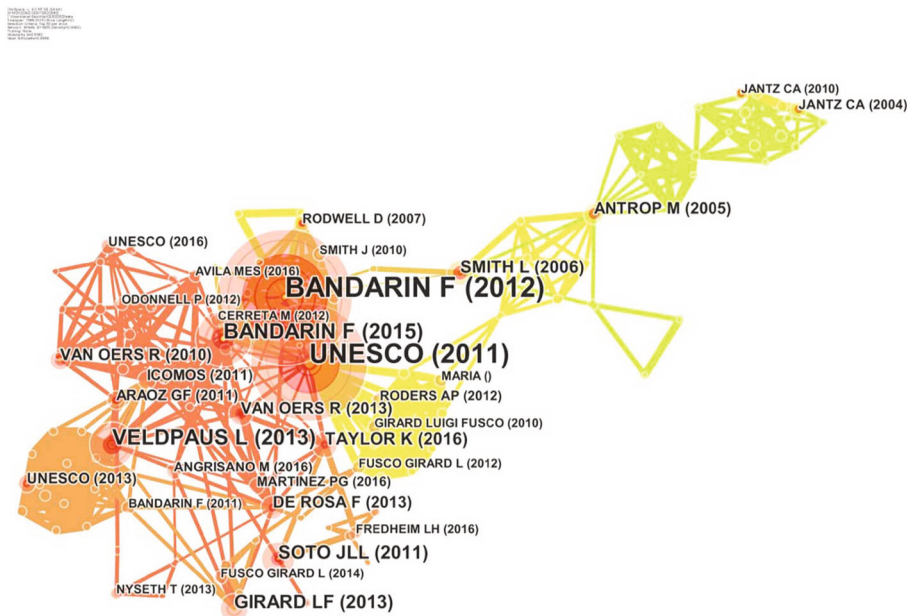


FIGURE 4: Network diagram of literature cocitation of urban historical landscape.

assessment tools and an extensive assessment culture makes the risk of HUL very high [15]

4. The Research Dynamics and Knowledge Graph Analysis of the Urban Historical Landscape

For CiteSpace, references as raw materials are the basis for analyzing the research frontier of a subject. Because of this, it is necessary to sort out the knowledge base of the urban historical landscape before analyzing the hot spots and research frontiers of urban historical landscape. The

purpose of sorting out is to identify the primary research documents that directly promote the urban historical landscape discipline. The essence of the cocitation analysis is that 772 literatures are taken as objects. High citation frequency means that the literature has relatively high academic value and is highly influential in urban historical landscape.

4.1. Knowledge Graph Analysis of Research Hotspots. In this paper, the urban historical landscape in literature is taken as the keyword, and pathfinding is taken as the pruning method to highlight the main structural features. After the keywords irrelevant or irrelevant to the urban historical

