International Journal for Housing Science and Its Applications
Publish August 6, 2025. Volume 46, Issue 3 Pages 5765-5773

https://doi.org/10.70517/ijhsa463496

An In-depth Analysis of Revolutionary Visual Symbolic Expressions in Chinese Red Cartoons Combined with Image Enhancement Techniques

Sisi Qiu[1,*]
[1] Jilin Animation Institute, Changchun, Jilin, 130000, China
Corresponding authors: (e-mail: qiusisi0987sisi@sina.com).

Abstract As an important carrier of revolutionary cultural heritage, Chinese red cartoons have profound political value and practical significance. This study focuses on the application of image enhancement technology to deeply analyze the expression of revolutionary visual symbols in Chinese red cartoons. Based on the theory of the human eye visual system, an image enhancement model containing the characteristics of gray scale distribution, luminance sensitivity and contrast sensitivity is constructed, and an image enhancement method based on visual perception characteristics is designed. The experimental results show that when the color information of the 181°-360° region of the H channel is used as the weight map to improve the image brightness, the AG value can be up to 3.69, which is significantly higher than that of other regions; when the value of the weight value of the S channel is taken in the range of 40-60%, the EME index can be up to 51.66, and the overall quality of the image is improved significantly. By comparing multiple enhancement algorithms, the method proposed in this paper achieves better results in low-light cartoon image processing. The research results not only contribute to the inheritance of the spirit of red culture, but also provide technical support for the emotional design of red visual symbols and promote the improvement of the visual expression of red cartoons.

Index Terms red cartoon, revolutionary visual symbols, image enhancement, human eye visual system, emotional design, cultural inheritance

I. Introduction

Injecting red culture helps adolescents to perceive the world correctly and positively through reading [1]. Since the establishment of new China until the early 1990s, comic strips were a kind of main reading material for young people, during which a large number of classic works emerged, such as Red Sun, Red Maiden Scout, Song of Spring, Armed Forces Behind the Enemy Lines, Mine Warfare and Tunnel Warfare, etc., which nourished young people's minds at that time [2]-[5]. After that, due to the impact brought by comics, this art form of comic strips gradually withdrew from the main position of publication and dissemination, but comics did not take up the task of disseminating red culture in time, especially in the 1990s and 2000s when the paper media were mainly used, there was almost no red-themed comics with strong social influence [6], [7]. In recent years, with the vigorous development of China's economy, science and technology, and culture, as well as the great importance attached by the government authorities and all walks of life, a large number of cartoon works based on red culture have begun to appear.

Red cartoon is one of the important carriers of Chinese civilization inheritance, with important political value and practical significance [8]. In recent years, various departments around the world have solidly carried out the protection of red tourism routes and old revolutionary areas, so that red tourism has been greatly developed [9]. At the same time, the rise of red cartoons on the Internet goes hand in hand with red tourism. The organic combination of new era red tourism and red comics has promoted the innovative development of red tourism [10], [11]. Red cartoon is a new era of artistic expression, which makes the ancient art of cartoon revitalized with the help of digital technology, so as to promote the organic integration of cartoon and mass work, and to promote the benign development of propaganda in the new era [12].

Injecting red culture helps adolescents perceive the world correctly through reading. Since the establishment of New China until the early 1990s, comic strips were the main reading materials for young people, and classic works such as Red Sun and Red Detachment of Women emerged, which fully nourished young people's minds. With the impact of comics, the comic strips gradually withdrew from the main position of publication and dissemination, while the comics failed to take up the task of disseminating the red culture in a timely manner, especially in the 1990s and

2000s, when there was almost no red-themed comics with strong social influence. Until recent years, with the vigorous development of China's economy, science and technology, and culture, coupled with the great importance attached by the government departments and all walks of life, a large number of comics with the theme of red culture have begun to appear. Red comics are one of the important carriers of the inheritance of Chinese civilization, and have important political value and practical significance. In recent years, red tourism has been greatly developed by solidly carrying out the protection work of red tourism routes and old revolutionary areas in various places, and the red comics emerging from the Internet have also been born with it. However, how to improve the expression effect of revolutionary visual symbols in red comics still needs in-depth research. Based on the theory of human eye visual system, this study explores the visual characteristics of image such as gray scale distribution, brightness sensitivity, contrast sensitivity, etc., and constructs an image enhancement method based on visual perception. By enhancing the visual symbols of revolution in the red cartoons, we can not only improve its visual expression, but also deepen its emotional transmission effect, so as to provide technical support and methodological guidance for the inheritance and innovative development of red culture.

