FILM THEORY IN MEDIA HISTORY

CINEMATIC VITALISM

FILM THEORY AND THE QUESTION OF LIFE

INGA POLLMANN

Amsterdam University Press

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Introduction

'The sanguine, pulsating, enterprising modern life': Cinema and Vitalism

Taking Life for a Spin

For a moment, the world still seems stable. Two men, a general and a baron, are sitting next to each other at a table; the reflection in the mirror behind them shows a woman dancing in the mirror's separate, contained environment. They speak about her in that familiar male language that suggests connoisseurship, aesthetic pleasure, and indulgence, without betraying the abyss of emotion, consuming desire, or loss of self that lurks behind the woman's attraction; an abyss that would collapse the stability, the double framing, the identified places. The nameless 'Madame de…' is the one man's wife and the other man's future mistress. Movement sets in when, after a cut, the camera suddenly pursues an older gentleman rushing to the right. The camera tracks swiftly to follow him past endless rows of tables, along the perimeters of the dance floor. The man approaches the general. Despite the general's attempt to shake off the intruder, who turns out to be a journalist, he remains insistent. The baron, with a quick glance at the dance floor, avails himself of the opportunity to excuse himself and leaves.

The following minutes constitute the crucial moment in Max Ophuls' *The Earrings of Madame de* (1953), during which Madame de and Baron Donati fall in love; dancing, turning around and around one another while the camera dances with them. The image centers on the dancing couple and follows them through a whole line of balls connected by cross-dissolves, leaving the perimeters of determined time and space. During these minutes, spatiotemporal and narrative forward-movement is suspended, or rather diverted, into the ornamental flourish and rotation of the dance and its affective impact. Over the course of the dances, the couple's playful, ironic banter slowly falls silent in the face of the increasing seriousness of their mutual feelings; the growing intensity is conveyed by the accelerated rhythm of their and the camera's circling movements and the punctuation of returning phrases, such as Donati's '*Quatre jours sans vous voir* (Four days without seeing you)', '*Deux jours sans vous voir* (Two days without seeing you)', and finally '*Vingt-quatre heures sans vous voir* (Twenty-four hours without seeing you)', as well as an increasingly reticent conversation about the absent general's well-being. The dance resembles the slow turn of a

screw. As the camera loosens up and freely circles, pans and tracks across the dance floor, the movement of the dancing couple it is pursuing also changes from being a fairly stationary rotation into a forward-marching twist past the other couples, and then into a somewhat jagged zigzagging in which the previous momentum is lost again. Madame's and Donati's final dance in coat and jacket on an empty dance floor, while the musicians pack up and the servants extinguish the candles, is almost motionless.

In a melodrama such as Ophuls', there is a close correspondence between motion and emotion. The moment the protagonists fall in love, the film enters a different register of movement. The dance sequence is framed by scenes with linear movement and clear demarcations: in the previous scene, we had the frame-within-a-frame of the mirror behind the general and Donati that showed the dance floor, the table separating the two men from the foreground, and the straight movement of the journalist joining the dance floor and the seating area; the scene following the dances begins abruptly with a hunter's horn and a tracking shot from right to left of the general at a military hunt. During the dances, boundaries increasingly break down as the camera joins the motion of the dance and cross-dissolves create a temporality that is dependent on Donati's and Madame's feelings alone. This purely cinematic time and space in which motion and emotion become entwined, with the spectator caught in this entwinement, is an example of cinema's vital aesthetic.

In the dramatic context of the film, the irregular twirling motion of the dance has the form not of a closed circle, but rather a spiral. Two social butterflies and 'incorrigible flirts' perform the movement that is best suited to their temper: a *tête-à-tête* in public, a play with intimacy in the limelight, an attitude that is directed outward even as it tends to the dance partner. Over the course of these dances, this attitude changes; the balance of forces shifts and the public stage becomes the lovers' prison. The butterflies flutter around one another in circles that represent their enclosure by the same moral standards that originally gave them their playful freedom. Madame's and Donati's desire for more privacy and more time cannot be fulfilled; rather than radiating outward, they retreat into one another, dancing centripetally rather than centrifugally, forming a spiral inward and down, rather than outward and up.

The forces that simultaneously visualize the drama and formulate a social critique in *The Earrings of Madame de* are the same as those that Johann Wolfgang von Goethe identified as the two vital tendencies in plants: a vertical force and a spiral force that complement one another and, when in balance, produce the most perfect development. While the

vertical tendency lends support and stability to the plant and is long-lasting, the spiral tendency, according to Goethe, is the nourishing, short-lived element that 'develops, expands, nourishes'; if its effect 'predominates, it soon grows weak and begins to decay'.[1] In Ophuls' film, the melodramatic conflict is staged as a conflict between these two tendencies, even though the vertical and spiral forces ultimately depend on one another. This conflict is emotionally wrenching and tied to social critique, because the balance of vertical and spiral tendencies in Ophuls' rendering of the militarized upper classes of late nineteenth-century France is a false one, kept in check by means of a social and moral code that stunts and inhibits all of its adherents. The balance that upholds social norms and values is one of artificial stability and rigidity versus artificial spiral nourishment. Both tendencies are merely formal, rather than aspects of organic growth. The vertical element is the stiff, unemotional military culture, personified by Madame's husband, who keeps his rigidity in check by means of his uniform, and whose body language is stiff and impersonal, even while a softness in his expression or a tenderness in his voice betrays his longing for a different mode in which to engage with his wife. The spiral tendency is the social flirtation in which Madame engages and the men's obligatory affairs —a vital element lacking the nourishing satisfaction of deep emotions. The interplay of both tendencies also finds expression in the circulation of commodities, most notoriously the circulation of the eponymous earrings that Madame originally received from her husband as a wedding gift.[2] Madame and Donati transgress social boundaries both externally—they allow themselves to be seen, which ultimately leads to a deadly duel—and internally, by allowing their affection to run freely, which puts their emotions at odds with the social order. In this spiral into a desire for something that does not have a place in this society, the utopian moment—and its immediate thwarting—manifested in the dance marks an instance of cinematic vitalism in which the emotional intensity onscreen and the affection of the spectator are both heightened by means of formal elements that can be tied to a larger aesthetic of vitality.

1 Johann Wolfgang von Goethe, 'Excerpt from "The Spiral Tendency in Vegetation",' 105-06.

2 She sells them to pay off a debt, whereupon they are bought back by the general, who gives them to a mistress when parting for Constantinople. There, the baron acquires them as a chance purchase and gives them to Madame as a token of love. Madame then tells her husband that she has found the earrings she claimed to have lost, so that she will be able to wear them in public. Her husband confronts her about this lie and forces her to give the earrings to her niece, who likewise sells them to the jeweler. After the duel with the general, in which Donati is killed, Madame gives all she has to buy back the earrings, which have increased exponentially in value.

If I speak of a vitalist aesthetic in cinema, this by no means relates to nature and organicity alone. Rather, vitalism in film and film perception combines an aesthetic of nature with a machinic aesthetic; both elements are always present. This is what distinguishes a *cinematic* vitalism from vitalist theories proper. Film's moving images, temporality, and sensorial qualities grip the embodied spectator, who integrates the film's *gestalt* into her life, into the world she continually re-constitutes every moment she lives, simply by perceiving, acting, being. This malleable, organic temporality and sense-making must reckon with the forceful linearity of the film undulating from the spool, pulling the spectator along mercilessly. A flicker betrays the stop-motion animation of 24 frames per second that lies behind the illusion of movement. The film reel, propped up on the projector and turning smoothly at a steady pace, translated by means of a forgiving loop into the stutter of the frame-by-frame exposure to the projecting light in the aperture gate, gives the forward movement to the film. Its cylindrical shape is in keeping with what Helmut Müller-Sievers has identified as the central kinematic form of the nineteenth century: the cylinder of the steam engine, the printing press, the carousel, and the phonograph; a form that 'allows the isolation, transmission, conversion, and application of rotational and translational (straight-line) motion in machines'.[3] Cinematic vitalism, we might say, combines the undulation of the organically winding spiral with the mechanic rotation of the cylinder and its steady, unchanging pace.