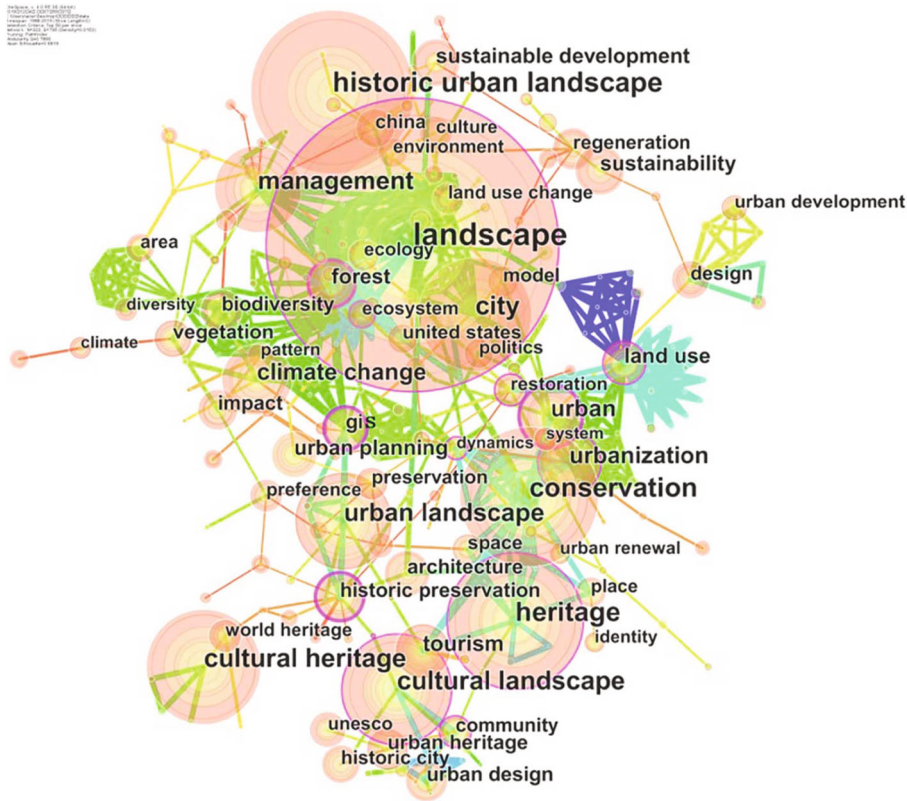


FIGURE 5: Cooccurrence relationship diagram of keywords in the urban historical landscape.

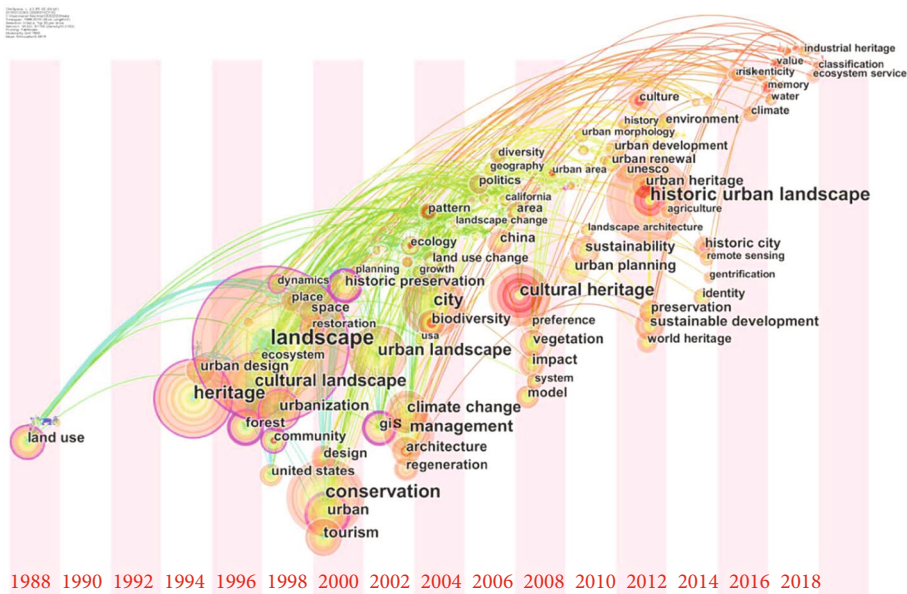


FIGURE 6: Urban historical landscape keywords cooccurrence time slice diagram.

landscape are eliminated, the cooccurrence relation diagram and its time slice map of keywords in the urban historical landscape are drawn, as shown in Figures 5 and 6.

As shown in Figure 4, in addition to landscape and urban historical landscape, the core keywords of foreign urban historical landscape also include forest, historical pro-

tection, restoration, community, heritage, and cultural landscape. In order of the number of occurrences of keywords, we found that the top 10 keywords were landscape, urban historical landscape, conservation, heritage, cultural landscape, cities, cultural heritage, urban landscape, management, and climate change.