II. Method

II. A. Theory of the human eye visual system

The retina, as the final receiving and transmitting organ of external light signals, determines the perceptual characteristics of the visual mechanism of the human eye, and its photoreceptor ability mainly originates from photoreceptor cells. Among them, the optic cone cells are located in the central concave area of the retina, with sharp light-sensing and color-changing abilities, and can recognize image detail texture and color when stimulated by light in bright environments, forming bright vision [13]. Optic rod cells are located in the peripheral region of the retina, with low photoreceptor thresholds, and are more sensitive in dark light environments, forming dark vision.

The human visual system (HVS) has a powerful information processing capability and is a more complex information data processing system. Its perception process of images is similar to the signal processing process, which mainly includes: the human eye optical system, retina, and visual pathway [14]. The composition of the visual system of the human eye is shown in Figure 1, and the visual processing mechanism is roughly summarized as follows: a person receives an image stimulus, collects light signals, and forms an image in the retina, and the nerve cells receive the stimulation of light signals, convert them into bioelectrical signals, which arrive at the visual center through the transmitting cells, process the information, and obtain the subjectively perceived image.

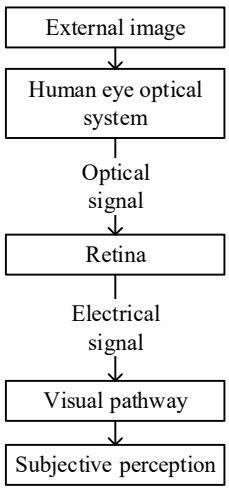

Figure 1: Composition of the human visual system

II. B. Visual properties of the human eye

II. B. 1) Characteristics of gray scale distribution

Gray scale resolution characteristics reflect the human eye's ability to discriminate between different gray scale ranges. When the gray scale is in the lower or higher situation, the human eye is more difficult to discriminate the difference between gray scales and has poorer discriminatory ability; when the gray scale is in the middle situation, the human eye has better ability to discriminate the difference between gray scales. According to the visual gray scale discrimination ability, it is concluded that when the gray scale difference within a certain region of the image is larger, it is easier to attract visual attention.

II. B. 2) Luminance-sensitive properties

For different brightness, the sensitivity of the human eye is not the same, in the brightness change is more gentle in the image area, the human eye is more sensitive to the brightness. For example, when a dark environment suddenly goes to a bright environment, the human eye perceives the brightness to be brighter than it actually is; when a bright environment suddenly goes to a dark environment, the human eye perceives the brightness to be darker than it actually is. The functional relationship between the human eye's subjective perception and luminance conforms to Weber-Fechner's law, which is expressed in the form:

$$\Delta S = K\frac{\Delta L}{L} \tag{1}$$

where, ΔS denotes the luminance gain perceived by the human eye; K denotes the average image luminance, which is a constant; ΔL denotes the actual luminance gain; and L denotes the objective luminance. Integrating both sides of the equation is expressed as:

$$S = K\ Log\ L + K_0 = K' Ln\ L + K_0 \tag{2}$$

where, S denotes the subjective brightness perception; K', K_0 are constants. It is concluded that the subjective perceived luminance of the human eye is logarithmically related to the objective perceived luminance. For luminance gratings, Michelson contrast is used to define the equation:

$$C_L = \frac{L_{\max} - L_{\min}}{L_{\max} + L_{\min}} \tag{3}$$

where, $L_{\max}$ and $L_{\min}$ denote the maximum and minimum values of the image brightness, respectively.

