

A Study on the Visual Discontinuity in the Combination of Live-Action Filming and 2D Animation—An Aesthetic Transformation from “Technical Limitations” to “Artistic Expression”

Kou Wai Nga

Fettes College Guangzhou, Guangzhou, China

Email: Huiiyaaa@outlook.com

Manuscript received May 2, 2026; accepted June 2, 2026; published June 15, 2026

Abstract—Classical film studies posits that the perfect fusion of live-action footage and animated characters represents the ideal cinematic effect, with any “disharmony” in the audiovisual realm often being perceived as a technical blunder or an imperfection in artistic expression. This paper attempts to explore whether this disharmony, typically seen as a flaw, can be transformed into a deliberately pursued artistic technique. To this end, this paper draws upon Bertolt Brecht’s concept of “alienation,” a theory aimed at breaking the audience’s immersive experience to provoke rational reflection; it also introduces Deleuze’s interpretation of “crystalline imagery,” which reveals the coexistence and cyclical relationship between reality and fiction within the image. Building upon this foundation, this paper compares and analyzes the films *Who Framed Roger Rabbit?* and *Surviving Life*, concluding that while audiovisual disharmony can fulfill a unique narrative function, it can also be an effective way to expand the range of expressive forms and aesthetic dimensions of films. In the context of rapid technological advancements in contemporary society, emphasizing the aesthetic value inherent in audiovisual disharmony holds significant reference value for both film production and the viewing experience.

Keywords—visual rupture, alienation effect, crystalline image, film aesthetics

I. INTRODUCTION

Looking back at the history of film, every step forward has been an effort to achieve a more realistic “reality”: from black and white film to color film; from two-dimensional to three-dimensional visual experiences; from live-action filming to CG animation—everyone has strived to create a more immersive viewing experience. In works combining live-action and CGI, many technical teams have focused on making two-dimensional animated characters “come alive” in three-dimensional space [1].

This demand for “absolute completeness” renders any contrast, misalignment, or distortion in the audiovisual form as unacceptable “technical flaws.” In other words, “abundance” is a derogatory term in traditional film aesthetics; it acts as a destroyer of illusion, an obstacle to immersion, and a sign of failure of technical prowess [2].

But is it possible to redefine it? Does visual hybridity necessarily imply aesthetic flaws? Can it be consciously utilized as an effective mode of expression? When the audience clearly recognizes that film is “man-made,” is this itself a form of aesthetic appreciation?

This leads us to consider whether visual heterogeneity can exist as a mode of expression in works combining live-action

and hand-drawn animation. If so, how does it exist, and what meaning does it convey?

Abandoning the either-or epistemology of “homogeneity is good, difference is ugly,” we see that visual difference possesses rich expressive power: guiding the audience from passive viewing to active thinking, forming a critical viewing experience; it can also be used to express the inner conflict of characters, the conflict between reality and fantasy, the relationship between conscious and unconscious states, and so on.

Therefore, this study aims to open new aesthetic dimensions for film art creation, transforming “heterogeneity” from a technical problem to be avoided into an artistic resource that can be developed.

This paper employs a method combining theory and practice. On the one hand, this paper draws on Brecht’s concept of “alienation effect” and Deleuze’s concept of “crystal image” to provide an aesthetic interpretation of visual rupture; on the other hand, it takes the films *Who Framed Roger Rabbit?* and *Surviving Life* as case studies for specific analysis. It analyzes the manifestation of visual rupture in different creative philosophies and the semiotic meanings it contains. Finally, it explores the innovative value of these aesthetic concepts, as well as their current predicaments and potential future solutions.

II. THEORETICAL FRAMEWORK: THE PHILOSOPHICAL FOUNDATION OF FRACTAL AESTHETICS

A. Definition of Key Terms

This paper first defines “visual discontinuity.” Within the scope of this study, “visual discontinuity” refers to the visual incongruity arising from the different nature of the medium when combining live-action footage with 2D animation. This incongruity gives rise to disharmony in lighting effects, movement patterns, and spatial depth between live-action actors and animated characters, as the transition between these two image forms is overly abrupt.