Ophuls' image of rotational dance motion, which is so central to many of his films, including *Liebelei* (*Flirtation,* 1933), *La Ronde* (1950), and *Lola Montès* (1955), may thus serve as an emblematic figure for the inquiry of this study. Many scholars have turned to Ophuls' dance sequences because of the virtuosity of his alignment of camera and on-screen movement, the attunement of camera and subject that this dramaturgical alignment reveals or puts forth, and the relationship of these sequences and their undoing of temporal and spatial coordinates to questions of genre, that is, melodrama.[4] The formalism of Ophuls' direction and the seeming excess of camera and onscreen choreography have inspired scholars to consider questions concerning the function and expressive value of movement in his film. For some, this has led to an investigation of the role of desire as a

3 Helmut Müller-Sievers, *The Cylinder*, 3.

4 See, for example, Susan M. White, *The Cinema of Max Ophuls*; Alan Larson Williams, *Max Ophuls and the Cinema of Desire*; Daniel Morgan, 'Max Ophuls and the Limits of Virtuosity: On the Aesthetics and Ethics of Camera Movement'; George M. Wilson, *Narration in Light*; and Laura Mulvey, 'Love, History, and Max Ophuls'.

driving force; others have explored the role of economic circulation. A vitalist lens connects these questions of form and content to the properties of the medium by asking: what is the nature of the movement depicted? What kind of vitality is presented? What kind of life? How is this life lived, what are its qualities? These questions tie the ontological and phenomenological dimensions of cinema to matters of form and content.

While *The Earrings of Madame de* stands at the end-point of the period under consideration in this book, the rotation of the dances in Ophuls' films takes us back to the visual constellations in early cinema and even pre-cinematic devices, and thus also to the early alliance of moving images and life. Instead of the spiral created by the entwinement of rotation and fatal progression in Ophuls' films, optical toys such as the phenakisticope and the zoetrope were based on rotation and repetition without progression; their temporality was experienced as delightful for its pure mechanicity and in sharp contrast to narrative development. Their spirit haunts Ophuls' films like a specter. Nicolas Dulac and André Gaudréault write that

> [t]he phenakisticope's format and the way it functioned suggested a 'world' in which everything was governed by circularity and repetition, a world which annihilated any hint of temporal progression. The subjects are like Sisyphus, condemned *ad infinitum* to turn about, jump, and dance. In another sense, the figures are machine-like: untiring and unalterable, they are 'acted-upon subjects' rather than 'acting-out subjects.'[5]

The circularity, repetition, and objectification associated with images in mechanical rotation reappears as a haunting threat to the protagonists in Ophuls' film-worlds, be it the dancing Madame and Donati, or Christine and Fritz, whose dance in *Liebelei* is accompanied by the tinny sound of a pianola that requires the repeated insertion of pennies to work, or the couples forming in *La Ronde*, where it is unclear whether it is the allegorical carousel that sets the roundelay of desire into motion or vice versa.

Many early film reviewers found in the moving images on the screen a combination of unbridled vital movement and the inscription of the machine haunting the (re-)presentation. As I discuss in more detail below, critics from Maxim Gorky to Rémy de Gourmont, Max Brod and Georg Lukács described the vital pull of the moving image and the strange experience of being an onlooker to life. This rift was experienced in one's own body; the

5 Nicolas Dulac and André Gaudréault, 'Circularity and Repetition at the Heart of Attraction', 232.

pure reproduction of movement sent shivers down early spectators' spines. In the spectacle of a 'living picture', the mechanically reproduced movement of characters, animals, and the entire background rendered everything in the frame animate. As spectators, we react with heightened affect: this mediated view is presented to us, for our eyes and ears, and we pay attention to it, searching the image and sound for cues. The movement on the screen pulls us along, and our senses seek to find a way to align themselves with the rhythm of image and sound. This process is different from aligning with our natural environment—the moving image is artificial, limited, and usually two-dimensional, and we need to adjust to its spatio-temporality without the aid of complete physical immersion. It is precisely in this difference, in the 'almost-as-if', that we encounter cinematic vitality: in experiencing and bridging the gap between our natural being-in-the world and the film world, the immersion in a film punctuated by moments of reflection or self-awareness, and the conjoining of our fleeting time with the determined time-flight of the film, which, despite a continuous 24 frames per second, is full of lags, gaps, retardations, and accelerations. It is an attitude of love.

Over the course of the history of film theory, this attitude of love has been described in a variety of ways, and despite important differences, it has a lot in common with historical attitudes towards other media. Most of these descriptions are vitalist in the sense that they start from the way in which the spectator's (reader's, beholder's) lively engagement interacts with the life force of the artwork. There is, for example, the late nineteenth- and early twentieth-century conception of empathy (*Einfühlung*) in art history and psychology, which maintains that the beholder invests artworks with her own vitality. Or one could take theories of animation, which became fashionable around the same time, as part of a renewed interest in primitive art, and work the other way around: namely, endowing things with a vitality of their own that confronts the beholder. Both of these theories, which will be addressed in Chapter 1, became significant for early film theory, and yet needed alterations to account for cinema's temporal form and force of movement. Aesthetic theory from Romanticism onward was also interested in the way in which subjects are vitally engaged with their environment, in ways that dissolve the boundaries not only of self and other, but also of self and world. Terms such as *Stimmung* (attunement, mood, tonality), aura, mood, and atmosphere became crucial tools in defining the lively interaction with both nature and art (Chapter 3). Dynamic aesthetic concepts such as empathy, animation, and *Stimmung* have a counterpart in biological ideas that concern the interstice between inside and outside, internal and external milieu, subject and environment, nerve and stimulation, and

expand their understanding of life to include a body's sensorial environment, such as Jakob von Uexküll's conception of *Umwelt* (surrounding world, Chapter 2). These expanded notions of life find an artistic corollary in the moving image, which flattens out figure-ground distinctions and with its vibratory energy imparts vital expression to everything in the frame. When Madame and Donati dance in a mobile frame, the entire image is caught up in the whirl.

By considering film theory and practice in the light of vitalist theories of life, this book performs two crucial inquiries: first, it places cinema in close contact with philosophy and the sciences, especially the theory of biology and psycho-physiology, for in these disciplines, the question of what life was and was not, and whether vitalism had a place, was the matter of heated debate around the turn of the century and well into the twentieth century. And second, this book seeks to reframe the place of film in modernity, understood here as the process of social, cultural, political, and technological upheaval that stretched from the mid-nineteenth century to WWII. In accounts of the cultural history of the nineteenth and twentieth centuries, cinema has long been understood as an exemplary instance of what we might call the mechanistic understanding of modernity: that is, modernity understood as a consequence of an ever-expanding application of modern sciences and technologies to the human condition.[6] From this perspective, all of the developments that we associate with late-nineteenth and early-twentieth-century modernity, such as the increasing urbanization of Western populations, the emergence of mass culture, and the electrification of urban and rural spaces, are a consequence of the application of modern scientific principles of materialism and mechanism to the environments in which humans live, as well as those 'conditions' that develop alongside, arguably as properly human reactions to these institutions (e.g. 'modern man' as nervous, blasé, anomic, distracted, or hysterical).

According to this account, modernity was a consequence of the triumph of the mechanistic worldview over its competitors, which include religion, but also scientific paradigms that sought to hold on to some essential distinction between living beings and the non-living world of matter, such as vitalist conceptions of natural science or the humanities. As one of the technological innovations produced—or at least enabled—by modern science, cinema has been aligned with this triumph of the mechanistic scientific and philosophical framework of modernity. Moreover, as a cultural product of modernity, cinema was at the same time seen to enable critical

6 Examples include Anson Rabinbach, *The Human Motor*; Stephen Kern, *Time and Space*.

reflection on the forces that engendered it—industrialization, urbanization, mass culture, technology, and mechanization. Yet this mutual definition of cinema as a modern medium and modernity as cinematic has led, at times, to a narrow rendering of both, thus excluding a more dialectical understanding that would allow us to take into account the roles played by conservative, alternative, 'old-fashioned', and seemingly anti- or pre-modern movements. And because cinema—as apparatus, public space, and *dispositif*—has been understood as emblematic of the mechanization and technologization of modern life, cinema has almost invariably been related primarily to mechanist paradigms for understanding both organic life and social processes, rather than vitalist approaches, which seem like atavistic specters from the past.

