

Dynamic Visual Creation in Graphic Design: Exploring Motion Principles Based on Photoshop Timeline

Grafik Tasarımda Dinamik Görsel Yaratım: Photoshop Zaman Çizelgesi Tabanlı Hareket Prensiplerinin İncelenmesi

Prof. Dr. Li XU*

Assoc. Prof. Dr. Qin ZOU**

DOI: 10.46641/medeniyetsanat.1691276

Research Article / Araştırma Makalesi

Abstract

This paper aims to explore dynamic creation based on Adobe Photoshop's timeline feature, analyzing how to effectively use the three key attributes—"position," "opacity," and "style"—to create creative and expressive dynamic effects in graphic design works. Taking the personal work "Tian Yuan Di Fang" as a case study, and combining principles of dynamic visual motion, the paper investigates how design elements such as graphics, text, and color can achieve dynamic expression in a two-dimensional plane, through forms like displacement, rotation, fading in and out, glowing, and pulsating. By examining how these dynamic elements change over time, the paper discusses how they extend and enrich visual information, enhance the expressiveness of the design work, and convey more complex emotions and thematic content through visual motion principles. The results of this study provide new ideas and technical support for dynamic graphic creation in digital graphic design, advancing the practical application of translating static designs into dynamic graphics.

Keywords: *Dynamic Visual Design, Photoshop Timeline, Graphic Design, Motion Principles, Visual Expression*

Öz

Bu makale, Adobe Photoshop'un zaman çizelgesi (timeline) özelliğine dayalı olarak dinamik yaratım sürecini incelemeyi amaçlamakta; "konum," "opaklık" ve "stil" olmak üzere üç temel niteliğin grafik tasarım çalışmalarında yaratıcı ve etkileyici dinamik efektler üretmek için nasıl etkin kullanılabileceğini analiz etmektedir. Çalışma "Tian Yuan Di Fang" adlı proje örnek olarak ele alınmakta ve dinamik görsel hareket ilkeleriyle birlikte değerlendirilerek grafik, metin ve renk gibi tasarım öğelerinin iki boyutlu düzlemde yer değiştirme, dönme, silinip görünme, parıldama ve nabız atışı gibi biçimlerde nasıl dinamik bir anlatıma kavuşabileceği araştırılmaktadır. Bu dinamik öğelerin zaman içindeki değişimi incelenerek, görsel bilginin nasıl zenginleştirildiği ve genişletildiği, tasarım çalışmalarının anlatım gücünün nasıl artırıldığı ve görsel hareket prensipleri aracılığıyla daha karmaşık duyguların ve tematik içeriklerin nasıl aktarılabildiği tartışılmaktadır. Çalışmanın sonuçları, dijital grafik tasarımda dinamik grafik üretimi için yeni fikirler ve teknik destek sağlayarak, durağan tasarımların hareketli grafiklere dönüştürülmesinde pratik bir katkı sunmaktadır.

Anahtar Kelimeler: *Dinamik Görsel Tasarım, Photoshop Zaman Çizelgesi, Grafik Tasarım, Hareket Prensipleri, Görsel Anlatım*

* Distinguished Professor at Maria Curie Skłodowska University (Poland), xulidesign@163.com, ORCID: 0009-0008-2008-1764

** Beijing Institute of Economics and Management (China)

Background and Significance

In the digital media era, traditional graphic design is gradually evolving into dynamic forms, with dynamic visuals becoming an increasingly key trend in visual communication. As a widely used image editing software in the field of graphic design, Adobe Photoshop has recently introduced its built-in timeline feature, providing designers with an intuitive and easy-to-use animation creation tool. Although Photoshop's functionality is relatively basic compared to professional motion graphics software like After Effects, its ease of use and quick learning curve make it especially suitable for creating short, simple dynamic posters with a unified style. In emerging communication contexts such as GIFs and social media promotional images, Photoshop performs well in these areas.

However, Photoshop's animation features still have noticeable limitations, such as the lack of fine control over easing curves and the absence of advanced layer animation logic and expressions, which somewhat restrict its depth and complexity in motion graphic creation.

This research aims to overcome these limitations by using my personal work "*Tian Yuan Di Fang*", selected for the 21st Warsaw International Poster Biennale (2008), as a foundation. The study focuses on three core animation attributes—"position," "opacity," and "style"—to conduct a systematic dynamic design experiment, exploring the possibility of achieving rich motion effects within a two-dimensional plane. "*Tian Yuan Di Fang*" was originally a static work, consisting of two sections: the upper part features various geometric shapes of different sizes, while the lower part consists of irregularly arranged Chinese characters. By overlapping the text with the geometric shapes, a unique visual reading experience was created.

