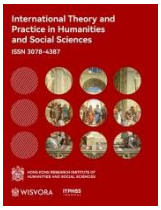
WISVORA

International Theory and Practice in Humanities and Social Sciences
2025 Volume2,Issue12 ISSN 3078-4387



The Shaping and Influence of Narrative Expression in Chinese Propaganda Poster Production from the Perspective of Printing Technology

Jiang Zhou[1*], AHMADRASHIDI HASAN[1]

[1] *City University Malaysia, Petaling Jaya, Malaysia*

Accepted

2025-12-03

Keywords

propaganda posters; Printing technology; Production techniques; Narrative expression

Corresponding Author

Jiang Zhou

https://doi.org/10.70693/itphss.v2i12.1728

Abstract

The development and innovation of printing technology have profoundly influenced the production techniques of Chinese propaganda posters, and the iterative process of these techniques has further affected the narrative expression logic and presentation effect of the posters. This article takes printing technology as the core research perspective, focusing on the entire process of Chinese propaganda posters from plate-making, printing to dissemination, and exploring the production techniques characteristics of different historical periods, such as lithography, offset printing, and screen printing. It analyzes the specific manifestations of the choice of techniques in aspects like visual symbol refinement, color presentation accuracy, picture detail expression, and coverage of dissemination range, and then reveals the deep shaping and multi-dimensional influence of these techniques on the narrative themes, narrative structure optimization, narrative emotions transmission, and realization of social mobilization functions of the propaganda posters. The research finds that printing technology, by empowering the production techniques, not only determines the accessibility and intuitiveness of the narrative expression of propaganda posters, but also affects the audience's reception and recognition of the narrative content through differences in material texture and visual impact, becoming a key technical link connecting the artistic expression of propaganda posters, the demands of the times, and social dissemination. The research of this article aims to enrich the technical dimension research on the narrative art of Chinese propaganda posters and provide historical references and theoretical support for understanding the interaction between visual communication and technological evolution.

1. Introduction

Printing technology, as the core technological support for the dissemination of human civilization, has profoundly reshaped the expression forms and dissemination logic of visual culture with each iteration. Chinese propaganda posters, as visual communication carriers that bear the will of the state, social demands, and collective memories during specific historical periods, have been deeply intertwined with the development trajectory of printing technology since their inception(Fakui, C., 2025; Suglo, I. G., 2022). From the early stone printing and woodblock printing, to the popularization of offset printing, screen printing, and contemporary digital printing, the innovation of printing technology has directly promoted the upgrading of propaganda poster production techniques(Fakui, C., 2025). The evolution of these techniques has

further influenced the presentation of narrative themes, the transmission of symbolic meanings, and the realization of social mobilization functions of propaganda posters. Since the 20th century, propaganda posters, with their intuitive, accessible, and powerful dissemination capabilities, have become important tools for ideological dissemination, social mobilization, and cultural construction in different historical stages in China(Gross, R. A., 1990).

Most existing studies focus on the narrative themes, symbolic connotations, social functions, etc. of propaganda posters in terms of cultural and historical dimensions, or analyze their aesthetic features from the perspective of art history(Groth, C., Kravitz, N. D., Jones, P. E., Graham, J. W., & Redmond, W. R., 2014). However, they rarely consider printing technology and production techniques as core variables and systematically explore how technological evolution affects narrative expression through the production process. In fact, the narrative of propaganda posters is not a pure artistic creation, but a product of the interaction among "technology, process, and expression": the accuracy of plate-making determines the clarity of narrative symbols, the color reproduction rate affects the transmission of narrative emotions, production efficiency restricts the dissemination scope of the narrative, and the technical boundaries of the process directly limit the complexity of the narrative structure(Ishengoma, F. R. & Mtaho, A. B., 2014).

The core research object of this study is Chinese propaganda posters, with a time span ranging from the early 20th century to the present day. The representative works selected focus on the three key stages: the period dominated by lithography (from the early 20th century to the 1940s), the period when offset printing and screen printing became widespread (from the 1950s to the 1990s), and the supplementary period of digital printing (after the 2000s). Through analyzing the production process characteristics corresponding to different printing technologies, the study explores their specific impacts on narrative expression. The research samples cover various themes such as industry, agriculture, national defense, and new social trends, and include both national and regional creations to ensure the comprehensiveness and typicality of the research(Suglo, I. G., 2022).

