FILM CULTURE IN TRANSITION

SPECIAL EFFECTS *and* GERMAN SILENT FILM

TECHNO-ROMANTIC CINEMA

KATHARINA LOEW

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Special Effects and German Silent Film

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Introduction: Special Effects and the Techno-Romantic Paradigm

Abstract
German silent cinema is famous for its unconventional aesthetics and film-technological innovations. These characteristics were the result of efforts to reconcile the new medium's automatic reproductions of physical reality with idealist conceptions of art. Special effects played a crucial role in this endeavour. They afforded creative experiments with the cinematic apparatus and inspired filmmakers to convey ideas and emotions. Special effects embodied the "techno-romantic" project of construing technology as a means for transcending material reality. This common response to industrial modernity profoundly shaped German silent film culture. The techno-romantic paradigm formed the basis of one of the most creative periods in film history and proved instrumental in the evolution of cinematic expressivity and film art.

Keywords: special effects, techno-romantic thought, Expressionism, film art, expressivity

One of the most famous sequences in the history of cinema is the robot's anthropogenesis in *Metropolis* (Ufa, 1927, dir. Fritz Lang). The images of the metal cyborg seated like an ancient Egyptian deity on a throne enveloped in dramatic electric discharges and rings of light that glide up and down her body are as awe-inspiring as they are enigmatic and ominous. The scene has become an emblem for the unconventional aesthetics and seminal film-technological innovations of German silent cinema. It also points to a complex, even paradoxical attitude towards machine technology, one that is simultaneously characterized by fascination and apprehension. The filmmakers and intellectuals who principally shaped German silent film culture strove to reconcile their idealist conceptions of art and life with a rapidly mechanizing world. They eagerly embraced cinema as the art of

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the machine age. At the same time, however, they also insisted that it was imperative for the medium to meet key stipulations of idealist aesthetics. The leading German filmmakers were preoccupied with the creative potentials of film technology and special effects came to play a pivotal role in the endeavour to develop cinema's medium-specific expressivity. According to Sergei Eisenstein, German cinema evinced that the artistic value of special effects rivalled that of montage, which he considered the "nerve of cinema:"[1] "'The technical possibility,' foolishly called a 'trick,' is undoubtedly just as important a factor in the construction of the new film art as the new principle of montage that emerged from it."[2]

German cinema's renown for innovative uses of film technology and special effects notwithstanding, the topic has received little scholarly attention to date. Instead, studies on German silent cinema have traditionally followed the path laid out by two foundational studies, Siegfried Kracauer's *From Caligari to Hitler* (1947) and Lotte Eisner's *L'Écran démoniaque* (1952).[3] Both authors worked as film critics during the Weimar Republic and survived the Holocaust in exile. Writing in the immediate aftermath of World War II, each in their own way grappled with the question of whether the most heinous crimes in human history might have been presaged in cinema. Kracauer read recurring narrative motifs as indicative of psychological inclinations of a collective mentality during the interwar period. Eisner, for her part, traced the pictorial characteristics of Weimar cinema to the influence of nineteenth-century dark Romanticism, contemporary Expressionism, and Max Reinhardt's theatre, which she deemed symptomatic of a "German soul." Although their approaches and rhetoric differed, Kracauer and Eisner both sought to distil from Weimar films characteristics that might elucidate the rise of National Socialism. Indeed, this objective, whether pursued implicitly or explicitly, may also explain why, compared to other national contexts, socio-political history continues to play a major

1 Sergei Eisenstein, "A Dialectic Approach to Film Form [1929]," in *Film Form: Essays in Film Theory*, ed. and trans. Jay Leyda, 45-63 (San Diego, CA: Harcourt, 1949), 48.

2 Sergei Eisenstein, "The New Language of Cinematography," *Close Up* 5 (May 1929): 13. Translation amended. Many thanks to Yuri Tsivian for helping to correct it.

3 Siegfried Kracauer, *From Caligari to Hitler: A Psychological History of the German Film* [1947] (Princeton, N.J.: Princeton University Press, 2004); Lotte H. Eisner, *The Haunted Screen: Expressionism in the German Cinema and the Influence of Max Reinhardt* [1952], trans. Roger Greaves (Berkeley, CA: University of California Press, 2008).

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role in German film scholarship, as for instance evidenced in the superb work of Patrice Petro and Anton Kaes, among others.[4]

For decades, studies on German cinema, particularly those of Anglophone provenance, focused on the ways film could shed light on larger socio-political issues. It was not until the 1980s and 1990s, when, as part of the paradigm shift within film studies towards "new film history," German cinema became an object of investigation in its own right. Researchers began to attach greater importance to primary sources, production processes, and the industrial contexts from which these films emerged. Careful historical investigations, initially published primarily in German-language edited collections, proceedings,[5] and monographs,[6] played an important role in shifting the focus away from Kracauer's and Eisner's grand narratives. Following Thomas Elsaesser's authoritative *Weimar Cinema and After* (2000), novel approaches that combine thorough historical analysis with theoretical questions also gained increasing prevalence in Anglophone scholarship, as for instance evinced in Noah Isenberg's and Christian Rogowsky's important edited collections.[7] This book builds

4 Patrice Petro, *Joyless Streets: Women and Melodramatic Representation in Weimar Germany* (Princeton, NJ: Princeton University Press, 1989); Anton Kaes, *Shell Shock Cinema: Weimar Culture and the Wounds of War* (Princeton, NJ: Princeton University Press, 2009).

5 Especially noteworthy are *CineGraph: Hamburgisches Centrum für Filmforschung*, which publishes annual conference proceedings (Munich: edition text + kritik, 1989-). Its important and steadily expanding encyclopaedia (since 1984) has appeared in abbreviated form as *The Concise Cinegraph: Encyclopaedia of German Cinema*, eds. Hans-Michael Bock and Tim Bergfelder (New York, NY: Berghahn, 2009). Likewise of great value are Frank Kessler, Sabine Lenk, and Martin Loiperdinger, eds., *KINtop: Jahrbuch zur Erforschung des frühen Films*, (Frankfurt am Main: Stroemfeld, 1992-2006) and Harro Seegeberg, ed., *Mediengeschichte des Films* (Munich: Wilhelm Fink Verlag, 1996-2012).

6 Important (originally) German-language monographs include: Corinna Müller*, Frühe deutsche Kinematographie: formale, wirtschaftliche und kulturelle Entwicklungen 1907-1912* (Stuttgart: Metzler-Verlag, 1994); Klaus Kreimeier, *The Ufa Story: A History of Germany's Greatest Film Company 1918-1945*, trans. Robert and Rita Kimber (Berkeley, CA: University of California Press, 1999); Michael Wedel, *Der deutsche Musikfilm: Archäologie eines Genres 1914-1945* (Munich: edition text + kritik, 2007); Chris Wahl, *Multiple Language Versions Made in Babelsberg. Ufa's International Strategy, 1929-1939* (Amsterdam: Amsterdam University Press, 2016); Philipp Stiasny, *Das Kino und der Krieg: Deutschland 1914-1929* (Munich: edition text + kritik, 2009); Tobias Nagl, *Die unheimliche Maschine: Rasse und Repräsentation im Weimarer Kino* (Munich: edition text + kritik, 2009); Joseph Garncarz, *Maßlose Unterhaltung: Zur Etablierung des Films in Deutschland 1896-1914* (Frankfurt am Main: Stroemfeld, 2010).

