

Research hotspots and trends of preservation and renewal of historical and cultural districts

Bibliometric Analysis Based on CNKI Chinese Core Journals

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Abstract

This paper aims to reveal the research hotspot of preservation and renewal of historical and cultural districts in China and predict the future trend. We use CiteSpace software to analyze China's development and current situation in this field from multiple perspectives, as well as the overall evolution path from 1993 to 2022. Based on the data analysis of the Chinese core journal catalog in the CNKI database and 1288 related research articles included in the Chinese Social Sciences Citation Index database, this study uses the advantages of Citespace bibliometric visualization software to study and analyze the contents of regions, institutions, scholars and literature keywords. Although China is increasingly rich in research perspectives, models, strategies, and other aspects in this research field, the cooperation between research institutions and researchers in different regions is not strong, and the core team of authors with significant influence has yet to be formed. On the level of research, the content of mesoscopic and microscopic analysis is relatively affluent, while the macro level research needs to be developed. Sudden change data shows that the focus of this research field in the early stage was to focus on the old city reconstruction, followed by the emphasis on heritage protection, traffic optimization, tourism development, and other hot spots, and now it is to focus on the combination of "spatial production" and renewal and make full use of big data. Since Chinese cities are constantly improving their competitiveness, future studies in this field tend to combine cultural heritage, art, science, and technology to meet urban development needs. By analyzing and sorting out the current research status, hotspots, and possible development trends in this field, this paper hopes to provide more references for the implementation of the research.

Key words: *Historical and cultural districts ; Conservation and renewal ; Citespace; Bibliometric methods.*

1. Introduction

With the rapid development of China's urbanization process, the modern districts continue to broaden, and the traditional urban spatial pattern has been broken. The retained historical and cultural districts usually occupy

the core position of the city center and continue the original texture and style. However, delayed development, old facilities, chaotic environment, and other problems make the cultural features presented by the historical and cultural districts gradually fade.

In 1994, the Ministry of Construction of China and the State Administration of Cultural Heritage issued a document requiring the preparation of protection planning for historical and cultural cities, in which the concept of historical districts appeared, which was officially proposed in the official records of China. In 1996, the Urban Planning Department of the Ministry of Construction, China Urban Planning Society, and China Architectural Society jointly held the "International Seminar on Historic District Protection" in Huangshan City, Anhui Province. This conference made the concept of the historic district widely spread in the academic circle. In 2002, China's Law on the Protection of Cultural Relics stipulated that the districts (villages and towns) with extremely rich cultural relics and great historical value and revolutionary significance were designated as historical and cultural districts (villages and towns), and the historical districts were included in the category of immovable cultural relics, officially defining the concept of "historical and cultural districts". Since the cultural Relics Law, the term "historical and cultural reserve" has been replaced by "historical and cultural district" in the Chinese official language (Linping, 2017). Individual buildings within these districts may be of low value. But together, they form a group that is a testament to the city's history and brilliant culture. Therefore, it has a high protective value.

As the Chinese government attaches great importance to the protection and renewal of historical and cultural districts, the academic circles in China pay more and more attention to the protection and renewal of historical and cultural districts. Although the academic circles in China pay more and more attention to the protection and renewal of historical and cultural districts, numerous existing researches are conducted from their own perspectives and have not revealed the evolution process of the research. Therefore, this study intends to

summarize the research trend of the protection and renewal of historical and cultural districts from multiple perspectives. Since most previous studies did not fully analyze and explain the change of research trend, nor did they have a good method to predict the future development direction, this study used CiteSpace literature data visualization software to collect a large number of core publications in China. We used this method to summarize the research status and clarify the possible development direction in the future. It also provides a theoretical reference for decision makers.

