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## A New Art Form for Common Experience: Hirschfeld-Mack's *Farbenlichtspiele*

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### 1. Introduction

The Lumière Brothers are reputed as the inventors of the moving picture, but they invented also the current form of the moving picture: at their first show in 1895, they considered the motion picture as a form of common experience.<sup>1</sup> Hugo Münsterberg (1863–1916), working in Germany and the United States, was the first psychologist to focus on the way the moving picture manifested common experience. Münsterberg, a pupil of Wilhelm Wundt (1832–1920), the founder of experimental psychology, integrated a number of psychological disciplines into his *Psychotechnik* and emphasized its applicability to other fields in *Grundzüge der Psychotechnik* (1914). Later, in his last book, *The Photoplay: A Psychological Study* (1916), he clarified the psychological character of the moving picture and identified it as a form of artistic experience. For Münsterberg, the salient characteristics of moving pictures are the interactions among the images on the screen, the observers' mental processes, and the universality of these mental processes; he considered them to have both an aesthetic and an instructive value.

The moving picture's basic form, as an aesthetic experience shared by

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<sup>1</sup> H. Münsterberg, *The Photoplay: A Psychological Study* (New York, 1916), 164.

many at the same time and place, was significant not only for those in applied psychology but also those in artistic creation. The beginning of the twentieth century saw many artists engaged as experimental filmmakers, stage designers, and painters attempting to create images resembling those in moving pictures; this tells us how shocking and fruitful were the new creative possibilities opened up by the moving picture form. We cannot pass over Weimar-era Bauhaus, which performed many moving-picture experiments. *Farbenlichtspiele*, created by Ludwig Hirschfeld-Mack (1893–1965), a Bauhaus pupil and painter, is a rare example: it not only coped with most of the pressing artistic of its day but also realized an aesthetic experience shared by many at the same time and in the same place. *Farbenlichtspiele* was an epoch-making experiment because it presented dynamic and tense relationships among color-forms: *Farbformen* and their allies, who experimented only on canvas, formed a substantial movement. *Farbenlichtspiele* was epoch-making, though, as it expanded the horizon of the public visual experience. *Farbenlichtspiele* demonstrates that the experience of art was changing from a personal experience of aesthetic joy occurring in closed spaces into a communal experience occurring openly.



Figure. 1. Photo of the cross play of 1923, showing apparatus used, University of Melbourne Archives Ludwig Hirschfeld-Mack Collection, 6-4-10-1.

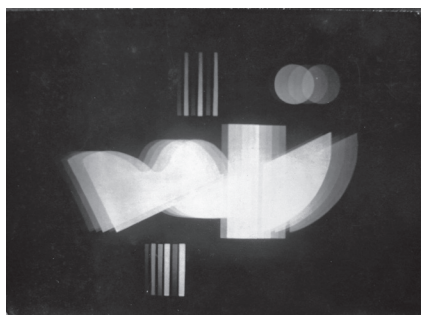


Figure. 2. Photo of the cross play of 1923, University of Melbourne Archives Ludwig Hirschfeld-Mack Collection, 6-4-10-12.

## 2. Moving Picture as New Experience Form

The moving picture attracts us through “the sheer delight in the fact that

things [seem] to move,”<sup>2</sup> as Panofsky said. One makes things seem to move by showing a successive series of images. As in abstract painting, the movement of images on the screen is only apparent. Perceiving this apparent movement as real requires the activation of mental processes in the observer, who unites the images into one through the physiological phenomenon of afterimage combined with the psychological phenomenon of association. Thus, the moving picture is a form of inner experience in the observer realized by an interaction between a succession of images and the observer’s mental processes. Accordingly, watching the moving picture is not a passive experience: it is an experiential *Erlebnisform*, similar to a painting, which demands its observers’ involvement.