2. Literature Review

Chinese propaganda posters, as visual cultural products of a specific historical period, have been the subject of interdisciplinary research. The existing studies mainly focus on four dimensions: historical context, symbol interpretation, social function, and artistic characteristics(Fakui, C., 2025). In the research on historical context, scholars often concentrate on the connection between propaganda posters and specific historical events and social movements. Galikowski (1990) analyzed the interaction between Chinese art and politics from 1949 to 1986, and pointed out that the creation of propaganda posters was always closely tied to national policies and social movements. The selection of narrative themes needed to serve the needs of ideological dissemination(Galikowski, M. B., 1990).Cui Feng (2013) in "The History of Propaganda Pictures in New China" meticulously examined the development of propaganda pictures in different historical periods, pointing out that the "worker, peasant, and soldier" image system formed in the 1950s was the narrative carrier of the "socialist new man" in a specific historical context. Such studies often regarded propaganda pictures as "visual political texts", focusing on analyzing the constraints and guidance of historical background on the narrative theme, but paid less attention to the influence of technology and craftsmanship on the narrative expression(CUIFENG, 2013).Hung (2000) analyzed the visual symbols of New China's folk paintings and revealed how these symbols, such as "collective labor" and "national symbols", helped construct the farmers' identification with the new regime(Hung, C.-t., 2000).Chen Dan

(2019) explored the encoding and decoding logic of propaganda poster symbols from the perspectives of political context and citizens' information reception. However, the research still focused on the ideological connotations of the symbols and did not address the connection between the presentation and production techniques of the symbols. Current symbol studies mostly focus on "what the symbols are", but neglect "why they are presented in this form"(Chen, D., 2019).Welch (2013) examined the application of motifs and visual imagery in Chinese art, but neither of them linked the artistic features with printing technology or production techniques. Current art research mostly focuses on "the expression results" and neglects the core issue of "how technology and craftsmanship shape the expression form". Overall, the existing research on propaganda posters has achieved considerable results, but it has obvious limitations: Firstly, the research perspectives are mostly concentrated on historical, cultural, and artistic aspects, lacking attention to technology and craftsmanship, resulting in a research tendency of "emphasizing content but neglecting technology"; Secondly, the existing research mostly interprets propaganda posters as "texts", ignoring their attribute as "technical products"; Thirdly, some research mentions the dissemination range and effect of propaganda posters, but fails to associate them with the efficiency and cost of printing technology and other technical characteristics(Welch, P. B., 2013).

Printing technology, as the core support of visual communication, has been associated with visual culture through two main research perspectives: the perspective of technological history and the perspective of communication effects. In the study of the history of printing technology, scholars mostly focus on the evolution process and technical principles of the technology itself. Golomshtok (1990) mentioned the influence of printing technology on the dissemination scope of propaganda art when studying totalitarian art, but did not deeply analyze its role in the expression form(Galikowski, M. B., 1990).Lent & Ying (2017) briefly mentioned in "Chinese Comic Art" the influence of printing technology on the dissemination of comics, but did not form a systematic analytical framework. Domestic scholars' research on the history of printing technology mostly focuses on technological inventions and equipment innovations, such as Pan Jixing's "History of Chinese Printing" which meticulously traces the development process of Chinese printing technology, but does not cover the application impact of the technology in specific visual products, resulting in a disconnection between the technology history and the research on visual culture(Lent, J. A. & Ying, X., 2017).In his research on digital media theory, Schroeder (2018) mentioned the constraints of traditional printing technology on the dissemination of visual texts, but did not specifically analyze how the technology shaped the expression form of the texts. Most of these studies regarded printing technology as a "communication tool", focusing on its impact on the scope and efficiency of communication, while neglecting the deep shaping of the "content expression" of visual texts through the technical process(Schroeder, R., 2018).

Based on the existing research results, the current related studies have three core deficiencies: Firstly, the research on propaganda posters and the research on printing technology lack effective connection, resulting in a situation where the two are "separated".Secondly, the internal logical connection of "technology - process - narrative" has not been fully revealed. The existing research has not clearly demonstrated how the printing technology affects narrative expression through specific production processes. Thirdly, there is a lack of historical depth and empirical support. The interaction relationship between process and narrative has not been systematically analyzed based on the technological evolution stages. Based on this, the academic positioning of this study is: with "printing technology - production process - narrative expression" as the core logical chain, it builds a bridge between the history of technology and the study of propaganda posters, and fills the "technical dimension" gap in the existing research(Groth, C. et al., 2014).