2. Data sources and research methods

2.1 Data sourcing and filtering

This study focuses on the China National Knowledge Infrastructure database, referred to as the "CNKI" database. CNKI database is commonly used in Chinese academic circles because the search engine of this data can search multiple core databases in China at the same time, which has good operability in retrieval. In this study, the advanced retrieval function of CNKI was used in data retrieval, the retrieval type was selected as "academic journal", and the search statement of "(historical district + historical cultural district) * protection and update" was used to guide literature retrieval. To enhance the representativeness and quality of data, two core data sources of Peking University and CSSCI were selected for data retrieval. The full name of Peking University Core Journals is The General Catalogue of Chinese Core Journals, and the sonorous name of CSSCI is the Chinese Social Sciences Citation Index. The Chinese academic circle widely accepts these two data sources at present. The earliest literature appeared in 1993, and a total of 1288 publications were retrieved. After manual inspection, it was found that there were invalid entries in the retrieved data, such as no author name, meeting minutes, the first page of newspapers and periodicals, and irrelevant to

the subject. After manual elimination, 1200 publications remained. After data were imported into CiteSpace for weight division, 1197 publications remained, which we took as the basic data for our research.

2.2 Research and analysis methods

Due to the large amount of publications data retrieved in this study, it would be very difficult to extract their information manually. Therefore, it is necessary to use appropriate software. At the same time, considering that the selected software should have powerful visualization tools to meet the research objectives, this study mainly uses Citespace software for visualization analysis.

Citespace was designed and developed by the team of Dr. Chaomei Chen, Professor of Informatics at the School of Computer Science and Information at Drexel University. It is an information visualization software developed with the Java language. It measures scientific literature in specific fields through co-citation analysis theory and path-finding network algorithm, to explore the evolutionary path and knowledge inflection point of a certain subject field and identify and display the new trends and developments of scientific development (Chen Yue, 2015). Since its publication in 2003, Citespace software has been updated and optimized in several versions, which have been widely concerned by the academic community and applied to quantitative research in some research fields. In this paper, the Citespace6.1.R3 version is used to set the time zone selection, threshold selection, pruning selection, minimum spanning tree, and other functional parameters to form the knowledge map, and the network structure and clustering clarity are evaluated according to the two indexes of module value (Q value) and average contour value (S value). Through appropriate adjustment of parameter settings, multiple rendering is carried out. To achieve ideal map rendering results. Thus, the time zone distribution, research strength and keywords in

the field of elderly care service are analyzed systematically.

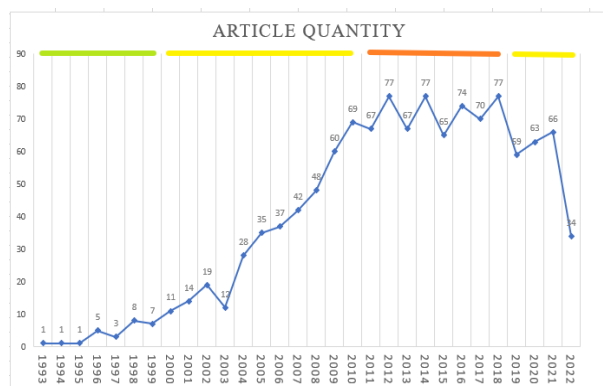
3. Base case analysis

3.1 Trends in the number of published papers

The study analyzed 1,197 articles published between 1993 and 2022.. By analyzing the publication time and trend of literature, the development speed and importance of this field in the academic circle can be intuitively judged (Figure 1). In terms of the number of published papers, a total of 26 related research papers were published from 1993 to 1999, accounting for only 2.17% of the total number of papers. The number of core papers published in this stage is generally low, failing to break through 10 papers every year. This study believes that this stage is the basic preparation stage for the research on the protection and renewal of historical and cultural districts in China. Although the research in this stage is not abundant, during this period, the international Seminar on the protection of historical districts was jointly held by the Urban Planning Department of the Ministry of Construction, the Urban Planning Society of China, and the Architectural Society of China. It plays an important role in promoting the development of research on the preservation and renewal of historical and cultural districts in China (Shuang, 1996). From 2000 to 2009, the number of published papers in the field of protection and renewal of historical and cultural districts kept increasing. During this period, the number of published papers was 306, accounting for 25.56% of the total number of published papers. In 2000, the number of published papers exceeded 10, and in 2009. It reached 60. This study feels that this stage is the "rise" stage of the research on the protection and renewal of historical and cultural districts in China. During this period, the 2002 revision of China's Law on the Protection of Cultural Relics officially specified the protection measures for "historical and cultural districts" (Linping, 2017).As the concept was clearly