Figure 5 shows the evolution law of hot spots in the field of urban historical landscape research from the time dimension. It discusses the evolution of urban historical landscape in different years by identifying hot areas in different years. In the 30 years we intercept, hot keywords have appeared since 1996, and the keyword “Landscape” has been throughout the study of urban historical Landscape. Keywords such as “Cultural Landscape”, “Cultural Heritage”, and “Management” all occupy an essential position in the analysis of urban historical Landscape.

As far as the evolution path of urban historical landscape research hotspots is concerned, it can be divided into three stages:

The first stage is the embryonic stage—before 1994. At this stage, scholars mainly study the peripheral parts of urban historical landscape (such as land use), but they have not touched the core field of this discipline. The interpretation of landscape is also limited to the description of words. For example, William Wordsworth (1770-1850), an English poet, described the beautiful landscape through poetry, making people imagine the beautiful landscape, which belongs to the initial understanding of human landscape.

The second stage is the development stage from 1994 to 2013. At this stage, scholars have conducted a lot of research on urban landscape, cultural landscape, and historical landscape based on “landscape,” which laid a foundation for the concept of urban historical landscape. According to The European Landscape Convention, the shaping of landscape is the result of the interaction and influence between human beings and the material elements of the surrounding natural environment. [16].

It can be seen that the concept of landscape is not simply formed naturally but has the intervention effect of external influence. Gradually, the idea of cultural landscape is highlighted. As Roberts and Sykes pointed out, urban development is not just a simple place to carry buildings and people’s survival, but a cradle of multiple and complex integrations, which contains various forms of activities such as economic activities, social activities, military activities, and political activities [17]. Diversity stimulates the creativity and new context of the city. The city must be rebuilt and constantly updated to make it more attractive [18].

The third stage has been the climax stage since 2013. Since UNESCO officially defined the urban historical landscape, the research on this subject has been booming, and a scientific and complete knowledge and application system has been formed. And the analysis on subdivided fields is also very in-depth. There are more and more articles about historical and cultural blocks, architectural heritage protection, and cultural landscape research, and the quality of articles is getting higher and higher. For the study of layering, such as Brent C’s book *Architecture and Context: the Cooperation between New and Old Buildings*. He advocated studying architectural style from the context of the city. For the study of urban historical landscape, many commonly used terms, such as historical urban landscape, urban heritage, and setting, are international terms put forward by the United Nations in recent years. Scholars and experts have also given specific explanations on the definitions of the

above proper nouns. There is a contradiction between the protection and development of historic cities. Many scholars around the world have put forward such problems in research.

4.2. Knowledge Graph Analysis of Domain Dynamics. Using knowledge map analysis, this paper is aimed at aggregating similar or related keywords into a block through the clustering function of VOSviewer and then use the color difference to make a visual expression [19].

Figure 7 reveals three research fields of urban historical landscape discipline: red is the field of management and application, blue is the field of planning and protection, and green in the field of urban historical landscape analysis and research.

The first is the management application field. The high-frequency keywords in this field are management, urbanization, land use, etc. The research in this field mainly discusses the application and management of urban historical landscape, including the use of urban land and the situation of the urban historical landscape under urbanization. Its purpose is to adopt management methods or measures, so that the urban historical landscape can play a better role in urban development. The second is the field of planning and protection. The high-frequency keywords in this field are planning, security., etc. It is research mainly discusses the contents of urban planning, landscape planning, urban historical planning, and protection. The purpose is to better continue the urban historical landscape through planning and protection.

The last is the analysis and research field. The high-frequency keywords in this field are urban historical landscape, the urban landscape, and cultural landscape, etc. The research mainly discusses the concept and value of urban historical landscape, urban landscape, and cultural landscape from the theoretical level. It extends to other fields, such as history and culture. Its purpose is to reveal the origin and value of urban historical landscape and then reflect the characteristics of a city.

