

# Research on Media Discourse and Image Construction of "People's Daily" Report on "China Aerospace" (2010-2022)

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**Abstract:** *With the continuous development of China's aerospace industry, the media exposure continues to increase. The official media "People's Daily" is undoubtedly the best window to analyze the media discourse and national image construction of "China Aerospace" theme reports. According to the word frequency and collocation analysis of Weici cloud platform and python programming tools, it can be seen that "China Daily" often uses complimenting rhetoric, constructs China's aerospace stories with popular narratives, and emphasizes the core of the idea of a community with a shared future for mankind that China Aerospace insists on. According to the co-occurrence analysis of the keyword "aerospace", People's Daily focuses on China's aerospace industry itself, pays attention to its breakthrough achievements, and strengthens the tendency of reporting mainly on positive publicity. At the same time, "People's Daily" constructs a continuous narrative and imprints collective memory by connecting the past, present and future of the aerospace industry. Overall, the People's Daily has created an image of a space power that is rigorous, rational, scientific, truth-seeking, and enterprising.*

**Keywords:** *China Aerospace, Construction of media discourse, National image, "People's Daily"*

## 1. Origin of research

As China's aerospace industry has achieved more and more achievements in recent years and has gradually entered the ranks of international aerospace powers<sup>[1]</sup>, while attracting the attention of the world, the media has also strengthened its coverage of China's aerospace industry. Such reports have constructed the discourse pattern of China's aerospace industry in a specific historical environment, and created an image of a great country with rich connotations and far-reaching significance. Therefore, the study of the media discourse and national image construction of the "China Aerospace" theme news report has practical significance for the Chinese media to further set the aerospace discourse agenda, promote the spirit of spaceflight, imprint collective memory, and spread mainstream values. However, the current research on "China Aerospace" news reports focuses more on the discourse construction of external communication<sup>[2]</sup>, or the dissemination of aerospace science popularization in the new media environment<sup>[3]</sup>, and the research objects are mostly Chinese official overseas video accounts<sup>[4]</sup>. However, focusing on the specific mainstream newspaper media "People's Daily", through the establishment of a specific corpus for textual analysis of news reports, there are relatively few related studies exploring the construction of "China Aerospace" media discourse and state shaping. Therefore, this study takes People's Daily's reports on China's aerospace industry from 2010 to 2022 as a sample, and analyzes the discourse rhetoric, discourse construction and shaping of the country's image in news reports, in order to provide useful information for related news reports and production.

## 2. Research Design

### 2.1 Research methods

This study obtained 60 news reports based on specific criteria, and before the start of the study, the 60 reports were uniformly processed, and the meaningless characters and additional content in China Aerospace News reports were deleted in order to obtain more accurate sample of news report data. After basic data processing, the research first analyzes the topics and key information of China Aerospace News reports, and uses the micro word cloud platform and the jieba toolkit in Python to analyze the word frequency, part of speech and co-occurrence analysis of the text, so as to grasp

China's overall tendency and discourse characteristics of aerospace reports, exploring the media discourse of "China Aerospace" related reports in "People's Daily" and the image of China it has shaped.

## 2.2 Selection of research samples

As one of the most important media in China, "People's Daily" has assumed the responsibility of shaping the country's image and telling Chinese stories well. Moreover, "People's Daily" has always paid attention to the latest progress of China's aerospace industry, and has launched a series of in-depth reports on China's aerospace industry. Therefore, the author uses "People's Daily" as the source of research objects. The starting point for the acquisition of research samples is China's major breakthrough event in the field of deep space exploration, that is, the successful launch of "Chang'e-2" in 2010, and ended in 2022.

In terms of selection criteria, we using "aerospace", "space", "astronaut" and "rocket" as search keywords, searched China Daily's aerospace news reports from 2010 to 2022, and finally we obtained 321 samples. After further screening and determination of the sample, removing national policy news, repetitive reports with similar content, methods, and length, 60 relevant news reports were obtained, thus forming a sample library with a total word count of 129, 754.