II. B. 3) Contrast Sensitivity Characterization

From the biological point of view research and analysis, the brightness, color, and frequency of the image will affect the contrast sensitivity of the human eye. Studies for spatial frequency have shown that the human eye has the characteristics of a band-pass system with limited discriminative ability. It was found that at different spatial frequencies, the contrast sensitivity function was used to express the degree of correlation between sensitivity and frequency of the human eye.The CSF is a band-pass function whose independent variable is the spatial frequency and the dependent variable is the visual sensitivity, and its expression form is:

$$CSF = a \cdot f \cdot \exp(-b \cdot f)\sqrt{1 + c \cdot \exp(b \cdot f)} \tag{4}$$

where, $a = 440 \times (1 + 0.7 / L)^{-0.2}, b = 0.3 \times (1 + 100 / L)^{0.15}, c = 0.06$, L is the objective brightness in cd/m², the spatial frequency $f = \sqrt{f_r^2 + f_v^2}$ in cycles/degree, and f_x, f_y indicates the horizontal and vertical directions of the frequency, respectively.

II. B. 4) Visual salience

Visual saliency, as one of the important characteristics of visual characteristics, is applied in the field of image processing, which can better optimize the performance of algorithms and has a profound impact on the development of science and technology. In image processing, the effective use of visual attention mechanism can select the salient region in the more complex environment, and prioritize the algorithm processing, which improves the processing efficiency of the algorithm well.

II. B. 5) Visual masking effects

The masking effect of vision means that when an excitation signal exists, feeding a new excitation signal into the channel again will result in a decrease in the visual system's ability to perceive the original excitation signal. In the visual system of the human eye, external stimuli are generally multiple signals at the same time, and the visual masking effect often appears in the observation and processing of images. Visual masking effect belongs to a kind of local effect, which can be affected by external influences, such as: light, frequency, noise, etc.. In the current research is usually divided into: edge masking properties, texture masking properties.

II. C. Comic Image Enhancement for Combining Visual and Perceptual Properties of the Human Eye

II. C. 1) Histogram of image information

Image histogram is a commonly used tool in various processing algorithms for images. Although the image histogram cannot directly characterize the information of the image, it can react to the image features. However, the histogram does not take into account the relationship between the information weights of different spatial locations in the image. From the above, it can be seen that the human eye has a filtering function for all the information in an image, and will prioritize the information that the brain considers important. Thus, when performing image processing, the information processing of important parts should also be enhanced. In this paper, the histogram of image information based on the visual attention mechanism of the human eye is constructed as follows:

1) Construct a saliency detection model based on the visual attention mechanism, and use this model to obtain the global saliency map of the image;

2) Normalize the data of the global saliency map to obtain the weight coefficient $E(i,j)$ of each pixel;

3) Using the weight coefficient $E(i,j)$ to weight the number of pixels with gray level a of the image to be enhanced, the formula is as follows:

$$T(a)=\sum_{x}\sum_{y}E(i,j) \tag{5}$$

where, x,y denotes the coordinates of the pixel whose gray level is a; $T(a)$ denotes the statistics of the pixel whose gray level is a in the image to be enhanced. The height of the gray level indicates the size of the information represented by that gray level, so the information histogram can be expressed as:

$$T=\sum_{r=0}^{255}T(a) \tag{6}$$

II. C. 2) Image enhancement methods based on visual perceptual properties

High-contrast product images usually enhance the visual effect of the product, which in turn is related to the gray level of the image. There are certain limitations in the ability of the human eye to perceive the gray-scale deviation of an image, and the human eye can recognize the change only when the gray-scale difference between the pixels of an image reaches a certain value. This value is known as the critical visible deviation, and when the pixel gray difference of an image is below the critical visible deviation, the change will not be perceived by the human, and thus the pixel can be compressed instead.

The human eye perceives changes in luminance differently in environments with different luminance levels. The human eye perceives luminance deviation much better in high luminance background environments than in low luminance background environments [15]. The expression for the relationship between the luminance deviation discrimination threshold of the human eye and the background luminance, is as follows:

$$Q(x,y)=21\left(1-\sqrt{\frac{A(x,y)}{127}}\right)+4, A(x,y)\le 127 \tag{7}$$

$$Q(x,y)=\frac{3}{128}A(x,y)+1, A(x,y)>127 \tag{8}$$

where, $Q(x,y)$ denotes the human eye's resolution threshold for luminance deviation; $A(x,y)$ denotes the background luminance of each coordinate in the image. When the background luminance is 127, the human eye has the best ability to discriminate the luminance deviation, at which time the gray level difference value is 4; when the background luminance is far away from 127, the human eye's ability to discriminate the luminance deviation gradually becomes weaker. It can be seen that the perceptual characteristics of the human eye need to be considered when applying image histograms.

