

Original Paper

The Intrinsic Logic and Practical Pathways of Empowering New Quality Productive Forces through the Undertaking of Language and Writing

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Abstract

New quality productivity is the advanced productivity spawned by technological revolutionary breakthrough, innovative allocation of production factors, and deep industrial transformation and upgrading. Improving the production system of new quality productive forces and developing new quality productive forces are the fundamental measures to adapt to the development of The Times and technological change. As a basic communication tool for human communication, information transmission and thinking, language and writing is one of the core elements of the development of new quality productive forces, and plays multiple social functions in the formation and development of new quality productive forces. This paper explores the theoretical basis, internal logic and practical challenges of language and writing business to help the development of new quality productivity, and deeply explores the practical path and realistic possibility of language and writing business to help the development of new quality productivity. We believe that the language industry will effectively promote the sustainable development of new quality productivity by building a language resource integration and transformation system, strengthening the integration of language science and technology innovation, promoting the coordinated development of the language industry, and cultivating innovative talents.

Keywords

language and writing undertakings, the national common language, new quality productive forces, industrial revolution, artificial intelligence

1. Introduction

With the rapid development of artificial intelligence and digitalization, human society is facing an unprecedented transformation. Different from traditional productivity, it is a more integrated and new productivity in the digital era (People's Daily, 2023). Language, as the basic tool of human communication and thinking, is not only the foundation of cultural confidence, but also closely related to people's thoughts. The healthy development of language and writing is conducive to the development of new quality productivity. "Because of its instrumental characteristics, language plays a significant role in the revolutionary breakthrough of current technology, because of its data characteristics plays an irreplaceable role in the innovative allocation of production factors, and because of its life intervention characteristics plays an irreplaceable role in how to optimize the combination of the relationship between workers and workers, and the relationship between workers and labor materials and labor objects" (Qu, Zhang, Zhang et al., 2024). Therefore, this paper further explores the theoretical basis, internal logic and practical path of enabling the development of new quality productivity in language and writing undertakings, so as to give full play to the due value and role of language and writing undertakings and better enable the development of new quality productivity.

2. The Theoretical Underpinnings of How Language and Writing Endeavors Contribute to the Advancement of New Quality Productive Forces

Today, accelerating the development of new quality productive forces is an inevitable demand for the liberation and development of productive forces in the new era, and it is also a necessary path to promote the iterative upgrading of productive forces and move toward modernization. What is the language business? Why can the development of language and writing enable the development of new quality productivity? Only by clearly answering these two basic questions in theory can we completely solve the fundamental problem of enabling the development of new quality productive forces in language and writing undertakings.

With the theme of promoting high-quality development of spoken and written languages, its core task is to promote and popularize the standard spoken and written Chinese language and foster a sense of community among the Chinese nation, and its fundamental purpose is to meet the people's growing demand for quality language education and services. We will promote the modernization of the language governance system and capacity to provide strong support for promoting Chinese-style modernization. First of all, we should be deeply aware that language, as a tool of human communication and thinking and the carrier of human culture and civilization, has a variety of social functions and values, and the elements of language and writing are important factors of human productivity and production. Secondly, the new quality productivity represents the evolution direction of advanced productivity, and is the advanced productivity quality spawned by technological

revolutionary breakthrough, innovative allocation of production factors, and deep industrial transformation and upgrading (People's Daily, 2024). It takes the leap of workers, labor materials, labor objects and their optimal combinations as its basic connotation, which contains huge development potential. With the advent of the era of artificial intelligence, the basic functions of language are further expanding. Language is a diversified and unique resource, an important factor and technical core for the iterative upgrading of new quality productivity. The current development of generative large language model (ChatGPT/Deepseek) is the most powerful proof that language can enable new quality productivity. Language elements will more empower digital +, wisdom +, robots and other artificial intelligence industries, and will play a more important role in language and culture protection, the inheritance of the Chinese nation's excellent culture, the formation of the Chinese nation's sense of community and industrial reform.