5. Application of Urban Historical Landscape Theory in Heritage Protection

5.1. Value Attribute of Historical Layering in the Urban Historical Landscape. Urban historical landscape is the product of the interaction between objective material ring and human subjective will, which has the attribute of combining internal cause of value and explicit features. It has the attribute of the integration of internal and external characteristics of value [20]. The appearance feature is the external expression of the internal cause of value. The internal cause of value is the internal driving force to promote the presentation of object image features in space. Taking urban historical landscape as an example, this paper puts forward a historical stratification model based on the layering spatial schematics of many scholars and researchers [21] (Figure 8). Its internal causes are embodied in cultural aspects, such as religious culture and folk customs. These internal factors have played an essential role in city historical landscape layering and are also the form of dark parts in the

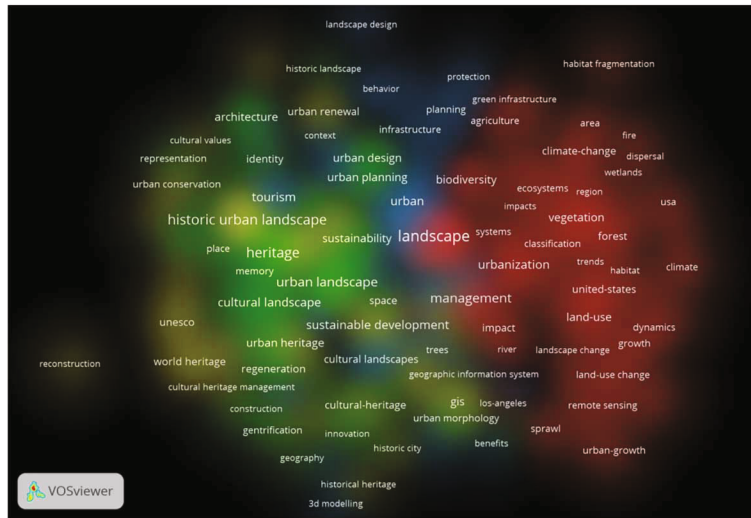


FIGURE 7: Keywords of urban historical landscape research (VOSviewer).

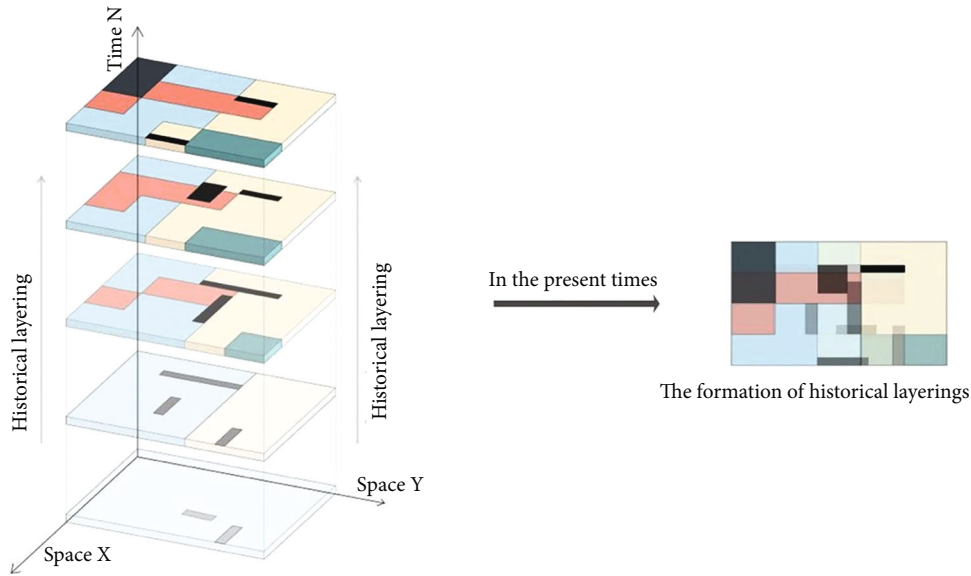


FIGURE 8: Layering analysis diagram of Urban Historical Landscape. Figure source: drawn by Shuaiyang.

picture. In the urban space under the time slice represented by *x*-axis and *y*-axis, layering promotes the change of the internal cause of value; however, its essence is still preserved in each time slice, which is also an important cultural context for its shape.