Over the past decade, scholars have complicated and complemented this account of both modernity and cinema as a modern medium by emphasizing the need to comprehend artworks, movements, and theories that are conservative, holistic, or pastoral as part and parcel of modernity—and not only dialectically so. Important contributions that have done so by reevaluating, reinterpreting, and recontextualizing classical film theory include Michael Cowan's work on the cult of the will, on the ubiquitous and ambivalent role of rhythm, and on the work of abstract filmmakers like Walter Ruttmann as not only a cipher of, but also formative of, the interaction of aesthetic discourses, artistic movements, institutions, and markets; Scott Curtis' work on the influence of scientific, medical, educational and aesthetic discourses on the formation of cinema spectatorship; Miriam Hansen's elucidation of Walter Benjamin's and Siegfried Kracauer's work on the profound historical, cultural, and political changes in modernity, their impact on the senses, and their reflection in cinema as an existential playground of experience, as well as Johannes von Moltke's analysis of the changed stakes for Kracauer in the context of the intellectual climate in the US after the war; and many edited volumes, compilations, and translations that have made crucial film-theoretical texts available and provided context.[7] The surge of interest in classical film

7 Michael Cowan, *Cult of the Will*; Cowan, 'Advertising, Rhythm, and the Filmic Avant-Garde'; Cowan, *Walter Ruttmann and the Cinema of Multiplicity*; Cowan, 'The Heart Machine'; Scott Curtis, *The Shape of Spectatorship*; Miriam Hansen, *Cinema and Experience*; Johannes von Moltke, *The Curious Humanist* (see also Moltke and Gerd Gemünden, eds., *Culture in the Anteroom*). Additional important publications on cinema and modernity, and on classical film theory in particular, include Malte Hagener, *Moving Forward, Looking Back*; Dudley Andrew and Hervé Joubert-Laurencin, eds., *Opening Bazin*; Andrew, *What Cinema Is!*; Francesco Cassetti, *Eye of the Century*; David Rodowick, *Elegy for Theory*; Tami M. Williams, *Germaine Dulac*. New editions,

theory is invariably either explicitly or implicitly linked to the dissolution of 'film' or 'cinema' as stable frames of reference in the light of new media technologies, new screens, and viewing practices, and the digitization of film and film projection.

This book participates in this more general return to classical film theory in the wake of our current post-medial and post-modernist challenge, but does so in order to locate constellations of moving images, living bodies, and technology that also have relevance for the present. All of the film theorists and filmmakers under consideration in the recent revival of classical film theory, I argue, have a stake in the conjunction of cinema and life. Attending to their engagement with vitalism changes the map of influences, intersections, and affinities not only in the film community, but also of the role of film theory and practice within larger cultural (and, in particular, scientific and philosophical) discourses on life. My inquiry seeks to add the movie theater as a modern locale *par excellence* to the centers of discussion about what life is and is not. The movie theater is, I claim, a discursive place that incorporated and transformed vitalist ideas. This book is asking: what happens when the (intellectual and embodied) insistence on the specificity of life encounters mechanically-produced vitality? What happens when different discourses on the specificity of life—scientific, philosophical, aesthetic—intersect? I argue that we can only answer these questions by attending to three distinct, yet interrelated debates about the role of life in and for cinema in turn-of-the-century and early twentieth-century sources and accompanying critical literature.

The first debate pertains to the French vitalist philosopher Henri Bergson and the film-theoretical, critical, and philosophical work inspired by his philosophy. Bergson's works contain a number of direct references to photography and cinema, but they were also part of a much larger late-nineteenth and early-twentieth-century vitalist movement that encompassed the sciences as well as philosophy and cultural theory.

translations and compilations of notes include Béla Balázs, *Early Film Theory*; Anton Kaes, Nicholas Baer and Cowan, eds., *The Promise of Cinema*; Sarah Keller and Jason N. Paul, eds., *Jean Epstein;* Tami M. Williams, ed., *Pure Cinema*. Books that examine the inherent modernity of the Nazi regime and its use of mass media, while not central to this book, have also done important work in this respect; for example, Lutz Koepnick, *The Dark Mirror* and Eric Rentschler, *The Ministry of Illusion*. Several other works that include cinema in broader reflections on modernity and modernism have likewise been helpful; of particular note here is Laura Marcus, who has argued that '[w]riting about the cinema thus not only upheld, but also displaced and reworked, cultural and conceptual distinctions between mechanism and organism'. See Laura Marcus, *The Tenth Muse*, 4.

Vitalism, as well as the closely related 'philosophy of life' (*Lebensphilosophie*) of, for example, Wilhelm Dilthey, operates under the assumption that living matter is fundamentally different from inanimate matter, and scientists, philosophers, and cultural critics committed to—or even just intrigued by—vitalist principles sought to redefine time, space, and organization in the light of the specificity of life. Cinema emerged as a technology and phenomenon at precisely the time when biologists and philosophers were debating the nature of life and how life could be represented, and cultural critics were seeking to develop methodologies for adequately describing the specificity of life in contrast to inanimate matter, especially machines.

Even though Bergson himself referenced film and photography ambivalently in his writings, since the 1910s, his philosophy has become an important reference point for critics to understand and frame cinema and the film experience.[8] In *Creative Evolution* (1911), Bergson famously described the workings of the intellect, namely its tendency to abstract, rationalize, conceptualize, and to break up time (duration) into comprehensible units, by calling it 'cinematographic perception'. While the film camera subtracts time from an event by recording only static shots in short succession, the projector reintroduces a general, machinic movement of the second order. The result, Bergson maintained, is a general temporality of a quantitative, rather than a qualitative, nature. Thus, for him, the cinematographic apparatus illustrates the pitfalls of intellectual abstraction and the loss of the embeddedness in the fabric of life and lived time that instinctual animals (and, in a different way, humans relying on intuition) possess.

What Bergson called cinematographic perception, however, should not be taken to mean perception *of* cinema; rather, it is a modern mode of perception akin to the workings of the cinematographic apparatus. Cinema as technology, according to him, is paradigmatic of a mechanist understanding of the world that determines not only scientific and cultural practices and beliefs, but even governs the very structure of our perception. The perception *of* a film—that is, film reception—is an entirely different matter. Bergson himself admitted as much in an interview in 1914, in which he suggested that cinema 'could be an aid to the synthesis of memory, or even of thought itself. If the circumference [of a circle] is composed of a series of points, memory is, like cinema, a series of images. Immobile, it is

8 For an account of Bergson's positions on the cinema, see Paul Douglass, 'Bergson and Cinema: Friends or Foes?'.

in a neutral state; in movement, it is life itself'.[9] The cinematograph's reconstituted movement perceived by a spectator mobilizes memory-images which integrate the mechanical, spatialized temporality of a film into the *durée* of life and organic experience.

The second debate with which I am concerned here relates to the many pre-WWI accounts of film experience, as well as the first attempts to formulate an aesthetic of film, in which the term 'life' was invoked frequently and with particular emphasis. 'Life' appeared as a name for what the technical apparatus wrote or inscribed—for example, in company names such as Vitagraph or Biograph ('life-writer')—but commentators also employed the term in their attempts to define more closely the aesthetic of the cinematic image or the peculiar sensual experience of seeing moving images. Even if some writers used terms such as 'life' and 'vitality' without much consideration or reflexive awareness, the occurrence of such terms should not be seen simply as off-hand references; authors such as Maxim Gorky, O. Winter, Rémy de Gourmont, Max Brod, Walter Hasenclever, and Georg Lukács employed these terms when trying to find a critical language that could grasp the unprecedented properties and experience of this new medium. The initial experience of cinema, in other words, was not purely that of a mechanical technology that confirmed a mechanistic approach to the world, but rather of a living medium that quickened and expanded the writer's sense of what life might be.

Finally—and this is the third debate in which I engage—there is the intriguing fact that Bergson and other philosophers of life, such as Georg Simmel and Wilhelm Dilthey, played a peculiar and arguably ambiguous role in texts by members of the Frankfurt School, especially Walter Benjamin and Siegfried Kracauer. While a number of the terms and ideas that Benjamin and Kracauer used seem to be indebted to these life-philosophers, Benjamin and Kracauer did not always openly acknowledge this legacy. On the contrary, if they discussed life-philosophy or vitalism explicitly, they often did so in dismissive fashion (one of the most notorious examples of such ambivalent citation is Benjamin's use/critique of Bergson in his 1938 essay, 'On Some Motifs in Baudelaire').[10] A similar, though less pervasive pattern of reference to vitalist ideas and thinkers can also be detected in French film criticism of the 1920s. While a few of these critics (such as Émile Vuillermoz) explicitly sought to base their thoughts on the medium

9 Henri Bergson and Louis-Georges Schwartz, '"Henri Bergson Talks to Us About Cinema"'.
10 Walter Benjamin, 'On Some Motifs in Baudelaire'.

of cinema on Bergson, others, including Marcel L'Herbier and Jean Epstein, sought to distance themselves from Bergson, describing him (in curiously vital terms) as 'old metaphysical plantstock'.[11]

The three discussions that I have outlined above suggest that we ought to reconsider the relationship between cinema and vitalism. Perhaps neither cinema nor modernity should be automatically aligned with mechanistic approaches to life and the world, for it may be the case that both emerge as much—or perhaps even more—from approaches to living beings and their environments developed in vitalist and life-philosophical contexts. This book asserts that attending to what I call 'cinematic vitalism' will enable us to improve our understanding not only of how cinema was understood and theorized when it first emerged, but also how its formal and stylistic features bear upon our understanding of life, human or otherwise, and how it can even function as a kind of vital orientation. The relevance of form and style is not restricted to films that one might think would privilege questions of life, such as nature documentaries or popular scientific films. Vibrancy and *concern* for life, including the vitality of the spectator, can be found in a variety of films, from avant-garde films to melodramas to realist cinema to various new waves; we might even say it becomes an issue whenever style *matters*. In the following two sections, I outline both the concept and virtues of cinematic vitalism, first by discussing what was at stake in the vitalist and life-philosophical debate around the turn of the century in both Germany and France, and then by explaining the relationship of this debate to early cinema by isolating vitalist themes in a few key early texts on film.

