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Original Paper

An Overview of *Engineering Translation Bulletin*: A Key Carrier of "Saving the Nation through Technology" in the Republican Era

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Abstract

Taking Engineering Translation Bulletin in the Republican period as the core research object, this paper systematically examines the historical role of this journal in the translation and introduction of Western traffic engineering technologies, localized transformation, and social impact, centering on the historical theme of "saving the nation through technology" and adopting the methods of literature collation and historical analysis. The research focuses on the journal's publication information, content introduction, knowledge dissemination, and domestic acceptance, revealing how it constructed a technology dissemination mechanism of "introducing Western knowledge to aid China" under the concept of "saving the nation through engineering". This journal fills the research gap in the history of engineering translation in the Republican era and provides a new perspective for the interdisciplinary integration of technology dissemination history and translation history studies.

Keywords

Engineering Translation Bulletin, history of engineering translation, saving the nation through technology

1. Introduction

Since the 19th National Congress of the Communist Party of China put forward the strategic goal of "accelerating the construction of a country with strong transportation capacity", this major national development strategy has been continuously deepened and advanced, and its strategic position has been repeatedly emphasized in the 14th Five-Year Plan and the report of the 20th National Congress of the Communist Party of China (Yang, n.d.). Professional journals represented by *Engineering Translation Bulletin*, founded in 1930, constructed an early engineering knowledge dissemination system through

large-scale translation and introduction of European and American traffic engineering documents. These documents not only cover professional technical fields such as road engineering and municipal planning, but also reflect the selective absorption and creative transformation of Western modernity by technical elite groups under the concept of "saving the nation through engineering". This cross-temporal academic dialogue is not only a tribute to the century-long history of China's transportation construction, but also provides ideological resources for the strategic needs of building an independent knowledge system in the new era.

This paper focuses on the translation and introduction of foreign traffic engineering scientific knowledge in the Republican era, a topic that has been barely explored so far. The investigation of this translation and introduction process is of certain complementary value for both the overall history of Chinese translation and the specialized history of traffic engineering translation. It can reveal how Republican-era technical elites constructed a discourse system of "technological modernity" through translation practice, and provide the long-neglected dimension of "engineering translation" for the study of modern translation history. Meanwhile, a systematic review and introduction of this journal can provide rich historical data support for the interpretation and historical tracing of current engineering terminology, and offer guidance for translation practice in traffic engineering. Based on the academic stance of "taking history as a mirror and saving the nation through technology", this paper provides historical experience and enlightenment for the construction of a country with strong transportation capacity in the new era. In addition, the discussion on issues such as technological ethics and interdisciplinary collaboration in the research can also provide ideological resources for policymakers to coordinate scientific and technological innovation and social benefits.

This paper interprets and organizes the foreign engineering technical contents in *Engineering Translation Bulletin* of the Republican era into three major categories: municipal engineering, architectural engineering, and civil engineering, and further subdivides them into 13 subcategories under the three categories: municipal engineering (including road planning and traffic management, regional planning, water supply and drainage systems, land valuation and utilization, waste disposal), architectural engineering (including housing construction, antenna towers, chimneys and other structures), and civil engineering (including bridges, civil engineering technologies, seaports, highways, railway tunnels, manpower). By constructing a structured knowledge map, this paper comprehensively understands what advanced Western technologies China absorbed in the engineering field during the Republican era. Based on abundant textual materials and historical data, this paper sorts out and analyzes the history of engineering translation in the Republican era around *Engineering Translation Bulletin*, summarizes the characteristics, laws and effects of engineering translation in this period, and takes history as a mirror to provide references for the international exchanges and mutual learning of engineering civilization in the present. For example, combining the *Work Bureau Work Report* and *Municipal Gazette* collected in the Shanghai Municipal Archives, this paper places the translation and introduction activities in the historical context of the implementation of the "Greater Shanghai Plan" (1927-1937) and the highway construction

led by the National Economic Commission, and examines the interactive relationship between technology selection and national strategy (Zhou, n.d.).