By systematically reviewing the historical evolution and production techniques of Chinese propaganda posters, combined with empirical evidence from typical cases, this study reveals the multi-dimensional mechanism of the production techniques in terms of their impact on narrative expression. It constructs an "technology - process - narrative" analytical framework, providing new perspectives and paradigms for the study of propaganda posters and visual communication.

3. The evolution of printing technology for Chinese propaganda posters

3. 1 The early period when stone printing and woodcut printing technologies were dominant

From the early 20th century to the 1940s, Chinese society was undergoing a period of intense transformation. The industrial foundation was weak, and printing technology was mainly based on traditional manual printing. Lithography and woodblock printing became the core technologies for the production of propaganda posters(Pang, L., 2005). After lithography was introduced to China in the 19th century, it gradually replaced block printing due to its relatively simple plate-making process and lower costs, becoming the main printing method for modern propaganda posters. Woodblock printing, as a continuation of traditional Chinese printing techniques, was widely used in the production of folk propaganda posters and revolutionary base area propaganda posters. Especially during the periods of the Anti-Japanese War and the Liberation War, woodblock printing, due to its low equipment requirements and ease of production and dissemination in the field of war, became an important technical choice for revolutionary propaganda(Ishengoma, F. R. & Mtaho, A. B., 2014).

During this period, printing technology was mainly based on manual operations. The core principle of lithography was to utilize the repulsion between oil and water. Patterns were drawn by hand onto a stone plate, then ink was applied, paper was placed on top, and pressure was applied to complete the printing process. Woodblock printing involved manually engraving patterns on wooden boards and using single-color or simple color combination to complete the printing. Due to the limitations of industrial level, the printing equipment at that time was mostly small manual printing machines. In some remote areas, even pure manual rubbing printing methods were used, resulting in lower technical precision and production efficiency(Goodman, D. S., 1989).

In terms of the printing plate production process, both lithography and woodblock printing mainly rely on manual plate production. The process is highly complex and the precision is limited. For lithography, the pattern needs to be hand-drawn on the stone plate, and then undergoes processes such as etching and gluing to fix the pattern(Reed, C. A., 1994). The accuracy of the hand-drawn pattern directly affects the clarity of the pattern. The line depiction is difficult to achieve smooth transitions, and the production of complex patterns is extremely challenging. For woodblock printing, the artist needs to manually carve the pattern on the wood board. The lines are mostly simple forms such as straight lines and zigzags, and the depiction of curves and details is greatly limited by the technology, resulting in the patterns presenting a "rough and simple" characteristic(Hauser, A., 1951).

In terms of material selection, due to technical and economic constraints, the paper used is mostly rough-textured and highly absorbent types such as rag paper and kraft paper, with small paper sizes and inconsistent specifications; the pigments are mainly natural mineral pigments and plant pigments, with limited color varieties, mostly basic colors like red, yellow, blue, and black, and the adhesion of the pigments is weak, making them prone to fading and smudging, and difficult to achieve complex color combinations and color reproduction.

In terms of the printing process, lithography and woodblock printing both mainly adopt single-color printing or simple multi-color printing. The number of color combinations is usually 2-3, and the printing accuracy is relatively low, which often leads to color misalignment and overlapping problems. The printing efficiency is extremely low. With manual operation, the time taken for printing each sheet is long, and the batch production capacity is weak. The number of printed copies of a promotional poster is mostly several hundred, making it difficult to achieve large-scale dissemination. The post-processing is simple, mostly involving manual cutting. The edges of the paper are rough, and some works even have no post-processing cutting process, and are directly spread using the entire sheet of paper.

3.2 The period of widespread application of offset printing and screen printing technologies

After the founding of the People's Republic of China, the country vigorously developed industry, and printing technology experienced a period of rapid development. Offset printing and screen printing gradually replaced lithographic printing and woodblock printing, becoming the mainstream technology for creating propaganda posters. After the 1950s, China introduced offset printing equipment and technology from the Soviet Union, while also independently developing printing machinery. Offset printing technology, due to its high plate-making accuracy, fast printing speed, and good color reproduction, was widely used in the production of national-level propaganda posters, New Year paintings, and other visual products. Screen printing technology gradually became popular after the 1960s. Its simple equipment, convenient operation, and strong color adhesion made it occupy an important position in the production of outdoor propaganda posters and large-format propaganda posters. Especially in themes such as industrial mobilization and national defense propaganda, the high visual impact advantage of screen printing was fully exerted(Herman Edward, S. & Noam, C., 1988).