After the original image is subjected to saliency enhancement, the gray levels of important regions will occupy a larger data space, and these gray levels are called the main gray levels, and the rest of the gray levels are called the secondary gray levels. As the number of data in the main gray level is too large, which affects the running speed of the image enhancement algorithm later, it is necessary to limit the data in the main gray level. In this paper, the luminance threshold in the expression of the relationship between the luminance deviation resolution threshold of the human eye and the background luminance is used as the lowest level of the main gray level for limiting.

II. C. 3) Evaluation methods for the quality of image features for visual perception by the human eye

There are different methods and criteria for judging the quality of an image, and features can represent the most important information in an image. Therefore, this paper starts from the gray scale histogram, combines VHIST with

the visual characteristics of the human eye, and explores the method of evaluating the quality of image features from the aspect of visual perception of the human eye.

The evaluation of the image can be judged from the brightness level, whether the edge contour is clear, these indexes are called the contrast characteristics of the image, and the contrast characteristics are related to the gray level difference between the image pixels.The gray level difference between 2 pixels can be obtained by the gradient calculation, when the value of the gradient is bigger, the gray level difference is bigger, and the corresponding contrast is bigger.

The contrast expression is:

$$CR = \sqrt{\frac{1}{LW}(G(x,y) - G(x-1,y-1)} \tag{9}$$

where, L,W denotes the length and width of the image respectively; $G(x,y)$ denotes the gradient value at pixel point (x,y).

In addition to contrast, image brightness also affects image quality. From the above expression for the relationship between the human eye luminance deviation discrimination threshold and the background luminance, it can be seen that the human eye visualization is optimal when the average luminance of the image is 127. In this paper, the image brightness quality is characterized by the brightness relation factor with the following expression:

$$\mathrm{CC} = 1 - \frac{|\mathrm{ALT} - 127|}{127} \tag{10}$$

where, ALT denotes the average luminance value of the image.The larger the value of CC, the better the quality of the luminance of the image.

Information entropy can be used to evaluate the degree of confusion of the image information, in this paper, we use the neighborhood mean and gray scale aggregation features to form a binary set (i,j) to calculate the image information entropy:

$$H_2 = \sum_{i=0}^{255}\sum_{j=0}^{255} f_{ij} \log f_{ij} \tag{11}$$

where, H_2 is the 2D information entropy of the image; f_{ij} is the frequency of occurrence of the binary set (i,j).

III. Results and Discussion

III. A. Analysis of histogram enhancement results

The images used in this section were taken outdoors by the thermal imaging camera in this lab, and the outside conditions under which the images were collected are shown in Table 1. The weather chosen was sunny and warm, and the infrared images taken were clearer.

Table 1: Parameter of infrared image acquisition

weather	Temperature/℃	humidity	visibility	date	time	Wavelength/um	camera	resolution
clearness	21	45%	10km	2017.9	4:00pm	9~17	EYER25	720×576

The histogram of the captured image is shown in Fig. 2, where the horizontal coordinate is the gray level, and the vertical coordinate is the number of pixel statistics under a certain gray level, Fig. 2(a) is the histogram of the original image, which can be seen that the gray level is concentrated between 50 and 100, with fewer gray levels, less contrast, and bad visual effect; Fig. 2(b) is the histogram of the enhanced image of the inverse sharpening mask method, and there is no significant improvement in the gray level, but some details of the grayscale is improved; Figure 2(c) shows the histogram of the enhanced image of the histogram equalization method, it can be analyzed from the histogram that the grayscale is stretched to the whole grayscale level, but the higher and lower grayscale levels are not sensitive to the human eye, and some details of the level of the feeling is lost; Figure 2(d) shows the histogram of the enhanced image of the algorithm in this chapter, it can be seen that the grayscale levels are concentrated in the range between 50 and 180, and this section of grayscale Just for the human eye's sensitive gray area, the original gray level is not lost, the details are enhanced.