7 Thomas Elsaesser, *Weimar Cinema and After: Germany's Historical Imaginary* (London: Routledge, 2000); Noah Isenberg, ed., *Weimar Cinema: An Essential Guide to Classic Films of the Era* (New York, NY: Columbia University Press, 2008); Christian Rogowsky, ed., *The Many Faces of Weimar Cinema: Rediscovering Germany's Filmic Legacy* (Columbia, MD: Camden House, 2011).

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on these methodologies, scrutinizing specifically correlations between filmmaking practices and pervasive ideas about the nature of cinema, art, and technology.

While German film scholarship has experienced significant methodological advances and thematic diversification in recent years, outside of specialist circles, dated concepts persist. For example, German silent cinema continues to be widely associated with the catchphrase "German Expressionism." Lotte Eisner, who later disavowed her initial far-reaching use of the term, described Expressionism as an artistic current concerned with mysticism, raw emotion, immediate experience, visions, subjectivism, and the incomprehensible.[8] While there is little doubt that these qualities figured prominently in German silent film culture, I argue that they are neither peculiar to Expressionism nor to German cinema. Many also pertained to other contemporary art movements and film cultures for instance in France, Italy, and pre-revolutionary Russia, which are not usually associated with Expressionism. What is more, the German post-war trend towards stylization went far beyond the scope of identifiable Expressionist features and few German filmmakers—certainly not those to whom it has been most commonly attributed, Fritz Lang and F. W. Murnau—accepted the Expressionist label for their work.[9] The objectives and strategies that self-identified Expressionist poets, dramatists, and painters postulated for and implemented in their art rarely found their way into the cinematic realm. As Jürgen Kasten has suggested, German films of the early 1920s adopted little more than stylistic rudiments and the sensational label from the Expressionist movement.[10] Moreover, in common parlance, "Expressionist" has not only been used as a designation for a particular early twentieth-century art movement, but also as a shorthand for any non-realistic style. As a result, the term has lost much of its specificity and meaning. Even though prominent scholars like Barry Salt, Thomas Elsaesser, and Dietrich

8 Lotte H. Eisner, "Stile und Gattungen des Films," in *Das Fischer Lexikon. Film, Rundfunk, Fernsehen*, eds. Lotte H. Eisner and Heinz Friedrich, 259-283 (Frankfurt am Main: Fischer, 1958), 264.

9 For the interwar German discourse on film style see Kristina Köhler, "Nicht der *Stilfilm* also, sondern der *Filmstil* ist wichtig!" in *Filmstil: Perspektivierungen eines Begriffs*, eds. Julian Blunk, Tina Kaiser, Dietmar Kammerer, and Chris Wahl, 91-117 (Munich: edition text + kritik, 2016). For Lang's and Murnau's attitude to the Expressionist label see Dietrich Scheunemann, "Activating the Differences: Expressionist Film and Early Weimar Cinema," in *Expressionist Film: New Perspectives*, ed. Dietrich Scheunemann, 1-31 (Rochester, NY: Camden House, 2003), 7.

10 Jürgen Kasten, "Filmstil als Markenartikel. Der expressionistische Film und das Stilexperiment Von morgens bis mitternachts," in *Die Perfektionierung des Scheins: Das Kino der Weimarer Republik im Kontext der Künste*, ed. Harro Segeberg, 37-66 (Munich: Wilhelm Fink Verlag, 2000), 41.

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Scheunemann have eloquently questioned the usefulness of the Expressionist designation as a synonym for German silent cinema, many critics continue to resort to the term, thus perpetuating misleading notions about the era's stylistic and ideological orientation.[11] In this book, I intend to move past the elusive concept of Expressionism and instead scrutinize broader issues that informed German silent film culture, in particular responses to modernization and the development of cinematic modes of expressivity.

The techno-romantic paradigm

The preoccupation with German cinema's debts to Expressionism has resulted in inadequate attention to other aspects, including German film culture's pivotal and complex relationship to machine technology. The profound socio-cultural transformations in the wake of the industrial revolution—the triumph of rationalization, mechanization, and market economy—had brought about a widely perceived disregard for any spiritual, intellectual, and cultural values. Faced with massive loss of prestige and influence, intellectuals vocally deplored the "soulless" zeitgeist and the concomitant rampant "materialism."[12] Heinrich Mann observed in 1909, "[t]he hatred of intellectuals for the infamous materialism of this German Empire is considerable."[13] In response, idealist sentiment surged. It manifested in fin-de-siècle artistic movements such as symbolism, aestheticism or Art Nouveau as well as in a public discourse deeply concerned with mental processes, sensations and emotions.. As Uta Grund has argued, the decades around 1900 saw a "downright excessive use of terms such as 'mood' [*Stimmung*], 'spiritual' [*seelisch*], 'inwardly' [*innerlich*], 'sensible' [*sinnlich*], 'sensation' [*Empfindung*] and 'intimate' [*intim*]."[14] In a similar vein, Hugo Münsterberg asserted the dawn of a new idealist age:

11 Barry Salt, *Film Style and Technology: History and Analysis*. London: Starwood, 1983, 184-186; Elsaesser, *Weimar Cinema and After,* 18-60; Scheunemann, "Activating the Differences," in *Expressionist Film: New Perspective*s, 1-31.

12 While academic intellectuals and the film world only intersected in part, many of the viewpoints described by Fritz Ringer were also prevalent among film critics and practitioners. See Fritz K. Ringer, *The Decline of the German Mandarins: The German Academic Community, 1890-1933* (Cambridge, MA: Harvard University Press, 1969).

13 Heinrich Mann in a letter to René Schickele, 27 December 1909. Heinrich Mann, *Macht und Mensch: Essays*, ed. Peter-Paul Schneider (Frankfurt am Main: Fischer, 1989), 258.

14 Uta Grund, *Zwischen den Künsten: Edward Gordon Craig und das Bildertheater um 1900* (Berlin: Akademie Verlag, 2002), 32.

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> The great realist wave wanes and a new idealistic one rises. Technological culture, brought about by realism, has begun to disillusion us; people everywhere begin to sense that realistic progress has not made life more valuable, better and liveable. The time has come that the accumulation of dry facts starts to leave us indifferent and everything once again moves towards a holistic worldview. [...] Realism has fulfilled its mission and its reason becomes nonsense if it is not complemented by idealistic truth."[15]

Intellectuals' persistent appeals for increased attention to the spiritual realm should however not be considered tantamount to hostility towards modernity. As Ben Singer has reminded us, "an appropriately expansive model of modernity must take into account not just dynamic sources of social and aesthetic novelty, flux, intensity and so on, but also prominent counter-forces of anti-modern sentiment that resulted from and were intertwined with, the dominant thrust forward."[16] As a matter of fact, seemingly out-dated impulses may even serve to expedite processes of modernization. As philosopher Odo Marquard argued in a different context, by offsetting modernity's dehumanizing effects, attention to the life of the mind plays a crucial role in making modernization tolerable and thus attainable in the first place.[17]

This dynamic is manifest in a sentiment towards machine technology prevalent at the turn of the twentieth century, which I describe as "techno-romantic." The term, which is not intended to characterize any systematic doctrine, refers to the inclination to construe technology as a means to evoke the imagination, emotion, and more generally the intangible or spiritual. Machines, deemed the epitome of uncreative, destructive, and dehumanizing materialism, paradoxically emerged as a safeguard of those essential human qualities under attack by the same rampant materialism. The techno-romantic mind-set allowed artists and intellectuals to affirm their fears about modernization and machine technology and simultaneously immerse themselves in the creative possibilities they afforded. The techno-romantic

15 Hugo Münsterberg, *Die Amerikaner*, vol. 1: *Das politische und wirtschaftliche Leben* (Berlin: Ernst Siegfried Mittler und Sohn, 1904), 3. Münsterberg's English-language *The Americans* differs substantially from the German version and does not include this passage.