5.2. External Characteristics and Value Relevance. The formation of urban historical landscape is formed by the interaction and accumulation of human, social, economic, natural, and regional factors. It is the visual image of the city's cultural landscape heritage in the city's historical landscape. This presentation can be understood as an expansion or another presentation. The urban historical landscape contains rich contents, such as urban geographical environment, urban development background, and urban cultural context. It is not only a subtle and inevitable connection contained in "representation and connotation" but also an inevitable con-

nection between "time and space" in the process of historical layering. Therefore, "representation and connotation" and "time and space" are two important attributes of historical layering.

First of all, with the passage of time, the historical landscape of the city embraces various cultures and architectural styles of different times, accumulating different layers from the traces of time and space. This is the historical accumulation driven by value correlation, and the internal cause of value will add new value correlation with time, space, culture, and other factors. On the other hand, driven by economic, social, cultural, political, and other external factors, the historical landscape of the city presents corresponding different layers in space, function, and vision, which is regarded as the historical layering driven by external representation. As shown in Figure 9, the different elements of the urban historical landscape are interrelated. Among the

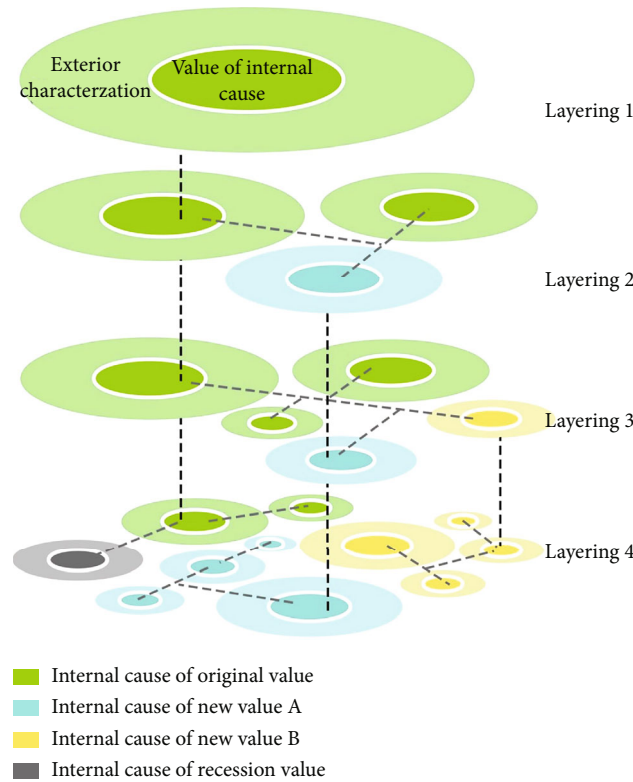


FIGURE 9: Analysis of urban historical landscape layering.

elements, object to object, interior to exterior, and time to space all influence each other in the development process. The layer upon layer of superposition is clearly combed out through the analysis of superposition and layering. Thus, it can be seen that the value of the study on the stratification of urban historical landscape is that it can accurately sort out the external representation of the city and the value correlation that is constantly updated. Through combining, it makes the research thinking broader, the sorting of the urban context more apparent, and the protection of the urban historical landscape more targeted.