2. Founding and Publication: The Mission of Saving the Nation and the Historical Background of *Engineering Translation Bulletin*

2.1 Publication Information

Engineering Translation Bulletin was founded in January 1930, at the beginning of the "Golden Decade" (1927-1937) of the Nanjing Nationalist Government. During this period, China's municipal construction accelerated, and Shanghai, as the largest metropolis in the Far East, undertook the exemplary function of "promoting people's livelihood through public works". The journal was initiated and founded by the Public Works Bureau of the Shanghai Special Municipality, directly serving the Nationalist Government's strategy of "saving the nation through industry" and conforming to Sun's *The International Development of China* regarding the planning of transportation modernization (Zuo, 2021). As an agency directly under the Shanghai Municipal Government, the Public Works Bureau possessed administrative authority and technical expertise. Leveraging Shanghai's unique urban context of coexisting foreign concessions and Chinese-administered districts, the journal drew on resources from Western engineers residing in Shanghai and became a crucial medium for the dissemination of Western learning to the East within Republican era engineering circles. Its discontinuation in 1932 was likely related to the turbulent situation in Shanghai and the downsizing of the Public Works Bureau following the outbreak of the January 28th Shanghai Battle. As documented in *Shen Pao* during the same period, numerous Shanghai newspapers and periodicals ceased publication due to warfare in 1932, and the Public Works Bureau also suffered fiscal setbacks, which indirectly led to the journal's termination. Although it existed for only two years, the journal frequently translated and introduced European and American technical literature, filling a knowledge gap in domestic transportation engineering (Shen Bao, 1932).

2.2 Publication Details

Each issue of the journal contained about 70,000 to 80,000 Chinese characters, adopting a model of "thematic translation and technical commentary". Its columns included: Foreign Engineering News, Translated Technical Series, Engineering Charts and Diagrams, Editor's Notes, and others. The three surviving volumes reflect a clear tendency among Republican era Chinese engineers to "take the United States as a model". Content shows that the Chinese engineering field in the Republican period prioritized the introduction of emerging technologies from the 1930s, such as traffic flow statistics and fatigue tests of reinforced concrete. Meanwhile, some translations were accompanied by "suggestions for Chinese adaptation", such as adjusting Western automobile road standards to suit Chinese streets mixed with rickshaws and horse drawn carriages.

2.3 Aims of the Journal

The founding of *Engineering Translation Bulletin* was deeply rooted in the practice of Sun's modernization ideals. The inaugural issue opened with Sun's idea of "catching up head on" as its guiding

principle, emphasizing that technology import should follow "taking the highest as model" and advocating direct alignment with the latest Western scientific and technological achievements, rather than a step by step imitative path. Within this framework, the journal centered its mission on "narrowing the knowledge gap and serving national self-strengthening". Through the pathway of "from rapid translation, absorption and assimilation to local innovation", it sought to reverse the dilemma in which domestic engineering education relied on outdated 19th-century Western textbooks. Its content closely matched national major engineering demands. Through systematic knowledge sharing, it promoted the transformation of engineers from traditional craftsmen into a modern professional community, constructing an "imagined community" of technological innovation.

On the practical level, Engineering Translation Bulletin carried a distinct mission of "saving the nation through engineering". Editors upheld technological nationalism, calling for "revenging national humiliation and strengthening the country through engineering". They elevated infrastructure construction such as road and bridge building to the strategic heights of "recovering administrative rights in the concessions" and "resisting economic aggression by foreign powers". This ideology was reflected not only in the translation of cutting-edge European and American technologies, but also in the compilers' s active exploration of local adaptation. The journal also advocated engineering ethics, criticizing the erosion of bureaucratic corruption in municipal construction, and demonstrating the ideal of Republican-era technical elites to reform society through scientific rationality. This dual pursuit of technological enlightenment and social transformation elevated Engineering Translation Bulletin beyond a mere professional journal, making it a vital carrier of the "saving the nation through technology" ideology during China's Republican modernization.