16 Ben Singer, "The Ambimodernity of Early Cinema: Problems and Paradoxes in the Film-and-Modernity Discourse," in *Film 1900: Technology, Perception, Culture*, eds. Annemone Ligensa and Klaus Kreimeier, 38-51 (New Barnet, Herts: John Libbey Publishing, 2009), 38.

17 See Odo Marquard, "Über die Unvermeidlichkeit der Geisteswissenschaften. Hermann Lübbe zum 60. Geburtstag," *Sprache und Literatur* 57 (1986): 72-81, 76-77.

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stance necessarily embodies both apprehension and enthusiasm, albeit not in a consistent ratio. Willy Ley's passionate plea for the romanticism of the space rocket, for example, constitutes a particularly technophile manifestation of this attitude: "Technology allegedly robs human kind of its spiritual assets [...] because it destroys romanticism and exoticism. The space rocket completely invalidates this accusation. [...] Modern technology does not annihilate this utmost, excessive romanticism and exoticism; it makes it possible in the first place."[18] Attention to techno-romantic responses to modernization complicates conventional views of modernity/modernism as inherently rational and progressive, views that have tended to marginalize neo-romantic perspectives as necessarily reactionary and/or anachronistic. Techno-romantic thought fostered processes of modernization by proffering meaning in the face of a rapidly modernizing world. The association of machine technology with emotional, mental or spiritual qualities corroborated the primacy of human consciousness over material reality and thus helped mitigate what was perceived as modernity's fundamental disregard for non-physical aspects of existence.

I have appropriated the term "techno-romantic" from Austrian author Karl Kraus. In his 1918 anti-war polemic "The Techno-Romantic Adventure," Kraus excoriated the simultaneity of mass extermination through industrialized warfare and archaic "knightly" values such as patriotism, honour, discipline or heroism, which for him characterized World War I.[19] In 1945, Thomas Mann made a similar observation when describing the German Empire as a "mixture of robust timeliness, efficient modernness on the one hand and dreams of the past on the other,—in a word, highly technological Romanticism."[20] Kraus and Mann diagnosed the union between technophilia and idealism as one of the era's principal characteristics. Both regarded industrialized conquest, war, and genocide, bolstered by emotional appeals to adventure, heroism, and world improvement, as the horrific outcomes of this synergy. Without minimizing this devastating legacy, I contend that efforts to construe machine technology as an agent of idealist objectives constituted one of the principal responses to the technological revolution around 1900. The wide-ranging significance of such endeavours for European intellectual and cultural history must be fathomed in areas beyond their most horrific excesses.

18 Willy Ley, *Die Möglichkeit der Weltraumfahrt* (Leipzig: Hachmeister & Thal, 1928), 340.

19 Karl Kraus, "Das technoromantische Abenteuer," *Die Fackel* 474-483 (May 1918): 41-45.

20 Thomas Mann, "Germany and the Germans," in *Thomas Mann's Addresses Delivered at the Library of Congress, 1942-1949*, 45-66 (Cabin John, MD: Wildside Press, 2008), 62.

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Even more so than Kraus and Mann, Jeffrey Herf has classified the association of idealism and machine technology as a right-wing phenomenon. His concept of "reactionary modernism" describes a core feature of German right-wing and subsequently Nazi ideology, namely the combination of technophilia and irrational, illiberal, and antimodernist ideas peculiar to the German nationalist movement.[21] Techno-romantic and reactionary modernist views thus share key concerns: They embrace machine technology while disparaging modern materialism and emphasizing intangible facets of reality. However, despite prominent nationalist voices within the German film industry like Hanns Heinz Ewers, Fritz Lang, and Thea von Harbou; the right-wing roots of Ufa, Germany's largest studio; and its 1927 takeover by ultraconservative media mogul Alfred Hugenberg -- as a whole, German film culture of the 1910s and 1920s cannot be described as reactionary modernist. Concentrated in Berlin, one of the most vibrant and progressive art centres in the world, the German film industry was cosmopolitan, diverse, and involved numerous members of marginalized groups. In particular, many leading German film artists were of Jewish heritage.[22] The fact that more than two thousand filmmakers were forced into exile by the National Socialist rise to power in 1933 suggests that the identity and beliefs of a significant share of the German film industry were not compatible with National Socialism.[23]

In contrast to reactionary modernists, techno-romantic sentiments can be found across the political spectrum. What is more, a majority of German filmmakers were less concerned with any specific political agenda than with questions of art, film, and above all film art. The dominant ideology within the German film industry can thus be described as a mix of romantic inclinations, apprehensions about modernity, a pronounced patriotism, and idealist aesthetic tenets. These tendencies blended with liberal and humanist views as well as an avid commitment to pursuing novel forms of expressivity. The techno-romantic paradigm bolstered these axioms by establishing technology as a creative tool and German

21 Jeffrey Herf, *Reactionary Modernism: Technology, Culture, and Politics in Weimar and the Third Reich* (Cambridge: Cambridge University Press, 1984), 1-2.

22 Prominent Jewish filmmakers of the Weimar era include producers Paul Davidson, Jules Greenbaum, and Erich Pommer, directors Ernst Lubitsch, Joe May, Max Mack, E. A. Dupont, and Richard Oswald, screenwriters Henrik Galeen, Béla Balázs, Robert Liebmann, and Willy Haas, actors John Gottowt, Ernst Deutsch, Peter Lorre, Alexander Granach, Curt Bois, and Fritz Kortner, and cinematographers Karl Freund, Curt Courant, Helmar Lerski, and Eugen Schüfftan.

23 See Helmut G. Asper, *Filmexil in Hollywood: 'Etwas Besseres als den Tod.' Portraits, Filme, Dokumente* (Marburg: Schüren-Verlag, 2002), 20.

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art cinema as a global paragon. Pervading filmmakers' aspirations and viewers' expectations, techno-romantic perspectives shaped German silent film culture and proved instrumental in cinema's eventual recognition as a full-fledged art.

Art and industry

In marked contrast to the United States, where a film's esteem was almost exclusively determined by its financial performance, in Germany it depended chiefly on perceived artistic value. That aesthetics came to play such a central role in the German film industry testifies to the persistent dominance of idealist frames of reference within the public sphere. Already in the early 1910s, at a time when the German production sector was still in its infancy, German producers turned towards more costly "artistic" films. Such prestige productions set themselves apart from the bulk of cheap, short-lived pictures, while also bolstering the medium's reputation with elite opinion leaders. Critical acclaim and increased public attention, in turn, presented the prospect of boosting sales. Following World War I, producer Erich Pommer developed this thinking into a comprehensive strategy.