defined in legislation and the research heat in this field was promoted, the number of publications in this stage increased significantly compared with the past, and showed a rapidly rising trend. From 2010 to 2022, the number of published papers in this field showed a stable trend. The total number of published papers in this stage reached 865, accounting for 25.56% of the total number of published papers. From 2010 to 2018, the average number of published papers fluctuated around 70. In 2021, the State Council of China will issue Opinions on Strengthening the Protection and Inheritance of History and Culture in Urban and Rural Construction to further strengthen the protection and inheritance of History and Culture in Urban and rural construction. (Council, 2021), It can be viewed in the opinion that the government attaches great importance to how to systematically protect, utilize and inherit historical and cultural heritage and extend the historical context. However, from 2019 to October 2022, the number of published papers declined, not being able to break more than 70. In this study, the research field of protection and renewal of historical and cultural districts in China showed a stable development trend at this stage. Although the research field fell back from 2019 to 2022 due to the impact of the epidemic, the overall development trend was a good thing.

Figure 1. Number of preservation and renewal documents of historical and cultural districts from 1993 to October 2021



3.2 Author cooperation network analysis

The cooperation network analysis function can generate a cooperation map. The collaboration map can discover the social relationships among scholars, countries, or institutions in a certain research field, provide a new perspective for evaluating the academic influence of researchers, countries or institutions, and help us to find those researchers, countries or institutions worth paying attention to (Chen Yue, 2015). In this paper, authors and institutions in the cooperative network are analyzed and studied.

Cartesian was used to analyze the collaborative network of authors. The node type was selected as "Author", the association strength of network nodes was selected as "Cosine" algorithm, and the data threshold was selected as "Top N" parameter 50, which meant calculating the top 50 objects in each time slice, and the other parameters were all the default values. The calculation shows that there are 1,885 network nodes, and 2,030 connections and the density of the author cooperation network is 0.0011. In Figure 2, nodes represent the number of published papers by authors. The larger the nodes, the more published papers, and the lines, the cooperative relationship between authors. As can be observed in Figure 2, the network is relatively thin, mainly forming the research cooperation network of Liang Ge and Fei Yuan, Yisan Ruan and Kui Zhao. The four researchers, Jie Zhang, Heping Li and Jianbo Wang, are more prominent. However, in general, the researchers who published a large number of articles were scattered and did not form an obvious cooperation network.

Figure 2. Analysis diagram of the author's cooperation network



3.3 Core author and institutional analysis

Any field of studying has its core authors and research institutions. Core research authors and research institutions are better than other researchers and institutions in understanding the development context, research trend, academic hot spots and research direction of this field, and even lead the development direction of this field in many cases (Sun, 2020). In this paper, sample literature data are processed by CiteSpace software, the node type is set as "(author)", and the rest is the default value. The data samples are imported into CiteSpace software, and Excel is utilized to sort out the data after they are obtained. As can be seen from Table 1, the author of the largest number of articles is Liang Ge, who has published up to 38 articles. He mainly sorted out and studied the basic information of several historic and cultural districts in China through investigation and exploration (Yuan G. L., 2011). The second author is Fei Yuan, whose first publication was in 2004. Her research focuses on the investigation, protection and utilization of historical and cultural districts (Fei, 2021). Yisan Ruan, the third author, was