Many devices have been invented for the moving image, but most have produced a merely personal experience or the repetitive movements of after-images. The Lumière Brothers conquered these limitations and provided the current mode of moving picture, a communal experience enjoyed en masse. We can describe the basic character of the moving picture as two new experiential forms. In the first, the observer engages in an inner experience through active participation with the images. In the second, observers engage in this inner experience communally at the same time and place. Thus, the experience of art was shifting from a personal aesthetic joy to a communal experience.<sup>3</sup>

One can see the *Farbenlichtspiele* as a pioneer that introduced this new experience into the artistic discourse. It certainly performed the two functions Hirschfeld-Mack expected from the *Farbenlichtspiele*. First, it was to help people who were at a loss in front of Abstract paintings and other forms of Modernism.<sup>4</sup> It was also meant to offer plot elements for films and plays through its physical-psychological effects, which aroused deep emotions.<sup>5</sup> The Abstract painting’s impression of movement, realized through color-forms and their relative positions, is only a subjective suggestion. Hirschfeld-

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<sup>2</sup> E. Panofsky, “Style and Medium in the Motion Pictures,” in *Three Essays on Style*, ed. I. Lavin (Cambridge, 1995), 93.

<sup>3</sup> Münsterberg, *Photoplay*, 164.

<sup>4</sup> L. Hirschfeld-Mack, *Farbenlicht-Spiele. Wesen, Ziel, Kritiken* (Weimar, 1925), 8–9.

<sup>5</sup> *Ibid.*, 8.

Mack thought that the moving picture, with its ability to arouse emotions, was the only way for laypeople to share his appreciation for Abstract painting and its problems.

### 3. Two Spaces in the *Farbenlichtspiele*

The *Farbenlichtspiele* projects colored light: *Farbenlicht* projects onto a screen through a handmade apparatus equipped with colored filters, electric bulbs, and cardboard patterns. The colored lights are rear-projected from behind the screen by hand and move sequentially, in a *Spiel* accompanied by original organ music. In a darkened room, the observers watch the image move, transform, and disappear on the screen. Hirschfeld-Mack discussed his development of *Farbenlichtspiele*: “I studied illusionary tensions of color shapes toward each other and toward their own edges, resulting in imaginary movements. In our color seminar at the Bauhaus, I actually moved colored papers on a linear design placed on the floor.”<sup>6</sup> Hirschfeld-Mack reveals the two key kinds of compositional space. The first is the space defined by the “figure” and the background (or “ground”). The other is the space defined by each component of the composition, each color-form. Hirschfeld-Mack tried to intensify the dynamic and rhythmic relationships between those two compositional spaces.<sup>7</sup>

#### 3.1. The space of the picture

The spatial elements of the *Farbenlichtspiele* are the two-dimensional movements of color-form and the three-dimensional depth created by the overlapping color-forms. The constant vertical and horizontal and forward and backward movements of the color-forms cause the *Farbenlichtspiel* image to shift unceasingly.

Münsterberg identifies the movement and the depth as the core effects of

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<sup>6</sup> L. Hirschfeld-Mack an Standisch Lawder in 1964, in *Form*, no. 2 (Cambridge, September 1966), 13.

<sup>7</sup> L. Hirschfeld-Mack, “*Farbenlichtspiele*,” 1926–1928, University of Melbourne Archives, Acc. No. 71/9–6–1.

the moving picture, but these are not its essential qualities. Münsterberg says, “it is only a suggestion of depth, a depth created by our own activity, but not actually seen...It is only a suggestion of movement, and the idea of motion is to a high degree the product of our own reaction...[W]e create the depth and the continuity through our mental mechanism.”<sup>8</sup> Thus, the movement and depth we perceive occur through the interaction between the image and observer’s attention. In Gestalt psychology, the observer’s experience of space shifts when the figure and ground are shifted through a shift in the observer’s attention. Similarly, *Farbenlichtspiele* tried to create an unceasingly shifting, ambiguous space rather than a definitive space in linear perspective.