Pommer was an ardent cinephile who believed in film's unifying powers and ability to overcome the antagonism and resentment left behind by a devastating world war. His strategic focus, which prioritized collaboration, aesthetic and technological innovation, and quality filmmaking, differed noticeably from the preoccupation with storytelling, box office success, and individual job performance that dominated the discourse in Hollywood. Although often blamed for Ufa's near-bankruptcy in 1926, Pommer's ambitious plan to establish German cinema as a global premium brand was in fact quite judicious. From a European perspective, Hollywood's profitable yet for the most part painfully trite pictures left plenty of room for sophisticated competition. The artistic films Pommer envisioned to that effect were not intended as elitist endeavours, but rather something akin to folk art: creative, skilled, and cultured, yet widely accessible. Pommer explained: "Today the relation between artistic and commercial films is such that an artistic film can be a gold mine, whereas a purely commercial film will almost always be inartistic."[24] Many of the most consequential works of German film history, including *Das Cabinet des Dr. Caligari* (Decla,

24 Erich Pommer, "Geschäftsfilm und künstlerischer Film," *Der Film* (10 December 1922): 1.

1920, dir. Robert Wiene), *Der letzte Mann* (Union-Film/Ufa, 1924, dir. F. W. Murnau), *Metropolis*, and *Der blaue Engel* (Ufa, 1930, dir. Josef von Sternberg), were produced under Pommer's aegis. The spirit he embodied permeated the German film industry and is evident even in films produced without Pommer's involvement, such as *Der Student von Prag* (Deutsche Bioscop, 1913, dir. Stellan Rye) or *Nosferatu* (Prana-Film, 1922, dir. F. W. Murnau).

For the most part, Germany's premium productions were created by a fairly exclusive group of filmmakers. They included directors F. W. Murnau, Fritz Lang, E. A. Dupont, Ludwig Berger, Joe May, Robert Wiene, and G. W. Pabst, scriptwriters Carl Mayer, Thea von Harbou, Henrik Galeen, Robert Liebmann, and Béla Balázs, cinematographers Fritz Arno Wagner, Karl Freund, Carl Hoffmann, Guido Seeber and Günther Rittau, Helmar Lerski, and Curt Courant as well as art directors Walther Röhrig, Robert Herlth, Hermann Warm, Erich Kettelhut, Otto Hunte, and Paul Leni, most of whom collaborated regularly in varying configurations. This creative network was initiated by Pommer, who, as Robert Herlth recounted, "through this own example, fostered idealism and an exploratory urge. Without Erich Pommer, there would not have been a 'German Era.'"[25]

Pommer saw aesthetic-technological innovation as essential for establishing German cinema's global standing. According to Herlth, he would tell his production teams to "try to invent something mad!"[26] Pommer's approach intertwined commercial considerations with aesthetic ideals by promoting medium-specific, i.e., technological forms of expressivity. Seeking to affirm idealist perspectives within the context of a capitalist mass medium, Pommer played an essential part in bolstering the techno-romantic paradigm within the German film industry.

Pommer enthusiastically advocated for the collective nature of film, the ingenuity of teamwork, and cinephilia as a creative catalyst. He declared: "Film is an art form or an art-like form, which cannot be created by an individual but only by artists in close daily collaboration and it can only be created by people obsessed with film."[27] He consequently gave his production crews far-reaching artistic freedom and encouraged perpetual experimentation. As both Erich Kettelhut and Robert Herlth recalled, under

25 Robert Herlth, "Erinnerungen (1958)," in *Filmarchitektur Robert Herlth*, 48-54 (Munich: Deutsches Institut für Film und Fernsehen, 1965), 49.

26 Robert Herlth, "With Murnau on the Set," in Lotte Eisner, *Murnau* [1964], trans. Martin Secker, 59-71 (London: Secker & Warburg, 1973), 62.

27 "Erich Pommer Interview with Radio Frankfurt [1950]," Eric Pommer Collection, Doheny Memorial Library, University of Southern California, Los Angeles, CA.

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Fig. 0.1. Production meeting for *Melodie des Herzens* (1929). Left to right: composer Viktor Gertler, director Hanns Schwarz, producer Erich Pommer, cinematographer Günther Rittau, composer Richard Heymann, sound engineer Fritz Thiery, production manager Max Pfeiffer, unknown. Source: Deutsche Kinemathek

Pommer's leadership films were developed jointly in meetings of the entire production staff.[28]

To characterize the resulting atmosphere, Herlth famously invoked the collective spirit of an idealized medieval cathedral construction workshop (*Bauhütte*) that "animated everyone."[29] The idealist notion of a free community of master craftsmen and apprentices, united in their commitment to a joint artistic creation, first gained popularity around 1800 and subsequently became a central premise of Richard Wagner's total work of art, which was simultaneously conceived as a synthesis of the arts and the creation of a community of artists:

> The Art-work of the Future is an associate work, and [...] practically conceivable only in the *fellowship of every artist* [...] and for *one definite aim*, is that which forms this fellowship. This definite aim is the Drama, for which they all unite in order by their participation therein to unfold

28 Erich Kettelhut, *Der Schatten des Architekten*, ed. Werner Sudendorf (Munich: Belleville, 2009), 53, 134-135, 196; Herlth, "With Murnau on the Set," in Eisner, *Murnau*, 63-64.
29 Herlth, "Erinnerungen," 48.

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> their own peculiar art to the acme of its being [...] to generate the living, breathing, moving drama.[30]

Wagner's theory of collective art production—like the *Gesamtkunstwerk* more generally—reverberated intensely with European modernists and impacted artists from Max Reinhardt, Vsevolod Meyerhold, and Konstantin Stanislavski to Walter Gropius and Bertolt Brecht. In the German film industry, the total dedication to the joint artwork along the lines of Wagner's "fellowship of artists" became a common paradigm. Fritz Lang for instance recounted, "even if we were sometimes hopping mad at each other: the work stood above everything. Here, our collective love and unconditional devotion to the idea converged."[31] The overarching objective of this concerted effort was, in Carl Hoffmann's words, "to render pictorially all of the script's thought content."[32] Special effects emerged as one of the key tools in this endeavour and consequently as an essential element in the evolution of cinematic expressivity. As I trace throughout this book, machine technology, the embodiment of "soulless" materialism, thus became a sine qua non in the pursuit of an unambiguously idealist project.

Cinema's artistic devices

Already the earliest critics identified special effects as one of film's core assets and an opportunity to emancipate the medium from actuality. When cinema emerged as a prominent mass cultural phenomenon in the early 1900s, it represented a major challenge to traditional conceptions of art. As a high-tech device for the automatic reproduction of physical reality, film was discredited as the epitome of modernity's contempt for spiritual values and the life of the mind. However, for a growing number of commentators, cinema also showed potential for expressing creativity and engaging audiences' aesthetic sensibilities. For these critics, the question of the new medium's distinctive, aesthetically relevant features was paramount. They identified two types of subject matter as cinema's proper areas of competence: scenes of nature and fantastic or mental imagery, realized by

30 Richard Wagner, "The Art-work of the Future [1850]," in *The Art-work of the Future and Other Works*, trans. William Ashton Ellis, 69-214 (Lincoln, NE: University of Nebraska Press, 1993), 196. Emphases in the original.