## 3. Research results

### 3.1 Discourse rhetoric analysis of "China Aerospace" report

From the overall situation of the research sample, there are 41 long-form reports, including 21 news reviews, 12 news interviews and 8 news features; there are 19 short reports, including 11 newsletters, 4 news features and 4 news reviews. Generally speaking, the "China Aerospace" reports in the sample are mainly long-form and in-depth reports in terms of length; in terms of genre, they are mainly reviews and interviews, with relatively few features and communications. Therefore, in such long-form reviews and interviews, "People's Daily" tends to show the whole picture of China's aerospace industry in a relatively comprehensive way with rich details, and resonate with the audience with realistic and three-dimensional space stories. Among them, the work details of the aerospace industry itself, the relevant arrangements required for ground work, possible risks and corresponding countermeasures have become the focus of attention of the "People's Daily". For example, in the report "Eat Well, Sleep Well, and Work Well", the author focuses on the life of Shenzhou 11 astronauts Haipeng Jing and Dong Chen before and after their return, and describes the astronauts' recovery training, physical therapy and health care, basic necessities of life, and experimental tasks and logistics support, depicting a vivid picture of aerospace life and work.



Figure 1: The high-frequency word cloud map of the "China Aerospace" sample in "People's Daily"

The author used the Weici cloud platform to conduct analyse on word segmentation and word frequency statistics on the 60 selected news reports related to "China Aerospace", and obtained the top 100 high-frequency keywords to make a word cloud map, so as to present the focus of attention in the report more comprehensively and intuitively (Fig. 1). In order to further explore the rhetorical

characteristics of People's Daily's discourse on these hot topics, the author selected the top 20 high-frequency keywords after removing highly directional aerospace terms such as "moon" and "space" to obtain the following word frequency table (Table 1).

Table 1: "People's Daily" "China Aerospace" sample keyword frequency table

No.	Vocabulary	Word frequency	No.	Vocabulary	Word frequency
1	Aerospace	584	11	Return	116
2	Astronauts	369	12	World	105
3	Missions	362	13	Powerhouses	101
4	Realized	179	14	Human	99
5	Flight	177	15	Spirit	97
6	Conduct	139	16	Technology	94
7	Succeeded	138	17	Became	89
8	Ability	131	18	Science	86
9	Completed	122	19	Explored	85
10	Countries	119	20	Entered	85

First of all, from the word frequency cloud map and the analysis of high-frequency words, it can be seen that praise adjectives such as "success" (138) and "Powerhouses" (101) are used more frequently, and the high-frequency discourse patterns formed by such words are "Achieve a strong aerospace country", "Achieve a breakthrough of zero success", "Fly successfully", etc. For example, in the report "Sixty Years of Striving to Write Brilliance in Space", the full text expresses a total of 18 "successes", which are intensively used in the sorting out and examples of China's aerospace achievements, highlighting the numerous achievements of China's aerospace process<sup>[5]</sup>. It can be seen that the "People's Daily" uses such high-frequency words and phrases to form its rhetoric of praise for "China Aerospace", in order to achieve the effect of promoting national emotional resonance and improving collective identity.

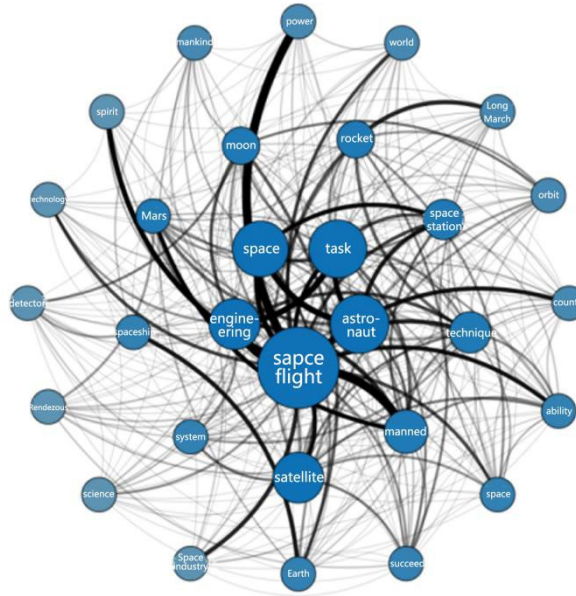
Secondly, words such as "task" (362), "conduct" (139), "implementation" (74), and "development" (74) are used frequently to describe the progress of China's space industry. The frequency discourse modes include "carrying out the task", "carrying out according to the plan", "carrying out in an orderly manner", "following up" and so on. It can be seen from this kind of collocation that "People's Daily" tends to present China's aerospace industry in a story-based way, so as to dig out the people and events that can be seen and felt, fill the gap between scientific and technological knowledge and public cognition, and further inspire Collective memory of nation and society. For example, in the report "Fat Five, Big Rockets Have Big Dreams", the author takes a specific event—the third launch of the Long March 5 as an entry point, and combines the relevant professional knowledge of the launch vehicle to describe the manufacturing, upgrading, the launch process as the "Birth Story" and "Adventures" of "Naughty Fat Five", and the Chinese story of Changwu's appearance in space is told in a popular narrative<sup>[6]</sup>.

