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Functions and Challenges of the Art of Painting

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Abstract: *This paper focuses on the functions that painting has served since its emergence and explores the challenges these functions have faced during different historical periods. From primitive art to modern art, painting has encountered significant challenges during three major periods: the Renaissance, the invention of the camera, and the technological revolution of the 21st century. Through a comparative approach that examines the evolution of artistic forms across these periods, this study seeks to uncover the developmental patterns of painting. The aim is to better understand the rationale behind the existence of painting and visual art in the context of the new era.*

Keywords: *Painting Art; Renaissance; Camera; Technological Revolution; AI*

1. Introduction

The mural Wounded Bison, discovered in the Altamira cave in northern Spain and considered one the earliest known paintings in human civilization, dates back over 20,000 years. Despite painting's history, the emergence and maturation of photography in the mid-19th century posed a serious to its original function of “recording and representing nature.” Discussions around painting often come with discouraging sentiments such as “the end of painting” or “easel painting is dead.” Today, the crisis has intensified as generative AI achieves image precision beyond human visual thresholds, and the hybrid reality built by the metaverse dissolves traditional concepts of "reality," delivering yet another blow to the already precarious status of painting. How painting should evolve today and how it can find its place in this new era has become an urgent question for those who work in the field of visual art.

2. Expansion and Iteration of Functionality

2.1 Functions of rituals and ceremonies

Starting with Wounded Bison, the mural depicts a scene where a bison, injured and fallen, still struggles to rise. The image uses simple colors but vividly captures the animal’s wildness and strength, creating a powerful emotional impact. A similar example is Lascaux Wild Horse in the Lascaux cave in southwestern France, which portrays a horse wounded by arrows—a glimpse into early human life, where survival depended on hunting. Though these cave paintings possess a raw and primitive aesthetic by today’s standards, they often evoke a sense of unfiltered beauty. Interestingly, children's drawings frequently compared to these early works, as both share a striking similarity in their directness, purity, and freedom from structured, objective knowledge—a natural sensibility rooted in instinct rather than intellect.

However, as discussed in E.H. Gombrich's The Story of Art, the creation of such prehistoric art was more practical than aesthetic. Early artworks were not made purely in pursuit of beauty but were functional, often serving ritualistic or utilitarian purposes. People believed that by depicting animals in art, they could influence or assist their success in hunting. In this context, the skills and knowledge of early artists were applied toward specific tasks—such as making masks or totems—that had spiritual or social significance.

2.2 Depicting Miracles

One of the most important early functions of painting was objective representation. During the Middle Ages and the subsequent Renaissance, one of painting’s primary tasks was the depiction of miracles. Visual images served to convey sacred stories, such as the life of Christ and the experiences saints. When expressed in appropriate forms, these images acted as constant reminders of religious teachings, especially for the illiterate. For them, images functioned much like picture books do for

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children today—tools of education and spiritual guidance.Take, for example, the mosaic The Miracle of the Loaves and Fishes in the Basilica of Sant'Apollinare Nuovo, created around the year 500 AD. It illustrates the Gospel story in which Christ feeds 5,000 people with five loaves of bread and two fish. E.H. Gombrich also discussed this work, emphasizing that it represents not only a miraculous event that once occurred in Palestine but also serves as a lasting symbol of Christ's eternal power. This symbolism explains why Christ is depicted as gazing directly at the viewer—the ones He intends to nourish are precisely those looking at the image.The depiction of miracles continued in the form of countless religious-themed artworks based on the Bible. Iconic themes such as Madonna and Child, Transfiguration of Christ, Assumption of Mary, and Annunciation became dominant subjects during the Renaissance, underscoring painting's role in visualizing the divine[1].

2.3 Representing the Collective and the Individual

The intellectual revolution of the Renaissance elevated the status of human beings, affirming their value and dignity. Art began to center around human experience rather than divine intervention. As a result, the thematic focus of painting shifted from representing miracles to representing human collectives—and eventually, individuals.

A prime example is The School of Athens by the Italian painter Raphael, created between 1510 and 1511. This fresco takes as its subject a gathering of Greek philosophers, led by Plato, in an idealized vision of ancient wisdom. Through this homage to the intellectual golden age of antiquity, Raphael expressed his hope for a future grounded in the pursuit of knowledge and truth.