During this period, printing technology underwent a transition from manual operation to mechanization. Offset printing equipment evolved from the early single-color offset presses to multi-color offset presses, significantly improving the accuracy of registration and printing efficiency(Gross, R. A., 1990). Screen printing equipment also shifted from manual screen printing to semi-automatic screen printing machines, reducing the operational difficulty and enhancing the batch production capacity. The mechanization of printing technology provided technical support for the large-scale production and nationwide dissemination of propaganda posters(Andrews, J., 2012).

In terms of the printing process, offset printing uses mechanical plate-making technology. The process involves scanning, color separation, and plate exposure to complete the plate-making. The accuracy of the patterns has significantly improved, enabling detailed line depictions and complex pattern presentations. Facial expressions and scene details can be accurately reproduced. For screen printing, the plate-making technology uses photosensitive plate-making technology. The screen plates are made through film exposure and development processes. The clarity and stability of the patterns have been significantly enhanced, enabling adaptation to large-format and multi-color printing requirements. The mechanization and standardization of the plate-making process have reduced errors in manual operations and improved the consistency of promotional posters with the same theme(Ishengoma, F. R. & Mtaho, A. B., 2014).

In terms of material selection, the quality of paper has significantly improved. Special printing papers such as coated paper and offset paper have been introduced. The paper has a fine texture, uniform ink absorption, and consistent specifications, which can better display the details of colors and patterns. The pigments have been upgraded to chemical synthetic pigments, offering a wide range of colors, including red, yellow, blue, green, and purple. The pigments have strong

adhesion and are not prone to fading, enabling delicate transitions and high saturation in multi-color offset printing. Some high-end promotional posters also use special materials such as fluorescent pigments and metallic pigments to enhance the visual impact(Pang, L., 2005).

In terms of the printing process, offset printing has achieved the automation and precision of multi-color registration, with the number of registration colors reaching 4-6. It can reproduce complex color systems, significantly improving printing efficiency, shortening the printing time per sheet, and significantly enhancing the batch production capacity(Reed, C. A., 1994). The printing quantity of a single poster can reach thousands or even tens of thousands. Screen printing, through multi-printing of different plates, realizes rich color combinations. The thickness of the ink can be flexibly adjusted, forming a strong color gradation and visual impact. It is suitable for outdoor posting and long-distance viewing. The post-processing techniques have also become more complete, including coating, gold stamping, and die-cutting, which enhance the durability and aesthetics of the posters. For outdoor posters, coating treatment is used to enhance waterproof and sun protection capabilities, extending the dissemination life cycle(Reed, C. A., 1994).

3.3 The period of supplementary development of digital printing technology that began in 2000.

Since the 21st century, digital technology has developed rapidly, and digital printing technology has gradually become an important supplement to traditional printing technology, being applied in the field of poster production(Suglo, I. G., 2022). Digital printing technology is centered around a computer, and it directly drives printing equipment through digital files to complete the printing process, without the need for traditional plate-making procedures. It has the advantages of personalized customization, short-run fast printing, and high color reproduction accuracy. During this period, offset printing and screen printing remained the mainstream technologies for large-scale poster production, but digital printing, due to its flexibility, has been widely used in niche theme posters, personalized posters, and exhibition posters, forming a "traditional printing as the mainstay, digital printing as the supplement" technical pattern.(Hung, C.-t., 2000).

Digital printing equipment is constantly being upgraded, evolving from early inkjet printers and laser printers to professional digital printing machines. The printing speed, accuracy, and color reproduction have been continuously improved, enabling photo-like printing effects. At the same time, digital printing is combined with Internet technology, realizing the "online design, offline printing" model for promotional poster production, which further enhances production efficiency and flexibility.

In terms of the printing process, digital printing completely eliminates the traditional plate-making procedures. It directly generates digital files through computer design, and the printing equipment precisely presents patterns and colors based on the digital files, achieving "immediate modification and printing", significantly shortening the production cycle. It is particularly suitable for the production of small-batch and personalized promotional posters. The replicability and modifiability of the digital files make it easier to iterate the versions of the promotional posters, enabling them to quickly adapt to different scenarios and the needs of different audiences. For example, for different scenarios such as schools, communities, and enterprises, the narrative theme can be fine-tuned and adapted by modifying the digital files.