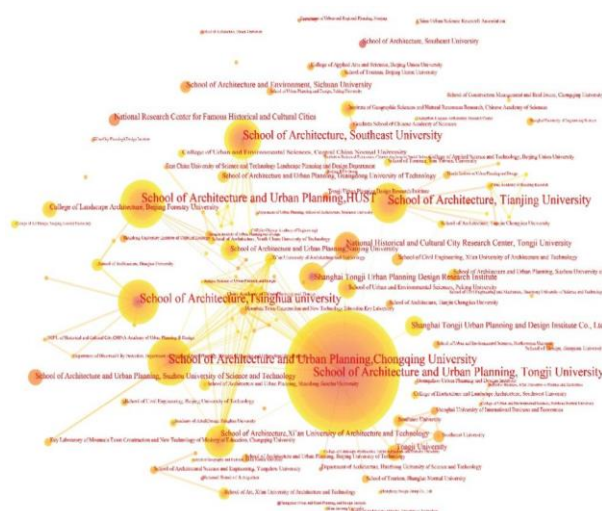
first published in 2000. His research focuses on the protection and planning of historical and cultural districts and the preservation of the authenticity of cultural heritage (Ruan Yisan, 2001). Other authors with more publications include Kui Zhao and Jie Zhang. These authors constitute the core authors in the field of preservation and renewal of historical and cultural districts in China, and they have a strong influence in the field of preservation and renewal of historical and cultural districts. In his *Little Science Big Science*, Price, an American scientist, introduced Price's Law to count the number of productive authors in a given field (Price, 1963). The formula to determine whether the author is a prolific author is $M=0.749 \sqrt{N_{MAX}}$, N_{MAX} is the number of authors with the most publications in this field, and M is the number of core authors with the lowest publications in this field. A core group of authors is formed if the core authors have published 50% of the papers on the same topic. According to the formula of high-yield authors, the threshold of high-yield authors in the sample is 4.617. Therefore, authors whose publication quantity is greater than or equal to 4 in this study are high-yield authors. The number of papers in this research is 1197, and the number of papers published by the authors is up to 38. According to the statistics, the total number of papers published by the prolific authors in the paper samples is 376, accounting for 32.15% of the total number of papers, indicating that the cooperative relationship between the authors is not strong, although a few core authors and research teams have been formed. But the core group of authors with high productivity and high impact was not formed.

Table 1 Statistics of Highly Productive authors in Chinese sample (Top 10)

Rank	Author	Freq	Year	Organization
1	Liang Ge	38	2009	Shanghai Tongji Urban Planning Design Research Institute
2	Fei Yuan	32	2004	Shanghai Tongji Urban Planning Design Research Institute
3	Yisan Ruan	23	2000	Tongji University
4	Kui Zhao	23	2008	Huazhong University of Science and Technology
5	Jie Zhang	14	1999	East China University of Science and Technology
6	Heping Li	11	2003	Chongqing University
7	Qiuping Wang	9	2014	Xi'an University of Architecture and Technology
8	Jianbo Wang	9	2005	Shandong University (Ruan Yisan's student)
9	Xiaoming Zhu	8	2004	Tongji University
10	Yong Wang	8	2008	Suzhou University of Science and Technology

In terms of institutional analysis, this paper used CiteSpace software to process the data of literature samples. The node type was "Institution", the Association intensity of network nodes was "Cosine" algorithm, the data threshold was "Top N%" and the parameter was set to 10%. It means that the top 10% of objects in the time slice are selected and the maximum number of objects is controlled within 100 by default. Other parameters are maintained by default. According to the analysis diagram of the institutional cooperation network in Figure 3, 431 network nodes and 368 connections are shown after calculation, and the density of the institutional cooperation network is 0.004. The larger the number of nodes displayed in the graph, the more published documents and the more significant the contribution in this field, and the thicker the lines connected between nodes, the closer the cooperation relationship. This needs to show that the cooperation between the major research institutions is weak.

Figure 3. Analysis diagram of the institutional cooperation network



The institutions with the largest number of publications can be seen in Table 2. The first is the school of Architecture and Urban Planning of Tongji University, followed by the School of Architecture and Urban Planning of Huazhong University of Science and Technology. This indicates that the School of Architecture and

Urban Planning of Tongji University, as a high-level university in China, has made the most significant contribution to the protection and renewal of historical and cultural districts in China. Ten other institutions with a high number of publications include the School of Architecture and Urban Planning of Chongqing University, the School of Architecture of Southeast University, the School of Architecture of Tianjin University, and the School of Architecture of Tsinghua University. By observing the types of research institutions, it is found that universities are the main force in the research field of protection and renewal

of historical and cultural districts in China, and the types of research institutions are not rich. From the perspective of the region, half of the top 10 research institutions in terms of publication volume are concentrated in Eastern China, while a small number of research institutions are in North China, Central China, Southwest and Northwest China. It can be seen from the data that research institutions with a significant contribution to the protection and renewal of Chinese historical and cultural districts are concentrated in the relatively developed eastern coastal areas of China.