Turn-of-the-century Vitalism and Philosophy of Life

It is no coincidence that the concept of 'life' was ready to hand for early twentieth-century film theorists. The nature of life—what life is and what it is not, how living matter can be differentiated from non-living matter, and so forth—had been an issue of heated debate from the second half of the nineteenth century through the first few decades of the twentieth century, and often focused on theories and discoveries in the field of epigenesist, that is, the development of organisms from egg, seed or spore.

11 Marcel L'Herbier, 'Hermes and Silence (1918)'. Interestingly enough, this reference occurs in an essay that is itself part of a heated debate about Bergsonism and cinema, between Paul Souday, L'Herbier, and Emile Vuillermoz. See Vuillermoz, 'Before the Screen', and Souday, 'Bergsonnisme et le cinéma'.

In the late nineteenth century, scientific theories of life fell more or less squarely into one of two camps: the *mechanist* and *vitalist* understandings of organic life. According to mechanist biologists and psycho-physicists—well-known examples of whom included Hermann Helmholtz, Wilhelm Wundt, and Etienne-Jules Marey—living matter is subject to the same mechanical, physical, and chemical laws as non-living matter, and these laws are sufficient to explain the phenomenon of life. Where seventeenth and eighteenth century vitalists had invoked a 'life force' or 'vital principle' (*Lebenskraf*t or *Lebensprinzip*), Helmholtz and fellow scientists such as Emil Du Bois-Reymond turned to terms drawn from mechanics, such as force or power, energy, and electricity. Helmholtz's discovery of the laws of thermodynamics, and his and Wundt's investigations into the workings of the nervous system, made the mechanist model of the body extremely popular. This mechanistic model informed an understanding of the body as electric or automated, and thus of living bodies as 'animal-machines': according to Helmholtz, '[t]he animal body therefore does not differ from the steam-engine as regards the manner in which it obtains heat and force, but does differ from it in the purpose for, and manner in which the force is gained or employed'.[12] This mechanist conception of life also underlies Marey's studies of efficient movement and fatigue, and the importance of these studies for Taylorist work practices.

In reaction to the experimental and theoretical advances made by mechanists, vitalist biologists by contrast insisted that there was a qualitative difference between living and non-living matter. For vitalists, the ability of living matter to create more living matter, change its state, and self-organize was proof of the fact that in addition to physical and chemical laws, there must be a vital force, or at least a set of determinants particular to life. By distinguishing life as a defining factor (and not simply as an epiphenomenon of physical or chemical laws), biologists were able to isolate orchestrated, qualitative changes over time, which they observed in living organisms. Whereas mechanist explanatory models provided tools for observing linear and continuous changes over time, vitalist biologists, by contrast, focused on qualitative leaps which occurred within time, and which led to quite different conceptions of temporality. Eighteenth and nineteenth-century vitalists such as Georg Wilhelm Stahl, Johann Christian Reil, Marie François Xavier Bichat, Johannes Müller, and Karl Ernst von

12 Hermann von Helmholtz, 'Wechselwirkung der Naturkräfte (1876),' quoted from Rabinbach, *The Human Motor*, 61. See also Driesch's discussion of Helmholtz's comments on vitalism in Hans Driesch, *The History and Theory of Vitalism*, 144-47.

Baer had isolated a life force, or life principle, which they took as distinct from matter (in turn, they saw living matter as passive and directed by this force). Most turn-of-the-century 'neo-vitalists', by contrast, saw life as an intrinsic quality of organic matter, and they were particularly interested in embryology, regeneration, development, and the reactions of the living being to its environment. Neo-vitalism's most prominent advocate, the German biologist Hans Driesch, focused on the relationship between cells and organs within a developing living being, while vitalist 'fellow-travelers' such as Jakob von Uexküll investigated the relationship between the subjective perception of animals and their environments.

Driesch, in fact, developed an elaborate theory of vitalism that was grounded in the biological experiments that he performed around the turn of the century. Driesch manipulated sea urchin embryos by removing part of the embryo, and discovered that the remaining parts of the embryo nevertheless developed into a complete (albeit smaller) sea urchin. Ascidians (sea squirts) were another animal of interest for Driesch. These organisms retain the capacity for self-initiated self-organization found in sea urchin embryos—a capacity that Driesch called harmonious-equipotential, since every part of the whole seemed to have the same potential to work harmoniously with the other parts—even in the adult stage. If a body part is cut off an ascidian, the animal is able to regenerate the body part. 'How', Driesch asked, 'could a machine *be divided innumerable times and yet remain what it was*?'[13] To him, these organisms revealed the existence of a causality that differed from mechanic causality; namely, a *unifying* causality that is specific to life. This unifying causality acts in the mode of 'entelechy', a term Driesch derived from Aristotle. Entelechy suspends the infinite number of potential ways in which a given organism could develop, and then, by relaxing this suspension in a certain way, transforms this potential of homogenous matter into specific realities in heterogeneous matter.[14] Yet the relatively meager experimental foundation upon which Driesch based his theory also illustrated—and Driesch admitted as much—that vitalists could only show that there was something that exceeded mechanical causality, but they could not directly prove what, precisely, it was that distinguished life.

While biologists in Germany developed a theory of vitalism that sought to counter the then-prevalent mechanist and naturalist conceptions, philosophers of life waged a related polemic against positivist understandings

13 Driesch, *The History and Theory of Vitalism*, 211-12.

14 See Ibid., 203.

of both nature and culture. German *Lebensphilosophie*, or philosophy of life, is based on vitalist principles, and the roster of life-philosophers includes Friedrich Nietzsche, Wilhelm Dilthey, Georg Simmel, and Ludwig Klages. As much as their work varies, it is based on the notion that life is qualitatively distinct from non-living matter; a distinction that Arthur Schopenhauer sought to capture through the notion of 'will'; Nietzsche, through the notion of the 'will to power'; Dilthey, by stressing the importance of experience and history for the humanities or the 'sciences of the spirit'; and Klages, through his claim that the 'soul' grounds life in blood and soil. Dilthey coined the term *Lebensphilosophie*, in fact, in order to distinguish what he called the humanities, or *Geisteswissenschaften* (sciences of the spirit), from the natural sciences (*Naturwissenschaften*), arguing that literature, history, and the arts are based on a historic and holistic notion of life as experience.

In many ways, Dilthey's work reads like the humanist counterpoint to Driesch's biological theories. Driesch, for example, used the example of a phonograph to describe the difference between life and machine:

> [A]ction of any kind whatever [...] rests upon an *historical basis of reaction*. That is to say, every action is determined—though not exclusively—by everything that has occurred to the acting person until this very moment of his life. Had we not decided to put aside all psychology in our argument, we might say that 'experience' based upon 'memory' is one of the chief features of all acting. But—does not the phonograph 'act' upon an historical basis of reaction? Certainly it does, and it is especially in order to distinguish the acting organism from machines of the type of the phonograph that a second criterion must be added to the first. The phonograph only gives off what it has received, *in its very specificity*; in the organism the occurrences of individual life have only created *a general stock* of *possibilities* for further acting, but have *not* determined all further reactions quite in detail.[15]

For Dilthey, the invocation of the concept of *Geisteswissenschaften* or the humanities distinguishes human activity from mechanical reaction, and human memory and experience from mechanical inscription. In the realms of life and spirit, reasoning, as well as acting, is determined by history, experience, and memory, and based on comprehension and decision. The humanities consequently need their own methods—their own systems of deduction, conclusion and results—that are separate from those of the

15 Ibid., 212-13.

natural sciences, and which can translate subjective experience into objective claims. Dilthey eventually developed a theory of hermeneutics that started from subjective experiences, took account of the vital expression of, for example, a literary text, and, in a final step, aimed at understanding (*Verstehen*) on the basis of expression and experience.[16]

An implicit concern with experience also lay at the heart of the work of the best-known of the philosophical vitalists, Bergson, who turned against a mechanical and intellectualist understanding of time, both by contrasting mechanical time with the notion of duration as lived time and by reevaluating the concept of intuition from an evolutionary perspective. In *Matter and Memory,* Bergson developed a theory of perception that broke up the perceptual process into pure perception (which is part of, or partakes in, matter) and memory (in which we find expressed spirit). What we call the 'present' is, according to Bergson, not a point in time dividing past and future, but rather has duration itself, because it takes time to perceive and process; the past and the future participate in the 'present'. In this duration of the present moment, pure perception and pure memory combine in the interval between action and reaction (i.e., this is where matter and memory come into contact). Additionally, in lived reality, perception is made 'impure' by affections—either the invocation of mechanical, automatic memory (habit) or of memory-images—which have been unconscious and which are called up to consciousness when they become relevant for the present.[17]

In *Creative Evolution*, Bergson applied these ideas to the evolution of life forms. The two main lines of evolution that are expressed in the animal and the human being, respectively, are the development of instinct and intellect. Since evolution entails specification and the development of certain faculties over others, human intellectual knowledge is necessarily partial and incomplete—it is only a part of the Whole of life. Intellect, for Bergson, is a bright nucleus, 'a contraction, by condensation, of a more extensive power' surrounded by a fringe of instinct, or intuition; the latter is 'that part of the evolving principle which has not shrunk to the peculiar form of our organization, but has settled around it unasked for, unwanted'.[18] Bergson contended that by turning our attention to this fringe, we gain access to those aspects of life in which we participate, but which are not part of our individuation as human beings.