The digital printing technology serves as a supplement, meeting the diversified, personalized and precise communication needs of contemporary propaganda pictures. On one hand, with the development of society, the functions of propaganda pictures have expanded from the simple dissemination of ideology and social mobilization to cultural dissemination, public welfare promotion, theme exhibitions, etc. The personalized customization capabilities of digital printing

can meet the niche and precise narrative needs of different scenarios. For example, community public welfare propaganda pictures can be designed with exclusive themes based on residents' needs, and exhibition propaganda pictures can achieve a high degree of adaptation to the exhibition theme. On the other hand, the high precision and high color reproduction of digital printing make the narrative expression of propaganda pictures more delicate and diverse, enabling them to carry more complex narrative themes such as "New Era Workers", "Ecological Civilization Construction", and "Cultural Confidence". Through detailed depictions and diverse colors, they can convey rich narrative emotions. At the same time, the combination of digital printing and the Internet expands the dissemination channels of propaganda pictures, extending from traditional offline posting to a combination of online dissemination and precise offline placement, achieving both "breadth and precision" in narrative dissemination, and adapting to the diversified pattern of contemporary visual communication.

4. The multi-dimensional functional mechanism of production techniques in the narrative expression of propaganda posters

4.1 The visual production techniques' influence on the shaping of narrative symbols and color expressions

The production process serves as the core connecting medium between printing technology and the narrative expression of propaganda posters(Hutchinson, J., 1999). Through the entire process of visual presentation, it deeply shapes the realization path and expression effect of the narrative from multiple dimensions such as symbol encoding, emotional transmission, structural construction, and dissemination coverage. At the level of visual symbol presentation, the precision of the process directly determines the recognition degree and efficiency of meaning transmission of the narrative symbols: The manual plate-making techniques of early lithography and woodcut printing were limited by the accuracy of line depiction. Character symbols often adopted simplified processing such as contouring and typicalization, such as the wrench of the worker and the sickle of the farmer, whose core identifiers were enlarged and highlighted. By reducing redundant details, it achieved rapid cognition. This process constraint instead strengthened the symbolic nature and memory points of the symbols; after the popularization of offset printing and screen printing technologies, the accuracy of mechanical plate-making improved, making the depiction of characters' expressions and scene details more delicate. Symbol encoding expanded from "single identification" to "multiple associations". For example, in industrial-themed propaganda posters, the smoke layers of the factory chimney and the texture details of gears were depicted more delicately. Through process upgrades, the concrete expression of the narrative theme of "industrial achievements" was realized, making the meaning carried by the symbols richer and more persuasive(Jowett, G. S. & O'donnell, V., 2018).

Color, as the core carrier of narrative emotions, its presentation effect is entirely dependent on the technical level of printing processes: during the lithography era, the adhesion of pigments was relatively weak and the color variety was limited(Kampen, T., 2000). Propaganda posters mostly used basic colors with high saturation such as red and yellow, and through strong color contrasts, they conveyed distinct emotions such as revolutionary enthusiasm and harvest joy, forming a narrative logic of "color represents attitude". With the development of offset printing and screen printing technologies, the limitations of color quantity and reproduction accuracy were broken through. Not only could multi-color registration printing achieve delicate transitions, but also the ink thickness could be adjusted to enhance the visual impact of colors. For example, in

propaganda posters of military themes, the stability of green military uniforms, the brightness of red flags, and the vastness of the blue sky form a harmonious and tense color system, which not only restores the authenticity of the scene but also deepens the narrative connotation of "defending peace" through the emotional mapping of colors. Moreover, the guarantee of color uniformity provided by mass printing processes enables the same theme propaganda posters to maintain consistency in narrative emotions when disseminated in different regions, avoiding meaning deviations(King, D., 2009).