5.3. History and Heritage Value. The urban character can be simply understood as the personality of a city, but it is also highly complex. It is embodied in the landscape of the city materially and in the spirit of civic spirit. It is formed through the intervention of human and social factors in the process of city history. An expert in historical studies mentioned that it is impossible for us to thoroughly understand the growth process of trees every moment of every day. However, over time, we can observe the tree's growth, and the process of its growth from small to large and flourishing can be seen over time. The development of a city is just like a big tree. Although we cannot perceive its development process every moment, we can grasp its overall trend and the most central content over time. The details of history are just like the branches and leaves of a tree, so the urban characteristics are shown by branches, leaves, flowers, and other aspects. Urban character is like the difference

between a tree and other trees, we call it character, and the layering is like the rings of a tree, recording the growth of the tree (Figure 10). Branches, leaves, flowers, and fruits grow under each tree ring, just like the development characteristics of various aspects of the city under each layer, such as culture, society, and economy. Through the gradual accumulation of multiple layers, the characteristics of the city are finally formed. We can no more find two identical trees than we can find two twin cities. What makes a tree special depends on its variety, age, and growth, while what makes a city special depends on its country, history, and environment. Only by drawing inspiration from the past development trajectory of a city can we find the characteristics of its future development. Therefore, the analysis and correlation of layering is the excavation and tandem of various factors in the city's history of the, and its historical value is obvious.

Historical layering studies the events that happened in history and the veins of people, things, and cities. Taking historical culture as the mainline, it is an overview of the accumulation of layers of urban historical landscape. Historical culture is a unique city temperament formed in the evolution of urban historical landscape. Usually, it is related to the historical characters, events, and all factors that constitute history and culture experienced in the development of a city. It directly affects the development process. In the process of historical layering, it is concluded that the connotation of each layer is composed of the people, things, and things associated with it, and these factors give the city its

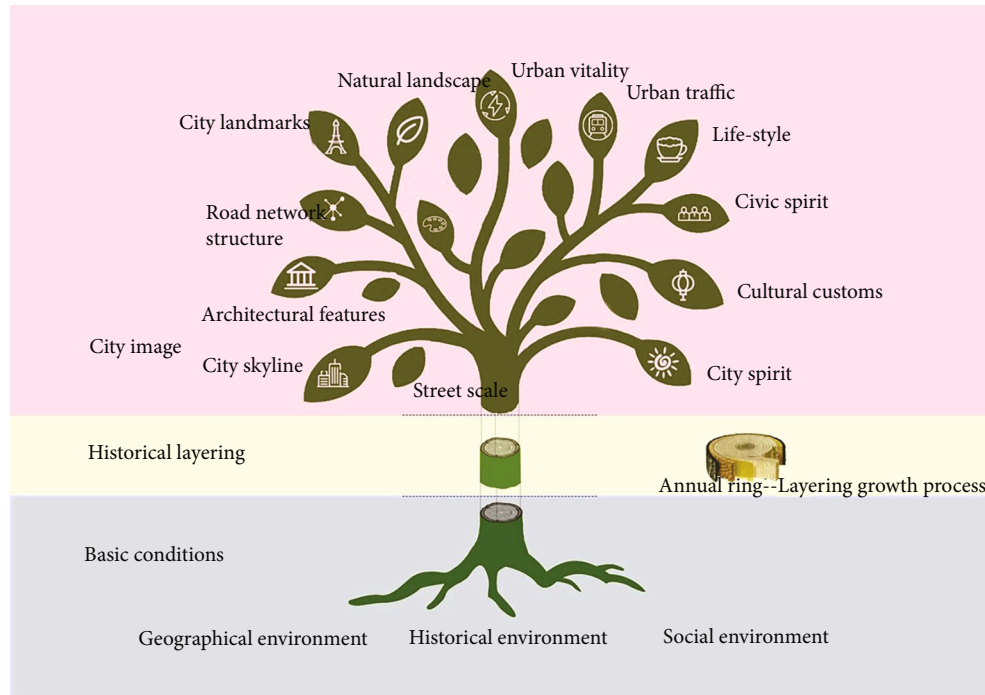


FIGURE 10: The tree-like interpretation of historical layering. Figure source: drawn by Shuaiyang.