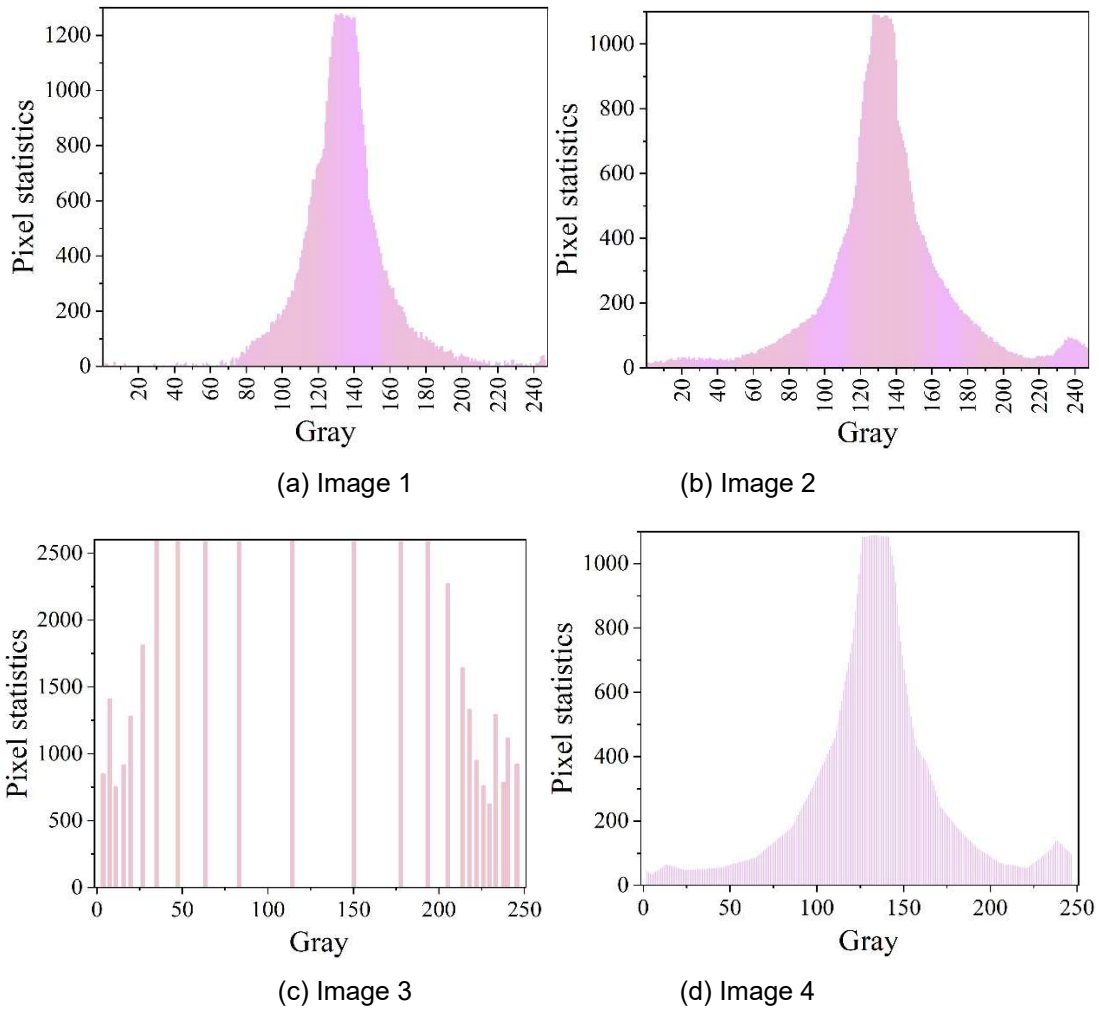

Figure 2: Histogram of original images and enhanced images

Table 2: Parameter table of infrared image enhancement algorithm

Evaluation parameter	Original image	Resharpening mask enhancement	Histogram equilibrium enhancement	Enhanced method
Figure 1 gray mean	75.55	75.91	86.37	77.01
Figure 1 standard deviation	47.41	48.43	58.62	51.48
Figure 1 information entropy	4.95	5.91	5.38	7.31
Figure 1 contrast improvement	1.17	1.46	1.89	1.39
Figure 2 gray mean	76.62	77.08	87.84	77.43
Figure 2 standard deviation	42.52	44.12	59.53	51.81
Figure 2 information entropy	4.74	5.95	5.4	6.83
Figure 2 contrast improvement	1.17	1.4	2.11	1.26
Figure 3 gray mean	72.29	73.98	78.49	73.26
Figure 3 standard deviation	42.38	43.58	46.74	41.35
Figure 3 information entropy	5.3	6.24	5.41	6.59
Figure 3 contrast improvement	1.17	1.28	1.73	1.29

The quantitative analysis of the individual images of Image 1, Image 2 and Image 3 diagrams is shown in Table 2. From the table it can be seen that the three methods in the standard deviation, contrast improvement in the two

performance indicators, histogram equalization method has a greater increase in contrast, anti-sharpening mask method on the edge of the enhancement, but the human eye to observe the details of the loss of this paper's method, although the method did not obtain a greater contrast enhancement, but from the value of the entropy of the information can be analyzed to conclude that this paper's method of the image of the details of the information to be enhanced, the content of the content of the more.

III. B. Quantitative analysis

In order to further verify the principle of the algorithm, 10 low illumination maps are selected as samples, and the image brightness is adjusted by using the information of different value ranges of the H-channel of each image as an enhancement weight map, and Table 3 shows the average value of each index after the brightness of 10 images is improved. As can be seen from the table, when the color information is used to improve the image brightness, with the increase of the angle of the H-channel the AG value of the image first becomes smaller and then increases, when the H-channel 0°-180° color information is selected as the weighting map to improve the image brightness, the improvement of image quality is not obvious, and when the H-channel 181°-360° color information is selected as the weighting map to improve the image brightness, the enhancement of the image is the most obvious, and it can be prove that the information in the 181°-360° region of the H channel is more capable of improving the overall quality of the image.