### 3.2. The space of color-form: *Farbform*

Hirschfeld-Mack tried to shift not only the whole space of the composition but also the spaces inherent in each color-form. The color-form in *Farbenlichtspiele* is a colored light surface, or *Lichtfelder*<sup>9</sup>: the surface of projected light on the screen. Hirschfeld-Mack called the quality of color-form in the *Farbenlichtspiele* its “texture,” and he manipulated the edges of color-forms by manipulating the intensity of light, creating either a “soft surface texture” or a “hard surface texture.”<sup>10</sup> The former has a blurred edge, and the latter has a sharp edge. Hirschfeld-Mack distinguished between color-form in film color (*flächen Farbe*) and in surface color (*oberflächen Farbe*); these were classified by the psychologist David Katz (1884–1953) in his study *Die Erscheinungsweise der Farben und ihre Beeinflussung durch die individuelle Erfahrung* (1911).<sup>11</sup> Thus, the *Farbenlichtspiele* could be seen as an attempt to change the way color appeared to an audience. The fact that Hirschfeld-Mack employed only film color and surface color among the various phenomenal colors classified by Katz indicates the depth of his interest in the

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<sup>8</sup>. Münsterberg, *Photoplay*, 71.

<sup>9</sup>. Hirschfeld-Mack, *Farbenlicht-Spiele*, 1.

<sup>10</sup>. L. Hirschfeld-Mack, “Sequences,” University of Melbourne Archives, Acc. No. 71/9–4–4–2–1.

<sup>11</sup>. D. Katz, *Die Erscheinungsweise der Farben und ihre Beeinflussung durch die individuelle Erfahrung*, *Zeitschrift für Psychologie, und Physiologie der Sinnesorgane*, I. Abteilung, Ergänzungsband 7 (Leipzig, 1911).

creation of color-space. No medium would have achieved this goal more effectively than a light that can manipulate the clarity of colors' edges. Moreover, in this period when color film was still in development,<sup>12</sup> light was the only medium that could produce a "pure color," one freed from material objects.

## 4. For the Common Experience of Color-Space

### 4.1. Color-light: *Farblicht* as "pure color"

Hirschfeld-Mack was a painter, yet he chose colored light (*Farblicht*) as a medium in order to realize not only a moving image but also a new color-space, a "light-image" (or *Lichtbild*), that transcended the conventional picture. László Moholy-Nagy (1895–1946), a colleague at the Bauhaus and supporter of the *Farbenlichtspiele*, said that the light-image was a new form that was free from representation and could thus allow painters to occupy the color itself while varying the interrelationships between colors and intensities of brightness.<sup>13</sup> Likewise, the painter Adolf Hölzel (1853–1934), a teacher of Bauhaus Masters and Hirschfeld-Mack, said that painters should start from pure colors and create glass windows not paintings.<sup>14</sup> Here, we see the objective of using colors freed from material: pure color. The intention was to introduce object color and phenomenal color into art production: Moholy-Nagy and Hölzel speak of color with color-material and color without color-material, the former being color belonging to the object and the latter being phenomenal color changing as environmental conditions demand. According to Katz, who used object color and phenomenal color as classifications, the color perceived in the real world is the phenomenal color; its effect is weakened by being subject to the variable lighting conditions surrounding both observer and object. Thus, the phenomenal color is unstable and almost detached from its object by environmental lightning. This

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<sup>12</sup> Color film was first produced in 1918 by Technicolor, but it only used two colors. Today's color film emerged in the 1950s.

<sup>13</sup> L. Moholy-Nagy, *Malerei, Fotografie, Film* (München, 1925), 6–7.

<sup>14</sup> A. Hölzel, "Glasfenster," in *Leibnitz-Feldpost*, no. 65 (März 1918).

“pure” color should be seen as the color-light.

