Trends in Research for Focused Issues of Linguistics in China (2009-2019)

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Abstract: Linguistics studies the core human natural language ability. This article uses CiteSpace as the tool and CNKI as the data source to conduct research, tap the fronts of the subjects, finds the problems that need to be solved before starting linguistic research, and improves the quality of linguistic research. The research content includes: Knowledge mapping of keywords co-occurrence, visual analysis of research fronts, analysis on betweenness centrality of keywords and timeline analysis of keywords. The results of the study show that there are many relatively studies on keywords such as "Intercultural Communication, Pragmatic Function, Cooperative Principle, Pragmatic Strategy, Pragmatics, and Speech Act"; the keyword with the longest research duration is "Face-saving theory" and "English Teaching"; the high frequency keywords of the study are "Politeness Principle, Politeness Strategy, Face, Face Theory, Politeness, Cooperative Principle, Pragmatics and Intercultural Communication".

1. Introduction

Language is a unique way of communication for human beings. It reflects human's highly evolved mental intelligence on the biological or psychological level, and reflects the progress of human civilization on the social and cultural level. Linguistics is to study the language ability of the core instinct of human beings. Through the analysis and research of spoken language, written language and even sign language, the essence of language is revealed and the common rules of language are explored. Linguistics in the twentieth century experienced two major paradigm shifts. The first was a shift from traditional linguistics to modern linguistics, from historical comparative linguistics to structural description linguistics; the second was from structuralism that described the internal components and structures of the language sign system to the interpretation the language operational mechanism, and then reveal the cognitivism about the characteristics of the human mind. Although there are many achievements in linguistics research at present, in the face of a large amount of literature, how to find out the key literature worthy of intensive reading, tap the fronts of the subject, and find research hotspots have become problems that need to be solved before carrying out linguistic research.

CiteSpace is a citation visualization analysis software that focuses on the potential knowledge contained in analytical science and is gradually developed under the background of scientometrics and data visualization. Due to the structure, rule and distribution of scientific knowledge are presented by means of visualization, the visual graphs obtained by analysis of such methods are also called "science knowledge mapping". CiteSpace is based on scientific and steady theories, including scientific development model theory, scientific fronts theory, structural hole theory, burst detection technology, optimal information foraging theory and knowledge unit discrete and reorganization theory, etc. The accumulation of time is only used in practice to strengthen the interpretability, rationality and correctness of the generated map. This article uses CiteSpace as the tool and CNKI as the data source to study the research trend of hot topics in linguistics in China from 2009 to 2019.

2. Knowledge Mapping of Keywords Co-Occurrence

The knowledge mapping is a series of different graphs showing the relationship between the development process and structure of knowledge. It displays complex knowledge areas through data

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mining, information processing, knowledge measurement and graph drawing. Things that are not easily perceivable by humans provide a practical and valuable reference for subject research. CiteSpace converts a large amount of literature data into the visual knowledge graph, allowing people to understand knowledge more directly. Keywords are words that can highly condense and summarize the academic views and core ideas of the literature. Through keyword co-occurrence analysis, you can sort out the correlation between keywords and grasp the core content and research hotspots in the research field. The keyword co-occurrence knowledge graph refers to the statistics and display of co-occurrence keywords in the literature in the research field, the number of co-occurrence keywords, and the relationship between the co-occurrence keywords, indicating the research hotspots and the links. Using CiteSpace software, through the steps of data collection, data format conversion, visual analysis and knowledge mapping generation, the keyword co-occurrence knowledge mapping (2009-2019) of domestic linguistic research drawn is shown in Fig.1.