Table 3: The enhanced results of the algorithm on the image of the h channel

The range of values of the H channel	AG	EME	EN
0°-60°	3.46	49.29	6.98
61°-120°	3.41	48.67	6.96
121°-180°	3.41	48.67	6.96
181°-240°	3.55	49.35	6.97
241°-300°	3.55	49.35	6.97
301°-360°	3.69	49.78	6.97

Table 4 shows the average value of each index after the brightness improvement of 10 images. When using the saturation information to improve the image brightness, the AG index of the image increases gradually with the increase of the S-channel angle, and it can be seen that using different wavelengths as the brightness enhancement of the weight map has different effects on the image. When the S-channel weight value takes the range of 0-40% or 60%-100%, the image quality improvement is not obvious, and when the S-channel weight value takes the range of 40%-60%, the overall quality of the image is improved obviously, so the algorithm selects the saturation information in the S-channel in the region of 40-60% as the weight to improve the brightness of the image. In summary, the algorithm utilizes the information of the 181°-360° region in Image H (the wavelength region that is not sensitive to the human visual system) and the information of the 40%-60% region in Image S (the saturation region that is not sensitive to the human visual system) as the weighting map in the brightness enhancement stage to enhance Image V, which can effectively enhance the sensitivity of the human eye to the image.

Table 4: The results of the algorithm on the image of the s channel are selected by different weights

S range of values	AG	EME	EN
0-20%	3.47	49.67	7.07
20%-40%	3.49	49.68	7.07
40%-60%	3.92	51.66	7.12
60%-80%	3.98	51.55	7.09
80%-100%	3.75	49.33	7.05

In order to verify the superiority of the algorithm, the enhancement algorithms proposed in recent years were selected for comparison tests, and the test results are shown in Table 5. It can be found through comparison that several enhancement algorithms can improve the AG, EN and EME indicators of the image. The enhancement effect of the algorithm proposed in this paper is better than several comparative enhancement methods, which shows that the algorithm has a better enhancement effect on low illumination images.