3. Content and Outline: Introduction of Engineering and Technical Knowledge and Textual Practice of "Saving the Nation through Technology"

3.1 Overview of General Situation

3.1.1 Foreword

Amid the turbulent years of the Republican China era, Mr. Shen founded *Engineering Translation Bulletin* with the conviction that "Learning is like rowing upstream: one cannot but forge ahead or fall behind". This maxim opened the foreword and articulated the purpose of the publication (Li, 2021). Mr. Shen keenly perceived that, in the tide of historical change and technological innovation, complacency would only lead to elimination. Only by actively absorbing advanced international engineering expertise could progress and development be achieved in China's engineering community. Thus, *Engineering Translation Bulletin* came into being, with a clear mission to introduce major engineering works from around the world, guided by Western science, to broaden horizons and update knowledge for Republican-era engineering scholars. Mr. Shen hoped that the journal would serve as a bridge connecting Chinese and foreign engineering academia, enabling domestic professionals to access cutting-edge theories,

technologies, and methods, and thereby propel a leapfrog development of Chinese engineering in this special historical period.

3.1.2 Editor's Notes

The "Editor's Notes" section in Engineering Translation Bulletin mainly explained newly added or discontinued columns in the subsequent issues, including their reasons, main content, and intended purposes, so that readers could gain a clearer understanding. Examples included the rationale for including sections such as "Transportation Conditions in Moscow".

3.1.3 Proposals for Developing China's Economy

This section in Engineering Translation Bulletin primarily addressed problems encountered in China's engineering development at that time and put forward corresponding solutions. Severe challenges in engineering construction included capital shortages, technological backwardness, and a weak industrial foundation, with strained government finances unable to support large-scale projects. In response to these difficulties, the texts proposed a series of innovative solutions. For instance, taking economic benefits and other factors into comprehensive consideration, they discussed drawbacks of highway construction materials then used in China and recommended appropriate alternatives, and listed priorities for transportation methods under different conditions. Implementation of these strategies alleviated economic constraints on engineering development to a certain extent and laid a solid foundation for the government to swiftly suppress rebellions and advance peaceful nation-building.

3.1.4 Administrative Report of the Public Works Bureau of the Special Municipality of Shanghai

The "Administrative Report of the Public Works Bureau of the Special Municipality of Shanghai" published in *Engineering Translation Bulletin* mainly recorded the annual work of the bureau during the journal's founding period, systematically summarizing its annual plans and achievements in administration, design, engineering, and other fields. The report covered engineering details such as road system planning, revetments and wharves, bridges, road widening, and drainage system improvement. It also briefly described recent undertakings, including the construction of municipal government buildings and transport wharves. This report not only documented technological innovations in urban engineering during modern Shanghai's urbanization but also reflected the staged efforts of Republican-era Chinese cities to reshape local space and promote social transformation through Western modern engineering concepts, possessing both historical and practical value.

3.1.5 International Conferences

This section mainly introduced international engineering exhibitions held during the journal's founding period, including their dates, venues, objectives, and thematic arrangements, aiming to keep domestic engineering scholars informed of the latest global academic developments. In addition, it presented minutes of international conferences in fields such as road engineering, including dates, venues, participants, and outcomes. These outcomes provided valuable references for China's engineering development at that time, particularly technical and economic guidance concerning highway construction funds, road traffic management, and cement-bound macadam roads.

3.2 Civil Engineering

3.2.1 Bridges

The bridge special issues in *Engineering Translation Bulletin* systematically deconstructed the mechanical principles and technological innovations of modern bridge engineering. “Dynamic Problems in Bridge Construction” theoretically analyzed the impacts of wind loads, vibration, and material fatigue on structural stability, advocating optimization of bridge forms through model testing. “Three-Chord Truss Bridges” focused on lightweight truss designs, optimizing member force distribution through geometry to balance span length and material conservation. The journal paid special attention to the local adaptation of design codes: “Standards for Assumed Loads on Highway Bridges” introduced Western European and American dynamic load calculation methods and adjusted safety factors according to China’s actual traffic density; “Design Criteria for Wooden Bridges” improved traditional timber structures by extending service life through anti-corrosion treatment and riveting techniques, offering low-cost solutions for resource-constrained regions. Overseas cases further broadened technical horizons — for example, the Pont de l’Europe in Paris integrated aesthetic thin-walled arches and load-bearing efficiency using prestressed reinforced concrete, while concrete bridges in cold Nordic regions employed low-temperature early-strength cement and insulated pouring to resist freeze-thaw damage. These contents provided a technically profound and practically referenced roadmap for China’s transition from traditional stone and timber bridges to steel and concrete structures.