16 See Ferdinand Fellmann, *Geschichte der Philosophie im 19. Jahrhundert,* 316-35; Herbert Schnädelbach, *Philosophie in Deutschland 1831-1933*.

17 See Bergson, *Matter and Memory*.

18 Bergson, *Creative Evolution*, 46, 49.

For Bergson, one consequence of this evolutionary 'intellectualization' of the human being is the human focus on action and fabrication, since intellect enables humans to find solutions to the problems posed by life by means of fabricating tools. In order to facilitate the discovery of solutions, intellectual perception transforms 'matter into an instrument of action, that is, in the etymological sense of the word, into an *organ*'.[19] Intellectual perception is thus a utilitarian perception that turns what it sees into distinct spatial phenomena upon which it can act; it perceives only in the light of anticipated results; that is, end-points. As intellectual beings, humans have spatialized time and grasp change—whether it is qualitative, extensive, or evolutionary change—as a series of scientifically determinable states. The intellectual approach is thus the method whereby science proceeds, and (as a consequence) it also provides the basis for the way in which mechanistic scientific theories seek to explain phenomena of life and growth. Bergson explicitly referred to Marey's chronophotography—Marey was his colleague at the Collège de France—and serial photography, as well as to the cinematographic apparatus, in order to describe the shortcomings and consequences of intellectual perception, claiming that 'the mechanism of our ordinary knowledge is of a cinematographical kind' (in Chapter 1, I will discuss in more detail the complicated relationship between mechanism, duration, and cinema in Bergson's work).[20]

The work of the following generation of life philosophers in Germany—in particular, Georg Simmel, Max Scheler, and Helmuth Plessner—illustrates the ways in which the vitalist approach ramified into sociological and anthropological domains. Simmel not only initiated the translation of Bergson into German, but also related life-philosophical ideas to sociology and applied them to modern urban life. Fundamental to his philosophy of life was the idea of a contradiction inherent in life: on the one hand, life is flowing, creative, rhythmic becoming that is characterized by continual change (a notion he took from Bergson); on the other hand, life—as soon as it is not just animal life, but also has a spiritual dimension, as in the case of humans—continually creates expressive forms, such as art. While such forms are necessary for life to express itself and become visible, these distinct, stable forms simultaneously separate from the dynamic flow of life and eventually end up in conflict with life. They are then overthrown and substituted by new forms. There is thus 'a fight of life against form more generally, against the principle of form' that is constitutive of spiritual

19 Ibid., 161.
20 Ibid., 306.

life.[21] In philosophical anthropology, both Max Scheler and Helmuth Plessner—the former a student of Dilthey's, the latter a student of Driesch's and Uexküll's—sought to redefine human being-in-the-world from a life-philosophical perspective. A central aspect of Plessner's anthropology was the division of the body into something we *are*—that we are physically, that is, an existential part of our being—and something we *have*—that we can relate to and reflect upon, look at, and separate from ourselves as spiritual beings. (This distinction is expressed in German as the distinction between body as *Leib*—a word not coincidentally related to 'life', *Leben*—and body as *Körper*, which is derived from the Latin *corpus* and denotes a more rational approach to the body).[22]

The approaches I have described above do not fall into a single category, and of the authors I have cited, only Driesch and Bergson are invariably classified by historians as vitalists. Nor am I the first to suggest affinities between these different thinkers, although previous accounts have tended to employ terms such as 'holism' or 'biocentrism' as ways of capturing the elective affinities between various related movements at the end of the nineteenth and beginning of the twentieth centuries.[23] However, thinking of all of the authors I have described above as part of a *vitalist* stream draws attention to the importance that all of them attached to the term 'life', an emphasis that is lost in a term such as 'holism'. And while the term biocentric does maintain this focus on life, it does not in the end help us to capture what was at stake in the confrontation between cinema and these life-philosophies, for (as I shall describe in further detail below) the intersection of cinema and life-philosophies tended to reject precisely that notion of a centripetal center around which everything revolved which is implicit in the term biocentrism, and instead figured life as a centrifugal force that led viewers in wandering, errant paths outward to larger, non-organic forces of life. Vitalism is a term that better captures this more expansive sense of life, even if it means wresting the term away from its narrow appropriation by Driesch and Bergson. My understanding of vitalism is indebted to Georges Canguilhem, who argued that, if it were not to be reductionist, a vitalist position was a necessary stance for a philosophical inquiry into biological matters. Furthermore, for him, life itself conditions philosophical knowledge; as Charles T. Wolfe puts it, for

21 Georg Simmel, 'Der Konflikt der modernen Kultur', 185. See also Chapter 3.

22 See Helmuth Plessner, *Stufen des Organischen*; Plessner, *Laughing and Crying*.

23 For a focus on holism, see Anne Harrington, *Reenchanted Science*; on the notion of biocentrism, see Oliver A. I. Botar, 'Notes Towards a Study of Jakob von Uexküll's Reception'.

Canguilhem, '[t]here is something about Life that places the knower in a special relation to it'.[24] Life, for him, is 'the form and potential of the living', and thus all philosophical engagement with life is necessarily vitalist.

Early Film Theory

It was in the cultural context that I have sketched above that the first moving images flickered across public screens. Not only did the first film companies bear names that highlighted cinema's relationship to life, but early advertisements also deployed descriptions such as 'living pictures' or 'pictures come to life' for the moving image, expressions that appear in many early texts on cinema.[25] The reasons behind this linkage seem fairly obvious: the spectacular appeal of cinema lay in the combination of photography and movement, which animated, or re-animated, the image and seemed to make visible life itself. At the same time, many early commentators on cinema exclaimed that they were able to see 'life itself' on the screen (for example, Rémy de Gourmont, Hermann Häfker, and Georg Lukács, to mention just a few). In all three invocations of the word 'life', life is qualified at the same time as it is invoked. For example, the term 'living pictures' imparts life to *pictures*, which themselves are in a safe, separate realm, carefully segregated from real life by a frame. The expression 'pictures come to life' foregrounds an original separation of picture and life and thus invokes the technical working of the cinematic apparatus: a series of still images, on the one hand, and the movement generated by the mechanism of the apparatus, on the other. In the notion of 'seeing life itself', by contrast, life as a referent is emphasized by the intensifying pronoun 'itself' (which is included in most accounts, whether they are French, German, or English). This emphasis seems to be necessary to express the feeling of astonishment, the extraordinariness, that is produced through this combination of 'seeing' and 'life'.

These first expressions already hint that there was something about the experience of moving images that made it seem that life was *at stake;* that only by opening up the question of life could one come to terms with this

24 Charles T. Wolfe, 'The Return of Vitalism', 5. See also Georges Canguilhem, *La connaissance de la vie*.

25 In the first years of cinema, the expression 'living pictures' was a common term for the moving image. See, for example, Henry V. Hopwood, *Living Pictures*.

new medium and this new aesthetic experience. But applying the term 'life' to cinema meant not only that the concept of life was opened up and made vulnerable to the new medium—that is, that cinema could become part of the answer to questions about what constituted life, how life could be defined, and how life could be identified or perceived—but this move also affected the concepts of *picture* or image and of *seeing* or perception. The turn to the notion of life to explain cinema as an aesthetic and technological phenomenon indicates that a struggle took place as to how, conceptually, to 'contain' pictures if they somehow partake in life (through movement and duration). If life and images become connected, how then can one establish distinctions between what is in the frame/on the screen and what is outside of it? Where does this merging of life and image leave the idea of the frame itself? How do we have to redefine 'the picture', and how do we have to redefine 'life'?