The composition unfolds within a grand architectural setting, filled with prominent thinkers from various eras and schools of thought—Plato, Aristotle, Socrates, Pythagoras, Alexander the Great, and others—who walk, debate, calculate, or meditate in an atmosphere of academic freedom. This painting exemplifies the revival of classical rationalism and humanism. It pays tribute to those who seek truth and wisdom and reflects the Renaissance spirit of intellectual exploration and admiration for human capability. It is also a pivotal example of how painting transitioned from depicting divine miracles to portraying human collectives and intellectual pursuits.

Another significant case is Gustave Courbet, founder of 19th-century Realism. Courbet rejected idealized art and elevated ordinary people and everyday events to the level of historical or even religious subjects. His works, such as The Stone Breakers and A Burial at Ornans, exemplify this approach. He expanded the representational function of painting to include ordinary individuals, emphasizing artistic autonomy and personal expression. Courbet downplayed narrative themes and prioritized painterly elements like brushwork, color, and composition. His approach inspired future artists to reconsider the purpose of their work, moving away from traditional realism and illusionism.

From the 15th to the 20th century, the representational function of art—particularly in relation to the collective and the individual—was one of its most widely utilized roles. The trend moved from depicting collective ideals to individual realities, from the elite to the common people, and from the idealized to the everyday. While the scope of representation broadened dramatically, the efficiency of visual representation itself did not fundamentally improve. This stagnation helps explain why, in the mid-19th century, the advent of photography posed such a severe challenge to painting.

2.4 Transmission of Thought and Emotion, Aesthetic and Expressive Functions

The transmission of thought and emotion, as well as the aesthetic and expressive functions of image-based art, have existed since the very birth of painting. Even in the simplest cave murals, one can sense an aesthetic experience and emotional atmosphere. These functions have persisted throughout art history. However, prior to the 19th century, they were often overshadowed by grand collective or ideological themes. Moreover, they were frequently overlooked in favor of painting's dominant function: realistic representation. It wasn't until the mid-19th century—when photography emerged as a formidable competitor—that artists and audiences began to recognize the unique power of painting to express emotion, aesthetic intuition, and subjective thought. This realization spurred many 19th- and 20th-century artists into a near "salvational" artistic movement focused on reclaiming these expressive dimensions.

A classic example is found in the work of the Impressionists. In 1863, Édouard Manet exhibited his controversial painting Le Déjeuner sur l'herbe (Luncheon on the Grass) at the famed "Salon des Refusés" in Paris. The work depicted two fashionably dressed young men conversing with a nude

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woman of ordinary appearance in the Bois de Boulogne on the outskirts of Paris. Picnic food lies beside them, making the scene unmistakably modern and recreational. For viewers used to classical representations of nude women, this scene was scandalous. Many denounced the painting as vulgar and indecent.

Interestingly, Western art already had precedents for nude women depicted alongside clothed men in landscapes—Giorgione's Pastoral Concert, for instance, was considered a masterpiece. But Giorgione's composition conformed to the ideals of classical tradition: the nudes were idealized figures set in a mythologized pastoral setting, allowing viewers to appreciate the nudity within a culturally sanctioned, aestheticized context.

Manet, on the other hand, violated these unspoken rules. He disregarded the idealization of form and transposed the nude into the stark reality of modern Parisian life, replacing mythological Mars and Venus with ordinary men and women. In doing so, Luncheon on the Grass became more than a representation of a visual scene—it became a statement.

On one level, Manet's painting is a critique of idealism and bourgeois morality, highlighting the artist's social perspective and emotional stance. On another level, it was a radical departure in terms of artistic technique. Manet rejected the modeling and spatial illusionism passed down from the Renaissance. For him, elegance lay in simplification. He pursued visual flattening and compositional clarity, emphasizing stylistic abstraction over traditional depth and volume.

This dual challenge—both in content and form—had a profound impact on the evolution of modernist art. It marked a turning point where painting's power to convey personal thought and aesthetic perception gained prominence, establishing expressive and emotional communication as core artistic values. Painters no longer merely "reproduced" reality but began to interpret, question, and transform it—ushering in a new era where subjectivity and vision became central to artistic practice.