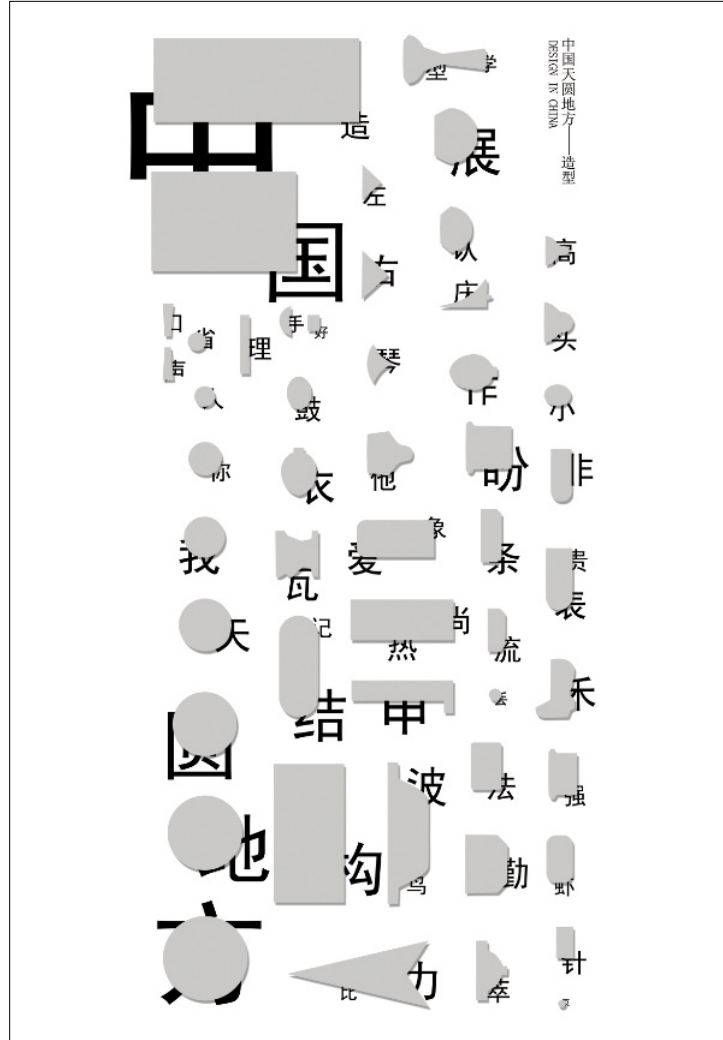


Figure 1. Poster. "Tian Yuan Di Fang" from the author's archive

This research will build upon the graphic language of the original work, exploring the visual extension of elements such as graphics, text, and color in a dynamic context. The goal is to enhance the expressive power and communicative strength of the work by employing motion principles in visual design. Ultimately, this study aims to improve the translation of traditional static graphic design into dynamic graphics, providing valuable methods and creative approaches for graphic design practices in the digital age.

1. Displacement

Displacement mainly controls the spatial coordinates of the upper and lower elements of the artwork on the canvas. By adjusting the values of the X-axis (horizontal) and Y-axis (vertical), smooth movement of the upper and lower visual elements is achieved, generating path animations that record the position information at different time points. Through displacement animation, the movement and transformation of objects in space can be demonstrated, bringing dynamism and fluidity to the work.

Method 1: Displacement – Overlapping and Moving Elements

The cyclical motion of overlapping (Composition) and deconstructing (Deconstruction) the upper and lower elements is a dynamic interplay achieved through the reconstruction and disintegration of forms, continually stimulating the viewer's perception of a new visual order.

In the work, the two visual elements (upper visual elements: various geometric shapes and lower visual elements: various Chinese characters) overlap. Using the position property in the timeline, the two parts of the elements are displaced. The elements can move vertically (up and down) or horizontally (left and right). During the movement, the upper and lower elements continuously overlap and deconstruct, producing a clear dynamic visual effect. Viewers can perceive the new visual movement caused by the deconstruction, separation, and re-combination.

In the "Displacement of Overlapping Elements" method, the two types of elements create a composite overlap through horizontal or vertical displacement, making the work no longer a single static visual expression. Instead, the dynamic transformation of overlapping and deconstructing shows the depth and three-dimensionality of the visuals.

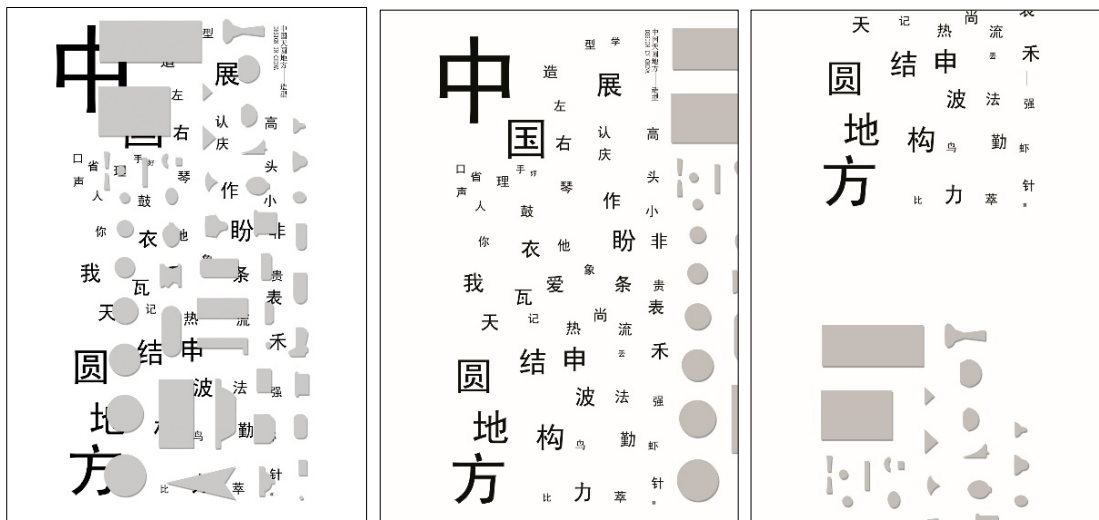


Figure 2. Poster "Tian Yuan Di Fang" from the author's archive

Method 2: Displacement – Shrinking and Enlarging Elements

Achieving visual dynamism through repetitive shrinking and enlarging is a dynamic design technique based on scale transformation (Scaling). The core of this technique lies in using periodic size changes to break static balance, creating visual tension and rhythm.

In the work, the two visual elements are chosen for the upper part: various geometric shapes. These shapes undergo repetitive shrinking and enlarging on the timeline. As they shrink, the proportion of the graphic changes, and as they enlarge, they return to their original size. The repeated shrinking and enlarging increases the dynamism and visual appeal of the work. Meanwhile, the text elements below remain stationary, forming a

contrast between static and dynamic, creating an overall dynamic effect in the composition.