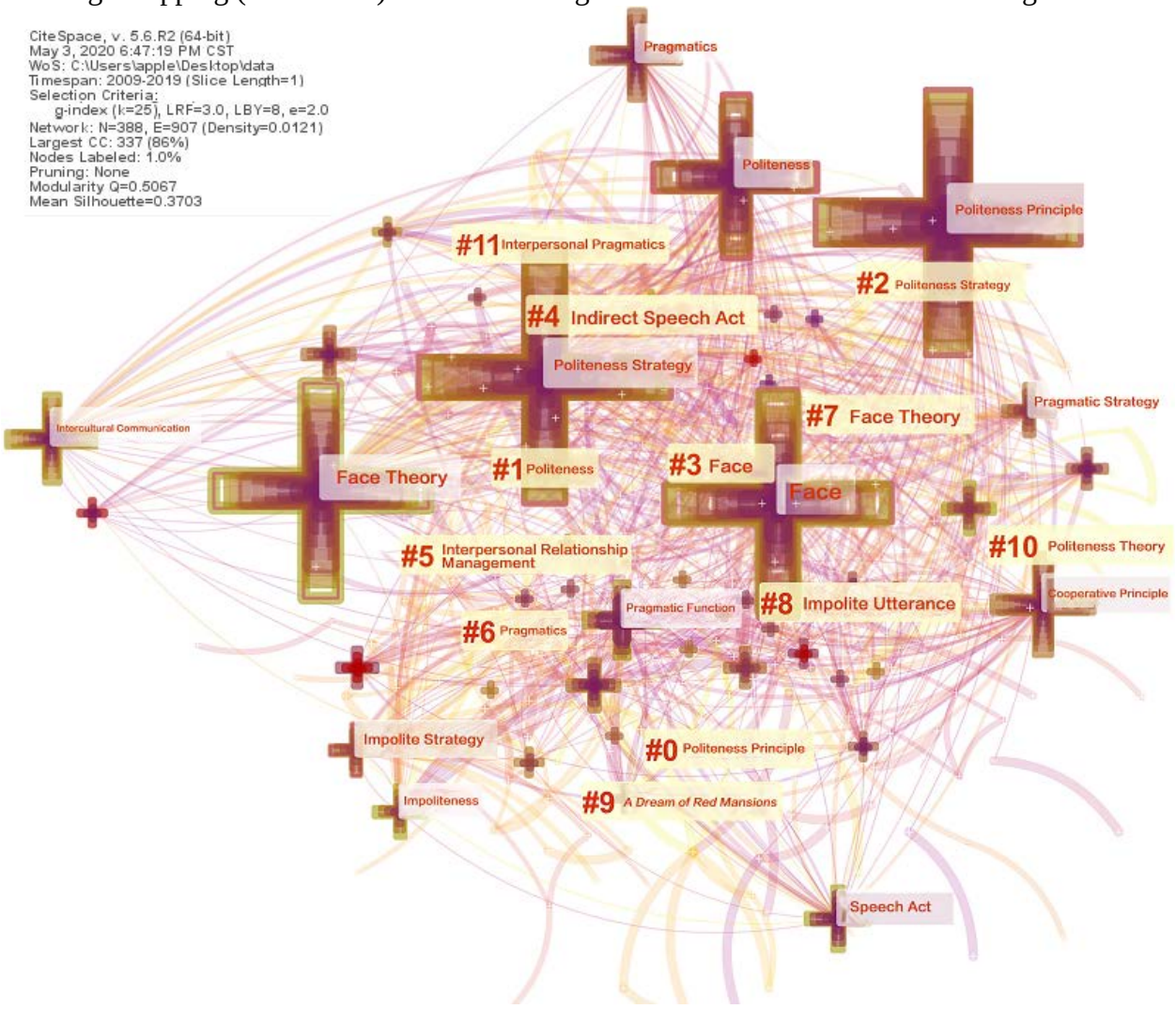

Fig.1. Knowledge Mapping of Co-Occurrence for Linguistic Studies in China (2009-2019)

In Fig.1, there are 388 network nodes, 907 connections, and network density of 0.0121, which is low. It shows that the content of linguistic research in China is relatively wide, and the concentration is not high. The node size indicates how often the keyword appears. The larger the node, the higher the frequency of occurrence. Nodes such as "Face Theory, Politeness Strategy, Politeness Strategy, Face, Politeness and Politeness Principle" are large and appear in every time slice. The nodes of "Intercultural Communication, Pragmatic Function, Cooperative Principle, Pragmatic Strategy, Pragmatics, and Speech Act" are relatively large, indicating that research on these keywords are also many relatives. "Impolite Speech, Politeness Theory, Interpersonal Relationship Management, Indirect Speech Act and Interpersonal Pragmatics" scattered small nodes around the big nodes, prompting research fronts and research hotspots.