4.2 The production process empowers the narrative logic and coverage scope.

In terms of narrative structure construction, the technical characteristics and limitations of production techniques directly influence the composition logic and information organization method of the images: In the early manual printing process, the plate-making was difficult and the production efficiency was low. Propaganda posters often adopted a linear structure of "single scene + core theme". The image elements were highly condensed. For example, during the land reform period, propaganda posters mostly focused on a single scene of "farmers receiving land distribution", reducing the difficulty of the production process through simplified composition, while making the narrative logic clearer, facilitating the quick understanding of audiences with lower cultural levels. With the advancement of printing technology, the efficiency of mechanical plate-making and batch printing enabled propaganda posters to carry more complex narrative structures, such as the "problem - action - result" three-part composition, and the "old and new societies" contrastive composition. Through multi-scene splicing and precise matching of text and images, the richness of narrative levels was achieved. Moreover, the optimization of layout techniques further strengthened the logic of the narrative, for instance, placing the core characters in the visual center of the image and using text slogans to guide the flow of visual attention, allowing the audience to follow the preset narrative sequence when receiving visual information, thereby enhancing the persuasiveness of the narrative(Knopf, J. W., 2006).

Furthermore, the improvement in production efficiency and the reduction in costs have directly expanded the coverage of the narrative dissemination of the posters(Kothari, C. R., 2004). From the small-scale printing and regional dissemination of the early lithographic technology, to the large-scale production and nationwide popularization of screen printing and offset printing technologies, the upgrading of the production process has enabled the narrative of the posters to break through geographical and demographic limitations and penetrate various scenarios such as urban factories, rural fields, and school classrooms. Moreover, the enhancement of process adaptability (such as the use of wear-resistant paper and waterproof treatment for outdoor posting) has extended the dissemination life cycle of the posters, allowing the narrative content to continuously exert its influence, ultimately achieving a complete closed loop of "technology empowerment - process upgrading - narrative implementation - widespread dissemination".

5.The printing process affects the connection of narrative expression.

5.1 The process characteristics and narrative presentation of typical cases at different technological stages

To visually demonstrate the shaping effect of printing techniques on the narrative expression of propaganda posters, this chapter selects typical propaganda poster works during the dominant periods of different printing technologies(Kralik, D., Visentin, K., & Van Loon, A., 2006). Through case analysis, it reveals the intrinsic connection between the technological characteristics and the narrative effects. The case selection is based on the core principles of "technological representativeness" and "narrative typicality", covering three key stages: the

dominance period of lithography technology, the popularization period of screen printing technology, and the supplementary period of digital printing. This ensures the historical depth and logical integrity of the research. The representative work of the lithography technology dominance period is "Labor Creates Happiness" from the 1930s. This work was born in the technical background of manual plate-making and lithographic printing. The core feature of its production process is: manual engraving results in rough lines and simplified details, the pigments are mainly mineral pigments, the color variety is limited and the saturation is high, the batch production capacity is weak, and it is mainly regionally disseminated. Corresponding to the narrative expression, it presents a distinct "technological adaptation": the picture focuses on a single scene of "workers smelting steel, farmers farming", the characters' identities are only identified through core symbols such as work clothes and farm tools, the facial expressions and body movements are highly simplified, but the colors in red and yellow are used to convey an optimistic and positive emotion; the narrative structure adopts a direct connection of "labor scene - happiness result", without complex plot preparation, this simplified narrative method not only adapts to the technical limitations of lithography but also conforms to the cultural cognitive level of the audience at that time, enabling the core narrative theme of "labor creates happiness" to be quickly and directly conveyed to the grassroots people, achieving efficient narrative under limited technological conditions(Kvale, S., 1996).

A typical case of the popularization period of screen printing technology is "Industrial Learning Daqing" in the 1960s. At that time, screen printing technology had become the mainstream for creating propaganda posters. Its advantages in the process lay in high production efficiency for large quantities, strong color reproduction, good ink adhesion, and the ability to adapt to various dissemination scenarios such as outdoor posting. The narrative expression of this work fully demonstrates the technical empowerment of screen printing technology: The picture adopts a "multi-scene juxtaposition" composition structure, integrating multiple scenes such as "oilfield extraction, mechanical operation, and workers' struggle" into one. Through delicate line depictions and rich color layers, it concretely presents the production scenes of Daqing Oilfield. The character images are no longer simply symbolic representations but are shaped through details such as sweat drops on the face and determined eyes, creating a three-dimensional image of the "Iron Man Spirit". In terms of color, red (flags, work uniforms), blue (machinery, sky), and black (oilfield, coal) are the main colors. Through the unique ink thickness control of screen printing, the colors have greater visual impact, strengthening the narrative sentiment of "hardship and struggle, self-reliance". The mass printing process enables this work to be widely disseminated nationwide, from industrial cities to remote rural areas. The same narrative theme forms a powerful public opinion atmosphere through unified visual presentation, maximizing the narrative's social mobilization function(McDougall, B. S., 2020).