Table 2 Statistics of institutions with a high number of publications in sample literature (Top 10)

Quantity	Organization	Property	Location	Region	Year
82	CAUP Tongji University	University	Shanghai	Eastern China	2001
30	School Of Architecture And Urban Planning,HUST	University	Wuhan, Hubei Province	Central China	2010
28	School Of Architecture And Urban Planning,Chongqing University	University	Chongqing	Southwest China	2004
24	School of Architecture, Southeast University	University	Nanjing City, Jiangsu Province	Eastern China	2004
19	School of Architecture, Tianjing University	University	Tianjin	North China	2005
18	School of Architecture,Tsinghua university	University	Beijing	North China	2001
15	School of Architecture,Xi'an University of Architecture and Technology	University	Xi'an City, Shaanxi Province	Northwest China	2011
14	Shanghai Tongji Urban Planning Design Research Institute	Company	Shanghai	Eastern China	2019
13	National Historical and Cultural City Research Center, Tongji University	Research center	Shanghai	Eastern China	2001
13	Shanghai Tongji Urbaan Planning&Design Institute	Research institute	Shanghai	Eastern China	2001

4. Visual analysis of research hotspots and trends

The keywords are the natural language words that express the concept of the document's topic. The collection of a large number of keywords of academic research results in a long time domain in an academic research field can

reveal the overall content characteristics of research results, the internal relationship between research contents, the development context, and the direction of academic research, etc (Li Wenlan, 2005). Based on the above reasons, this study conducted a metrological analysis of keywords in literature data through Citespace software, hoping to reveal the current

research hotspots and trends in the field of preservation and renewal of historical and cultural districts.

4.1 Keywords cluster analysis

Keyword Clustering is mainly to sort out the research hotspot and research concentration degree. In this study, the Keyword cluster analysis function of CiteSpace was used, and the parameters were set as Years PerSlice =1, Node Types= keyword, g-index=25, Pruning selects Pathfinder, removes the search subject term historical district, and sets everything else to default values. Draw the clustering map of the keywords in Figure 4. In this model, Modularity Q=0.8204 is greater than 0.3, and Silhouette =0.9652 is greater than 0.5, according to Dr. Chaomei Chen in Science Mapping: As explained in A Systematic Review of the Literature, this clustering view is significant and reasonable (Chen C. , 2017). Through the analysis of the 12 clustering results in Figure 4, the clustering labels in Table

3, and the existing literature contents, it can be found that the keyword hotspots of these clustering mainly reflect the research theme and purpose, the research content, and the research technology.

Figure 4. Keywords of preservation and renewal of historical and cultural districts

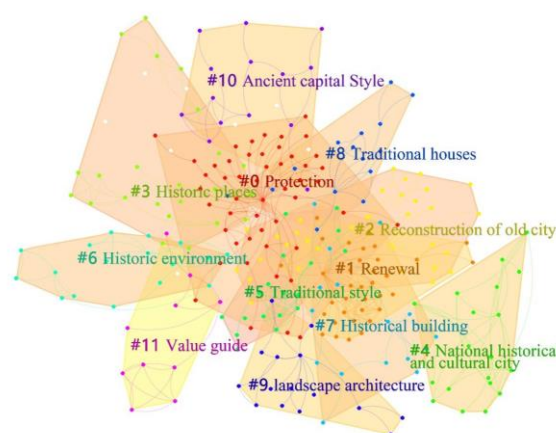


Table 3 Cluster analysis of literature (Size≥10, LLR is log-likelihood, as the value of LLR is larger, it is more representative of this cluster)