Table 5: Comparison experiment enhancement results

Image	Evaluation index	Original drawing	Patch-net	FBBF	Zero-dce	FFM	FBM	Proposed
Image A	AG	3.1	4.87	4.06	5.99	3.71	3.3	6.06
	EME	36.48	71.13	68.17	66	66.78	44.78	70.98
	EN	6.55	8.28	7.4	8.75	7.33	7.57	8.28
Image B	AG	2.89	6.28	5.71	7.61	4.64	4.52	7.4
	EME	38.53	59.72	47.69	51.85	55.1	47.54	59.44
	EN	7.04	8.77	7.66	8.92	7.6	7.13	8.23

III. C. Knowledge map analysis of revolutionary visual symbols of red cartoons

The analysis using the multi-scale dimension of SPSS can further clarify the relationship between keywords. After the analysis, the knowledge map of the research on the revolutionary visual symbols of red cartoons was derived as shown in Figure 3. The research on the revolutionary visual symbols of red cartoons can be divided into 3 research plates. Plate 1 is the research on the era of the red revolution, in which the keywords are more closely arranged and closer to the axes, indicating that researchers pay more attention to this plate. Plate 2 is the research of the main embodiment of the Red Revolution, in this plate the arrangement between the keywords is looser and farther away from the center relative to plate 1, indicating that the attention of this plate is lower than that of plate 1.

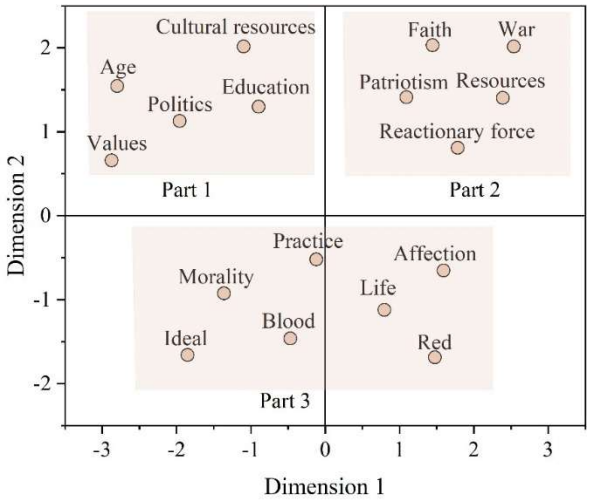

Figure 3: The knowledge map of revolutionary visual symbol research

III. D. The significance of emotional design of visual symbols of red cartoon revolution

(1) Guarantee the inheritance of the spirit of red culture

Red cartoons embody the ideals and spirit of the revolutionary pioneers' hard work, which is conducive to people's correct understanding of red culture and the cultivation of the Chinese nation's cultural self-confidence. Red revolutionary culture is a kind of spiritual power that guides people to move forward, guides people to pursue a higher spirit and more value in life, and is fundamentally the pursuit of noble spiritual culture and the ideal of a common and beautiful future for the Chinese nation.

(2) Open up a path for the development of red culture

By summarizing, analyzing and summarizing the existing visual symbols of the red cartoon revolution, and through digital redesign, displaying them in various forms in different media, we can dredge up the channels of red culture dissemination, reduce the dissemination limitations of time and space factors, and further improve the influence of red culture.

(3) Utilizing the contemporary value of traditional culture

Red culture was created in a specific revolutionary historical period, which witnessed the Communist Party of China moving towards maturity step by step, and is our most valuable spiritual and cultural wealth and historical cultural heritage. In the process of spreading red culture, with the migration of time, the influence of red culture has weakened in the youth group. In the design research, we should pay attention to the combination of visual aesthetics and connotation, incorporate the design concept, and apply the emotional theory and modern visual aesthetics in the design of red culture with historical significance. Combining the red design with the revolutionary spirit, while telling the red story and spreading the red image, it is also necessary to play the branding and promote the

development of the red cultural industry chain in the Gannan Soviet area, thus carrying out the research on the emotionalization of the red cartoon revolutionary culture is of great value.