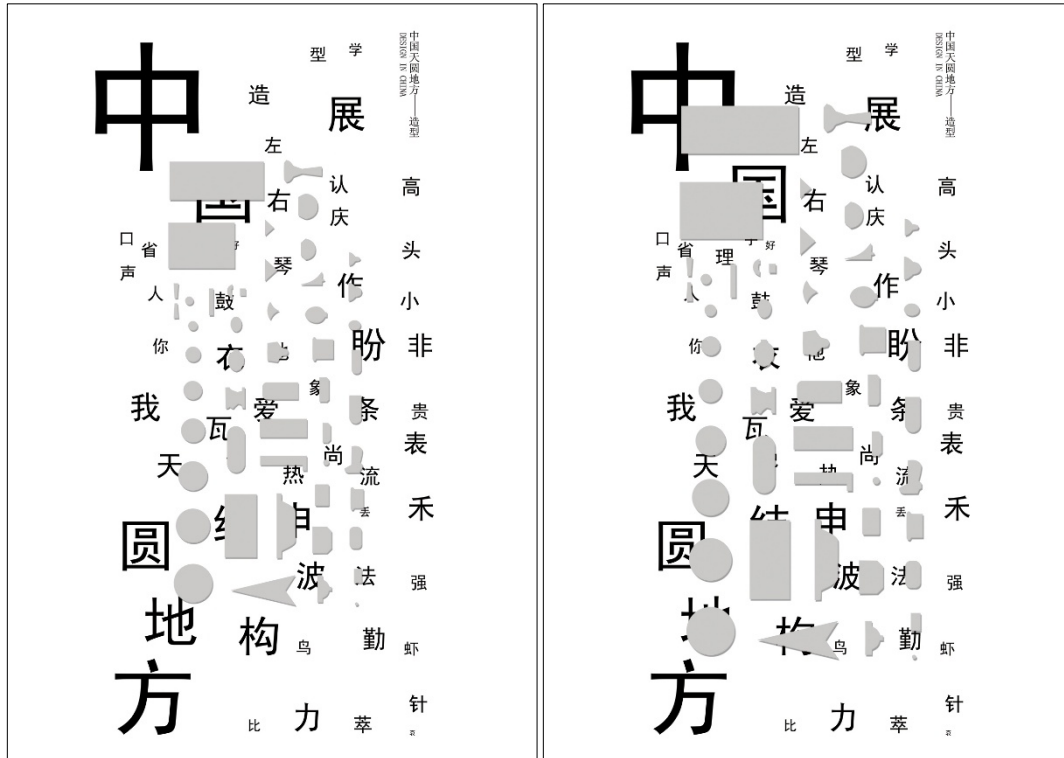


Figure 3. Poster "Tian Yuan Di Fang" from the author's archive

Method 3: Decreasing and Increasing – Centripetal and Centrifugal Displacement

Dynamic effects achieved by decreasing or increasing centripetal and centrifugal displacement essentially rely on mathematical principles of spatial position changes to drive the movement trajectories of visual elements, thus creating rhythm, depth, or guiding user attention.

In the work, the visual elements of the upper and lower parts undergo decreasing or increasing displacement. Decreasing and increasing can be centripetal (elements move toward the center) or centrifugal (elements move outward from the center). This movement is not only dynamic but also conveys visual tension or relaxation through the relative changes between the elements.

The upper part of the work undergoes increasing displacement: The upper elements gradually expand outward from the center, creating a sense of expansion. Through position changes on the timeline, the movement trajectory of the elements gradually becomes larger, visually creating an effect of moving away from the center.

The upper part of the work undergoes decreasing displacement: The elements gradually move inward from the surrounding areas toward the center of the canvas, creating a gathering effect that gives a feeling of progression and compression.

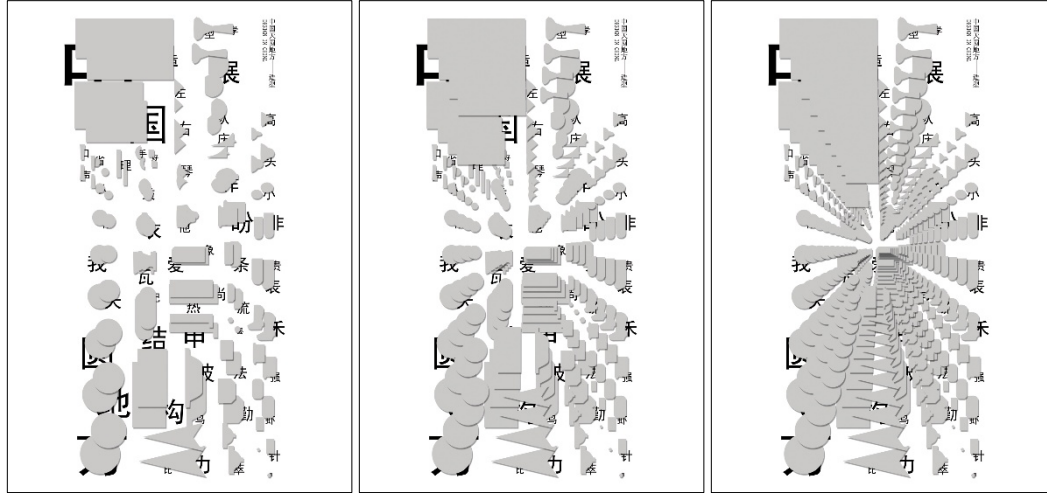


Figure 4. Poster "Tian Yuan Di Fang" from the author's archive

2. Transformation

Transformation mainly involves converting the upper and lower elements into Smart Objects on the timeline, and then using the transformation tool to apply rotation, deformation, and motion effects to the upper geometric elements. With this approach, as the rotation progresses, the angle continuously changes, creating a unique effect of irregular motion. Rotation helps maintain the dynamism of the elements as they change, giving the viewer a sense that the composition is flowing and evolving.