unique context. These factors have given the city its unique context, which has become a unique historical landscape of the city. The study of cities, based on the method of historical layering, is helpful to excavate the unique layering value hidden in the historical context of cities. It includes the historical layering value hidden behind the historical and cultural blocks and other relatively ordinary urban spaces and shows the characteristics of historical cities in a more comprehensive and in-depth way, so as to improve the urban phenomenon of “thousands of cities are the same.” The historical and cultural resources with layering value are sorted into a characteristic spatial network, which is helpful to connect the historical and cultural resources at all levels. The aim is to show the memory of the city, enrich the conservation hierarchy of the historical urban planning, and thus make the conservation system more stable [22]. And, with the continuous development of the city, the database established based on the spatial network with historical layering characteristics will accumulate more historical information of the city, while protecting the existing characteristics of the city, it can also provide the direction for future urban development. The study of historical layering plays an essential role in connecting the past and the future in a city. The urban historical landscape presented by historical layering has obvious historical and cultural characteristics.

6. Conclusion

Based on two knowledge graph analysis software, CiteSpace, and VOSviewer, this study analyzes the relevant data of urban historical landscape research, especially the domestic and foreign literature on urban historical landscape, and

makes a detailed visual analysis and interpretation. Through the comprehensive analysis of urban historical landscape literature data by CiteSpace, it is found that the knowledge map of urban historical landscape research has a certain breadth and depth. The results show that, in terms of publication time, the number of papers on urban historical landscape has been increasing year by year and has experienced a slow growth stage to a rapid growth stage in recent years. According to the cooccurrence map between countries, the Netherlands, the United Kingdom, Belgium, France, Australia, and other countries published fewer documents, but the breadth and depth of literature are better. Although the number of papers published by the United States, Italy, Spain, China, and other countries is higher than that of other countries, the output quality of literature is uneven, and its breadth and depth are insufficient compared with those of the first category. According to the network relationship map of cited literature, the literature with the top 5 cited volumes are classics of great significance. They have a far-reaching influence on the study of urban historical landscape. Among them, Bandarin F's research in *Reconnecting Cities: Urban Historical Landscape Approach and the Future of Urban Heritage* reflects the latest progress in the interrelation between HUL theory, practice, and related cross-disciplines and points out the direction for the research of this subject. In addition to landscape and urban historical landscape, keywords such as forest, historic preservation, restoration, community, heritage, and cultural landscape are also found in the cooccurrence diagram and its time slice diagram. The research perspective tends to be diversified and presents a trend of interdisciplinary. The atlas reveals three significant areas of urban historical landscape research,

which are management and application, planning and protection, and analysis and research of urban historical landscape. This paper discusses the concept and value of urban historical landscape, urban landscape, and cultural landscape from the theoretical level and continues to extend to other fields. The three constitute the development of the study of urban historical landscape.

The concept of “urban historical landscape” has been discussed frequently for more than ten years since it was put forward, and the concept itself continues to go through the process of deepening and expanding. It not only has considerable theoretical continuity but also has excellent potential and openness to continue to be constructed. The concept of value is constantly deepened in the literature. Under the premise of protecting value, how to reasonably guide the modernization needs of historical cities has become a critical problem. This requires an urban planning and management policy with conservation as its central starting point. However, in the whole process, the authenticity and integrity of historical cities determined by various factors must not be jeopardized, which has become the leading research topic of scholars from all over the world.

Data Availability

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation, to any qualified researcher.

Ethical Approval

This article does not contain any studies with human participants or animals performed by any of the authors.

Consent

Informed consent was obtained from all individual participants included in the study.

Conflicts of Interest

All authors declare that they have no conflict of interest.

Authors' Contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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References

- [1] UNESCO, “Report on the International World Heritage expert meeting on the mainstreaming of the methodological approach related to the recommendation on the historic urban

landscape,” *Operational Guidelines*, 2013, <https://www.whc.unesco.org/document/135630>.