2.1 Language and Script Constitute Crucial Instruments of Human Communication

As the most important communication tool for human beings, whether oral communication or written records, as a medium of information transmission, language enables people to communicate and exchange effectively across the obstacles of time and space. In the process of the generation and development of new quality productivity, people need to constantly share information, exchange experience, and collaborate to achieve innovation and progress. As a bridge to realize communication and communication, language promotes the sharing of knowledge, the spread of technology and the collision of innovation, and provides more possibilities for the development of new quality productivity. Wang Chunhui pointed out: "The world is accelerating into a new era of natural persons, robots, digital people" three "symbiosis, language is the basis of" human-machine-number "three common symbiosis". The application of technologies such as speech recognition, speech synthesis, natural language processing, brain-computer interfaces etc., to enable people to communicate more naturally with machines or digital, such as intelligent assistants and implantable prosthetics, are typical examples" (Wang, 2024). It can be seen that language is not only a bridge of communication and communication, but also the study of language can promote the development of fields such as artificial intelligence and cognitive neuroscience, thus accelerating the vigorous rise of new quality productivity.

In addition, in the context of globalization, global exchanges and cooperation have become increasingly close. As an important tool for international communication, in the era of artificial intelligence, language and writing can more effectively help people overcome language and cultural barriers and promote more effective communication on a global scale. Only in this way can language and writing provide a broader space and opportunity for the development of new quality productivity. Further promote the development of transnational cooperation, technological innovation, supply chain management and cultural exchanges.

2.2 Language and Script Constitute Crucial Instruments of Human Cognition

Language is the basis of abstract thinking and complex narration. Language is not only used to encode and classify things that exist in reality, but more importantly, it can convey those concepts that do not exist or are imagined. “In other words, words can convey information about ourselves, information that exists in a constructible type, that language can help us to think abstractly” (Guangming Net, 2019).

It is precisely because of this function of language that abstract concepts and complex logic are concretized by language and visualized by text. In the process of the development of new quality productivity, language and writing, as thinking tools, help people to think and explore better, and the results of these thoughts can be expressed and communicated through language and writing, so as to obtain the understanding and recognition of others. In this process, new ideas, new ideas and new technologies may continue to emerge, thus promoting knowledge innovation and technological innovation. As Marx pointed out, “Language is the immediate reality of thought, and it is also a practice” (Marx & Engels, 2003). Language practice can give play to the function of production factors of language, which is the thinking basis of new productivity generated by new quality productivity, and can promote the steady improvement of total factor productivity, so as to realize the development and progress of new quality productivity.

2.3 Language and Script Constitute the Wellspring of Cultural Self-assurance

Language is an important carrier of fine traditional Chinese culture. The Chinese civilization has a long history, and its rich historical, cultural and ideological heritage needs to be recorded and passed on through the written language. It bears the long history of the Chinese nation and the inheritance and evolution of its civilization, and contains profound ideals and beliefs, firm values, noble moral concepts and unique national spirit. At the same time, the charm of a country’s culture and the cohesion of a nation are mainly expressed and transmitted through language, which has solid academic value in the continuous promotion of the creative transformation and innovative development of the excellent Chinese culture, and is playing an irreplaceable role in inheriting and carrying forward the excellent traditional Chinese culture. *Nezha 2*, which has recently become a global hit, conveys the core value of traditional culture to the audience with the help of extensive and profound Chinese culture. “My life is by me, not by Heaven” vividly conveys the spirit of self-improvement in China’s excellent traditional culture and arouses strong emotional resonance among the audience. *Taiyizen’s Trump* dialect also re-encodes traditional culture in modern narrative language. This in-depth exploration and modern interpretation of traditional culture has greatly enhanced people’s sense of pride and identity in their national culture.

As an important carrier of cultural inheritance, development and prosperity, language is related to the cultural identity and inheritance of the Chinese nation, as well as the promotion of national cultural soft power. “The promotion efforts, popularity and application standards of the standard Chinese language are important manifestations of the high cultural consciousness and self-confidence of the Chinese

nation” (Guangming Net, 2020). By vigorously promoting the promotion and popularization of the standard Chinese language and implementing the Chinese Classics reading project, the people are guided to get close to the Chinese classics and strengthen their cultural self-confidence. As a more basic, more extensive and more profound self-confidence, cultural self-confidence can stimulate people’s innovative spirit and creativity, and provide strong spiritual motivation and cultural support for the development of new quality productivity.