Method 1: Rotating the Entire Composition – 360° Rotation

In this method, I perform a complete 360° rotation of the upper and lower elements in a front-to-back order. The rotation direction (clockwise or counterclockwise) can be chosen, and the rotation angle and speed can be adjusted using the timeline. During the rotation process, the entire set of elements will rotate around the central point, forming a complete dynamic effect.

The lower Chinese character elements are rotated first, followed by the rotation of the upper geometric shapes. This overall rotation transitions the elements from a stationary state to a rotating state, bringing a strong sense of movement to the composition. The 360° rotation not only breaks the static nature of graphic design but also presents the elements with a dynamic visual rhythm. This front-to-back rotation allows the upper and lower elements to rotate sequentially in a layered manner, providing viewers with a continuous and visually rich dynamic effect.

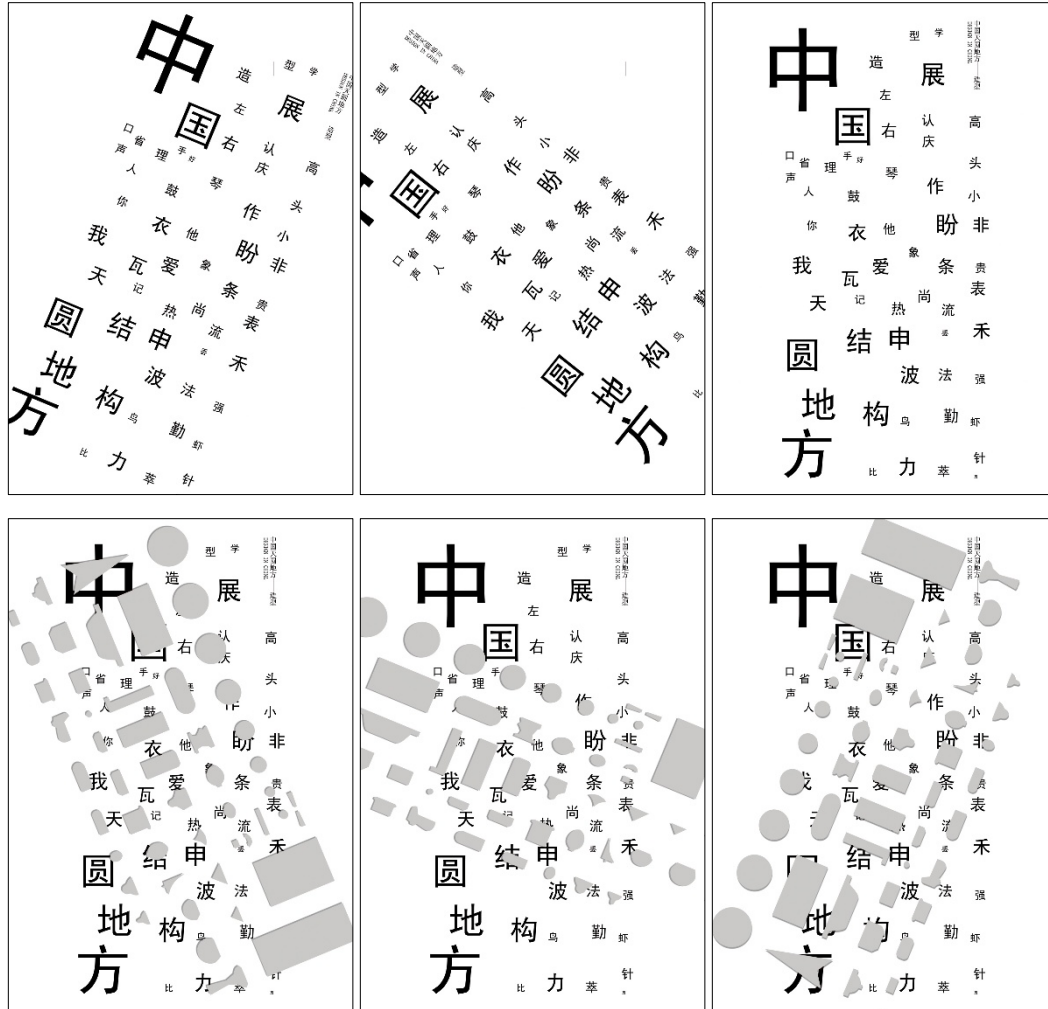


Figure 5. Poster "Tian Yuan Di Fang" from the author's archive

Method 2: Rotating Individual Parts – Rotation of Each Element

Unlike the full 360° rotation method, this method focuses on rotating individual parts. In this approach, each separate element from the upper and lower sections is rotated 360° individually. This means that each individual visual element (such as each geometric shape or piece of text) will independently rotate around its center point, producing a complex dynamic effect.

Partial Rotation: Because each element rotates independently, the entire composition appears more flexible and intricate. Each element has its own independent rotation process on the timeline, creating a diversity of rotations and rich dynamic effects.

Variation in Rotation Direction and Angle: Different rotation angles, directions, and speeds can be set, resulting in a more layered and visually engaging experience.