3.2.2 Harbors

Three special articles on harbor engineering in *Engineering Translation Bulletin*, which are “Principles of Harbor Design”, “The Relationship between Harbors and Ships”, and “Modern Harbors”, systematically explained the scientific logic and practical trends of port construction in that era. The first, “Principles of Harbor Design”, outlined several principles: “unrestricted future expansion”, “economic balance between engineering and management costs and revenues”, “integration of new and existing sections”, “separation of commercial and industrial designs”, “flexibility for special-purpose layouts”, “straight and unobstructed access channels for seagoing vessels”, “short routes and ample berths for inland watercraft”, and “minimized internal roads for pedestrians and vehicles”. It emphasized that harbor design required “far-sighted vision”, avoiding excessive detail and adopting development-oriented planning on an economic basis. The second, “The Relationship between Harbors and Ships”, focused on coordinated development: as ships grew larger, harbor water depth and wharf height required corresponding adjustment, highlighting the importance of matching deep-water channels with vessel draft. The third, “Modern Harbors”, emphasized advances in revetment construction, port railway layouts, shed structures, crane operations, and bulk cargo handling. Following the logic of “technology introduction, local adaptation and forward-looking planning”, these articles provided a theoretical framework for China’s port modernization and reflected the modern engineering community’s practical approach of “learning foreign expertise to strengthen the nation”.

3.2.3 Highways

The highway engineering section of *Engineering Translation Bulletin* centered on material innovation and technological optimization, systematically exploring diverse technical approaches and adaptability in modern road construction. The journal thoroughly analyzed construction details of traditional asphalt and tarmac pavements: "Construction Methods for Asphalt and Tarmac Pavements" stressed the critical role of temperature control and layered compaction in density, while "Damage and Causes of Asphalt and Tarmac Pavements" examined material aging, overloading, and climate erosion, advocating scientific maintenance to extend service life. It also widely introduced international best practices, such as Germany's durable reinforced concrete pavements, Sweden's improved low-temperature asphalt laying, France's context-adapted subgrade drainage design, and quick-drying concrete technologies that shortened construction periods. These contents provided technical benchmarks for China's road construction, promoting the selective integration of Western technologies with local climate, traffic loads, and resource conditions, and facilitating the transition from traditional dirt roads to scientific and standardized highway systems.

3.2.4 Railways and Tunnels

Through domestic technological exploration and introduction of international experience, this part of *Engineering Translation Bulletin* demonstrated breakthroughs in transportation infrastructure. It detailed American-derived methods of laying tracks on concrete slabs to replace traditional ballast, reducing vehicle resistance and wear. The "Integrated Laying Method for Rails and Sleepers after Fastening" innovated construction processes, greatly shortening timelines and improving track smoothness, supporting the rapid expansion of regional railway networks. Meanwhile, the journal used American underwater tunnel projects as examples to highlight tunnels' role in supporting three-dimensional transportation networks. Following the theme of "material innovation and technological upgrading", these contents provided a technical blueprint and case references for China's railway and tunnel engineering, and reflected modern engineers' ambition to reshape national connectivity through science and technology.