2.4 Language and Script Constitute a Multifaceted and Singular Resource

“The diversity of language resources represents the diversity of existence, value and development of language resources” (Wei, 2021). In the development process of new quality productivity, the multiple values of language resources play a key role, including but not limited to human capital value, cultural value, economic value, information value, educational value and political value. As a unique communication tool of human beings, language skills embodied in individuals are essentially a unique human capital. In this context, linguistic human resource refers to the group of talents who are proficient in and use different languages, who have potential human capital value due to their unique or even scarce language ability, and can provide a huge potential advantage in the development of new quality productivity.

Li Yuming pointed out: “Language is a research resource of many disciplines and an important cultural resource of the country; more importantly, with the advent of the information age, language and its knowledge have become an important resource of the information industry, from the ‘soft power’ into the ‘hard power’ category” (Li, 2012). Specifically, with the vigorous development of the digital economy, language has become one of the important resources to promote economic development. As early as April 2021, the World Economic Forum released the report “Data-driven Economy: The Foundation of a Shared Global Future”. In 2023, more than 3.28 trillion bytes of data will be generated every day, forming the raw material for the evolution of artificial intelligence. The breakthrough of natural language processing technology that artificial intelligence and other advanced technologies rely on is essentially the digital transfer of human language cognitive paradigm, and the diversity of language data directly determines the cognitive breadth of AI models. The big language model of new quality productivity promotes the industrial iteration and upgrading, and it can be said that it is the main manifestation of enabling new quality productivity in language and writing undertakings.

3. The Intrinsic Logic of Language and Writing Empowering the Development of New Quality Productive Forces

3.1 Language as a Basic Factor of Production Enables Productivity Change

As a communication tool and the carrier of human thinking, language plays an important role in promoting the spread of innovative thinking, facilitating cross-field collaboration, promoting the prosperity of the digital economy and enhancing international competitiveness. In addition to its direct

effect on the productivity as a basic production factor, it also penetrates into all levels and links of the new quality productivity through various ways of integration with other fields such as language education, language intelligence, language and culture communication, providing a steady stream of power and support for its sustainable development. For example, in the cultural industry, literature, film and television, music and other works based on language and text, through artistic processing and dissemination, meet people's spiritual and cultural needs, and create huge cultural value and economic benefits. In August 2024, a domestic game "Black Myth: Wukong" was born, this game with Chinese mythology as the background, is vividly demonstrating the digital rebirth of excellent traditional Chinese culture. A large number of text descriptions in the game play a key role, from the construction of the world view of the game, to the setting of characters and monsters, the language and text detail and vividly show a fantastic mythological world. These characters not only serve as the carrier of game narration, but also spread traditional Chinese culture. They quickly attract a large number of players at home and abroad, prompting them to explore the cultural connotation behind Chinese myths, and further promote the exploration and innovation of traditional culture in the field of game in the cultural industry, creating unique cultural values and reaping considerable economic benefits. At the same time, it promotes the development of cultural tourism industry in Shanxi Datong and other places, and promotes the development of new quality productivity from many levels.

On the other hand, language, as a kind of data, has increasingly become an indispensable force in today's digital technology and digital economy. As early as December 8, 2017, the General Secretary proposed to "build a digital economy with data as the key element" (2017). The report of the 20th National Congress of the Communist Party of China proposed to "accelerate the construction of a modern economic system and focus on improving total factor productivity" (Xi, 2022). It is generally believed that data is the form and carrier of information. With the progress of technology and society, the connotation and extension of data are likely to change. But one thing is now certain: most of the data is linguistic data" (Li, 2020). It can be seen that linguistic data is undoubtedly an extremely important factor of production in today's information age. With the rapid development of linguistic intelligence technology, the production factor attributes of linguistic data are becoming more and more clear. The language industry, with language data as the core, is gradually becoming a key field that all parties compete to layout and strive for in the process of economic development, and continues to add strong impetus to the development of new quality productivity.

3.2 Based on the Integration of Language and Workers, It Expands the Boundaries of Workers' Innovation and Collaboration

Higher quality workers are the first element of developing new quality productive forces. Language is the basis for communication and collaboration among workers. It is essential for the dissemination of ideas, the exchange of experiences and the sharing of knowledge, and it helps to enhance the professional skills and literacy of workers. The rise of new quality productivity makes the labor market

put forward higher requirements for the quality of workers, and the innovation-led new quality productivity form also requires workers to have higher scientific and technological literacy, broader knowledge reserve and stronger innovation ability. The cultivation of strategic talents and applied talents in all walks of modern industrial development is inseparable from a high level of language ability.