Selection of cases for the supplementary period of digital printing: The work "New Era Workers" produced after the 2000s. The high precision, high flexibility and personalized customization capabilities of digital printing technology have completely transformed the production logic of propaganda posters. The narrative expression of this work presents distinct characteristics from traditional techniques: The accuracy of digital plate-making enables the portrayal of characters to reach a level comparable to that of photographs. The occupational features of the workers (such as the laboratory coats of researchers, the helmets of delivery riders, and the podiums of teachers) are highlighted through the precise restoration of detailed textures. The symbol encoding shifts from "typification" to "concreteness"(Moore, C., 2010). In terms of color, the multi-color offset printing technology of digital printing realizes natural color transitions and fine gradations, with the picture tones being soft yet not lacking in tension,

conveying diverse narrative emotions of "respecting labor and advocating striving", rather than the intense emotional impact of traditional propaganda posters. In terms of narrative structure, the work adopts a "group portrait composition", placing workers from different industries in the same frame. Through digital synthesis technology, the scene is harmoniously unified. The narrative theme shifts from a single policy promotion to the attention paid to the individual value of workers. This narrative transformation is precisely the embodiment of the adaptation of propaganda poster narratives to the demands of the new era under the support of digital printing technology(Neale, S., 2019).

5.2 The evolution of printing techniques and the transformation logic of narrative expression

By comparing and analyzing the cases of three stages, it can be observed that the narrative expression of the propaganda posters presents a clear "evolution trajectory of techniques": the presentation of symbols shifted from the "outline-based, single-element" style of the stone printing period, to the "detailed, interrelated" style of the screen printing period, and finally to the "figurative, diversified" style of the digital printing period. The improvement in technical precision has continuously enriched the meanings carried by the symbols; the emotional transmission evolved from the "strong stimulation, single element" in the early stage, to the "high impact, large-scale" in the middle stage, and finally to the "delicate, personalized" in the later stage. The upgrading of color and detail presentation capabilities made the narrative emotions more in line with the demands of the times; the communication effect changed from the "regional coverage, limited influence" of the stone printing period, to the "national popularization, extensive mobilization" of the screen printing period, and finally to the "precise reach, diversified dissemination" of the digital printing period. The improvement in process efficiency and adaptability enabled the social function of the narrative to be continuously expanded. Behind these differences lies the fact that printing technology serves as a technical link, connecting the demands of the era, artistic expression, and audience needs. Its evolution process and the transformation of the narrative expression of propaganda posters form a deep interdependent relationship, and also confirm the core logic that "technology determines the boundaries of expression, and expression drives technological innovation"(Nicholas, D. et al., 2017).

6. Conclusion

This research adopts the core logical chain of "printing technology - production process - narrative expression" to systematically explore the historical evolution and production process characteristics of Chinese propaganda posters, deeply analyze the multi-dimensional mechanism of the production process on narrative expression, and through empirical examination of typical cases, investigate the interactive relationship between printing technology and narrative expression.

In contemporary thematic visual design and cultural dissemination practices, the historical experience of this study holds significant reference value: Firstly, in terms of technology selection and process adaptation, contemporary public welfare posters, policy publicity visuals, and thematic exhibition designs should choose appropriate printing technologies and production processes based on the narrative theme, communication scenarios, and characteristics of the audience. For instance, large-scale public welfare publicity can adopt offset printing and screen printing technologies to ensure efficiency and coverage, while small-scale thematic exhibitions can utilize digital printing to achieve personalized and precise expression. Secondly, in terms of symbol and color application, one can draw on the experience of "process-adapted symbols" in

propaganda paintings and "colors carrying emotions" to reduce the cognitive cost of the audience through precise symbol encoding and color matching. At the same time, by combining contemporary aesthetics and cultural context, one can avoid symbol rigidity and achieve the contemporary translation of traditional experience. Thirdly, in terms of cultural heritage protection and activation, for different types of publicity painting heritage, differentiated protection strategies should be adopted. For example, lithographic and woodcut publicity paintings need to focus on paper restoration and pigment fixation, while in the digital era, digital printing technology can be used to replicate and innovate the dissemination of publicity paintings, allowing historical narratives to regain new vitality in the contemporary era.