3. Visual Analysis of Research Fronts

Research fronts and research hotspots have different meanings. Research hotspots are within a certain period of time, and they are internally related to a large number of papers or topics discussed by a group of papers. Research fronts are the most advanced, most original and most promising research topics or research fields in scientific research. Detecting research fronts from vast scientific and technological information is not only a key task of scientific and technological innovation, but also an urgent pursuit of many researchers. At present, the main methods of research fronts detection are divided into two types. The first type is subjective method. Based on their own research accumulation and experience judgment, with their own academic accomplishments and insights, they have a strong personal color and have greater limitations. The second type is the objective method based on the research literature. CiteSpace is the tool of the objective method. By analyzing the changes of the research fronts over time and the relationship between the research fronts and the knowledge base, using co-citation clustering, discover different research Internal connections between fronts. By visualizing the literature information in the subject area, researchers can intuitively identify the evolutionary path of the scientific fronts and classic literature in the subject area. It mainly solves three problems: one is to identify the essence of research fronts; the other is to label research areas; the third is to identify new trends and mutations in time. Use CiteSpace software to extract terms such as titles, abstracts and titles of documents, and designate the term type as "Burst Term". The graph of the mutant words obtained after the software runs is shown in Fig.2.

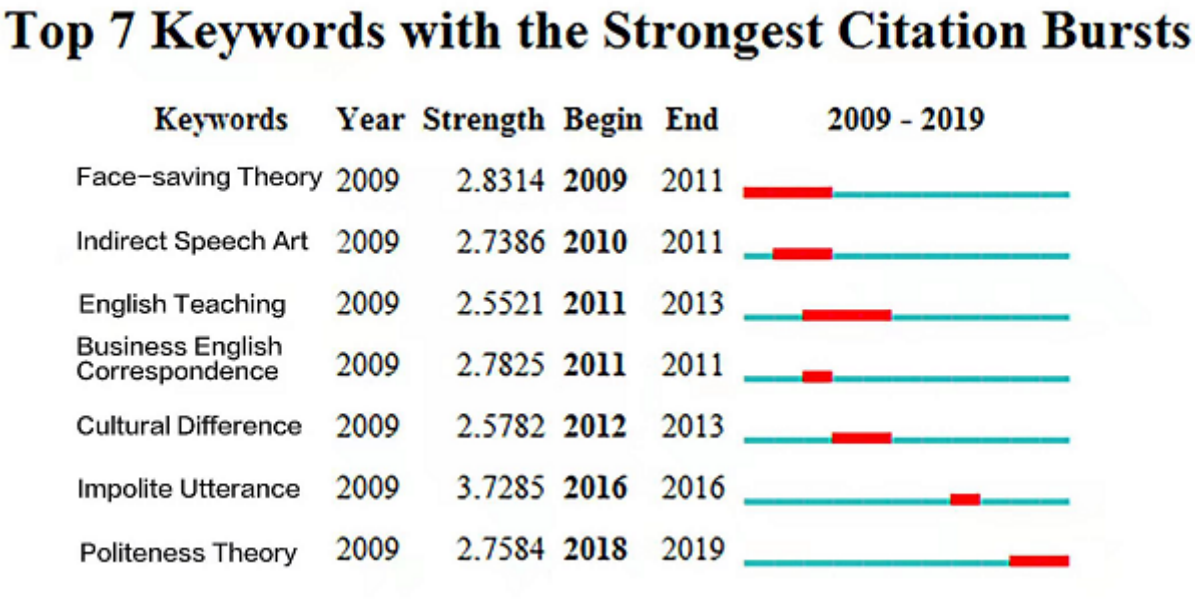

Fig.2. Mutation Mapping for Linguistic Studies in China (2009-2019)