In addition, the language ability of workers also directly affects the promotion and application of new quality productivity. In the process of the development of new quality productivity, it is necessary for workers to have sufficient language ability to understand and accept the new productivity ideas, technologies and methods. “The former vice president of Baidu Research Institute put forward a point of view—today’s world is moving from the era of demographic dividend to the era of talent dividend, and is moving toward the era of personality dividend, that is, wealth and resources are increasingly concentrated in the hands of more minority groups through artificial intelligence, big data, algorithms and other means” (Qu, Zhang, Zhang et al., 2024). Therefore, workers need to master big data, artificial intelligence and other means by acquiring more comprehensive and diversified language abilities, so as to expand their innovation and collaboration boundaries and obtain more wealth and resources, which can not only enable the development of new quality productivity, but also promote the process of common prosperity under the guidance of new quality productivity.

3.3 Based on the Integration of Language and Means of Production, Optimize the Efficiency and Value of Means of Production

The means of production is all the material conditions necessary for people to engage in the production of material means, and it is the sum of the means of labor and the object of labor. In the process of contemporary economic development, the optimization of means of production can greatly improve the level of productivity, and make the traditional productivity jump to the new quality productivity. With the advent of knowledge economy and information age, the integration between language and the means of production is getting closer and closer, which is gradually changing the character, function and value embodiment of the means of production in the production process, and becoming a new power source to promote the efficiency improvement and value appreciation of the means of production.

As an important material basis in the production process, the efficiency of labor materials directly affects the level of productive forces. Marx and Engels argued that “the difference between economic ages lies not in what is produced, but in how it is produced and with what means of labor” (Marx & Engels, 1972). Nowadays, labor materials with higher technical content are the power source of developing new quality productivity in the new era, so the development of new quality productivity needs to break away from the traditional development path of productivity and make good use of advanced labor materials. Language is an important carrier for the improvement and innovation of labor materials, and plays an important role in the selection, use and improvement of labor materials.

There is no simple correspondence between them. The development and application of advanced labor materials require the corresponding high-level language and writing ability as support. Mathematical languages, programming languages, code languages, etc. play a basic supporting role in emerging industries such as big data, artificial intelligence, and 5G communication, helping to realize the intelligent upgrading of labor tools. It has greatly enriched the performance of production tools, greatly improved production efficiency, and promoted productivity to a new level.

The object of labor refers to everything to which people apply labor by means of production tools in the production process of material materials. The quantity, quality and type of the object of labor have a great influence on the development of productive forces. “The object of Labour compatible with the traditional productive forces is mainly all the material means into which the laborer puts his Labour, including unprocessed natural things and processed raw materials. The object of labor that is compatible with the new quality of productivity is the object that introduces more technical elements and immaterial forms” (Feng & Lin, 2024). The integration of language and labor objects is to transform language into mathematical language, programming language, language intelligence, and language data, internalize language into traditional labor objects, and give birth to new labor objects such as big data, artificial intelligence, and the Internet of Things. At the same time, through the important role of language in brand building, product marketing and after-sales service, the emotional value, cultural value and functional value of labor objects are added, and the value of labor objects is added in the process of market exchange.

3.4 Based on the Integration of Language and Technology, Multiple new Business Forms and New Models have been Created

The 2025 government work report clearly pointed out the tasks for the future, to “promote the integrated development of scientific and technological innovation and industrial innovation, vigorously promote the new industrialization, expand and strengthen the advanced manufacturing industry, actively develop the modern service industry, and promote the growth of new growth drivers and the renewal of traditional growth drivers” (2025). As a core resource and key factor of production, the field of language and writing has promoted the vigorous development, transformation and upgrading of the language industry through the integration with language technology, thus giving birth to many unprecedented new business forms and models and promoting the development of advanced productivity.