Vision, for its part, becomes a medium that sensually relays life to us in cinema. In cinema, life turns into something one encounters from the outside—we are ourselves outside of this framed life that the moving image conveys to us. Such a perception of life at a distance, so to speak, can end up feeling uncanny, insofar as life is usually something that remains opaque to us precisely because we are situated within it and cannot be outside of it. Given our embeddedness in life, in fact, it would seem that to see life from the outside would also necessarily mean the end of perception itself. Cinema, however, conveys life to us via perception, in a picture that, as a picture, is separate from our regular environment, our regular life. Fleshing out what is implicit in these three common usages of the term 'life' in early texts on cinema thus illustrates that the term not only contributed to a qualification (and hence, a better grasp) of what cinema itself was, but that cinema also seemed to perform the same operation for life. At the same time, these reflections on life and moving images are directly linked to Simmel's idea that life is engaged in an inherent and necessary conflict with form, Plessner's division between being and having a body, and Bergson's thoughts on lived time. When early film critics explained cinema in terms of life, and life in terms of cinema, they did not reduce one term to the other, but rather used one term as a way of deepening and complicating our understanding of the other.

Rémy de Gourmont's 1907 article 'Epilogues: Cinematograph' is a paradigmatic example of an early text on film that makes recourse to the notion of life in order to describe both the aesthetic experience of film and what seems to be the medium's specific aesthetic quality. He located the real

potential of film in so-called 'outdoor spectacles'.[26] The following passage describes the components of such a spectacle:

> Yesterday [the cinematograph] showed me the Rocky Mountains and the Zambezi Falls: the wind bent the fir trees on the mountains; the water sprang up at the bottom of the falls. I saw life stirring. At the Zambezi, a small bush, partially caught in a whirlpool, wavered constantly on the brink of the abyss; and its trembling, come from such a distance away, inspired in me a previously unknown emotion [*je ne sais quelle émotion*]. I became entranced by this battle; when they give us a new view of this spectacular foaming falls, I will be looking for that bush which is courageously resisting the force of water: perhaps it will have been vanquished, or perhaps it will have become a tree.[27]

In this description of a landscape, picturesque scenery, movement and emotion combine to create a powerful impression. De Gourmont's heightened sensitivity to the movement of the trees and water foregrounds the animation of the landscape. His description also suggests that cinema is *transforming* movement; that cinema allows him to see and relate to movement differently. 'Natural' movement, by being mediated through film, becomes both the object of reflexive observation and something that subjectively reverberates in one's own body. The movement de Gourmont describes is not itself organic or self-directed, but the result of a more general animation produced by the forces of gravity and wind; it is an animated view.

On the one hand, de Gourmont's description of the trembling of the bush is reminiscent of texts on the excessive, nervous movements of actors such as Charlie Chaplin or Buster Keaton, movements that film critics of the 1920s were to hail as cinematic *par excellence*.[28] In this vein, one could read

26 For de Gourmont, these outdoor spectacles can be natural, such as landscapes, or contrived, such as a hippopotamus hunt (which de Gourmont describes as 'posed certainly, but posed on the very banks of the Upper Nile with the local people and animals performing in their own environment'). What is important for de Gourmont is only that the spectacle includes the setting in order to make full use of cinema's potential, whether this setting is understood as 'landscape' (*paysage*) or 'environment' (*milieu*). By 'landscape', de Gourmont means panoramic scenery without human characters, while 'environment' denotes the surroundings of human characters involved in a foregrounded action.

27 Rémy de Gourmont, 'Épilogues: Cinématographe', 124 . Translated as de Gourmont, 'Epilogues: Cinematograph (1907)', 47.

28 See, for example, Jean Epstein, 'Magnification', 238. On the nervous body in French film culture more generally, see Rae Beth Gordon, 'From Charcot to Charlot'.

de Gourmont's account as describing a feeling Walter Benjamin termed 'innervation' with respect to cinema. According to Benjamin, cinematic innervation provides a chance not only to incorporate technology playfully, but also to encounter somatically a nature that is not antithetical to technology (or to humanity).[29] On the other hand, the transference of a movement 'from such a distance away'—that is, the physical and emotional connection that the film is able to establish between the viewer in Paris and the bush in Zambia—is so strong that it forms a tie that persists beyond the duration of the film. De Gourmont's feeling of being entranced is the result of a *new sense of movement* made possible by the mediation of the cinematograph, and by the fact that this cinematic movement allows for a haptic and kinesthetic empathy with a bush. He sums up the movement on the screen with the notion of 'life stirring' (*vie remuer*), since this cinematic movement literally animates both organic and inorganic matter; that is, it confers on it a different, and differently experienced, life and soul (*anima*).

In many advertisements for the cinematograph, the term 'life' referred to the astonishing effect of the cinematographic apparatus' technology, namely the generation of movement by means of discrete images that replaced one another at a certain speed. Accounts such as de Gourmont's, however, obviously go beyond the usages of the word 'life' we find in accounts that foreground the technological marvel. In de Gourmont's description, life encompasses both the film's movement and the embodied, moved spectator—a combination at which his choice of the expression 'vie remuer' also hints, since *remuer* can refer to external as well as internal motion. De Gourmont's text emphasizes that cinema creates a peculiar bond between what has been filmed (the really existing bush in Zambia), the cinematic 'view' itself, and the moved spectator, a bond that revolves around movement, temporality, and a strange sense of life.[30]

If, in de Gourmont's text, life refers to an external movement that is seen differently because of its mediation through the screen, in other texts the term is used reflexively, as a way of emphasizing one's own sense of vitality.

29 On innervation, see Benjamin, 'The Work of Art', esp. 124 n10; as well as Benjamin, 'One-Way Street'. Miriam Hansen discusses the importance of the concept of innervation for Benjamin in Hansen, 'Benjamin and Cinema: Not a One-Way Street'.

30 De Gourmont's text seems to fall squarely on one side of the binary distinction in classical film theory, from André Bazin to Siegfried Kracauer, which Dudley Andrew has long emphasized: namely, the distinction (which Kracauer traces back to the Lumières, on the one hand, and George Méliès, on the other hand) between a 'realist' and a 'formative' tendency; that is, an aesthetic that is concerned with content and stylistic means such as the long take, versus an aesthetic that prioritizes form and montage. I take up this distinction critically in Chapter 1.

In his short essay 'Cinematographic Theater' (1909), for example, Max Brod writes that he was overwhelmed by cinema's life force, and he felt 'shaken out of [his] semi-somnolent state' by the 'vitality of such a wealth of events' on the screen.[31] While Brod thus felt vitalized by cinema and empowered to 'become an inventor myself and think up a few new pictures for the Biograph' on his way home, other literary commentators on cinema felt that cinema's vitality surpassed their own. Walter Hasenclever—like Brod, a modernist author—claimed that in the 'Kientopp',

> space and temporality serve to hypnotize the spectator; where is there any vitality, where is there a single dimension on this earth that it cannot reach in its unlimited capacity? It is as though the Kientopp were the most extreme consequence of human expansion, and only in it, as in a final form of reflection, can the horror of being appear. When we place the chaos at a distance by seemingly having reproduced it, we renounce its reality.[32]

The exuberant vitality of cinema seems to come at the expense of that of the audience, which, as Alfred Döblin put it, is 'spellbound by the fixed stare' of the film screen's 'white eye'.[33] For Hasenclever, cinema was the most extreme consequence of 'human expansion', understood not only as geographical reach, but also as including other dimensions and an exponential increase in vitality. His comment suggests the excitement about new vistas in actualities, travelogues, dramas, and popular scientific films, but also the overwhelming sensorial impact of films that seem to surpass human capacities for seeing, feeling and experiencing; for living. Hasenclever made explicit what many early film commentators addressed only implicitly: in its enlargement of life, cinema reflects life—'the horror of being' (*die Ungeheuerlichkeit des Daseins*)—back to us, enlarged and under altered conditions, such that we may comprehend something about it that was not graspable before.[34]

31 Max Brod, 'Cinematographic Theater (1909)', 17.

32 Walter Hasenclever, 'The *Kintopp* as Educator', 40.

33 Alfred Döblin, 'Theater of the Little People', 150.

34 Hasenclever's comment seems to prefigure Siegfried Kracauer's image, in his 1960 *Theory of Film*, of the film screen as equivalent to Athena's polished shield, which allowed Perseus to bear the sight of the Gorgon Medusa without turning into stone, such that he could cut off her head. '[W]e do not, and cannot, see actual horrors because they paralyze us with blinding fear'; since 'of all the existing media cinema alone holds up a mirror to nature', we depend on it 'for the reflection of happenings which would petrify us were we to encounter them in real life' (Siegfried Kracauer, *Theory of Film*, 305). Miriam Hansen and others have pointed out that this is only a thinly veiled reference to the atrocities of WWII and the holocaust (made only more explicit by Kracauer's reference to Georges Franju's holocaust allegory *Le sang des bêtes* (1949)