3.3 Architectural Engineering

3.3.1 Building Construction

Content on building construction in *Engineering Translation Bulletin* focused on scientific exploration of residential space design and introduced international standards and technological innovations in architecture. Domestic articles such as "Bungalow Residences" and "Floor Plans of Small Houses" adopted functionalism, optimizing layouts according to family structure, lighting, and ventilation. "Record of Relocating an Ancient House" documented techniques for the integral lifting and foundation reinforcement of traditional timber structures, demonstrating engineering-based conservation of cultural heritage. "Comparison between Single-Row and Double-Row Buildings" analyzed the balance between building density and public space allocation in urban planning, advocating row-style layouts to improve community livability. International updates highlighted breakthroughs in technical standards and

materials. Through the dual dialogue of "adapting traditional methods" and "localizing foreign technologies", the journal promoted China's architectural shift from empirical construction to standardization and industrialization, addressing residential needs and providing technical references for urban modernization.

3.3.2 Radio Towers, Chimneys, and Other Tall Structures

Addressing technical challenges of tall structures such as radio towers and chimneys, *Engineering Translation Bulletin* systematically explored innovations in material selection, foundation design, and construction technology. In materials, it analyzed the lightweight and insulating advantages of wooden radio towers and elaborated on the full construction process of reinforced concrete chimneys. For common problems in tall structures, the journal emphasized scientific foundation design and systematically introduced the "pile foundation calculation method". These contents integrated Western structural mechanics with local engineering experience and reflected modern China's architectural shift from empirical practice to quantitative calculation and from single materials to composite technologies.

3.4 Municipal Engineering

3.4.1 Road Design and Traffic Management

The road design and traffic management subsection in the municipal engineering section of *Engineering Translation Bulletin* deeply analyzed core issues of modern urban traffic governance. Concerning "urban traffic problems", the journal examined congestion and accidents caused by mixed traffic of automobiles, trams, and rickshaws, proposing basic improvements such as widening main roads and adding sidewalk separators. Drawing on early Parisian roundabout designs, it advocated radial road networks to segregate vehicles by speed. "Methods to Restrict Traffic Vibration" focused on pavement damage from horse-drawn carriages and early automobiles, recommending asphalt macadam surfaces instead of dirt roads and adopting Germany's "layered compaction method" to enhance subgrade capacity. International cases reflected contemporary characteristics, emphasizing intersection improvements, manual management, and simple technical applications. These contents demonstrated the Republican-era engineering community's pragmatic efforts to transition urban traffic from disorder to preliminary systematization under limited conditions.

3.4.2 Regional Planning

Regional planning content in *Engineering Translation Bulletin* closely followed the global urbanization wave of the 1930s and systematically translated emerging Western European and American urban planning concepts. Based on domestic needs, it advocated strict separation of industrial, residential, and commercial zones, drawing on German "land consolidation" experience to acquire fragmented plots and unify planning for roads and public facilities. Emphasizing transit-oriented development, it proposed extending urban frameworks along tram lines and used Tokyo's post-earthquake reconstruction as a case to illustrate comprehensive strategies of widening avenues, adding parks, and installing underground pipelines. International cases balanced colonial and national contexts, abandoning utopian blueprints to focus on practical issues such as land expropriation laws, hygiene standards, and infrastructure grading.

They provided a theoretical framework for China's urban transition from traditional neighborhoods to functional zones and reflected the Republican engineering community's pragmatic path of "governance through planning" amid turbulent times.

3.4.3 Land Valuation and Utilization

Engineering Translation Bulletin systematically introduced Western modern technical frameworks and institutional experiences in scientific land valuation and utilization. Using New York, Cleveland, and other cities as examples, it explained land value assessment theories including mathematical valuation methods, which could be adapted to local conditions. It also presented several cases of Japanese land zoning and expropriation, providing references for domestic land planning to balance public interests and private property rights. These contents offered a composite reference system of "scientific assessment, zoning planning and legal protection" for modern Chinese urban land management, supporting the shift from extensive expansion to refined governance in urbanization.