In Fig.2, "Keyword" is the keyword, "Year" indicates the year of the first occurrence of a keyword, "Strength" is the mutation intensity, and "Begin and End" respectively indicate that a keyword is used as the beginning of the front and ending of termination. The greater the value of "Strength", the stronger the degree of mutation, and the greater the possibility of becoming the research front. The red part indicates the time interval of keyword mutation. As can be seen from the figure, there are a total of 7 mutant words in the field of linguistics from 2009 to 2019. The maximum value of these 7 mutant words "Strength" is 3.7285, the minimum value is 2.5523, and 7 "Strength" are less overall. And little change shows that there are no absolute front issues in 2009-2019, and the research field is relatively scattered. The duration of research front issues is relatively short, and there are no front issues that have continued. The longest duration is "Face-saving theory" and "English Teaching", which lasted 3 years; the shortest duration is "Business English Correspondence" and "Impolite Utterance", which lasted only 1 year; the current problem of research front is "Politeness Theory".

4. Analysis on Betweenness Centrality of Keywords

Centrality is a common concept of social network analysis, which expresses the degree of a point in a social network or a person's center in the entire network. It is called the degree of centrality when it is represented by a number. According to different methods of measuring centrality, it can be divided into degree centrality, closeness centrality, and betweenness centrality. Degree centrality is the sum of a point directly connected to other points. Closeness centrality calculates the sum of the distances from a point to all other points. The smaller the sum, the shorter the path from this point to all other points. Betweenness centrality calculates the number of shortest paths through a point. The more the number of shortest paths through a point, the higher the intermediary centrality.

In literature analysis, the most commonly used betweenness centrality refers to the presence of a keyword on the path of other keywords in the keyword network. The more times there exist, the higher the centrality of the keyword. The greater the importance in the network, the greater the intermediary role of connecting other keywords. Statistical analysis linguistic keywords, subject to space limitations, only list keywords with a frequency of 15 or more and their betweenness centrality, as shown in Table 1.

Table 1. Betweenness centrality of high frequency keywords

Count	Betweenness centrality	Year	Keywords
189	0.38	2009	Politeness Principle
141	0.32	2009	Politeness Strategy
110	0.33	2009	Face
83	0.18	2009	Face Theory
83	0.32	2009	Politeness
40	0.05	2009	Cooperative Principle
36	0.07	2009	Pragmatics
34	0.08	2009	Intercultural Communication
27	0.10	2009	Pragmatic Function
26	0.08	2009	Impoliteness
25	0.06	2009	Pragmatic Strategy
24	0.06	2009	Speech Act
20	0.03	2009	Hedge
20	0.06	2011	Politeness Theory
19	0.11	2009	Impoliteness Strategy
17	0.02	2009	Euphemism
15	0.02	2009	Strategy

It can be seen from Table 1 that the keywords of high frequency are "Politeness Principle, Politeness Strategy, Face, Face Theory, Politeness, Cooperative Principle, Pragmatics, Intercultural Communication", among "Politeness Principle, Politeness Strategy, Face, The four keywords such as "Politeness Principle, Politeness Strategy, Face, Politeness" have a higher betweenness centrality, which indicates that they have stronger media abilities and are more valuable for research.

5. Timeline Analysis of Keywords

Time zone chart and timeline chart represent changes in the study over time. The time zone chart shows which fields have become new research hotspots as time goes by, and when new keywords that can locate the field first appear. The timeline chart needs to be re-clustered, indicating the

research direction and the chronological distribution of hotspots. Looking horizontally, the far right is clustering, and the horizontal axis is time. The timeline charts is more refined than the time zone charts, reflecting the evolution of keywords in a certain cluster in time. The timeline chart reflects more information than the time zone chart. The timeline chart (2009-2019) of domestic linguistic research is shown in Fig.3.