The painter Gustav Melcher also belonged to the group of critics who attributed an excess of life to cinema: 'one single cinematographic theater program leaves world and life in the dust'.[35] Prefiguring the idea of cinema as a technological prosthetic device that extends human faculties—an idea we find in Dziga Vertov's notion of *kino-eye*, for example—life, for Melcher, was encompassed by technology. The cinematograph, as a 'new visual organ', enjoyed a kinship with life that was denied to theory and philosophy, privileging it to reveal life's secrets. 'Criticism is just as powerless against the cinematograph's shows as the philosopher is with regard to life. They are too much.'[36] Both the distant ('stars') and the microscopic ('bacteria') can come into view; both the spatially (the 'streets of New York, London, and Paris') and temporally ('depths of the past') far-away can come into reach. This new visibility changes our understanding of life, because our access to life is no longer limited to human vision and human life: 'The fly has more than ten thousand eyes. The flounder's eyes can wander across its body. But twentieth-century man has the cinematograph. He sees more than the visual world: he sees what he desires. . . He sees the timelessness and imperishability of life.'[37] In this environment, in which life and technology are so thoroughly imbricated with one another, production—the work of the actor—is not an accumulation of dead labor, but makes visible modern life: 'The sanguine, pulsating, enterprising modern life, which even before birth takes on its cheerful automobile rhythm, is put on display without prejudice in film acting.'[38]

Another group of critics reacted more ambivalently to the cinematograph; for them, cinematic life was signified by lack. For Maxim Gorky, responding to an 1896 screening of Lumière films, the films presented a shadowy half-life, or the shadow of life; even though everything on the screen teemed with life and with movements that were full of energy, the smiles were lifeless and the life that was presented was bleak and dismal, for it was deprived of color, sound and smell.[39] That same year, O. Winter likewise described 'the terrifying effect of life, but of life with a difference' in cinema: 'Here, then, is life; life it must be because a machine knows not how to invent; but it is life which

in the same paragraph); see Hansen, *Cinema and Experience*, 257, as well as Gertrud Koch, '"Not Yet Accepted Anywhere"'. But like Kracauer's film theory, Hasenclever's comment betrays the fascination with the combination of depiction of reality and distortion of (perceptual) reality in the cinema.

35 Gustav Melcher, 'On Living Photography', 17.

36 Ibid., 18.

37 Ibid., 19.

38 Ibid., 19-20.

39 Maxim Gorky, 'Last Night I Was in the Kingdom of Shadows'.

you may only contemplate through a mechanical medium, life which eludes you in your daily pilgrimage.'[40] The life cinema gives us, Winter continued, is 'all true' and 'all false', since its faithful recording is accomplished by an unintelligent machine that does not know how to privilege certain objects and vistas over others and thus order, select, and revise visual impressions as a 'human brain' would. For Winter, this 'life moving without purpose, without beauty, with no better impulse than a foolish curiosity' mirrored the concurrent ill-fated tendencies in realist and naturalist literature and painting, where 'imagination' became 'crippled by sight', and he denied that the cinematograph had an ability for revealing reflection (aside from the realm of science): 'The master quality of the world is human invention, whose liberal exercise demonstrates the fatuity of a near approach to "life".'[41] In this text, as in many others, the relationship between life, reality, and realism is at stake, and the answer depends on the role of human perception in the face of a machine's moving images.

In 'Thoughts on an Aesthetics of Cinema' (1913), Georg Lukács also described 'eerily life-like' film images as lacking, but characterized them as primarily fantastic, rather than realistic. The fantastic, however, is 'not the opposite of living life, it is only a new aspect of it: it is a life without presence, fate, reason, or motives, one in which everything is possible . . . a life without soul, a life of pure surface'.[42] Yet it is exactly for this reason that the monumental weight of fate 'flourishes into rich and abundant life' in cinema, and the animate in nature 'acquires artistic form for the first time'.[43] In *Theory of the Novel*, which he wrote around the same time, Lukács analyzed various literary forms with respect to their relationship to life, a pursuit that reflected Simmel's and Dilthey's influence on Lukács before the latter's Hegelian-Marxist turn.[44] As Scott Curtis has emphasized, Lukács turned against contemplation and inwardness as bourgeois attitudes in both his text on film and in *Theory of the Novel*, qualities on which Winter sought to insist. For many other early film commentators, it was the quick, restless, *modern* life to which film corresponded, rather than the contemplative, idyllic life associated with earlier styles and epochs. The Austrian author Karl Hans Strobl evoked this contrast when he wrote: '[The cinematograph's] quick, distracting tempo corresponds to the nervousness of our lives; the

40 O. Winter, 'Article in *New Review* (February 1896)', 13, 14.

41 Ibid., 16.

42 Georg Lukács, 'Thoughts on an Aesthetics of Cinema', 12-13.

43 Ibid., 14.

44 See Lukács, *Theory of the Novel*, 11: 'The first draft of this study was written in the summer of 1914 and the final version in the winter of 1914-15.'

restless flickering of the scenes flitting by lies at the opposite end of the spectrum from the confident persistence of a regular stride. Before these wild images, it becomes apparent that the present has no room for the idyllic.'[45] Lukács, by contrast, realized that the conflict between form and life is not the same as in other media, since cinema, in contrast to the stage, is characterized by a 'temporality and flow' that 'is movement in itself, the eternal transience, the never-resting change of things'.[46] Rather than making life visible as a rigid form that separates itself from life's flow, it is exactly this flow, this eternal becoming, that cinema makes visible. As a consequence, cinema lacks the depth, the 'soul', of other art forms. The medium's technology enables an expression of life that creates a new balance between body and soul, since cinema foregrounds the corporeal, moving aspect of life.[47]

These early texts on cinema revealed three aspects of the relationship between moving images and 'life'. First, the notion of life, when applied to cinema, could refer to a quality of the cinematic image itself, as a technologically produced and reproduced moving image. However, 'life' could also signify a quality of vitality, or animated-ness, that characterized the objects on screen, which seemed to possess either an excessive vitality (Brod) or another, uncanny kind of life (Lukács). Third, and finally, these authors used the term 'life' to qualify that which transpired between spectator and moving image: that magical bond of which de Gourmont spoke.

Cinematic Vitalism

From the early days of the medium onward, as these commentaries on cinema indicate, the movie theater became a privileged place to think about 'life'. Cinema allowed for theoretical reflection on life, since it seemed to present life as such, as a distinct object; yet at the same time, on account of its sensual impact on the spectator's own living body, it forced these theoretical considerations back into matter. By the late 1910s and throughout the 1920s, we witness a much broader discussion of life-philosophical and

45 Karl Hans Strobl, 'The Cinematograph', 26.

46 Lukács, 'Thoughts on an Aesthetics of Cinema,' 13.

47 There have been several excellent readings and contextualizations of Lukács' essay. A foundational reading is Tom Levin, 'From Dialectical to Normative Specificity'; more recently, Janelle Blankenship and Scott Curtis have analyzed the text in the context of Lukács' overall work and early film theory more generally; see Curtis, *The Shape of Spectatorship*, 235-41 and Janelle Blankenship, 'Futurist Fantasies'. See also Katharina Loew, 'The Spirit of Technology: Early German Thinking about Film', 141-43.

vitalist ideas in the arts more generally, especially in music and dance, but also in literature, painting, and photography.[48] Vitalist ideas began to thrive in various art movements and contexts as a way to formulate and partake in a new aesthetic that was by no means simply a regressive reaction to modernity. Rather, these vitalist ideas not only actively shaped modern thought, but they also continue to circulate and inform the way that we conceive of ourselves, our relationship to others, and our environment. Vitalist ideas, moreover, can be found across a number of very different—and in some cases even opposed—artistic movements, such as Expressionism, cubism, futurism, Dada and surrealism. Though some of these movements, such as futurism, embraced a machine aesthetic that might seem antithetical to vitalism, there were nevertheless a number of vitalist ideas—even if fewer explicit references—that were amalgamated with technology, urban velocity, and automatism; as in, for example, Antonio Giulio Bragaglia's photodynamism.[49] Yet it was in film as time-based and technological art that these ideas found their greatest application and transformation.