Finally, words such as "world" (105), "human beings" (99), and "international" (83) that are specifically used to describe the international background of China's aerospace industry have a relatively high word frequency. The high-frequency discourse patterns formed by them include "international cooperation", "international society", "all mankind", and "community with a shared future for mankind". It can be seen that "People's Daily" tends to expand the story of China's aerospace industry to the international, human, and even the entire universe, breaking through the boundaries of countries and territories, so as to highlight the core of the idea of a community with a shared future for mankind that China's aerospace industry adheres to. For example, in the report "The Charming Story of "Little Rabbit"", the author focuses on the international influence of "Yutu" and enumerates the praise and discussion of the "Little Rabbit" cultural symbol in international media such as Reuters, The Wall Street Journal, Agence France-Presse, and the BBC, it has transcended the differences and barriers generated by countries, nationalities, and cultures, and constructed a discourse system that matches China's aerospace industry<sup>[7]</sup>.

### 3.2 Analysis of the discourse construction of the "China Aerospace" report

With the help of the Weici cloud platform, the author segmented 60 pages of "China Aerospace" themed reports. After removing words indicating time and place such as "year", "month", "day" and "city", the author selected 40 of the high-frequency relative words to conduct Co-occurrence analysis,

and draw a social network relationship diagram of high-frequency words samples (Figure 2). In order to further explore the discourse media construction of People's Daily's "China Aerospace" theme news report from the perspective of word collocation and co-occurrence, the author removed the aerospace term and counted all kinds of words closely related to the keyword "space" again, according to the part of speech Each selected the top 10 with the highest co-present value with "Aerospace" and sorted them into the following table (Table 2).



*Figure 2: Social network diagram of high-frequency words in "China Aerospace" sample articles of People's Daily*

*Table 2: List of high-frequency co-occurrence words for the keyword "aerospace"*

Part of speech	Top 10 words with the highest total present value with "aerospace"
noun	Power, capability, route, top, process, dream, blueprint, horn, cutting-edge, style
verb	Beyond, joining, strengthening, celebrating, instructing, cultivating, popularizing, advancing, suffering, stirring
adjective	Profound, broad, convenient, broad, amazing, brave, distinct, bright, dazzling, enviable
Idiom	"Soaring into the sky, destitute and impoverished, handed down from generation to generation, meticulous, drawing inferences from one example, pioneering, complementing each other, striving hard, advancing by leaps and bounds, day and night"

First, in the social network diagram above, high-frequency keywords are represented by nodes (40 in total), and the size of nodes is positively correlated with word frequency; the relationship between keywords is presented by lines (451 in total), and the thickness of the lines is positively correlated with the co-occurrence values of words. Furthermore, the closer a node is to the center, the stronger its importance. Therefore, words such as "spacecraft", "astronaut" and "task" in the picture constitute the innermost circle of the center, which shows that the focus of People's Daily is on the space industry itself, and the reports and discussions revolve around the space work itself. Among them, the main events reported are manned space missions, rocket launches, space station construction, lunar and Mars exploration projects and other breakthrough changes and iconic achievements, which strengthen the orientation of positive publicity. However, while focusing on positive reports, People's Daily also seldom presents negative aerospace events, and seldom discusses the risks, difficulties and shortcomings of the aerospace industry. For example, in the interviews with three astronauts Haisheng Nie, Hongbo Tang, and Boming Liu in "Returning from a Business Trip, I Still Want to Fly", the standards and strength of the flying missions, the effectiveness and comprehensiveness of the flying training, and the magnificence and magnificence of the beautiful scenery of the universe were reported center, while the risks of difficulty for astronauts on their missions are brushed aside<sup>[8]</sup>. Therefore, "People's Daily" can face the risks and challenges in the aerospace industry more truly by strengthening

the tone of balanced reports.