31 Fritz Lang, "Arbeitsgemeinschaft im Film," *Kinematograph* 887 (17 February 1924): 10.

32 Hermann Treuner, "Carl Hoffmann," in *Filmkünstler: Wir über uns selbst* (Berlin: Sibyllen-Verlag, 1928), n. pag.

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means of special effects. While the originality and thus the artistic merit of nature cinematography was contentious, most critics acknowledged that trick effects embodied both creativity and the medium's characteristic technological disposition. In this context it is important to note that the German word *Technik* simultaneously refers to "technique" and "technology," a semantic inheritance from the Greek "technē." The slippage between the two concepts doubtlessly helped to assuage apprehensions about machines in the artistic realm by linguistically blurring the boundaries between artisanal craft and mechanized process and appropriating universal respect for the former in favour of the latter.

Also for aspiring film artists, filmmaking had to be about more than adeptly reproducing reality or rendering a sequence of events in a captivating way. Following the invention of photography, conceptions of the purpose of art had increasingly shifted from mimesis towards expression. Because the external world could be recreated automatically, works of art were increasingly construed as outer manifestations of inner life. Thus, like the other arts, film needed to be able to evoke concepts, sensations, and the imaginary, and elicit affective responses from the audience. Through extensive experiments with cinema's functional principles, filmmakers sought to develop the medium's ability to convey meaning beyond concrete facts and to maximize the emotional impact of filmic images or, as Herlth put it, their "intensity of impression" (*Eindringlichkeit der Wirkung*).[33] As a result, many of German silent cinema's most iconic moments result from pioneering uses of trick technology. They include the doppelganger stepping out of the mirror in *Der Student von Prag*, the Tsi-Nan-Fu hypnosis in *Dr. Mabuse, der Spieler* (Uco-Film/Decla-Bioscop, 1922, dir. Fritz Lang), the protagonist's nightclub table plummeting into an abyss *in Phantom* (Uco-Film/Decla-Bioscop, 1922, dir. F. W. Murnau), the eerie Jack-the-Ripper episode in *Das Wachsfigurenkabinett* (Neptun-Film, 1924, dirs. Paul Leni and Leo Birinski), the petrification of the dwarfs in *Die Nibelungen* (Decla-Bioscop, 1924, dir. Fritz Lang), the porter's drunken dream in *Der letzte Mann* (Union-Film/Ufa, 1924, dir. F. W. Murnau), the trapeze performances in *Varieté* (Ufa, 1925, dir. E. A. Dupont), Martin Fellman's nightmares in *Geheimnisse einer Seele* (Neumann-Film-Produktion, 1926, dir. G. W. Pabst), Gretchen's scream in *Faust* (Ufa, 1926, dir. F. W. Murnau) or the launch of the space rocket in *Frau im Mond* (Fritz Lang Film, 1929, dir. Fritz Lang). In each instance, mental states or fantastic subject matter gave occasion to imaginative applications of trick technology, produced in the context of

33 Herlth, "Erinnerungen," 51.

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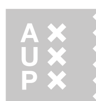
a "fellowship of artists." Each instance constitutes an emotional climax of the respective film and would have been impossible to achieve without the employment of trick technology. In German cinema, special effects came to epitomize the techno-romantic paradigm because it was here that machine technology fulfilled the requirements of idealist aesthetics.

In the wake of cinema's digital revolution, the transition to computer-generated imagery (CGI) in effects production, and the ascendancy of effects-heavy blockbuster aesthetics at the box office, the theory and practice of special/visual effects have come under increased scrutiny in film studies. Most important interventions, including those by Scott Bukatman, Barbara Flückinger, Lisa Purse, Kristen Whissel, and Julie Turnock, have been concerned with spectacular applications and developments in the United States since the 1970s.[34] Simultaneously, scholars like Rolf Giesen, Dan North, Réjanne Hamus Vallée, Lisa Bode, Laura Lee, and Ariel Rogers have begun to bring earlier decades and contexts outside of the United States into focus, but crucial aspects remain to be uncovered.[35] This book expands on the existing research on special effects by paying heed to the 1910s and 1920s, a formative period in their history, and to Germany's famous but insufficiently understood contributions. Partly as a result of overwhelming attention to the Hollywood model and its preoccupation with realism, storytelling, and seamlessness, two applications of special/visual effects have dominated the scholarship to date: astonishing, typically fantastic spectacles on the one hand and, to a much lesser extent, innocuous uses for practical purposes

34 See Scott Bukatman, *Matters of Gravity: Special Effects and Supermen in the 20th Century* (Durham, NC: Duke University Press, 2003); Barbara Flückinger, *Visual Effects: Filmbilder aus dem Computer* (Marburg: Schüren-Verlag, 2008); Lisa Purse, *Digital Imagining in Popular Cinema* (Edinburgh: Edinburgh University Press, 2019); Kristen Whissel, *Spectacular Digital Effects: CGI and Contemporary Cinema* (Durham, NC: Duke University Press, 2014); Julie Turnock, *Plastic Reality: Special Effects, Technology and the Emergence of 1970s Blockbuster Aesthetics* (New York, NY: Columbia University Press, 2015).

35 See Rolf Giesen, "Spezialeffekte Made in Germany," in *Künstliche Welten: Tricks, Special Effects and Computernanimation im Film von den Anfängen bis heute*, eds. Rolf Giesen and Claudia Meglin, 69-111 (Hamburg/Vienna: Europa, 2000); Dan North, *Performing Illusions: Cinema, Special Effects and the Virtual Actor* (London: Wallflower Press, 2008); Dan North, Bob Rehak, and Michael S. Duffy, eds., *Special Effects: New Histories/Theories/Contexts* (London: BFI/Palgrave, 2016); Lisa Bode, *Making Believe: Screen Performance and Special Effects in Popular Cinema* (New Brunswick, NJ: Rutgers University Press, 2017); Réjanne Hamus Vallée and Caroline Renouard, *Les effets spéciaux au cinema: 120 ans de créations en France et dans le monde* (Vanves: Armand Colin, 2018); Laura Lee, *Japanese Cinema Between Frames* (London: Palgrave Macmillan, 2017), 17-50; and Ariel Rogers, *On the Screen: Displaying the Moving Image, 1926-1942* (New York, NY: Columbia University Press, 2019), 19-57.



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on the other.[36] However, a third domain must be taken into account: The use of special effects as artistic devices.

The manipulation of filmic images for the purpose of conveying sensorial qualities, emotions, attitudes or ideas played an essential role in the development of cinematic expressivity in Germany and beyond. To what extent film art was contingent on trick technology in the mind of German filmmakers becomes apparent from a 1925 conversation between Fritz Lang and journalist Ludwig Spitzer. As Lang pointed out, his goal as a filmmaker was "to prove that film is capable of exposing mental processes and thus substantiate the bare events psychologically. […] Maybe we can then speak of true film art (whereas today, we have art films at best)." When asked about the means to convey psychology in film, Lang answered flatly: "The trick in the broadest sense."[37]

As a result of the orientation of the scholarship to date, many assumptions about special and visual effects are based on Hollywood practices since the studio era, which are often construed as the norm. However, as I show in this book, the field is much more diverse and sound-era American conditions are not universally applicable. For example, Julie Turnock has observed that in Hollywood "special effects" was above all a labour category, tracing back to the fact that certain effects were created by a specialized work force.[38] In Europe, however, film production was less departmentalized and labour therefore unsuitable as a defining criterion. Production practices in silent cinema highlight the difficulties in establishing special effects as an intrinsic (rather than a labour) category. In Germany, for instance, effects were usually created by cinematographer(s) and/or art director(s) themselves, often collaboratively and experimentally. What silent filmmakers called "tricks" can at best be described rather broadly as unusual and frequently elaborate production methods that resulted in unusual, often dramatic impressions on screen. However, because European silent films rarely relied on specialized labour, boundaries between "regular" and "unusual" shots are often fluid. Neither filmmakers nor industry observers would have classified striking visual effects resulting from extreme camera angles, unconventional camera movements (also known as "unchained camera" in 1920s diction) or innovative lighting schemes as inherently different from

36 See for instance Charlie Keil and Kristen Whissel, "Introduction," in *Editing and Special/Visual Effects*, eds. Charlie Keil and Kristen Whissel, 1-21 (New Brunswick, NJ: Rutgers University Press, 2016), 12.