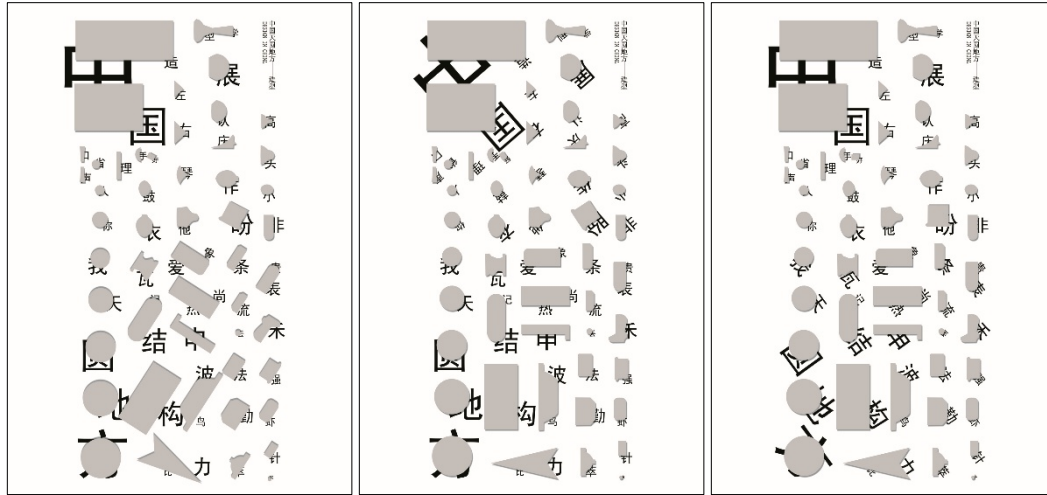


Figure 6. Poster "Tian Yuan Di Fang" from the author's archive

Method 3: Segmental Rotation – Layered Changes in Element Rotation

In this method, the visual elements of the upper and lower sections are further subdivided, and the upper visual elements are split into two parts. Each smaller segment is rotated in a particular order to create more complex and diverse rotation patterns.

Segmental Rotation: Each small segment rotates independently in a specified sequence, creating richer motion paths. For example, the first part of the upper section can be rotated first, followed by the first part of the lower section, and so on.

Layered Rotation: Segmental rotation makes the motion of the visual elements more subtle and varied, breaking the monotony of traditional rotation effects and enhancing the complexity and visual impact of the composition.

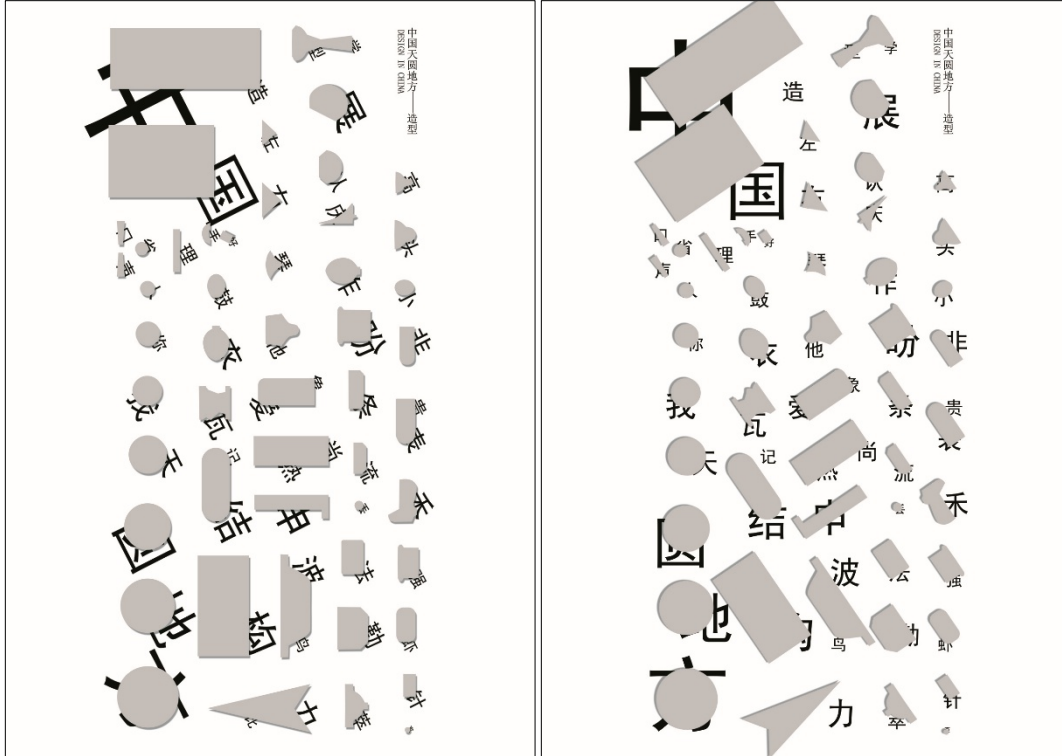


Figure 7. Poster "Tian Yuan Di Fang" from the author's archive

After aligning individual geometric shapes, they can appear one by one from bottom to top or from the center outward in both upward and downward directions. We can gather all the geometric shapes in the center of the composition, align them together, and have them spread out toward the Chinese character elements. The shapes will then re-align and gather back together. This process of concentration and dispersion, with each element appearing step-by-step from the upper and lower parts, creates a sense of gradual unfolding, enhancing visual guidance and rhythm.