The rapid development of modern science and technology, especially the extensive application of cutting-edge technologies such as artificial intelligence, big data and cloud computing in the language field, has injected a strong impetus for innovation into the language industry. The intelligent language technology service with artificial intelligence as the core has become an emerging force in the language industry chain; the explosive growth of language data makes the trading and analysis platform of language data emerge. The breakthrough of natural language processing technology has greatly

improved the accuracy and efficiency of machine translation, broken the language barrier, and expanded the boundary of language services. In the era of digital media convergence, cross-media language communication and creative industries are also booming. For example, in early 2025, DeepSeek, launched by a Chinese AI startup company, attracted global attention, and it innovatively launched low-cost, high-performance AI products, especially its DeepSeek-R1 model, showing strong language and word processing capabilities. Its open source and shared characteristics also enable many developers to deeply explore the possibility of combining language and text with technology in different scenarios based on DeepSeek technology, inspiring innovation vitality on a global scale.

A large number of innovative ideas and technological achievements are constantly emerging, which are applied to actual production and give rise to new production models, products and services. These new business forms and models not only enrich the connotation and extension of the language industry, improve the quality and efficiency of language services, but also bring extensive and profound impact on economic growth, cultural communication, social development and talent training. On the one hand, as a traditional industry, the language industry itself has continuously expanded its market scale, which directly drives the development of related industries and greatly promotes economic growth and the optimization and upgrading of economic structure. On the other hand, the deep integration of language technology and language industry can not only promote the transformation and upgrading of the language industry and inject new vitality into the language industry, but also improve the international competitiveness of the language industry and services, promote high-quality economic development, enhance social well-being (Qu, Zhang, Zhang et al., 2024), and help build a modern industrial system and promote high-level opening up to the outside world.

3.5 The Empowerment of Language and Script for Comprehensive High-Quality Economic and Social Development

The development of new quality productive forces is an inherent requirement and an important focus for promoting the high-quality development of China's social economy. "We must firmly grasp the primary task of high-quality development and develop new quality productive forces in light of local conditions" (Qu, Zhang, Zhang et al., 2024). With the changes of The Times and the progress of science and technology, language plays an important role in the process of high-quality economic and social development in China, which is of great help in the realization of a virtuous cycle of education, science and technology, talents and rural revitalization, and has a profound impact on the development of new quality productive forces.

"Education, science and technology, and human resources are the basic and strategic support for building a modern socialist country in an all-round way. In accordance with the requirements of developing new quality productive forces, we must unblock the virtuous cycle of education, science and technology, and human resources, and strive to remove bottlenecks that hinder the development of new quality productive forces" (People's Daily, 2024). In the field of language and text, from

rule-based machine translation at the beginning, to speech recognition and natural language processing based on statistics and deep learning, the integration of language and technology has continued to progress and develop. The rapid progress of cutting-edge technologies such as big data and artificial intelligence has made remarkable achievements in language and word processing technology. The development of language science and technology is inseparable from the support of high-level education and high-level talents. The implementation of language strategy can optimize the allocation of educational resources, improve the language literacy of the whole people, and then enhance the overall scientific and technological strength and talent competitiveness of the country, forming a virtuous cycle of education cultivating talents, talents promoting science and technology, and science and technology feeding education. For the development of new quality productivity to provide a steady flow of internal power.

On the other hand, language is also a basic factor to promote rural revitalization, and an endogenous factor to stimulate rural potential and release rural productivity. Rural revitalization is an important national strategy aimed at promoting the all-round development of rural areas. “Rural revitalization is a process in which language is an inescapable topic” (Guo, 2022). Dialects, ethnic languages, foreign languages and sign language Braille play an important role in different areas and levels of rural revitalization. These languages and cultural forms not only enrich the cultural connotation of rural areas, but also have a positive impact on education, communication, cultural inheritance and social inclusiveness, injecting new vitality into rural revitalization. “During the 13th Five-Year Plan period, the popularization of the standard Chinese language played an important role in maintaining national unity and ethnic unity, helping poverty alleviation, and comprehensively improving the quality of the people. On the track of developing new quality productivity, it shouldered an important mission and had unique advantages, laying a solid foundation for improving the quality and efficiency of the standard Chinese language in the new era” (Qiushi Net, 2021).

4. Real Challenges in Empowering New Quality Productive Forces with Language and Script

4.1 Insufficient Integration and Transformation of Language and Script Resources

Language resources cover extremely rich content, including various language data, language cultural heritage, language education resources and so on. However, in the actual application of the new quality productivity development process, there are significant integration and transformation difficulties.