Importantly, such visual discontinuity does not merely occur on a visual level; it can trigger a pause in the viewer’s perception, for the illusion of the image is shattered, and the viewer realizes that what they are seeing is artificial. This pause in perception can potentially provide conditions for the emergence of new meaning.

B. Aesthetic Basis: Brecht's "Verfremdungseffekt"

1) Theoretical connotation

Verfremdungseffekt, or alienation effect, is an important concept proposed by the renowned German drama theorist Bertolt Brecht when expounding his theory of narrative drama [3]. Brecht argued that in traditional theatrical performances, audiences become overly immersed in the plot and lose their ability to think independently; they are merely emotionally moved [4]. To prevent such over-involvement, Brecht proposed techniques to make the audience aware that they are watching a theatrical performance, such as having actors address the audience directly, revealing stage machinery to the audience, and interspersing musical numbers. These techniques "pull" the audience out of their emotional experience, enabling them to rationally and critically consider the social relationships presented on stage.

2) Theoretical relevance

Similarly, in film, forcibly mixing live-action footage with animation creates a visual sense of "alienation" for the audience [5]. When live performers and paper-cut animation appear simultaneously in the same scene yet clash, this disrupts the viewer's viewing rhythm. It constantly reminds us that everything is artificially designed, that every shot carries the director's intent.

The value of this estrangement lies in preventing the audience from fully projecting their emotions and prompting them to consider: Why did the author choose this method? What meaning is conveyed by placing these two distinct media together? At this point, the audience is no longer a passive recipient but an active interpreter of the text.

C. Philosophical Positioning: Deleuze's "Crystal Image"

1) Theoretical core

The concept of "crystalline imagery," proposed by French philosopher Gilles Deleuze in his book *Cinema 2: Time-Image*, refers to the state in which real and non-real images (such as memories, imagination, dreams, and reflections) constantly alternate and mix, blurring the lines between reality and illusion in a film [6]. Deleuze uses the metaphor of a "prism" to describe it—just as refraction and reflection between different prisms create new "reality" through mutual illumination.

2) Correlational analysis of visual discontinuities

If we apply Deleuze's interpretation of crystal theory to works combining live-action footage and animation, we find that the seemingly disconnected connection is the materiality of crystalline images. In such works, the "reality" part is usually live-action footage, describing a character's physical location, present actions, and field of vision.; the "potential" part is usually animation footage, describing the person's psychological state, memories, dreams, or possible worlds.

More importantly, the points of rupture and intersection between the two image styles are precisely where the richest meaning lies. It is at the boundary between live-action and animation, in the gaps where these two visual languages cannot fully merge, that reality is reconstructed, and meaning is reconstituted. Viewers find it difficult to define what is "real" and what is "false," because the two interpenetrate and mutually define one another.

III. CORE APPROACH: CASE STUDIES

Having outlined the theoretical framework of "alienation effect" and "crystalline imagery," this chapter now examines these concepts within the context of specific film practice. Two representative cases are selected: 1988's *Who Framed Roger Rabbit* and 2010's *Surviving Life*. These films were chosen because both involve the combination of live-action and virtual imagery, but they take different paths: *Who Framed Roger Rabbit* strives for seamless technical integration, aiming for a perfect fusion of animation and live-action; *Surviving Life*, on the other hand, deliberately preserves and even amplifies the roughness and disharmony between the two [7]. Analyzing the creative techniques and theoretical implications of these two films reveals that "fragmentation," as an aesthetic strategy, can be presented in various ways in actual works.

A. *Who Framed Roger Rabbit?*

1) Creative concept and technological breakthrough

First, in the 1988 film *Who Framed Roger Rabbit?* the plot involved the interaction between a virtual character and the real world. This meant that both had to be visually realistic enough for the audience to believe that the rabbit was sitting on a real sofa [8].

To achieve this, director Robert Zemeckis and his team created an extremely complex production process: live actors had to perform in front of a blue screen with the virtual cartoon character, accurately imagining each character's position in space, movement speed, and emotional cues; animators then drew each frame according to precise camera movements; finally, dozens of layered composites were used to adjust brightness, reflections, color tones, and grain in order to integrate animated characters into the 3D live-action world [8].