ClusterID	Size	Silhouette	Year	Label (LLR)
#0	50	0.984	2007	Protection (39.8); Protection planning (19.26); Develop (13.96);
#1	35	0.946	2009	Renewal (28.3); Urban renewal (18.21); Space production (14.04);
#2	33	0.955	2006	Reconstruction of old city (17.01); Traditional block (8.98); Urban design (8.98);
#3	23	0.967	2003	Historic places (14.39); Protective principle (12.4); Sanxue Street (6.21);
#4	19	0.989	2010	National historical and cultural city (15.4); Historic culture (15.4); Plan of preservation of historic cities(10.24);
#5	18	0.92	2007	Traditional style (12.87); Scientific approach (12.87); Organic order (12.87);
#6	17	0.98	2007	Historical environment (19.2); Urban protection (12.73); Three lanes and seven alleys (12.73);
#7	16	0.921	2007	Historical building (22.59); Space syntax (16.6); Protection strategy (11.02);
#8	15	0.935	2010	Traditional houses (36.33); Historical context (11.89); Culture relic protection site (11.89);
#9	15	0.968	2012	Landscape architecture (39.99); Big data (11.2); Heritage protection (7.51);

#10	14	0.981	2006	Ancient capital landscape (19.62); Old city protection (13.01); Commercial activities (13.01);
#11	10	0.998	2019	Values guide (8.47); Value continuity (8.47); Value relevance (8.47);

Research topic and purpose clustering

The clustering of research topics mainly focuses on old city reconstruction and urban design. China's "old city reconstruction" began in the mid-1980s, and some problems appeared in the early stage of old city reconstruction due to a lack of experience. For example, many traditional districts and buildings with historical and cultural value have been destroyed in the reconstruction of old cities (Zhou, 2002). In the "old city reconstruction" of large-scale demolition and construction, historic urban areas in various regions have increasingly lost their own characteristics and traditional culture, and increasingly revealed the homogenization of urban style (Shan J. , 2006). How to avoid the phenomenon of homogeneity of urban style and how to inherit regional culture has become a focus of the academic circle. Many studies on urban design point to the protection of cultural heritage and historical space, and the protection of cultural heritage and historical space is an effective means to effectively avoid the phenomenon of homogeneity of the urban landscape. The historical space protection and urban design of cultural heritage are both committed to the space design of cultural inheritance and development in essence, with the cultural interpretation of the source of similarities and differences. The historical space protection of cultural heritage is essentially a process of the strategic level of urban design and spatial design (Wu Q. , 2007).

Some scholars believe that under the background of China's rapid urbanization, the transformation of urban history and cultural districts should find a balance between traditional cultural protection and modern urban functions (Yongsheng, 2013). Through

the analysis of the literature in the cluster points of keywords, this study understands that the purpose of much research on old city reconstruction and urban design in China is not just to talk about protection, but to take into account the development of urban culture, urban function, urban economy, and other aspects. By analyzing the clustering points of keywords

Research content clustering

In terms of the research content, the main keywords include historical location, traditional residence, historic building, landscape architecture, historical and cultural city, etc. These keywords cover the macro, meso and micro levels of the preservation and renewal of historical and cultural districts. Through the analysis of the literature in the nodes of keywords, this research finds that there is not much research on the macro level of the city. Relevant contents tend to advocate the protection of urban cultural heritage. For example, in 2012, Mr. Zhu Zixuan talked about the problems that should be paid attention to in the protection process since the 30th anniversary of the implementation of the protection system of famous historical and cultural cities in China, such as the problems that are completely dominated by the economy and the problems caused by the differences of protection means and technologies in different cities. But the question is directed at the initiative that no matter how much the city develops, the heritage and culture of the city cannot be erased (Zhu, 2012). However, at the meso-level, there are a large number of studies on historical and cultural districts and locations. The reason is that China has a vast territory and rich regional culture, so researchers will conduct corresponding

research on protection and renewal according to the specific conditions of different places. For example, Changzhou Qingguo Lane studies the characteristics and protection of the historical locations of Jiangnan Water towns (Wei, 1998). To protect the 2500 year old historical and cultural city, Nanjing city put forward a rational protection plan for Nanjing's historical area. In order to avoid the "urban chaos" and "characteristic crisis", Beijing city put forward the "abstract inheritance" and "transfer thinking wonderful" research on the protection, development and creation of new buildings of historical areas in the reconstruction of Ju 'er Hutong (Wu L. , 1993). Therefore, there are a lot of research documents on historical and cultural districts and locations. Research at the micro level focuses on historical buildings, traditional dwellings, and landscape gardens in historical and cultural districts because these contents are not only the carriers of historical culture but also the key to the formation of the district style, with the most research results. For example, there are many types of research on the protection and renovation of historic buildings in historic and cultural districts, the suitable regeneration technology of historic buildings, the repair techniques of traditional residential buildings, the reshaping of district landscape, the perception of sound landscape in districts, and the green repair of districts. Therefore, in terms of the research on the content of historical and cultural districts, this study finds that there are few researchers on the macro level, while the researchers on the micro level are the most, which also indicates that the heat of preservation and renewal of historical and cultural districts is focused on details, while the research on the macro level still has room for development.