37 Ludwig Spitzer, "Fritz Lang über den Film der Zukunft," *Die Filmtechnik* 2 (15 July 1925): 34-35.

38 Turnock, *Plastic Reality*, 8.

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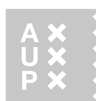
techniques such as multiple exposure composites, stop motion animation or forced perspective in set design, which in sound-era Hollywood were habitually assigned to special-effect technicians.

To complicate matters further, evolving technologies and diverse production practices render the establishment of coherent and transhistorical nomenclature exceedingly difficult. Throughout film history, a plethora of (often ill-defined) designations has been used to describe manipulated cinematic images and their various subcategories. Labels have tended to foreground either production or reception. Originally, the worldwide most common expression was "trick effects." Appropriated from stage illusions, the term stresses dexterity and legerdemain, but also carries disparaging connotations, which is why it became eventually displaced. Hollywood studio-era parlance was mainly concerned with fabrication, referring among others to mechanical, technical, photographic, optical, practical, camera or engineering effects. In addition, labels like "special photographic effects," "special process photography," "special work," and "special effects" explicitly accentuated the exceptional nature of their production. That "special effects," along with its direct translations (*effets spéciaux*, *Spezialeffekte*, *efectos especiales*, *effetti speciali*, Спецэффе́кт, etc.), came to prevail in everyday language is likely due to the fact that that phrase seems to simultaneously refer to production and reception. It is no longer used in industry jargon, however. After repeatedly changing the name of the corresponding awards category, the Academy of Motion Pictures Arts and Sciences has been referring to "visual effects" since 1972, deemphasizing the production context in favour of reception.[39] Stephen Prince has argued that in digital cinema the term "special effects" has become obsolete since artificial imagery is not "special" anymore and not clearly distinguishable from straight cinematography.[40] As I have indicated, there were no unequivocal boundaries in silent cinema either. Nonetheless, silent effects were "special" in that they required special skills and processes and produced special impressions. Because "special effects" remains the most widely used appellation for the object under investigation, I use it here synonymously with the historical designation "trick."

This book is the first to reveal the decisive role of special effects in the evolution of cinematic expressivity. As technological devices facilitating

39 See Charlie Keil and Kristen Whissel, "Introduction," in *Editing and Special/Visual Effects*, 13.

40 Stephen Prince, *Digital Visual Effects in Cinema: The Seduction of Reality* (New Brunswick, NJ: Rutgers University Press, 2011), 3-4.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the quest for creativity and the imagination, special effects not only epitomized pervasive techno-romantic modes of thought. They also served as a conceptual and practical basis for cinema's emergence as the art of the machine age. In this book, I examine special effects from the perspective of early theoreticians, technicians as well as foreign observers, and analyse their use in three iconic films. As I show in Chapter 1, "Conceptualizing Technological Art: Early German Film Theory," special effects already figured prominently in German film culture before they were widely used in practice. Critics identified tricks as uniquely cinematic devices early on and they came to play a prominent role in the first debates about the "essence" of the filmic medium and its artistic potentials. As a form of popular mass entertainment and an apparatus for the automatic reproduction of material reality, cinema had a low social standing: artistic aspirations seemed futile. Some early commentators nonetheless asserted that the new medium could be a legitimate object of aesthetic scrutiny. In an attempt to fathom cinema's immaterial values, the first German film theorists including Gustav Melcher, Herbert Tannenbaum and Georg Lukács explored the medium's kinship with folk art, mental processes, and the fantastic. They sought to establish that film technology, specifically trick effects, could articulate ideas in a sensual form and thus provide a pathway to a spiritual dimension. Their techno-romantic lines of argument aimed at conceptualizing the new medium within established aesthetics and set the stage for the recognition of cinema as the first technological art.

Techno-romantic thought not only informed early concepts about the promise of cinema but also evolution of trick technology. Chapter 2, "Modern Magicians: Guido Seeber and Eugen Schüfftan," pays attention to two technicians who determined the development of special effects in Germany and beyond. Guido Seeber, a film pioneer and an ardent experimenter, had a penchant for methods like multiple exposure composites that allow cinematographers to simultaneously use their creativity and technical expertise. As a mentor and a publicist he was instrumental in defining the key role of technology in German cinema. Eugen Schüfftan, a painter, invented the only widely employed commercial effects technique to originate in Europe, the Schüfftan process. In contrast to Seeber's effects, which tended to foreground their craftedness and aimed at rendering abstract thought, Schüfftan's mirror-based technique sought to visualize the imagination while concealing the means by which it operated. By turning tricks into a commodity and instituting set extensions as a standard practice in Europe, Schüfftan launched a new era of effects production. In similar ways, Seeber and Schüfftan construed special effect technologies as the medium's primary

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creative tool, as its core means for rendering mental imagery. In accordance with the period's techno-romantic tenets, they conceived of the cinematic image as fundamentally malleable, a stance that formed the conceptual bedrock of German silent film culture.

Chapter 3, "The Uncanny Mirror: *Der Student von Prag* (1913)," examines Seeber's proudest accomplishment as a cinematographer and trick specialist. The film was co-created by actor Paul Wegener, writer Hanns Heinz Ewers and director Stellan Rye, some of Germany's most ardent early cinephiles, with the goal to demonstrate the feasibility of film art. They understood artistic filmmaking as the articulation of ideas and feelings through the original application of cinema's distinctive technological features, specifically location shots and trick effects. Accordingly, they juxtaposed images of romantic Prague with a uniquely cinematic monster, created by means of Seeber's doppelganger effects. As one of the earliest feature-length films, *Der Student von Prag* portrayed the supernatural as menacing and thus helped establish a new cinematic genre, horror. The film not only succeeded in generating unusual affective audience responses, the doppelganger motif also evoked a range of readings related to notions about identity and self, demonstrating that a silent, visual medium was in fact capable of addressing philosophical questions. Finally, the juxtaposition of trick effects and location photography called into question the ostensible verisimilitude of the photographic image and thus widespread assumptions about the nature of the cinematic medium. Contrary to the reputation of German silent cinema as studio-bound, many artistically ambitious films showcased picturesque nature scenes and confronted them with special effects. This approach also characterizes the film under investigation in the next chapter, *Nosferatu*.