2) Theoretical application analysis

On the surface, *Who Framed Roger Rabbit?* appears to contradict the aesthetics of fragmentation. The entire film's technical effort aims to erase any trace of production, making the animated characters appear "real" in real space. This extreme craftsmanship precisely achieves what Deleuze calls "crystalline imaging"—creating a complete, unified, and self-consistent visual world.

However, it's important to note that this seamless integration provides a dual viewing experience. For the most part, viewers are indeed more easily immersed in the story—because the technology is mature enough, and the interaction between animation and live-action is smooth enough, so viewers aren't constantly interrupted by the thought, "This is fake." It is precisely this immersion that proves the success of the film technology.

Yet this perfect integration produces an additional effect at certain moments. When viewers see the rabbit shaking hands with a live-action actor, or cartoon characters making physical contact with live-action actors—these challenging interactive scenes occasionally elicit a moment of amazement: "How was this filmed?" This question itself briefly pulls the viewer out of the story. In that instant, the audience wasn't gripped by the characters' fates, but instead marvels at the marvel of cinematic technology. This is essentially a kind of "alienation effect"—except it's not

achieved through deliberate disruption, but rather hidden within ultimate perfection, occasionally revealing itself in the most technically challenging scenes [2].

Therefore, *Who Framed Roger Rabbit?*'s attitude towards "fragmented aesthetics" is complex: it not only demonstrates that technology can fully immerse the audience but also reveals that even the most seamless fusion can, at certain moments, make one aware of the medium's very existence.

B. *Surviving Life (Theory and Practice)*

1) *Creative concept and technological application*

Unlike *Who Framed Roger Rabbit?* Jan Švankmajer completely abandoned attempts to make animation and live-action "look like they're in the same world" in *Surviving Life*. The sudden appearance of crudely cut paper puppets against baroque natural scenery creates a deliberate visual incongruity [9]. This is not because the technology was incapable, but because the director chose not to pursue seamless integration.

This approach to filmmaking creates a different viewing experience. When watching *Who Framed Roger Rabbit?* the audience remains largely immersed in the narrative, only occasionally startled by technically demanding scenes. But in *Surviving Life*, the audience is constantly aware that what they're seeing is "fake"—the jagged silhouettes, rough lines, and handcrafted paper puppets constantly remind viewers that this is not reality, but a constructed image.

2) *Theoretical application analysis*

However, this awareness of its artificiality doesn't prevent the audience from entering the story. On the contrary, it's precisely this incongruity that makes one want to understand: what this rough paper puppet represents. Why does a silhouette suddenly appear in the real scene? What is the image trying to say? In other words, the audience does not passively accept the story through immersion, but instead actively participates in the construction of meaning through critical examination [7].

Therefore, this returns to Deleuze's concept of "crystalline imagery"—it speaks of the blurred boundaries between reality and imagination, between reality and illusion. In *Surviving Life*, live-action footage and silhouette animation intrude upon and clash with one another, blurring the boundaries between the character's waking reality and their dreams or subconscious. This ambiguity is not achieved by "making it appear real," but rather by deliberately emphasizing its artificiality and separation from reality. Every visual conflict forces the viewer to judge: is this real or fake? This process of judgment is itself where meaning arises.

In other words, Švankmajer's "rupture" isn't hidden within the technology, but is directly on the surface. It does not appear only occasionally in a few difficult scenes, but functions as a fundamental formal strategy that runs through the entire film.

IV. THEORETICAL EXPLORATION: ACCEPTANCE, BREAKTHROUGH, AND DEVELOPMENT PROSPECTS

A. *Multidimensional Analysis of the Significance of Innovation*

Through the above case studies, this paper can summarize

several important innovative dimensions of visual rupture as a means of expression:

First, it breaks away from the conventional film's pursuit of narrative integrity and emphasis on visual continuity; "rupture" becomes a new cinematic technique. It can be used to depict inner conflicts, the interweaving of the real world and the dream world, and the interaction between the psyche and the subconscious, thus enriching the artistic expression of film.