On the one hand, a large amount of language data is in a state of discrete and unmined effectively. The language data accumulated in different regions and different industries, such as the government documents of government departments and the academic reports of scientific research institutions, are often independent and lack a unified integration platform and standard, which makes it difficult to fully release its value and cannot efficiently enable new quality productivity. A large number of scattered language data cannot provide sufficient and high-quality corpus support for artificial intelligence, big

data analysis and other technologies. Taking artificial intelligence-driven intelligent customer service system as an example, if it cannot effectively integrate language data from multiple channels and types, it will be difficult to achieve efficient service and business development, thus restricting the improvement of new quality productivity in related fields.

On the other hand, the transformation mechanism between language and production practice is still not perfect. Language and cultural heritage contains a profound source of wisdom and creativity, but how to transform it into products or services with commercial value and can promote the innovation of new quality productivity is lacking of mature models and mechanisms. In this way, it is difficult to accurately meet the needs of new quality productivity, and it is impossible to effectively transform language data and resources into actual economic benefits and production efficiency. For example, many traditional folk literature and dialect culture are faced with difficulties in the development of modern cultural and creative industries, lacking cultural products that meet the market demand and reflect the modern scientific and technological content.

4.2 Lagging Technological Innovation in Language and Script

“Scientific and technological innovation can generate new industries, new models and new driving forces, and is the core factor for developing new quality productivity” (Qiusi Net, 2024). In the current era, the integration and development of scientific and technological innovation and language can not only greatly expand its application boundary, but also give it a new technical connotation, but at the same time, the pace of scientific and technological innovation in the field of language and writing is relatively slow, and it is difficult to meet the needs of its rapid development.

At the basic research level, the research results on the cognitive mechanism of human language and the law of language acquisition have not been fully transformed into the driving force of applied technology innovation. For example, despite some progress in areas such as neurolinguistics, there is still a significant technical bottleneck on how to simulate the language processing of the human brain to develop smarter and more efficient language processing systems. The current natural language processing system mainly stays on the understanding of grammar and surface semantics, and still needs to improve the understanding of deep semantics and the elimination of ambiguity and fuzziness, which limits the advanced development of emerging industries such as artificial intelligence and future industries. From the perspective of application technology research and development, the development of new technologies and algorithms related to language and text is relatively lagging behind. In the face of large-scale and multi-modal language data, existing data processing technologies and algorithms have many shortcomings in processing speed, accuracy and resource consumption.

The ecosystem of language and writing technology innovation is not perfect enough, and the cooperation between industry, universities and research institutes is not close enough. “The deep integration of industry, university and research is an important part of deepening the reform of the science and technology system. At the macro level, it can promote the transformation of the economic

growth mode from factor driven to innovation-driven, and at the micro level, it can realize the deep integration of enterprises, universities and research institutes and other industry, university and research institutions to form innovation forces” (People's Daily Online, 2019). However, most scientific research achievements in the field of linguistics are difficult to be successfully transformed into commercial applications or industrial projects, which brings certain constraints on the promotion of new quality productivity (Feng & Lin, 2024).

In addition, the investment in language technology innovation is relatively insufficient, and it is difficult to compete with other popular science and technology fields, whether it is capital, manpower or policy support, which makes language-related science and technology innovation lack the motivation and resource guarantee for sustainable development, and it is difficult to keep up with the pace of development of new quality productivity, forming a development gap and synergy dilemma between the two.

4.3 Insufficient Coordination between the Linguistic and Textual Industry and New Quality Productive Forces

First of all, the internal structure of the language industry is unbalanced, with traditional forms of business accounting for a relatively large proportion and emerging forms of business developing relatively slowly. Traditional language industries such as publishing and printing are facing many difficulties in the process of digital transformation, while the emerging language technology service industry has huge development potential, but it is small in scale and has not yet formed a mature business model. This status quo of industrial structure makes it difficult to form effective coordination with high-end manufacturing, digital economy and other industries on which new quality productivity relies, and it is unable to give full play to the role of language industry in driving and promoting new quality productivity.