3.4.4 Water Conservancy

The water conservancy section *of Engineering Translation Bulletin* focused on both domestic engineering practice and advanced Western experience. It detailed emergency rescue techniques using reinforced concrete and stone blocks to combat dyke breaches. For drainage, it proposed separate systems for rainwater and sewage, installing transverse rainwater channels with properly graded slopes to enable rainwater to irrigate gardens. In rural areas, it advocated simple drainage systems combining open ditches and infiltration wells using natural topography, and provided detailed solutions such as sloped roofs for rainwater diversion and foundation damp-proofing for residential buildings. Meanwhile, integrating foreign drainage cases, it introduced technologies such as underground pipe laying and main drainage channel construction, enabling domestic water conservancy professionals to adapt Western technologies locally. This promoted the transformation of the traditional "blockage and diversion" water management model toward systematization and standardization.

4. Translation and Dissemination: The Discursive Transformation of Western Technology as the "Key to National Salvation"

4.1 Research on Translators

Studies of this kind focus on translators engaged in engineering translation during the Republican period, such as Chen Shoupeng, Chen Yuesheng, and Liu Zishan.Under the influence of the Self-Strengthening Movement, the Imperial Tungwen College trained a number of official translators for the imperial court. Against this background of abundant government-employed translators, a large number of civilian translators took up translation as a livelihood and later became renowned translators (Wei, 2014). Against such a historical context, translators infused their translations with a strong sense of mission and patriotism for national salvation, and their rigorous attitude also embodied their professional responsibility.

As one such translator, Chen Shoupeng is rarely mentioned in existing works on translation history. His experience — graduating from the Foochow Naval Academy, studying in Britain and France, founding the *Qiushi Bao*, and translating more than ten high-level works, which demonstrates his important role in the dissemination of Western learning in the late Qing period. His high translation standards stood in sharp contrast to the rampant careless and arbitrary translations prevalent at the time. He stated that he "devoted meticulous care to this book, not daring to translate roughly sentence by sentence or word by word", and insisted that "everything in the original is retained, without perfunctory treatment, fabrication, or omission". Thus, his translations, "though not perfect compared with the original, may confidently be said to capture eight or nine parts of its meaning…". (1989) In translating scientific and technological works such as the *Illustrated Records*, Chen Shoupeng excelled in language proficiency, professional knowledge, understanding of translation, and practical translation. Compared with most translators of his time, he openly pursued economic benefits yet was not solely material oriented; he strictly observed his duties as a translator while proactively advocating for translators' rights and interests. Although he cannot be called a full-time professional translator in the strict sense, he effectively possessed the essential qualities of one.

4.2 Research on Translation Methods

The translation practice of the *Engineering Translation Bulletin* represented an organized and strategic movement of knowledge introduction under the banner of "saving the nation through technology". It employed free translation and domestication to localize foreign knowledge, transcreative translation to construct a Chinese engineering terminology system, and abridged and adapted translation to maximize the efficiency of knowledge dissemination. Each of these choices served the journal's mission: "to rapidly spread new knowledge, enlighten the people, revitalize industry, and rescue the nation from peril". Far from a simple collection of translations, the *Engineering Translation Bulletin* was a bridge carefully constructed through translation methods, one end connected to advanced Western engineering technology, the other deeply rooted in impoverished and weak China, ultimately oriented toward the grand ambition of "national salvation" for which countless patriots of the era strove.

Free translation was the core strategy of the Engineering Translation Bulletin. Instead of mechanically literal translation, translators fully considered the knowledge background and reading habits of Chinese readers, and "restated" the text in authentic, slightly classical Chinese. The goal was to lower the reading threshold and ensure that technical concepts could be understood and absorbed to the greatest extent by the Chinese intellectual and engineering circles (Zhang, 2025). Meanwhile, faced with numerous new concepts and devices absent in China, translators acted as terminology creators (Sun, 2022). Drawing on the ideographic nature of Chinese characters, they coined a large number of precise and expressive engineering terms, many of which have become standard expressions in modern Chinese. This itself was a practice of "national salvation", laying the linguistic foundation for China's modern engineering discipline. For instance, the term lantu (blueprint) in the journal not only accurately described the blue

color of the drawing but also endowed it with the profound cultural connotation of "planning and future", a masterstroke of coinage. This creative process was inherently a form of transcreation.