Second, it achieves a paradigm shift in the viewing process. The traditional viewing process is relatively passive, yet when confronted with visual rupture techniques, viewers are prompted to actively reconstruct the film's meaning. This viewing process is more critical and involves active understanding.

B. *Analysis of Real-World Challenges*

It should be noted that "fragmentation aesthetics" still faces many challenges in practical application.

Firstly, there is the issue of the author's identifiable intention. How to distinguish between "consciously breaking aesthetic integrity" and "unconscious technical errors"? If the author intentionally breaks the integrity but the audience misunderstands it as an error, the author's intention cannot be achieved. Therefore, the author needs to make the audience aware that this break is intentional in a certain context.

Furthermore, there is the issue of the audience. The general public's appreciation of film is accustomed to Hollywood-style traditional linear narratives, traditional viewing rhythms, and the existence of the "fourth wall." How can a broad audience understand and accept this "anti-climax," "tearing down the fourth wall" viewing style? This requires a process of aesthetic agreement, a long-term process of cultivation, or rather, a process of aesthetic education.

C. *Discussion of Development Prospects*

Despite the challenges, the artistic value of visual fragmentation still deserves in-depth exploration.

Furthermore, future technological advancements such as AI-powered image generation, VR, and AR technologies will provide even more "media breaks," allowing creators to shift freely between visual formats and enabling audiences to traverse diverse media worlds and creating entirely new imaginative spaces [10].

Secondly, this aesthetic concept can be extended to more film genres. In experimental films, animations, multimedia films, and stage plays, because media boundaries are inherently blurred and fluid, visual breaks can also be an effective means of expression.

V. CONCLUSION

This paper argues that in the compositing of live-action film and 2D animation, visual breaks should not be merely viewed as a technical failure. Drawing upon Brecht's concept of "alienation effect" and Deleuze's idea of "crystalline imagery," and supplemented by case studies of *Who Framed Roger Rabbit?* and *Surviving Life*, it demonstrates that such visual breaks can also be a conscious act, possessing a highly expressive creative language.

In this way, it transforms the viewer from a passive to an active participant, and the image from a singular to a pluralistic one. The value of “break” may lie in what it can say rather than how to prevent breaks—at least in the case of Švankmajer’s work, for every crack in a work of art can become an opening through which light enters.

CONFLICT OF INTEREST

The author declares no conflict of interest.

REFERENCES

- [1] L. Holmaas, “Implausible Possibility: Freedom and Realism in Live-Action/Animated Gag Comedies. SAGE Publications, pp. 102-116, 2023.
- [2] Realism and Aesthetic-Semiotic Theories Applied to Cinema with a Combination of Live-Action and Animation (1900-1988). Cinergie, 2022.
- [3] A. E. Cioffi, “Imaginative and emotional engagement with political cinema. In Taylor & Francis, 2021.
- [4] S. Hatchuel, “Reflexive constructions: from meta-theatre to meta-cinema? In Shakespeare, from Stage to Screen. Cambridge University Press, 2004.
- [5] E. Arisoy, “Sound Aesthetics in Cinema: Bending Reality Through The Theory of Alienation. *Art Time*, (9), pp. 56-66, 2025.
- [6] G. Deleuze, *Cinema 2: The Time-Image*. University of Minnesota Press, 1989.
- [7] N. Promberger and J. Hagler, “Time Frames: Differentiating Past and Present through Hybrid Animation in *Les Abeilles d’eau douce*. 12th International Conference on Illustration & Animation (CONFIA), 237-246, 2025.
- [8] M. A. Mohd Arifin J. Animation project stranger danger: the merging of an animation character in live action footage. *Universiti Teknologi MARA*, 2015.
- [9] Yang Liang, *Contour Split Screens in Animation: The Short Film Tango and Others*. China Writers Network, 2022.
- [10] P. Van Opendenbosch, M. Linhart, and D. Pyle, “Emerging Interdisciplinary Directions: Prototyping a Miniature Desktop Virtual Production and Stop-Motion Animation Hybrid. *The Society for Animation Studies Conference*, 2024.

Copyright © 2026 by the authors. This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited ([CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)).