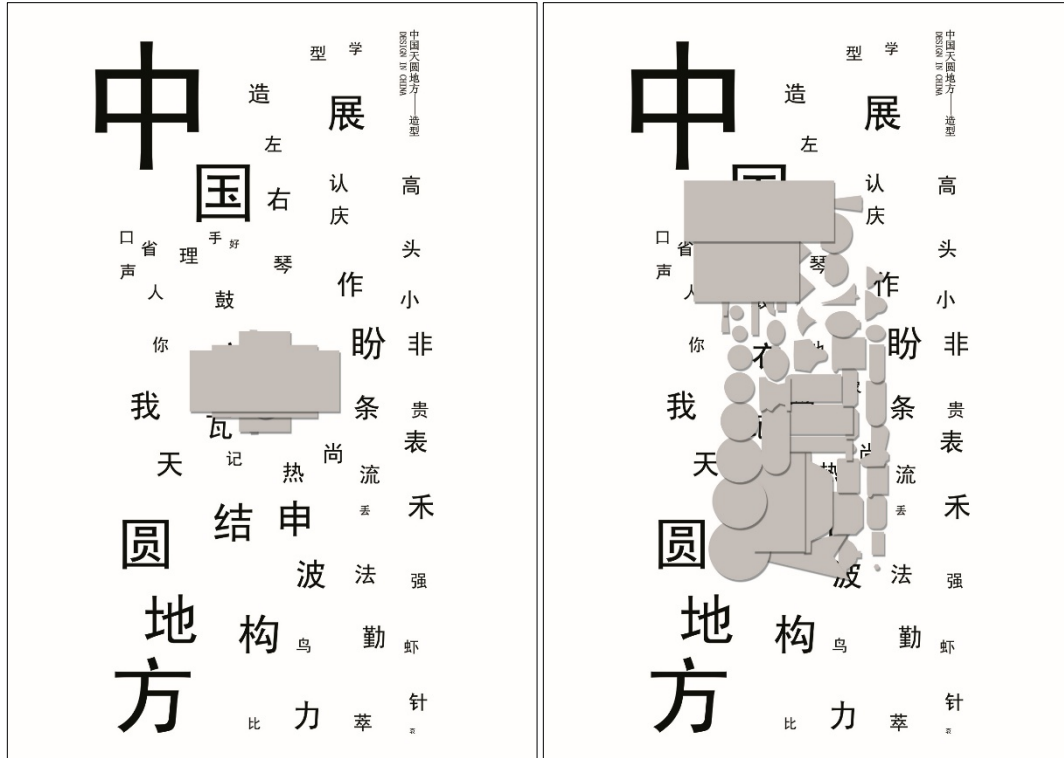


Figure 8. Poster "Tian Yuan Di Fang" from the author's archive

We can also dynamically present each individual geometric shape in the upper section. Each geometric shape can be centered in the middle of the composition and then appear in an orderly fashion one by one above each Chinese character element, from the center towards the top and bottom directions.

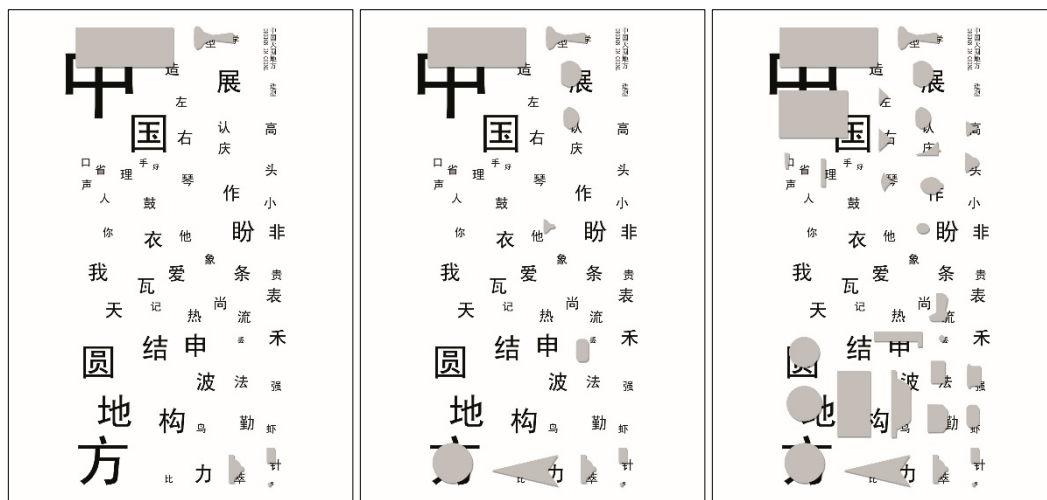


Figure 9. Poster "Tian Yuan Di Fang" from the author's archive

Transformation allows for more refined animation effects in the design process. By skillfully controlling the timeline and using the transformation tools, designers can precisely animate the elements, creating works that are lively, varied, and dynamic.

3. Opacity

By setting different opacity values for the upper and lower elements, a dynamic effect can be created where a layer gradually becomes transparent or gradually appears. As time progresses, the opacity of the elements changes, allowing the viewer to gradually see more content or details, creating continuous visual appeal. The gradual change in opacity enhances the visual "flow" and adds vitality to the composition.

Method 1: Gradual Fade In and Fade Out of Upper and Lower Visual Elements in Sequence

By adjusting the opacity of the lower elements, they gradually fade out, followed by the gradual appearance of the upper geometric elements. The upper and lower elements gradually appear in sequence, creating a smooth and orderly visual transition dynamic effect.

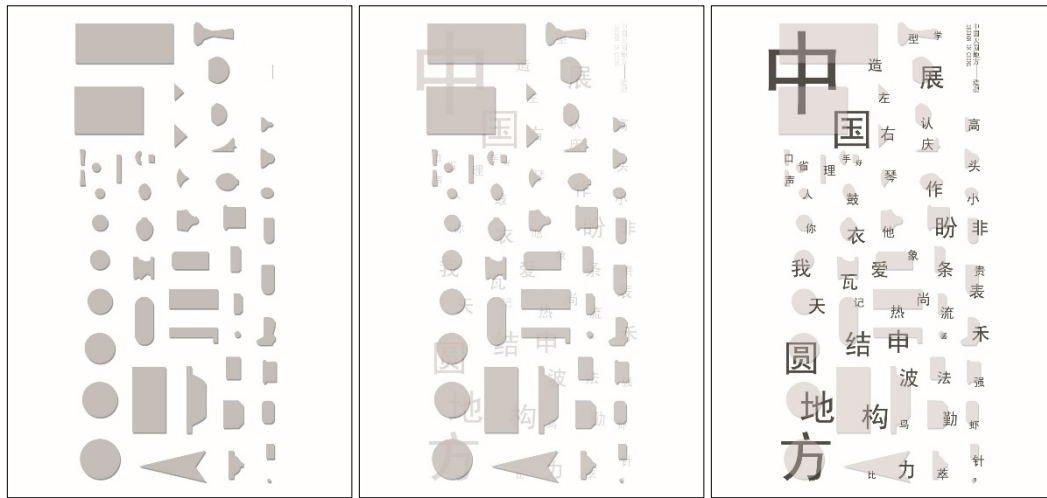


Figure 10. Poster "Tian Yuan Di Fang" from the author's archive

Method 2: Gradual Appearance of Visual Elements in Sequence from the Text in the Upper Right to the Lower Text and then the Upper Geometric Shapes

This method involves gradually revealing the visual elements in a specific order. The sequence includes the text in the upper right (e.g., a title or slogan), followed by the text elements in the lower section, and finally the geometric shape elements in the upper section. Through this "sequential fade-in" approach, the display of content creates a sense of layering and rhythm.