3. Transformation Amid New Challenges

As discussed at the end of the previous section, Édouard Manet can be seen, in many ways, as a watershed figure in 19th-century painting. His groundbreaking works, such as Le Déjeuner sur l'herbe (Luncheon on the Grass) and Olympia, were created at a time when photography was maturing rapidly. On one hand, Manet's work exemplified a revolutionary shift in painting. On the other, it signaled the tremendous challenges that painters of the 19th century were beginning to face. These challenges can be broadly summarized into two main aspects:

3.1 The Degree and Realism of Representation

Since the Renaissance, Western painters have further developed the ancient Greek philosopher Aristotle's view of "imitation" in art, and Leonardo da Vinci put forward the "Mirror Theory", which believed that the mirror was the painter's teacher, and that drawings reflected on flat mirrors were extremely similar to paintings. Leonardo da Vinci completely realized his theory, abandoning the clear-cut outline lines in oil paintings, and instead expressed the shape and three-dimensionality of objects through light and dark tones. Since then, Western painters have always pursued a sense of "optical realism", strictly following the optical effects of focal perspective, chiaroscuro projection,with the aim of creating a three-dimensional realism on the screen. Most of the painters' efforts in the creation of paintings are aimed at improving the degree of reproduction,as well as the degree of realism, which contains a lot of ideological and aesthetic contents, which I will summarize this as the "quality of reproduction" for the time being. "vivid ","aesthetics" is also most of the viewer's attention, people are eager to get from the image of the sense of reality, beautiful and comfortable pleasure.

The invention of photography undoubtedly pushed the objective truth and realism to the extreme in a single moment, achieving a level of realism that painting could hardly match.** This resulted in a direct impact on portrait painters, leading to a sharp decline in portrait commissions. Many clients of portrait artists began to prefer photographic portraits, such as those created by photographers like Geydal, rather than spending a long time sitting for a painted portrait. However, some artists used photography to their advantage by first taking photographs of their clients and then creating portraits based on those photographs

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3.2 Reproduction Efficiency and Economic Benefits

Compared to painting, photography also had a tremendous advantage in terms of reproduction efficiency and economic viability. By comparing the prices of photographs at different times, one can clearly see the vast differences in cost. During the Daguerreotype period (1839–1850s), in Europe, a single photographic portrait cost around 25 francs, while in the U.S., it ranged from 5 to 10 dollars (about half a month's wage for an average worker). The exposure time was 15–30 minutes, with the daguerreotype being unique and unable to be reproduced. Meanwhile, the price of an oil portrait at the time ranged from 100 to 500 dollars, making photography only 5%–10% of the cost of painting. In the wet collodion era (1851–1880s), in 1860, a tintype photograph in the U.S. cost around 0.25–0.5 dollars, and in 1870, carte-de-visite photos were priced at 12 for 1 dollar. The exposure time dropped to a second-level, and mass production became possible. Middle-class families were taking 2–3 photos annually (by 1855, there were 400 photography studios in Paris). In the dry plate and commercial period (1880s–1900), the Kodak camera revolution (1888) made photography even more accessible, with a complete camera kit including a roll of film costing 25 dollars (equivalent to about 800 dollars today), and the cost per print dropped to under 0.1 dollars[3].

Despite photography surpassing painting in terms of realism, efficiency, and cost, artists did not abandon their craft. In response to the challenge posed by photography, artists followed two main approaches: one group of artists utilized photography as a tool for creation. For example, they would take a photograph of a customer and then paint the portrait based on the photo. In Courbet's "Proudhon and His Children," Proudhon’s likeness was based on a photographic image. As photography technology improved, exposure times decreased, and landscape photography began to challenge traditional landscape painting. Photography greatly reduced the effort required for outdoor sketching for landscape painters. Photography also had a profound impact on the Impressionist style, particularly in the composition of oil paintings and their depiction of fleeting moments. Traditional European oil painting compositions often aimed for idealization, strictly adhered to perspective rules, and sought balance and stability. In contrast, Impressionist compositions embraced randomness, often cropping parts of the figures at the edges of the frame, much like the framing technique in photography. For example, Degas' "The Dancer" captures the spontaneous movements of a dancer, frozen in a moment of change.