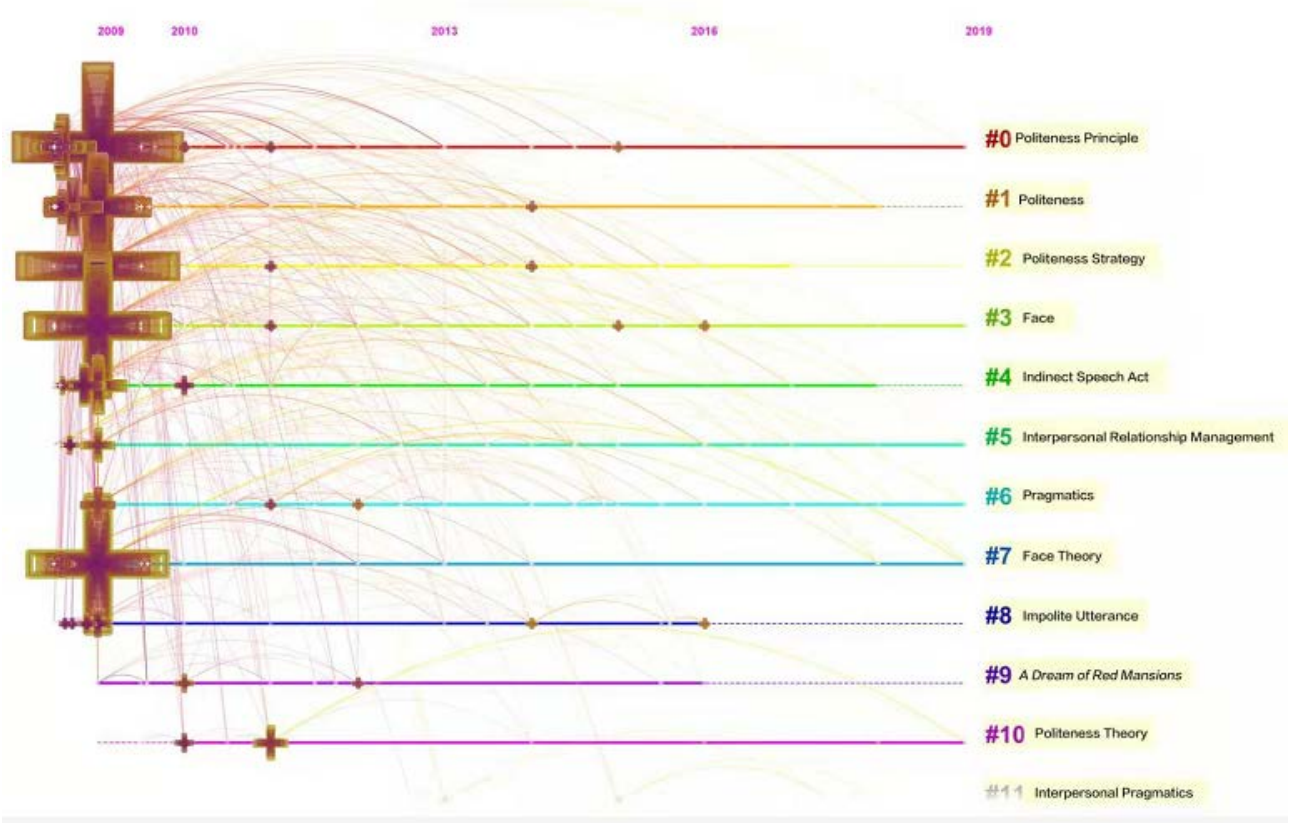

Fig.3. Timeline for Linguistic Studies in China (2009-2019)

In Fig.3, there are 12 categories, namely, "Politeness Principle, Politeness, Politeness Strategy, Face, Indirect Speech Act, Interpersonal Relationship Management, Pragmatics, Face Theory, Impolite Utterance, A Dream of Red Mansions, Politeness Theory, Interpersonal Pragmatics ". The order is from 0 to 11. The smaller the number, the more keywords are included in the cluster. Each cluster is composed of multiple closely related words. Specific keywords can be obtained by exporting the report to get detailed information. The connection of each cluster indicates the closeness of the keywords in the cluster. The cluster # 0 has the thick line, indicating that the keywords of this type are highly dense. The cluster # 9 contains the dotted line, indicating that this type of keyword is relatively sparse.

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