Secondly, the industrial chain coordination mechanism between the language industry and other new quality productivity-related industries is not perfect. In the process of the development of new quality productivity, the interdependence between various industries is increasing day by day, and it is necessary to form a close industrial chain coordination relationship. However, in the cooperation between the language industry and the information technology industry and high-end manufacturing industry, there are often problems of information asymmetry and unequal distribution of benefits. For example, in the intelligent automobile industry, language interaction system is a key link to improve user experience, but there are obstacles in the cooperation between language and text technology enterprises and automobile manufacturing enterprises in technical standards, data sharing, product integration and other aspects, resulting in the development and application of language interaction system lagging behind the overall development of intelligent automobile technology. It has affected its value creation and industrial expansion in the intelligent automobile industry chain.

4.4 The Cultivation of Innovative Talents in the Language Field does not Match the Talent Demands of the New Quality Productive Forces

The development of new quality productivity requires interdisciplinary talents with both professional knowledge of language and interdisciplinary technical ability. However, the current talent training system of linguistics mainly focuses on traditional professional fields such as language and literature, language education, editing and publishing. Most of the senior specialized talents in linguistics are engaged in language teaching and ontology research, and fewer people enter the language resource industry. The lack of efforts in the field of linguistics to cultivate interdisciplinary and innovative talents leads to the slow construction and inadequate utilization of language resources in the language industry (Qu, Zhang, Zhang et al., 2024). It is difficult to deliver high-quality talents to meet the development needs of the new quality productive forces, which restricts the collaborative innovation and integrated development between the two. In order to bridge the gap between talent supply and demand, deep adjustment and optimization should be carried out at the level of talent training strategy. At the same time, language education resources are not closely connected with the training of vocational skills and talents needed for new quality productivity. The language knowledge and skills taught by schools and training institutions often cannot directly meet the high-level language literacy required by innovative talents. There is also a disconnection between the talent training of language and computer, language and neuroscience, language and psychology and other interdisciplinary disciplines, which limits the promotion of language and writing to the new quality productivity in human resource development.

5. Practical Paths for Language and Writing to Empower the Development of New Quality Productive Forces

5.1 Establish a System for the Integration and Innovative Transformation of Linguistic Resources

Establish a national language and script big data center to integrate multi-source and heterogeneous language and script data from education, culture, science and technology, and media. Big data analysis, knowledge graph construction and other technical means are used to conduct in-depth mining and knowledge discovery of language and text resources, extract valuable information and innovative elements, and build a language and text knowledge base and creative database oriented to new quality productivity, which provides rich language and text resources for the innovation and development of various industries, and also provides extensive data support for the development of new quality productivity.

Meanwhile, on the basis of big data centers, we will build language innovation and transformation platforms, strengthen industry-university-research cooperation, break through the barriers of universities, enterprises and research institutes, and accelerate the transformation and application of scientific and technological achievements (Jiang & Jin, 2024). Set up special funds for language

innovation and transformation, encourage enterprises to carry out product innovation and technology research and development based on language and text, explore new business models that integrate language and text with new quality productivity, and open up the transformation channel of language and text from innovation and creativity to actual productivity improvement.

5.2 Strengthen the Technological Innovation and Integrated Application of Language and Writing

“We must adhere to the principle that science and technology are the primary productive forces, talent is the primary resource, and innovation is the primary driving force. We must thoroughly implement the strategy of rejuvenating the country through science and education, the strategy of strengthening the country through talent, and the strategy of innovation-driven development, open up new areas and new tracks for development, and constantly create new driving forces and new advantages for development,” the report said (2024). This argument is also a guideline for shaping new quality productivity. Therefore, it is necessary to constantly promote the integration and development of scientific and technological innovation and language, and strive to expand its application boundary.

First of all, it is necessary to increase investment in the research and development of natural language processing technology, set up national scientific research projects, focus on semantic understanding, emotional computing, intelligent writing and other key technical problems, organize interdisciplinary expert teams to carry out joint research, break through technical bottlenecks, and improve the intelligent level of language and word processing. Strengthen international scientific and technological cooperation and exchanges, actively introduce advanced language processing technology and ideas from foreign countries, and promote the rapid improvement of Chinese language technology.