Secondly, "People's Daily" constitutes a continuous narrative of China's aerospace industry by looking back at the tortuous history of China's aerospace industry, sorting out current achievements, and looking forward to future goals. While reflecting the changes in the aerospace industry, it better builds collective memory and culture agree. In People's Daily's narration of history, adjective-like idioms such as "one poor and two white" and "difficult road and blue wisp" co-occur frequently with the keyword "aerospace", highlighting the difficult situation in the early days of aerospace exploration; The high-frequency co-occurrence of verbs such as "hardship", "surging", "hard work" and "advancing by leaps and bounds" with the subject word "aerospace" shows that "People's Daily" focuses on portraying the tortuous process of China's aerospace industry from ordinary to prosperous. In the narration of today's achievements, descriptive adjectives such as "amazing", "dazzling", "bright" and "envious" co-occur frequently with "aerospace", which shows that "People's Daily" emphasizes the richness of China's aerospace achievements and the prominent status of today. In the narrative about future prospects, words such as "powerful country", "capability", "route" and "blueprint" have the highest co-occurrence value with the keyword "aerospace", which shows that "People's Daily" regards China's aerospace industry as an important factor affecting the destiny of the country and It regards the "space dream" as an important part of the "dream of a strong country". It can be seen that the "People's Daily" has imprinted the space spirit and historical mission of not forgetting the original intention and continuous struggle as a profound social collective memory by connecting the past, present and future of China's aerospace industry.

### ***3.3 Analysis of the image construction of the "China Aerospace" report***

National image, as the overall evaluation of various activities and achievements of the country by the public inside and outside the country<sup>[9]</sup>, is not only the highest level of national soft power<sup>[10]</sup>, but also a cultural power that participates in the power game and collision of countries around the world<sup>[11]</sup>. Therefore, the author explores the national image constructed by analyzing the macro-theme and micro-discourse of the "China Aerospace" theme report in "People's Daily".

First of all, by focusing on the technicians behind China's aerospace industry, "People's Daily" integrated the image of technicians who strive for perfection and meticulousness into the image of a rigorous and rational aerospace power. For example, in the report "He is a Space Shepherd", the author focuses on Hengnian Li, a researcher at China's Xi'an Satellite Measurement and Control Center, and reproduces his impeccable surveying and mapping process during the return work of "Shenzhou", and portrays a group of aerospace technicians who have repeatedly deduced and calculated accurately<sup>[12]</sup>. In addition, in terms of discourse rhetoric, the frequent co-occurrence of words such as "meticulous", "style" and "precise" with "spacecraft" highlights and strengthens the high-precision requirements and high-quality control of China's space missions; Using words such as "instructions", "progress", "process" and "development", the People's Daily has also constructed China's orderly, well-organized, careful command, and dedicated implementation of the demeanor of a major country, further strengthening the country's serious, rigorous and rational image.

Secondly, People's Daily's report on the theme of "China's Aerospace" combined professional aerospace knowledge with detailed data and detailed descriptions to construct a national image that is scientific, truth-seeking, and courageous in exploration. In terms of the topic of the article, "People's Daily" pays close attention to the specific details of China's aerospace technology. For example, in the report "Beidou, the Double Star, all of which are made in China", the author introduced in detail the domestic components of "Beidou", such as the high-orbit satellite integrated electronic system, the research and development technology, material composition, and function of a new generation of high-precision rubidium clocks accuracy, load-bearing structure and application fields, supplemented by accurate data support, written scientifically and objectively<sup>[13]</sup>. At the same time, the Chinese aerospace spirit of continuous exploration and innovation has also become an important tone of the report. For example, in the report "Exploring space is the common pursuit of mankind", the author runs through the full text with the spirit of exploration, starting from specific technologies, explaining the necessity and importance of scientific innovation for the development of China's aerospace industry<sup>[14]</sup>. Moreover, "People's Daily" frequently uses words such as "science", "technology", "exploration" and "cutting-edge", which emphasizes China's great importance to the development of aerospace technology and the exploration of the vast sky, and builds China as an aerospace power in the pursuit of knowledge, innovation, and continuous conquering cutting-edge technological problems.

Finally, "People's Daily" reported on the theme of "China Aerospace" by reviewing history and

looking forward to the future, emphasizing the down-to-earth aerospace spirit, and building a progressive national image. At the level of macro themes, "People's Daily" has a large number of summary and prospect articles, sorting out the development of China's aerospace process, and outlining the general trend of China's aerospace progress. For example, in the report "Growing up in Paving the Way to the Sky", the author uses the qualities and contributions of young aerospace talents of different ages to connect the past, present and future of China's aerospace industry, expressing the will to continue to develop and strive for the development of China's aerospace industry<sup>[15]</sup>. From the micro level of discourse, on the one hand, words such as "top", "blueprint", "dream" and "beyond" co-occur frequently with "aerospace", showing China's enterprising spirit of daring to climb and aspirations; on the other hand, Words such as "difficult road and blue thread", "hard work", "cultivation" and "endure hardship" show China's indomitable and enterprising consciousness. "People's Daily" combines the conscientious and down-to-earth aerospace foundation with the aerospace spirit of perseverance and daring to surpass, and builds the image of China as a strenuous and progressive aerospace power.

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