The study of technical clustering

Big data and space syntax are more concentrated in the research technology of keyword clustering. China's big data

technology has been widely used in People's Daily life, such as GIS map data, consumption comment point of interest (POI) data, urban travel network data, etc., which are of great help to the updated research of historical and cultural districts. Studies on relevant historical and cultural districts show that the enhancement of the vitality of historical and cultural districts is an important means to revive them, and the identification of influencing factors is the basis for enhancing the vitality of historical and cultural districts. Through statistical monitoring of population flow in actual research, the accuracy of vitality characterization of adult data is verified. Therefore, it can be seen that the big data method can assist in the protection and update of historical and cultural districts (Yuyang Zhang, 2019). The literature on space syntax keyword clustering spans from 2009 to 2020. Space syntax is best described as a research program that investigates the relationship between human societies and space from the perspective of a general theory of the structure of inhabited space in all its diverse forms: buildings, settlements, cities, or even landscapes (Bafna, 2003). As this technology is often applied in architecture, urban planning and landscape design disciplines, and the preservation and renewal of historical and cultural districts are closely related to these disciplines, there are many research achievements of this technology.

4.2 Keywords mutation rate and research trend analysis

Citespace emergent detection function can analyze keywords that have a great change in a short period, and show the start and end period of the keywords (Sun, 2020). In this paper, the map of the top 12 keywords of mutation rate was drawn in Citespace (Figure 5). The red bold part of the route is the period of keyword mutation. The higher the degree of the sudden occurrence of the mutation word, the higher the academic attention of the keyword.

Figure 5 Mutation map of keywords**Top 12 Keywords with the Strongest Citation Bursts**

The first phase lasted from 1996 to 2005. The keywords of this period are the old city reconstruction and seminar. In July 1996, Ye Rutang, Vice Minister of the Ministry of Construction of China, pointed out in his speech at the International Symposium on the Protection of Historical and cultural districts: Under the impact of the current tide of market economy, the protection of the studio of historical and cultural districts is very urgent and difficult work, but also a policy and technical work (Chen S. , 1998). In this stage, scholars mainly questioned the practice of large-scale demolition and construction in the old city reconstruction, proposed that the old city reconstruction should adhere to the principle of protecting historical and cultural cities and historical and cultural districts, and explored various methods suitable for the old city reconstruction in this principle.

The second phase is from 2006 to 2015. The keywords in this period are mainly historical buildings, tourism development, three lanes and seven alleys, space syntax, heritage protection and traffic engineering. With the acceleration of China's urbanization construction and the deepening of people's understanding of the preservation and renewal of historical and cultural districts, the research field on the preservation and renewal of historical and cultural districts began to expand during this period. Researchers carried out various studies on the research documents, methods, and contents of the preservation and

renewal of historical and cultural districts. The architecture, space syntax technology, traffic and tourism development in historical and cultural districts have become the focus of research. Therefore, the research on the protection and renewal of historical and cultural districts became the consensus at this stage.

The third phase covers 2016 to the present. The keywords in this stage are spacious production, renewal, landscape architecture and big data. In March 2014, The State Council of China issued The National New Urbanization Plan (2014-2020), which proposed that we should pay attention to the construction of humanistic cities, pay attention to the protection of historical and cultural heritage, national cultural style and traditional features in the reconstruction of old cities, and promote the combination of function upgrading and cultural relics protection. Since then, many cities in China have begun to explore conservation, renewal, and functional improvement. Space and scenery in historical and cultural districts have become the focus of municipal stock development. For example, Yongqing Square in Guangzhou tries to effectively connect "culture" as the core factor with the spatial production theory, transforming from a living space into a cultural consumption space based on the spatial production theory (Wen, Liao, Cai, & Chen, 2021). The 14th Five-Year Plan for New Urbanization issued by the National Development and Reform Commission in June 2022 proposed promoting the inheritance of history and culture and the construction of humanistic cities. We should not only protect the historical texture, spatial scale and landscape environment of famous historical and cultural cities and towns and historic and cultural districts, but also promote the integrated development of cultural tourism. It can be predicted that the integration of "spacious production" and culture and tourism will become the trend for the protection and

development of historical and cultural districts in China.