Public enthusiasm for occult themes was rife in the decades around 1900 and many prominent filmmakers—including the creators of *Der Student von Prag*—were occupied with esoteric concepts. Chapter 4, "Visualizing the Occult: *Nosferatu* (1922)," examines a production that was explicitly intended to showcase the treatment of occultist ideas in the context of film art. Constitutive of occult thought is a belief in secret realities beyond our perceptual abilities and in the fundamental oneness of all there is. *Nosferatu* does not advocate for specific occultist doctrines, but many of the film's idiosyncratic aspects, particularly the appearance, behaviour, and powers of the vampire, become intelligible in novel ways when examined from an occultist perspective. The film externalizes the vampire's nature through various cinematic devices and most notably special effects. The materialization of the intangible by means of technology constitutes an

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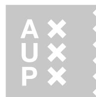
essentially techno-romantic project. In *Nosferatu*, it served to consolidate objectives of occultists and cinephiles for the purpose of film art.

The massive cityscapes, the man-eating Moloch and the robot's miraculous anthropogenesis: None of the iconic imagery of Fritz Lang's *Metropolis* would exist without ground-breaking special effects, including those accomplished by means of the Schüfftan process. Chapter 5, "The Technological Sublime: *Metropolis* (1927)," examines the striking friction between the film's portrayal of technology as an agent of tyranny and dehumanization, its simultaneous flaunting of technology as spectacle, and the fact that the production itself was conceived and marketed as a marvel of film technology. The film pursued the techno-romantic project of transcending material reality by means of technology. In fact, it seeks to capture the unfathomability of technology itself. Special effects facilitate encounters with overpowering technological environments and omnipotent machines, which give rise to sentiments that are best described in terms of the "technological sublime." The sublime characterizes experiences that go beyond the earthly and finite, and thus attain a spiritual dimension. In attributing transcendent qualities to mechanical objects, the technological sublime embodies the techno-romantic paradigm.

The final chapter, "'German Technique' and Hollywood," is concerned with the reverberations of the techno-romantic mindset in the American film industry. In the mid-1920s, the innovative imagery and affective force of German productions like *Der letzte Mann* (Union-Film/Ufa, 1924, dir. F. W. Murnau), *Varieté* (Ufa, 1925, dir. E. A. Dupont) and *Metropolis* startled American critics and filmmakers. Well-known directors like F. W. Murnau, E. A. Dupont, and Paul Leni were invited to Hollywood, and their American films showcased a range of unconventional camera effects, in particular moving camera feats and extreme camera angles. What galvanized American commentators about these methods was the realization that cinematic devices could be used to visualize and augment affective content. In Hollywood, German filmmakers demonstrated that moving images could not only reveal character interiority, but also convey a mental perspective towards the events depicted. By so doing, they proffered a novel model of cinematic immersion, which strengthened the audience's absorption in the story world with figurative levels of meaning. Prompted by objectives originating in techno-romantic thought, Hollywood began to pay increased attention to the expressive potential of technical tools, with lasting effects on American filmmaking.

The conclusion considers ways in which techno-romantic thought is reflected in the vogue of speculative fiction in contemporary moving image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media, which has been made possible by radical advances in digital visual effects. Computer-generated imagery has brought into reach the fully malleable photograph -- a dream that epitomizes a major triumph of the human mind over outside reality and thus an essentially techno-romantic fantasy. The same ambition also animated the German silent filmmakers who saw special effects as a key path towards shaping mechanically produced images. Their use of trick technology for conveying thoughts and emotions gives occasion to tap a new research area: special/visual effects as artistic tools.

The famous characteristics of German silent films, in particular their peculiar look and creative application of special effects, affected cinema worldwide. These idiosyncrasies trace back to efforts to establish cinema's aesthetic value. German filmmakers eagerly met this challenge and construed, as art director Walter Reimann suggested, cinema's principal task as the visual expression of ideas: "Film is work – the crazy, messy work of translating and transposing the mental via the physical into the optical. Tough handiwork that at every moment must be animated by the spirit, which, as *spiritus rector*, moves over the entire work."[41]

In early German narrative films, fantastic themes gave occasion for creative experiments with trick technology, which in turn paved the way for the emergence of special effects as one of silent cinema's principal means for conveying ideas and atmospheres, mental and affective states. Its cachet as a creative agent notwithstanding, technology never lost its demonic qualities in German silent cinema. The films examined in this book construe their protagonists—the double, the vampire, the robot, and man-eating machines—as technological creatures. They embody the threat of technology's unfathomable powers as much as they bespeak its astonishing creativity. Techno-romantic perspectives proved imperative for the process of modernization precisely because they facilitated concurrent feelings of apprehension about and enthusiasm for technology. Techno-romantic thought permeated every aspect of German silent film culture. It informed critics' expectations as well as filmmakers' goals and methods, and thus served as bedrock for one of the most innovative and influential periods in film history.

Bibliography

Helmut G. Asper, *Filmexil in Hollywood: 'Etwas Besseres als den Tod.' Portraits, Filme, Dokumente* (Marburg: Schüren-Verlag, 2002).

41 Walter Reimann, "Filmarbeit," *Gebrauchsgraphik* 6 (1924): 28-32.

Amsterdam
University
Press

Hans-Michael Bock and Tim Bergfelder, eds. *The Concise Cinegraph: Encyclopaedia of German Cinema* (New York, NY: Berghahn, 2009).
Lisa Bode, *Making Believe: Screen Performance and Special Effects in Popular Cinema* (New Brunswick, NJ: Rutgers University Press, 2017).
Scott Bukatman, *Matters of Gravity: Special Effects and Supermen in the 20th Century* (Durham, NC: Duke University Press, 2003).
Lotte H. Eisner, *The Haunted Screen: Expressionism in the German Cinema and the Influence of Max Reinhardt* [1952], trans. Roger Greaves (Berkeley, CA: University of California Press, 2008).
Lotte H. Eisner, "Stile und Gattungen des Films," in *Das Fischer Lexikon. Film, Rundfunk, Fernsehen*, eds. Lotte H. Eisner and Heinz Friedrich, 259-283 (Frankfurt am Main: Fischer, 1958).
Sergei Eisenstein, "A Dialectic Approach to Film Form [1929]," in *Film Form: Essays in Film Theory*, ed. and trans. Jay Leyda, 45-63 (San Diego, CA: Harcourt, 1949).
Thomas Elsaesser, *Weimar Cinema and After: Germany's Historical Imaginary* (London: Routledge, 2000).
Barbara Flückinger, *Visual Effects: Filmbilder aus dem Computer* (Marburg: Schüren-Verlag, 2008).
Joseph Garncarz, *Maßlose Unterhaltung: Zur Etablierung des Films in Deutschland 1896-1914* (Frankfurt am Main: Stroemfeld, 2010).
Rolf Giesen, "Spezialeffekte Made in Germany," in *Künstliche Welten: Tricks, Special Effects and Computernanimation im Film von den Anfängen bis heute*, eds. Rolf Giesen and Claudia Meglin, 69-111 (Hamburg/Vienna: Europa, 2000).
Uta Grund, *Zwischen den Künsten: Edward Gordon Craig und das Bildertheater um 1900* (Berlin: Akademie Verlag, 2002).
Réjanne Hamus Vallée and Caroline Renouard, *Les Effets spéciaux au cinéma : 120 ans de créations en France et dans le monde* (Vanves: Armand Colin, 2018).
Jeffrey Herf, *Reactionary Modernism: Technology, Culture, and Politics in Weimar and the Third Reich* (Cambridge: Cambridge University Press, 1984).
Robert Herlth, "Erinnerungen (1958)," in *Filmarchitektur Robert Herlth*, 48-54 (Munich: Deutsches Institut für Film und Fernsehen, 1965).
Robert Herlth, "With Murnau on the Set," in Lotte Eisner, *Murnau* [1964], trans. Martin Secker, 59-71 (London: Secker & Warburg, 1973).
Noah Isenberg, ed., *Weimar Cinema: An Essential Guide to Classic Films of the Era* (New York, NY: Columbia University Press, 2008).
Anton Kaes, *Shell Shock Cinema: Weimar Culture and the Wounds of War* (Princeton, NJ: Princeton University Press, 2009).
Jürgen Kasten, "Filmstil als Markenartikel. Der expressionistische Film und das Stilexperiment Von morgens bis mitternachts," in *Die Perfektionierung des*

Amsterdam University Press

Scheins: Das Kino der Weimarer Republik im Kontext der Künste, ed. Harro Segeberg, 37-66 (Munich: Wilhelm Fink Verlag, 2000).