- [2] UNESCO, “International Conference on “culture for sustainable cities”,” 2015, <https://www.unesco.org/new/en/culture/themes/culture-and-development/culture-for-sustainable-cities>.
- [3] UNESCO, “Culture urban future, global report on culture for sustainable urban development,” 2016, <https://unesdoc.unesco.org/images/0024/002459/245999e.pdf>.
- [4] UNESCO, “The application of the recommendation on historic urban landscape (HUL) in Cuenca–Ecuador,” 2017, <https://www.historicurbanlandscape.com/themes/196/userfiles/download/2017/6/19/hkmmquzjahrenkba.pdf>.
- [5] Y. Huang, W. Wu, and S. Yang, “Sustainable development of green building based on intuitionistic fuzzy analytic hierarchy process,” *Applied Ecology and Environmental Research*, vol. 17, no. 1, pp. 1093–1108, 2019.
- [6] Y. Chen, C. M. Chen, and Z. Y. Liu, “The methodology function of CiteSpace mapping knowledge domains,” *Studies in Science of Science*, vol. 33, no. 2, pp. 242–253, 2015.
- [7] Z. Y. Liu, *Mapping of Scientific Knowledge: Methods and Applications*, People's Press, Beijing, China, 2008.
- [8] Z. M. Li, L. H. Feng, and R. X. Shen, “The evolution of space syntax research abroad and knowledge mapping analysis in frontier fields,” *The Planner*, vol. 35, no. 8, pp. 5–11, 2019.
- [9] S. Zhang and X. F. Zhen, “Historic urban landscape: a new path to urban conservation,” *Journal of Tongji University*, vol. 22, no. 3, pp. 29–34, 2011.
- [10] UNESCO, “Proposals concerning the desirability of a standard-setting instrument on historic urban landscapes (Paris 36C/23),” 2011, <https://unesdoc.unesco.org/images/0021/002110/211094s.pdf>.
- [11] UNESCO, “Recommendation on the historic urban landscape, including a glossary of definitions,” 2011, https://portal.unesco.org/en/ev.phpURL_ID=48857&URL_DO=DO_TOPIC&URL_SECTION=201.html.
- [12] F. Bandarin and R. Van Oers, *The Historic Urban Landscape: Managing Heritage in an Urban Century*, Wiley Black Well Press, London, England, 2012.
- [13] L. Veldpaus, A. R. Pereira Roders, and B. J. F. Colenbrander, “Urban heritage: putting the past into the future,” *The Historic Environment Policy & Practice*, vol. 4, no. 1, pp. 3–18, 2013.
- [14] J. L. Lalana, “Historic urban landscape: fashions, paradigms and omissions,” *Ciudades*, vol. 14, no. 2, pp. 15–38, 2011.
- [15] L. F. Girard, “Toward a smart sustainable development of port cities/areas: the role of the “historic urban landscape” approach,” *Sustainability*, vol. 5, no. 10, pp. 4329–4348, 2013.
- [16] R. V. Orse, “The concept of urban historical landscape and its relation to cultural landscape,” *Chinese Garden*, vol. 28, no. 5, pp. 16–18, 2012.
- [17] P. Roberts and H. Sykes, *Urban Regeneration—A Handbook*, Sage Publications, London, England, 2000.
- [18] R. Dennis, “Urban regeneration and the management of change,” *Journal of Architectural Conservation*, vol. 14, no. 2, pp. 83–106, 2008.
- [19] K. Gao, “Application research of document metrology analysis software VOSviewer,” *Science and Technology Information Development and Economy*, vol. 25, no. 12, pp. 95–98, 2015.
- [20] L. Heping and X. Jing, “Analysis on the types and components of China's cultural landscape,” *Chinese Garden*, vol. 2, no. 5, pp. 90–94, 2002.

- [21] Y. M. Cao and H. P. Li, "Diachronic and synchronic characteristics in the protection of historic towns – enlightenment and thinking of urban historical landscape," *Urban Development Research*, vol. 26, no. 10, pp. 13–20, 2019.
- [22] R. V. Orse, "Towards new international guidelines for the conservation of historic urban landscapes (HUL)," *City & Time*, vol. 3, no. 1, pp. 43–51, 2007.