5. Conclusion and Suggestions

In this study, we analyzed a large number of literature in the research field of preservation and renewal of historical and cultural districts in the CNKI core database from 1993 to 2022, and used CiteSpace software to conduct a quantitative and visual analysis of academic achievements and progress in this field, and the following findings were obtained.

First, since 1993, under the background of China's high-speed urbanization, the academic circle has carried out continuous research and exploration on the protection and renewal of historical and cultural districts. Through the analysis of the change in the amount of literature, the development of the research field on the protection and renewal of historical and cultural districts in China can be divided into three stages with the advance of time: the preparation stage from 1993 to 1999, the rise stage from 2000 to 2009, and the steady development stage from 2010 to 2022. However, there are regional differences in the development of research institutions in this field in China. According to the statistical analysis of research results, 50% of the top 10 research institutions belong to East China, 20% belong to North China, and 10% belong to Northwest, Southwest and Central China respectively. The cooperative relationship between research teams is not strong, although a few core authors and research teams are formed in East China. But a core group of high-impact authors was not formed.

Second, in the hot spots of research on the protection and renewal of historical and cultural districts, on one hand, through the analysis of high-frequency keywords, it is found that the keywords such as protection, renewal, traditional districts, urban design, cultural heritage, historical locations, historical buildings, etc. appear most frequently, which

represents that they have been the topic of continuous concern in the field of protection and renewal of historical and cultural districts. By summarizing the content of these topics, this study finds that researchers in this field are keen to think, plan, transform and utilize urban culture, tradition, and space development through different perspectives, modes and strategies. On the other hand, through keyword clustering, it is found that there are not many macro studies on the overall level of the city, while there are more research results on specific districts and cultural carriers. In other words, there are abundant meso-micro studies on the protection and renewal of historical and cultural districts, while there is still for development of macro studies.

Thirdly, in terms of the trend of research on the protection and renewal of historical and cultural districts, it can be clearly seen from the mutation rate analysis of keywords that the research on the protection and renewal of historical districts in China has roughly experienced three development stages. From 1993 to 2005, a preliminary exploration of the protection and renewal of historical and cultural districts was carried out mainly around the background of the old city reconstruction. From 2006 to 2015, the research mainly focused on heritage protection, traffic optimization, tourism development and other themes. During this period, the research on the protection and renewal of historical and cultural districts showed diversified development. Since 2016, the research on the protection and renewal of historical and cultural districts has focused on the combination of "spatial production" and renewal, and made full use of big data. The research content has paid more attention to how historical and cultural districts should face future urban development and improve the cultural and economic strength of the city.

In a word, after years of development, although China has made some achievements in the

research on the protection and renewal of historical and cultural districts, there are still many deficiencies in the research. This study believes that with the continuous advancement of China's urbanization process, it is imperative to develop the stock of ancient cities. Regardless of the fact that the situation facing the protection and renewal of contemporary historical and cultural districts is urgent, it is also an opportunity. The protection and renewal of Chinese historical and cultural districts can be broken through and improved in the following aspects. First, from the theoretical level, we can combine the regional culture and the actual situation in China, explore the localization of historical and cultural district protection and renewal theory, and enrich the theoretical research in this field. Second, on the application level, it should combine the background of information technology, new technology, marketization and other times, focus on the concept of "spatial production" in the mode of innovation protection and renewal, and explore how to give play to the cultural and economic energy of historical and cultural districts. Thirdly, at the level of discipline research, it is necessary to keep paying attention to the trend of international research development, promote interdisciplinary and diversified research, and encourage research to systematically deepen the protection and renewal of historical and cultural districts from a multi-dimensional perspective.

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