Distinguishing between object color and phenomenal color, Hirschfeld-Mack tried to show how they shifted. The *Farbenlichtspiele* originated in a pictorial interest and was rooted in biological and universal thinking not only in its attitude to color<sup>15</sup> but also in its application of *Psychotechnik*. Hirschfeld-Mack clearly saw that conventional painting would give way to the moving light image as our prime communal and expressive medium.<sup>16</sup>

#### 4.2. Prospect of the shared color-space

The objective of the *Farbenlichtspiele* was psychologically sound in the context of its time. Münsterberg was sure that the moving picture would become the vehicle of an aesthetic education that could teach the spirit of true art.<sup>17</sup> In fact, the *Farbenlichtspiele*, seemingly supported by *Psychotechnik*, was performed at theaters and schools in every corner of Germany from 1923 to 1927. It performed in venues beyond the Bauhaus at least 9 times between 1923 and 1926 and was invited to the *Musik und Theaterfest* in Wien (in 1924) and *Die Filmmatinée “Der absolute Film”* (in 1925) together with prominent experimental filmmakers like Fernand Lèger and Hans Richter. The venue for “*Der absolute Film*” was the 900-seat UFA-Theater<sup>18</sup>; 600 to 800 visitors came to the third day in Hannover in 1927.<sup>19</sup> From 1926 to 1927, Hirschfeld-Mack improved the *Farbenlichtspiele*, getting a professional mechanical designer to increase its size.<sup>20</sup> In 1939, he invented an apparatus similar to today’s electric board and acquired three patents.<sup>21</sup> These facts suggest that Hirschfeld-Mack was sure of the *Farbenlichtspiele*’s potential and of its applicability to the theater, the school, and the broader public.<sup>22</sup>

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<sup>15</sup> Moholy-Nagy, *Malerei*, 6.

<sup>16</sup> Hirschfeld-Mack, *Farbenlicht-Spiele*, 3.

<sup>17</sup> Münsterberg, *Photoplay*, 230.

<sup>18</sup> H. Wilmesmeier, *Deutsche Avantgarde und Film*, Heidelberg Univ., Diss., 1993, 4.

<sup>19</sup> L. Hirschfeld-Mack an Albert Talhoff, 10. März 1927, Bauhaus Archiv Berlin.

<sup>20</sup> L. Hirschfeld-Mack, “Material relating to Colour Light Plays,” University of Melbourne Archives, Acc. No. 71/6–5.

<sup>21</sup> L. Hirschfeld-Mack, “Patents for advertising apparatus, together with legal documents,” University of Melbourne Archives, Acc. No. 71/7–1.



## 5. Epilogue

After the golden age of the movie theatre, the popularization of videotape, DVD, and YouTube, the moving picture experience has again moved into the personal space. In contrast, installation art is becoming more important to museums. These two dynamics suggest that the demand for common experience remains but that the moving image is leaving this realm behind. Münsterberg, while asserting the usefulness of *Psychotechnik*, said repeatedly that it could not assure the beauty of an artwork but only protect against failure. The artistic fruit of *Psychotechnik* is not any principles of creation but a theoretical proof of what had been experienced as conventional knowledge.

Art as a communal experience was studied in various ways at the Bauhaus, where the *Farbenlichtspiele* was produced. Walter Gropius (1883–1969), the school's founder, repeatedly insisted on the integration of individualized art and public life. The *Farbenlichtspiele* attempted to establish Modernist Abstract painting as a necessary and fundamental form of expression, equal to traditional schools of paintings. This was the goal not only of aesthetic education but also of those major expressive media that corresponded to the new, modern condition.

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<sup>22</sup> Unfortunately, this plan was not realized, because Hirschfeld-Mack was deported from England to Australia and spent two years as a prisoner, ending his life as an art teacher. We can find in the articles left by the deceased some sketches that address the problem discussed in *Farbenlichtspiele* (The Ian-Potter Museum, Melbourne, Acc. No. 1982. 0128. 003) as well as pieces of Perspex in various sizes and colors reminiscent of the colored filters used in the *Farbenlichtspiele* (University of Melbourne Archives, Acc. No. 71/6–3). This tells us that Hirschfeld-Mack's interest in this subject was still active.