In addition, we will promote the deep integration of languages and emerging technologies, and cultivate new business formats such as “language + artificial intelligence”, “language + big data”, and “language + virtual reality”. For example, the use of artificial intelligence technology to realize the innovation of intelligent translation, intelligent writing, intelligent customer service and other application scenarios, or the use of big data technology to carry out the analysis and mining of language and text data and precision marketing, so as to build a digital innovation ecosystem with language and text as the core, providing a strong technical driving force for the development of new quality productivity.

5.3 Promoting the Coordinated Development and Modernization of the Language and Character Industry

“We will integrate scientific and technological innovation resources, lead the development of strategic emerging industries and future industries, and accelerate the formation of new quality productivity” (People’s Daily, 2023). Specifically, to promote the digital intelligent transformation of traditional industries and build a modern industrial system, it is necessary to first formulate development plans for the language industry, actively optimize the industrial layout, guide the traditional language industry to gradually move towards the development track of digitalization and intelligence, and promote the

continuous development and expansion of the emerging language industry. Secondly, in the field of language and writing, it is urgent to strengthen the construction of industrial clusters, build language and writing industry parks and innovation bases, promote collaborative innovation and resource sharing between upstream and downstream enterprises of the industry, form a complete language and writing industry chain, and enhance the overall competitiveness of the industry and the service ability for new quality productivity.

At the same time, it is necessary to establish and improve the standardization system of the language industry, and formulate national standards and industry norms for language data formats, content quality, and technical services. Moreover, it is necessary to strengthen industry supervision and self-discipline, establish and improve the supervision mechanism of the language industry, and relevant departments should carry out regular inspection and supervision of language service enterprises and language technology research and development institutions, and strive to crack down on infringement, piracy, data abuse and other illegal acts. On the other hand, it is also necessary to promote the construction of industry associations from within, guide enterprises to strengthen self-discipline, restrict enterprise behavior through industry norms and professional ethics, create a market environment of fair competition and honest management, promote the sustainable development of the language industry, and ensure its stability and reliability in the development of enabling new quality productivity.

5.4 Cultivating an Innovative Talent Team to Empower New Quality Productive Forces through Language and Characters

First of all, we should reform the education system and strengthen the cross-integration of language and related majors. “With industrial demand as the guide, establish and improve the learning and skills training system that ADAPTS to the requirements of industrial development, cultivate a group of compound talents who master emerging technologies and understand the real industrial operation around industrial development, and form a new talent training system with deep integration of industry, university and research and complete and continuous” (Jiang & Jin, Z. W, 2024).

Secondly, we should establish an incentive mechanism for language talents and formulate preferential policies to attract high-end innovative talents in the field of language at home and abroad, such as experts and scholars with profound language research skills and outstanding achievements in the intersection of artificial intelligence and language, and management talents proficient in multiple languages and rich experience in the international language service market. These high-end talents can bring advanced concepts, technologies and management experience, drive the innovation and development of the entire language industry, and provide talent leadership for the breakthrough of new quality productivity in language-related fields.

6. Conclusion

Language plays a fundamental strategic role in the development of human society. “It is a fundamental guarantee for promoting ideological and cultural exchanges between China and foreign countries, promoting civilization innovation, a strategic resource containing security value, and an important symbol of national strength” (People’s Daily, 2023). The new quality productivity represents the frontier direction of productivity development. It takes innovation as the core driving force and has distinctive characteristics of high technology, high efficiency and high quality, which is highly consistent with the development concept of the new era. In the context of the current rapid development of science and technology, the deep integration of cutting-edge technologies such as artificial intelligence and big data with the field of language and writing has spawned a series of new technologies and new industries, bringing unprecedented opportunities for the development of new quality productivity. Language and writing play an increasingly prominent role in the development of new quality productivity, and have become an indispensable key force to promote the development of new quality productivity.

Therefore, it is necessary to further deepen the study of spoken and written languages, vigorously promote the popularization of the national standard language, so that it can play a more positive and far-reaching impact in many important fields, such as rural revitalization, industrial structure optimization and upgrading, the cultivation of emerging industries and the development of digital economy. By constantly exploring the innovative application mode of language and writing in various relevant fields, we can give full play to its potential value as an important tool, inject a steady stream of power for the sustained and steady development of new quality productivity, and help China’s economy and society continue to stride forward on the track of high-quality development and achieve greater development goals and strategic visions.

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