Charlie Keil and Kristen Whissel, "Introduction," in *Editing and Special/Visual Effects*, eds. Charlie Keil and Kristen Whissel, 1-21 (New Brunswick, NJ: Rutgers University Press, 2016).

Frank Kessler, Sabine Lenk, and Martin Loiperdinger, eds., *KINtop: Jahrbuch zur Erforschung des frühen Films*, (Frankfurt am Main: Stroemfeld, 1992-2006).

Erich Kettelhut, *Der Schatten des Architekten*, ed. Werner Sudendorf (Munich: Belleville, 2009).

Kristina Köhler, "Nicht der *Stilfilm* also, sondern der *Filmstil* ist wichtig!" in *Filmstil: Perspektivierungen eines Begriffs*, eds. Julian Blunk, Tina Kaiser, Dietmar Kammerer, and Chris Wahl, 91-117 (Munich: edition text + kritik, 2016).

Siegfried Kracauer, *From Caligari to Hitler: A Psychological History of the German Film* [1947] (Princeton, N.J.: Princeton University Press, 2004).

Karl Kraus, "Das technoromantische Abenteuer," *Die Fackel* 474-483 (May 1918): 41-45.

Klaus Kreimeier, *The Ufa Story: A History of Germany's Greatest Film Company 1918-1945,* trans. Robert and Rita Kimber (Berkeley, CA: University of California Press, 1999).

Fritz Lang, "Arbeitsgemeinschaft im Film," *Kinematograph* 887 (17 February 1924): 10.

Laura Lee, *Japanese Cinema Between Frames* (London: Palgrave Macmillan, 2017).

Willy Ley, *Die Möglichkeit der Weltraumfahrt* (Leipzig: Hachmeister & Thal, 1928).

Heinrich Mann, *Macht und Mensch: Essays*, ed. Peter-Paul Schneider (Frankfurt am Main: Fischer, 1989).

Thomas Mann, "Germany and the Germans," in *Thomas Mann's Addresses Delivered at the Library of Congress, 1942-1949*, 45-66 (Cabin John, MD: Wildside Press, 2008).

Odo Marquard, "Über die Unvermeidlichkeit der Geisteswissenschaften. Hermann Lübbe zum 60. Geburtstag," *Sprache und Literatur* 57 (1986): 72-81.

Corinna Müller, *Frühe deutsche Kinematographie: formale, wirtschaftliche und kulturelle Entwicklungen 1907-1912* (Stuttgart: Metzler-Verlag, 1994).

Hugo Münsterberg, *Die Amerikaner*, vol. 1: *Das politische und wirtschaftliche Leben* (Berlin: Ernst Siegfried Mittler und Sohn, 1904).

Tobias Nagl, *Die unheimliche Maschine: Rasse und Repräsentation im Weimarer Kino* (Munich: edition text + kritik, 2009).

Dan North, *Performing Illusions: Cinema, Special Effects and the Virtual Actor* (London: Wallflower Press, 2008).

Dan North, Bob Rehak, and Michael S. Duffy, eds., *Special Effects: New Histories/ Theories/Contexts* (London: BFI/Palgrave 2016).

Patrice Petro, *Joyless Streets: Women and Melodramatic Representation in Weimar Germany* (Princeton, NJ: Princeton University Press, 1989).

Erich Pommer, "Geschäftsfilm und künstlerischer Film," *Der Film* (10 December 1922): 1.

Amsterdam University Press

"Erich Pommer Interview with Radio Frankfurt [1950]," Eric Pommer Collection, Doheny Memorial Library, University of Southern California, Los Angeles, CA.

Stephen Prince, *Digital Visual Effects in Cinema: The Seduction of Reality* (New Brunswick, NJ: Rutgers University Press, 2011).

Lisa Purse, *Digital Imagining in Popular Cinema* (Edinburgh: Edinburgh University Press, 2019).

Walter Reimann, "Filmarbeit," *Gebrauchsgraphik* 6 (1924): 28-32.

Fritz K. Ringer, *The Decline of the German Mandarins: The German Academic Community, 1890-1933* (Cambridge, MA: Harvard University Press, 1969).

Ariel Rogers, *On the Screen: Displaying the Moving Image, 1926-1942* (New York, NY: Columbia University Press, 2019).

Christian Rogowsky, ed., *The Many Faces of Weimar Cinema: Rediscovering Germany's Filmic Legacy* (Columbia, MD: Camden House, 2011).

Barry Salt, *Film Style and Technology: History and Analysis* (London: Starwood, 1983.)

Dietrich Scheunemann, "Activating the Differences: Expressionist Film and Early Weimar Cinema," in *Expressionist Film: New Perspective*s, ed. Dietrich Scheunemann, 1-31 (Rochester, NY: Camden House, 2003).

Harro Seegeberg, ed. *Mediengeschichte des Films* (Munich: Wilhelm Fink Verlag, 1996-2012).

Ben Singer, "The Ambimodernity of Early Cinema: Problems and Paradoxes in the Film-and-Modernity Discourse," in *Film 1900: Technology, Perception, Culture*, eds. Annemone Ligensa and Klaus Kreimeier, 38-51 (New Barnet, Herts: John Libbey Publishing, 2009).

Ludwig Spitzer, "Fritz Lang über den Film der Zukunft," *Die Filmtechnik* 2 (15 July 1925): 34-35.

Philipp Stiasny, *Das Kino und der Krieg: Deutschland 1914-1929* (Munich: edition text + kritik, 2009).

Hermann Treuner, "Carl Hoffmann," in *Filmkünstler: Wir über uns selbst* (Berlin: Sibyllen-Verlag, 1928), n. pag.

Julie Turnock, *Plastic Reality: Special Effects, Technology and the Emergence of 1970s Blockbuster Aesthetics* (New York, NY: Columbia University Press, 2015).

Richard Wagner, "The Art-work of the Future [1850]," in *The Art-work of the Future and Other Works*, trans. William Ashton Ellis, 69-214 (Lincoln, NE: University of Nebraska Press, 1993).

Chris Wahl, *Multiple Language Versions Made in Babelsberg. Ufa's International Strategy, 1929-1939* (Amsterdam: Amsterdam University Press, 2016).

Michael Wedel, *Der deutsche Musikfilm: Archäologie eines Genres 1914-1945* (Munich: edition text + kritik, 2007).

Kristen Whissel, *Spectacular Digital Effects: CGI and Contemporary Cinema* (Durham, NC: Duke University Press, 2014).

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