Another group of artists was anti-photography and sought to create images that photography could not capture, such as "Cubism." Cubism is often interpreted as an extreme attempt to compensate for the limitations of monocular vision. These paintings contain clues that can only be perceived through movement or touch, allowing the viewer to see the outlines of objects hidden beneath or behind others[2]. Cubist artists nearly abandoned the objective illusion of realism in painting and instead depicted the full range of objects from a rational perspective, as though they were touching the objects themselves. This was, to some extent, a revolutionary idea. Another example is "Surrealism," as embodied by Salvador Dalí. As a core figure of Surrealism, Dalí’s works provided a profound aesthetic counterattack against photography’s function as an "objective recorder." This counterattack was not a direct confrontation but a redefinition of the uniqueness and irreproducibility of art through surreal absurdity, psychological depth, and deconstruction of time and space. In "The Persistence of Memory," Dalí’s melting clocks challenge the illusion that photography can freeze time. While photography captures a moment in time, Dalí’s "soft clocks" suggest the fluidity of time and point out that mechanical recording cannot grasp subjective experiences of time. In "The Virgin of Port Lligat," the floating rhino horn and fragmented atomic structures introduce scientific uncertainty into art, implying that photography’s "clear record" is only a partial snapshot of reality.

From Cubism and Surrealism to later developments in painting, we can see the flourishing of the fourth function of painting: the transmission of ideas, emotions, and aesthetic expressions. From the perspective of artistic creation, the invention and popularization of photography not only did not kill painting, but rather stimulated the most powerful and captivating aspects of painting—the expression of ideas, emotions, aesthetics, and representation. This allowed painting to break free from its old formats and, after more than 20,000 years of development, experience a renaissance. Overall, it led to a transformation in the core paradigm of painting: from "what to paint" to "why to paint." Painting became a philosophical and speculative medium, breaking free from the canvas to engage with space and viewers, and shifting from technique to concept, with the creative process itself becoming part of the work.

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3.3 New Challenges Always Emerge

It is worth noting that by the 21st century, the challenges faced by painting are no longer limited to those introduced by photography. The new crises triggered by technological revolutions are unprecedented.

3.3.1 The Ubiquity of Image Editing Software

Mainstream tools like Photoshop and Procreate have compensated for the limitations of traditional photography's objectivity. Photographic images can now be manipulated—efficiently and reversibly—enabling visual effects previously exclusive to easel painting to be achieved digitally. These tools can even serve as direct instruments for creating artwork.

3.3.2 Applications of AI-generated art

AI tools such as Stable Diffusion can produce hyperrealistic images, while Midjourney v6 can generate visuals at 4K resolution. These developments not only further challenge the traditional scarcity of painting skills, but they also simulate the entire creative process of painting—from idea to sketch, to execution and revision—all of which can now be realized through AI.

3.3.3 Sensory Substitution Through Virtual Reality

The retinal display technology (25 PPD) of the Meta Quest 3 blurs the line between real and virtual. Members of Gen Z now spend an average of 87 minutes per day in VR environments. Such immersive sensory experiences inevitably weaken the visual allure of traditional easel painting.

3.3.4 The Strangulation of Attention

Neuro-hijacking by short videos—platforms like TikTok switch visuals every 7 seconds on average—is in direct conflict with the prolonged contemplation required by oil painting, which often demands tens of minutes of focused viewing. Modern daily life has shifted from stable rhythms to fluctuating pulses, from holistic experience to fragmented moments. In this context, a static, two-dimensional work of art often struggles to capture the 21st-century viewer's attention.

3.3.5 The Weakening of Critical Artistic Expression

The overwhelming flood of images on social media has diluted painting's traditional function of social critique. In the vast, chaotic universe of the internet, it becomes increasingly difficult for a single painting to evoke deep reflection or meaningful protest.

4. Conclusions

The predicament of contemporary painting is, in essence, a reflection of the paradigm shift in human cognition. Its survival no longer hinges on the specificity of its medium, but rather on whether it can reconstruct its philosophical legitimacy in the midst of technological upheaval. This is both a Normandy landing for artistic ontology and a tragic act of self-rescue in the evolution of civilization.

Yet, I believe that the artists of our time, those who see art as their mission—as did the great artists of the 19th and 20th centuries—will once again rise to meet new challenges, and lead painting and image-making to new heights.

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