IV. Conclusion

An in-depth analysis of the visual symbolic representation of revolution in Chinese red cartoons was conducted by combining image enhancement techniques. The study shows that:

The image enhancement method based on the human eye visual system can effectively improve the visual expression of red cartoons. The experimental data show that when the 181°-360° color information of the H channel is selected as the weight map to improve the image brightness, the AG value reaches 3.69, and the EME index reaches 49.78; when the weight value of the S channel is taken in the range of 40%-60%, the AG value reaches 3.92, and the EME index is as high as 51.66. Compared with other enhancement algorithms, the algorithm proposed in this paper reaches 3.92 and 51.66 in the enhancement effect of the typical images A In the enhancement effect, the AG value reaches 6.06, the EME value reaches 70.98, and the EN value reaches 8.28, which are all better than the comparison enhancement methods. In the enhancement of image B, the AG value reaches 7.4, which is better than other methods. Through the multi-scale dimensional analysis, the study of revolutionary visual symbols of red cartoons can be divided into three research segments, among which the study of the red revolutionary era receives the highest attention.

This study helps to safeguard the inheritance of the spirit of red culture, open up new paths for the development of red culture, give full play to the contemporary value of traditional culture, promote the integration of red comics into modern visual aesthetics, and promote the development of the red cultural industry chain in the Gannan Soviet area. Future research can further explore the emotional design strategy of the revolutionary visual symbols of red comics to enhance their influence among youth groups.

Funding

This work was supported by 2023 Ministry of Education Humanities and Social Sciences Research Project "Research on China's Hundred-Year Red Cartoon History (1921-2021)", Project Number:23YJA760071.

References

[1] Shu, D. (2022). The relevance of “Red Culture” in contemporary China. Open Journal of Social Sciences, 10(4), 431-441.
[2] Shi, Y. (2025). He Youzhi’s comic strip culture from the perspective of Toynbee’s historical philosophy. Trans/Form/Ação, 48(5), e025048.
[3] Twark, J. E. (2017). Approaching History as Cultural Memory Through Humour, Satire, Comics and Graphic Novels. Contemporary European History, 26(1), 175-187.
[4] He, D., Li, W., & Li, Y. (2021, May). Analysis of the Path of Spreading Red Culture by Film and TV Works in the New Era. In 7th International Conference on Humanities and Social Science Research (ICHSSR 2021) (pp. 789-792). Atlantis Press.
[5] Zhao, Q. (2024). The Logic and Approaches of Enhancing University Students' Ideological and Political Quality through Red Culture. Journal of Social Science Humanities and Literature, 7(4), 76-82.
[6] Lennard, D. W. (2012). All fun and games…: children's culture in the horror film, from Deep Red (1975) to Child's Play (1988). Continuum, 26(1), 133-142.
[7] Wang, Z., Li, D., & Fan, T. (2020). A Research on key Vision Technologies of Red Revolution site in Gannan Soviet area based on UE4 Virtual engine platform. In E3S Web of Conferences (Vol. 189, p. 03001). EDP Sciences.
[8] ZHENG, M. (2021). A Study on the Mode of Emotional Experience of Centennial Red Revolutionary Songs of the Communist Party of China. Journal of Southwest University Social Science Edition, 47(3), 15-26.
[9] Gao, Z., & Guo, X. (2017). Consuming revolution: The politics of red tourism in China. Journal of Macromarketing, 37(3), 240-254.
[10] Wang, H. L. (2012). War and revolution as national heritage:‘Red Tourism'in China. In Routledge Handbook of Heritage in Asia (pp. 218-233). Routledge.
[11] Berry, C. (2012). Every colour red? Colour in the films of the Cultural Revolution model stage works. Journal of Chinese Cinemas, 6(3), 233-246.
[12] Berry, C. (2016). Red poetics: The films of the Chinese cultural revolution revolutionary model operas. The Poetics of Chinese Cinema, 29-49.
[13] Min Chih Hsieh,Yi Liu & Pei Chia Wang. (2025). Effect of heart rate, correlated colour temperature and illuminance on human visual perception under LED lighting environments. . Ergonomics,11-14.
[14] Xianwei Qiu,Jun Li,Wuyang Shan & Wuyang Fan. (2025). No-Reference Image Quality Assessment Based on Human Visual System and Dual-Branch Multi-Level Residual Network. Academic Journal of Computing & Information Science,8(2),
[15] Huiwen Chen & Chunyi Chen. (2024). Light culling based on the limitations of human visual perception. Journal of Physics: Conference Series,2898(1),012022-012022.