The translation methods adopted by the Engineering Translation Bulletin were by no means accidental; behind them lay the heavy historical mission of "saving the nation through technology". "National salvation" could not remain a slogan, and knowledge had to be made understandable and applicable. Through free translation and terminology creation, Western engineering technology was given a Chinese "form" and "soul", allowing it to spread and take root in Chinese cultural soil and truly serve China (Zhang & Nie, 2023). This solved the problem of how to "receive" knowledge after it had been "introduced". The use of a semi-classical style catered to the reading habits of mainstream intellectuals, ensured the journal's authority and influence among elite circles, and precisely conveyed complex engineering concepts. It was a strategic linguistic choice under specific historical conditions to achieve the broadest and most efficient knowledge enlightenment.

5. Repercussions and Legacy: Domestic Reception and Influence of the *Engineering Translation Bulletin*'s Ideology of Technology for National Salvation

5.1 Communication Network and Academic Influence

Relying on the official background of the Public Works Bureau of the Special Municipality of Shanghai and academic resources from universities, the *Engineering Translation Bulletin* built a multi-level communication network covering the national engineering community. At the level of the academic community, it promoted the local construction of modern engineering disciplines through terminology standardization and knowledge systematization. For example, theories such as "traffic flow statistics" and "concrete mix experimental standards" systematically translated and introduced in the journal reshaped the content framework of domestic engineering education (Liu, 2024).

Notably, the reception of the journal showed significant regional differences and technological selectivity. Engineers in coastal treaty ports (such as Tianjin and Guangzhou) paid more attention to municipal planning cases, while those in the central and western regions (such as the Hunan Highway Bureau) focused on road engineering technologies (Yu & Liu, 2004). These differences reflected the unbalanced regional development in the Republican period and highlighted the editorial group's strategic consideration of national overall needs in technological selection.

5.2 Practical Transformation and Engineering Application

The technological translations of the *Engineering Translation Bulletin* were deeply embedded in major engineering projects of the Republican era, achieving a closed-loop transformation from "knowledge to practice". In municipal engineering, the "radial road network" design in the 1932 Nanjing Capital Plan (Gu &Yan, 2010) drew on Principles of Berlin Urban Traffic Planning, compiled and translated in the same issue of the journal. A deeper influence was that the journal reconstructed the cognitive paradigm of engineering practice through technological dissemination.

The reception history of the *Engineering Translation Bulletin* reveals that the effectiveness of technology introduction depends not only on the advancement of knowledge itself, but also on the coordination of localized transformation mechanisms and institutionalized communication networks. Its collaborative model of "government leadership, academic participation and industrial response" provides a historical reference for building an integrated innovation system of "government-industry-university-research-application" in the current construction of a China with strong transportation capacity (Wang & Zhang, 2023). China's current global leading position in high-speed rail and intelligent transportation systems can be traced back to the century-long continuation of this technology development path rooted in national conditions and open innovation (Li, 2023).

6. Conclusion

This paper takes the Engineering Translation Bulletin, a professional journal of the Republican period, as its core research object, and systematically examines its founding background, publication history, content structure, and historical value in the dissemination of engineering knowledge in modern China. As a rare professional engineering translation journal of the Republican era, the Engineering Translation Bulletin not only filled the technological information gap in domestic transportation engineering, but also embodied strategies such as "critical selection" and "local adaptation" in its compilation and translation activities, making it a typical example of absorbing Western scientific and technological civilization and an important historical source for tracing contemporary China's "technology for national salvation". Although the journal existed for only two years, it provides precious original documents for the study of Republican-era municipal construction history, engineering translation history, and technological communication history. Its historical value is irreplaceable in terminology construction, engineering education reform, and the formation of industrial norms. Limitations of this study include the absence of some original archives. Future research may combine digital humanities techniques to deepen quantitative analysis of knowledge dissemination and expand comparative studies with other Republican-era engineering journals, so as to present a more complete picture of modern technological translation history.

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