References

Andrews, JF. (2012). Kuiyi Shen. The Art of Modern China.

Chen, Dan. (2019). Political context and citizen information: Propaganda effects in China. *International Journal of Public Opinion Research, 31*(3), 463–484.

CUIFENG. (2013). On the organization and planning of the translation activities in the People's Republic of China in the early 1950s: using" The First National Conference of Translation" as an example. In: Fudan University Press.

Fakui, CHEN. (2025). In Memory of LIU Puqing, the Founder of Modern Printing Science and Technology in China. *Publishing & Printing*(4), 90–101.

Galikowski, Maria B. (1990). *Art and politics in China, 1949-1986.* University of Leeds,

Goodman, David SG. (1989). Political change in China–power, policy and process. *British Journal of Political Science, 19*(3), 425–443.

Gross, Robert A. (1990). *Printing, politics, and the people.* Paper presented at the Proceedings of the American Antiquarian Society.

Groth, CHRISTIAN, Kravitz, Neal D, Jones, Perry E, Graham, John W, & Redmond, W Ronald. (2014). Three-dimensional printing technology. *J Clin Orthod, 48*(8), 475–485.

Hauser, Arnold. (1951). *The Social History of Art Volume Four*.

Herman Edward, S, & Noam, Chomsky. (1988). Manufacturing consent: The political economy of the mass media. *Pantheon. NY*.

Hung, Chang-tai. (2000). Repainting China: New Year prints (nianhua) and peasant resistance in the early years of the People's Republic. *Comparative studies in society and history, 42*(4), 770–810.

Hutchinson, John. (1999). Re-interpreting cultural nationalism. *Australian Journal of Politics & History, 45*(3), 392–409.

Ishengoma, Fredrick R, & Mtaho, Adam B. (2014). 3D printing: developing countries perspectives. *arXiv preprint arXiv:1410.5349*.

Jowett, Garth S, & O'donnell, Victoria. (2018). *Propaganda & persuasion*: Sage publications.

Kampen, Thomas. (2000). *Mao Zedong, Zhou Enlai and the evolution of the Chinese communist leadership*: NIAS Press.

King, David. (2009). Red star over Russia: a visual history of the Soviet Union from the revolution to the death of Stalin: posters, photographs and graphics from the David King Collection. *(No Title)*.

Knopf, Jeffrey W. (2006). Doing a literature review. *PS: Political Science & Politics, 39*(1), 127–132.

Kothari, Chakravanti Rajagopalachari. (2004). *Research methodology: Methods and techniques*: New Age International.

Kralik, Debbie, Visentin, Kate, & Van Loon, Antonia. (2006). Transition: a literature review. *Journal of advanced nursing, 55*(3), 320–329.

Kvale, Steinar. (1996). *InterViews: an introduction to qualitive research interviewing*: Sage.

Lent, John A, & Ying, Xu. (2017). Comics art in China.

McDougall, Bonnie S. (2020). *Mao Zedong's "Talks at the Yan'an Conference on Literature and Art": A translation of the 1943 text with commentary*: University of Michigan Press.

Moore, Colin. (2010). *Propaganda prints: A history of art in the service of social and political change*: A&C Black.

Neale, Stephen. (2019). Coloring and composition. In *Philosophy and linguistics* (pp. 35–82): Routledge.

Nicholas, David, Boukacem-Zeghmouri, Cherifa, Rodríguez-Bravo, Blanca, Xu, Jie, Watkinson, Anthony, Abrizah, Abdullah, Herman, Eti, & Świgoń, Marzena. (2017). Where and how early career researchers find scholarly information. *Learned Publishing, 30*(1), 19–29.

Pang, Laikwan. (2005). The pictorial turn: realism, modernity and China's print culture in the late nineteenth century. *Visual Studies, 20*(1), 16–36.

Reed, Christopher A. (1994). Sooty Sons of Vulcan: Shanghai's Printing Machine Manufacturers, 1895-1932. *Republican China, 20*(2), 9–54.

Schroeder, Ralph. (2018). Towards a theory of digital media. *Information, Communication & Society, 21*(3), 323–339.

Suglo, Ignatius GD. (2022). Visualizing Africa in Chinese propaganda posters 1950–1980. *Journal of Asian and African Studies, 57*(3), 574–591.

Welch, Patricia Bjaaland. (2013). *Chinese art: A guide to motifs and visual imagery*: Tuttle Publishing.