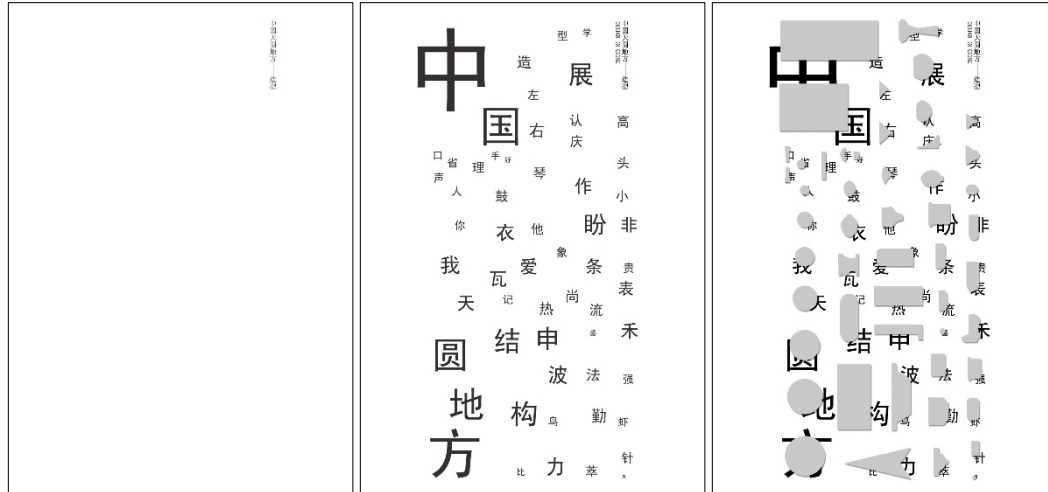


Figure 11. Poster "Tian Yuan Di Fang" from the author's archive

4. Styles

Regarding dynamic effects of layer styles, it is indeed possible to achieve visual state transitions by controlling the display/hiding or parameter changes of layer styles (such as shadows, glow, bevels, etc.). By adjusting these style parameters, the design elements can present very rich dynamic visual effects.

By controlling the styles (such as shadows, glow, bevels, etc.) of the upper and lower elements, their display, hiding, or parameter changes, visual state transitions can be achieved. Adjusting these style parameters allows for dynamic changes in layer styles.

Method 1: Changing Colors of the Upper and Lower Visual Elements, Creating a Motion Effect with Continuous Color Changes

This method utilizes the color parameters in the layer styles to create dynamic color changes for the upper and lower visual elements. For example, the color changes from yellow to red, then to blue, producing a rhythmic color-changing motion effect.

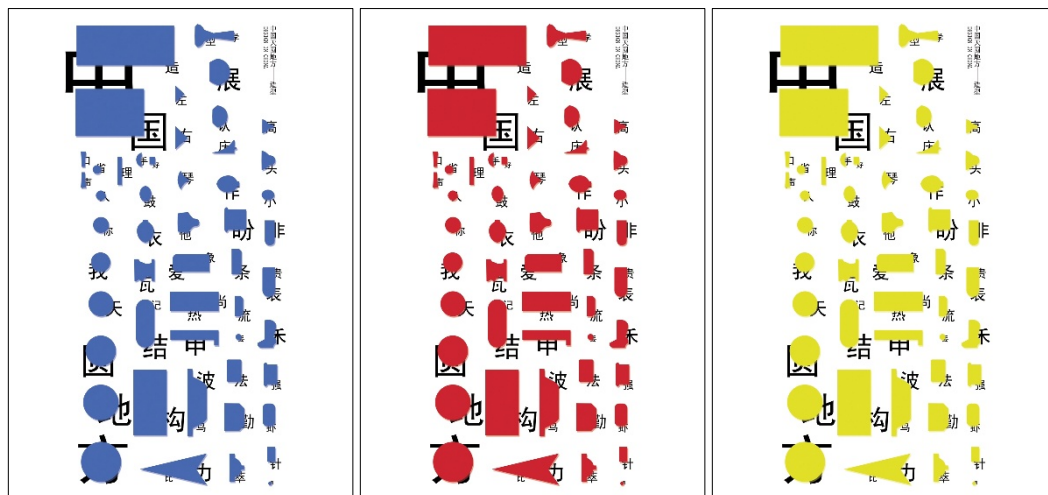


Figure 12. Poster "Tian Yuan Di Fang" from the author's archive

Method 2: Scaling Styles with Layer Stroke, Creating a Repeated Motion of Thickening and Shrinking of Geometric Shapes

This method involves setting the stroke properties of the upper geometric shape elements and controlling the border thickness of the geometric shapes to create dynamic changes in the size of the elements. By repeatedly enlarging and shrinking the geometric shapes, a dynamic and lively effect is achieved.

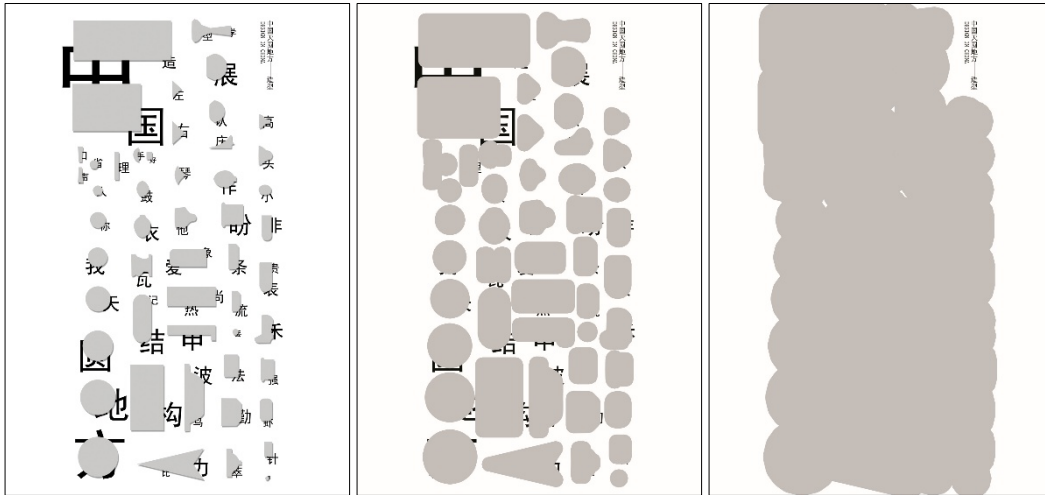


Figure 13. Poster "Tian Yuan Di Fang" from the author's archive

Method 3: Variations in the Density of Lines, Creating a Rolling Change in the Style of Line Elements

This method involves dynamically changing the border styles of design elements (such as lines), particularly the variation in the density of fine lines. By using this style on both the upper and lower elements, a dynamic effect of lines flowing and rolling can be created.

These methods can be realized through keyframes on the timeline and style adjustments. They can be combined as needed to enhance the dynamism and layering of the design.



Figure 14. Poster "Tian Yuan Di Fang" from the author's archive

Conclusion and Outlook

This study conducts an in-depth analysis of the timeline function in Adobe Photoshop, exploring how to utilize key properties such as position, opacity, and layer styles to incorporate dynamic visual effects into graphic design. Although the animation functions of Photoshop are not as sophisticated as those of professional motion graphics software (such as After Effects), designers can still introduce animation principles and creative ideas to transform static graphic poster works into motion graphics (Motion Posters) full of rhythm and emotional tension. These creative ideas, through the exploration of motion rules such as the transition from overall motion to local motion, from multiple-shape motion to simplified-shape motion, and from external form motion to internal shape motion, gradually form a dynamic design language with layers and rhythm. The motion rules in motion graphic design are mainly reflected in four dimensions: displacement, transformation, opacity, and style. Combined with the above-mentioned motion layers, designers construct dynamic visual expressions with stronger expressiveness and visual impact through spatial positioning adjustments, the construction of rotational structures, rhythm control of visual appearance and disappearance, and visual guidance through style changes. This fusion of creative ideas and motion rules in dynamic design not only expands the expressive forms of graphic design but also enhances the expressive power and visual impact of the work.

Looking to the future, the deep integration of Adobe Photoshop with emerging technologies such as Artificial Intelligence (AI), Virtual Reality (VR), and Augmented Reality (AR) holds the potential to create more immersive and interactive visual

experiences. This will further expand its application potential in immersive and interactive design, bringing more rich and multidimensional expressive possibilities to the field of visual communication.

References

- Adobe. (2022). *Create timeline animations in Adobe Photoshop*. Retrieved from <https://helpx.adobe.com/ae/en/photoshop/using/creating-timeline-animations.html>
- Babic, N., Pibernik, J., & Mrvac, N. (2008). *Media study: Motion graphics*. Faculty of Graphic Arts, University of Zagreb.
- Hostettler, S. C. (2006). *Integrating typography and motion in visual communication*. Design Issues, 22(3), 40–53.
- Krasner, J. (2013). *Motion graphic design: Applied history and aesthetics* (3rd ed.). Focal Press.
- Laserrow, S., & Delgado, N. (2020). *Making posters*. Bloomsbury Press.
- Lupton, E., & Phillips, J. C. (2015). *Graphic design: The new basics* (2nd ed.). Princeton Architectural Press.
- Reas, C., & McWilliams, C. (2010). *Form+Code in design, art, and architecture*. Princeton Architectural Press.
- Shaw, A. (2019). *Design for motion: Fundamentals and techniques of motion design* (2nd ed.). Routledge.
- Smashing Magazine. (2015). *How to create an advanced Photoshop animation*. Retrieved from <https://www.smashingmagazine.com/2015/06/creating-advanced-animations-in-photoshop/>
- Sýkorová, L. (2021). *Drawing as a non-verbal communication tool*. PUNO Press.

Bu makale iThenticate intihal tespit yazılımıyla taranmıştır. / This article has been scanned by iThenticate plagiarism detection software.

Bu çalışmada "Yükseköğretim Kurumları Bilimsel Araştırma ve Yayın Etiği Yönergesi" kapsamında uyulması belirtilen kurallara uyulmuştur. / In this study, the rules stated in the "Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed.

Araştırma iki yazar tarafından yürütülmüştür (Katkı Oranı: %50-%50). / The research was conducted by two authors (Author Contribution: 50%-50%).

Çalışma kapsamında herhangi bir kurum veya kişi ile çıkar çatışması bulunmamaktadır. / There is no conflict of interest with any institution or person within the scope of the study.

Yazarlar, makalede yapay zekâ programlarını kullanmadığını ve yapay zekâ desteği almadığını beyan etmiştir. / The authors declared that s/he did not use artificial intelligence programs and did not receive artificial intelligence support in the article.