In encountering the technologically-produced temporality, and naturalistic, yet ephemeral images, of cinema, however, vitalist ideas about the nature of life and its relationship to technology were modified to such an extent that we can (and should) speak of 'cinematic vitalism'. Cinematic vitalism incorporates certain vitalist ideas drawn from biology and philosophy, while rejecting others, and combines the vitalist ideas that it does accept with mechanist ideas. Vitalist ideas, in other words, changed as they were incorporated into films and theories of film, just as in any experimental setting in which ideas are put to the test. In contrast to the often quite rigid conceptions and distinctions that characterized scientific vitalism, vitalist ideas in cinema were literally put into motion and took on a life of their own. This became especially evident in the films and writings by the first avant-garde in the 1920s, which form the core of my inquiry. Vitalist conceptions of temporality, movement, and embodiment appeared in texts by film theorists and filmmakers such as Hans Richter, Jean Epstein, Jean Painlevé, Kracauer, and Benjamin, and these conceptions had a major influence on their theories of cinematic perception, montage, and the ontology of the cinematic image.

This book aims at more than simply to map the mutual influences between cinema and vitalism (with the latter understood as either a clearly

48 See, for example, Hilary Fink, *Bergson and Russian Modernism*; Mark Antliff, *Inventing Bergson*; and Tom Gunning, 'Loïe Fuller and the Art of Motion'.

49 See Bragaglia's manifesto: Anton Giulio Bragaglia, 'Futurist Photodynamism'.

definable movement or theoretical position). By focusing on what I call cinematic vitalism, I seek to show that, and how, vitalist ideas in biology and philosophy addressed concerns about the value and characteristics of life in modernity; that is, in a climate of increasing rationalization, urbanization, technologization, and scientification. As many film scholars have shown, these are, of course, precisely the same concerns that also characterized the reactions to and theorizations of cinema. The cinema, as an actual place and a discursive field, became a place for thinking about the correlation of life and technology—or, to put it differently, the relationship between the human and technology on the one hand, and with nature, especially non-human life (from animals to cells), on the other.

As I noted at the start of the introduction, the significance of vitalist philosophy for film aesthetics has long been underestimated, primarily as a consequence of the association of vitalism and life-philosophy with an anti-modernist, conservative, and anti-technological stance. In the German context, a number of life-philosophical conceptions of organic unity, holism, and life force were incorporated into National Socialist ideology, and while some life philosophers, most prominently Nietzsche, were stylized by Nazis into ideological godfathers, others, notably Ludwig Klages and Oswald Spengler, were in fact directly involved with the fascist regime and were among the National Socialists' main ideologues. Even though Uexküll had a much more ambiguous relationship to the Nazi regime and his Institute for *Umwelt* Research came under permanent threat after 1933, Uexküll likewise outlined a conservative and elitist biological theory of the state, with the family, the Volk, and the state as the natural building blocks.[50] And until his grand revival in the early 1990s, Bergson's philosophy, which was so popular at the beginning of the century, had been largely forgotten, in part because of the antagonistic redirection of French philosophy in the 1920s toward Hegel (Alexandre Kojève, Jean-Paul Sartre), and in part because of a Catholic, anti-Semitic and/or 'masculinist' reaction against Bergsonism (Julien Benda, Wyndham Lewis).[51] Even though they borrowed heavily from Bergson, early film theorists themselves tended to avoid any explicit mention of him, since by the early 1920s, Bergsonism—which had turned

50 See Harrington, *Reenchanted Science*, esp. 56-71.

51 Bergson, like Simmel, was Jewish, and their work presents the most liberal versions of life-philosophy. Bergson's focus on intuition (versus intellect)—as well as, most likely, the fact that his philosophy lectures were indeed attended by many women—led others to decry his philosophy as a feminization of philosophy. See Vincent Descombes, *Modern French Philosophy*, 9-54; and Heike Klippel, *Gedächtnis und Kino* .

into a popular mainstream philosophy—seemed already to belong to the previous, established generation.

As a consequence of these ideological associations and personal entanglements, many cultural historians have discussed vitalism and life-philosophy from an all too narrow teleological-historical perspective, as not only premodern, but also anti-modern.[52] Accordingly, the majority of film scholars have considered vitalism and life-philosophy to be at odds with a medium that is inextricably part of an urban mass culture, because of the way the latter integrated various machines and technologies into everyday life. Even though scholars such as Stephen Kern and Anson Rabinbach have discussed the rise of new cultural conceptions of space and time as fundamental paradigm shifts that accompanied the process of industrialization, urbanization, and changes in social structures, these conceptions are generally restricted to mechanist models of explanation that compared living beings and machines.[53] By contrast, I maintain that vitalist conceptions of life not only provided a foundation for new approaches to temporality and movement, but were also transformed as a consequence of their confrontation with cinema as a technical apparatus, and thereby directly came to incorporate the cultural and technological reality of modernity.

To date, the bulk of scholarship on Bergson and cinema has followed in the footsteps of Gilles Deleuze, though a few more historically-oriented texts have also traced Bergson's influence on film theory and practice.[54] While in his two books on cinema, *The Movement-Image* and *The Time-Image,* Deleuze discusses Bergson's own comments on cinema, he is not primarily interested in pursuing the historical question of the relationship between cinema and vitalism. Rather, Bergson's work provided Deleuze with a theoretical framework and vocabulary with which to grasp the relationship between time, movement, body, and action in cinema. Though it is of course possible to see cinema as part of the mechanistic vanguard of modernity while its contemporary, vitalism, was simply part of a fading

52 Examples include Harrington, *Reenchanted Science*; Mitchell G. Ash, *Gestalt Psychology*; and Hans-Joachim Lieber, *Kulturkritik und Lebensphilosophie.* A good counter-example is Frederick Burwick and Paul Douglass, eds., *The Crisis in Modernism.*

53 Rabinbach, *The Human Motor* and Kern, *Time and Space.*

54 See, for example, Malcolm Turvey, 'Vertov: Between the Organism and the Machine', and Klippel, *Gedächtnis und Kino.* In art-historical scholarship, however, there are a number of publications that delineate the influence of Bergsonism on various art movements, in particular national contexts, historically, rather than theoretically; for example, on French avant-garde art, on Russian modernism, or on British modernism. See Antliff, *Inventing Bergson*; Fink, *Bergson and Russian Modernism*; Mary Ann Gillies, *Henri Bergson and British Modernism.*

past, Deleuze's reappropriation of a vitalist philosopher such as Bergson to rethink cinema gave scholars pause for thought before prematurely accepting this linear account of historical change. Deleuze's Bergsonian film-philosophy, like Bergson, seeks to understand the human mind via cinema, but undertakes a systematic analysis of film form to investigate and illuminate ways of being and thinking. A number of publications since have elucidated, expanded upon, and criticized Deleuze's approach to cinema.[55] For this project, Deleuze's work is of interest to me primarily for the ways in which it develops further a tradition of primarily French vitalist film theory, beginning with Émile Vuillermoz, Elie Faure and others, and continuing with André Bazin.

In outlining the importance of vitalism and life-philosophy for cinema, my project further engages with recent contributions to film scholarship that deal with questions, movements, or theories that are closely related to the issue of vitalism, such as cinematic temporality, film phenomenology, and affect theory. Mary Ann Doane has sought to explore the historical genesis of cinematic temporality. Temporality and its nexus with economics, culture and politics has also become a central issue in works on global art cinema, particularly with respect to so-called slow cinema.[56] In the wake of the renewed attention to the body and thus to theories of spectatorship that counter the psychoanalytic and structuralist approaches that dominated film scholarship up to the early 1990s, a number of scholars have turned to phenomenology, which is closely related to life-philosophy, and have noted important cross-influences between authors such as Maurice Merleau-Ponty, Edmund Husserl, Simmel, Dilthey, and Bergson. And by emphasizing the lived body, affect, perception, and sensation, work by Vivian Sobchack, Mark Hansen, and others has redirected film and media theory in a direction that is in many ways consonant with that of a vitalist account.[57]

The book as a whole is organized around the four key aesthetic axes of cinematic vitalism as it was developed in films, by film theorists, and in philosophical-biological theories: 1) rhythm (duration, lived temporality),

55 Gregory Flaxman, ed., *The Brain Is the Screen*; Barbara M. Kennedy, *Deleuze*; Patricia Pisters, ed., *Micropolitics*; David Rodowick, 'Gilles Deleuze's Time Machine'; Mirjam Schaub, *Deleuze*.

56 Mary Ann Doane, *The Emergence of Cinematic Time*; Lee Carruthers, *Doing Time*. On slowness, see Koepnick, *On Slowness*; Tiego de Luca and Nuno Barradas Jorge, eds., *Slow Cinema*; Ira Jaffe, *Slow Movies*.

57 Vivian Sobchack has provided the most comprehensive phenomenological account of film spectatorship in Sobchack, *Address of the Eye*; while Mark Hansen's *New Philosophy for a New Media* has introduced phenomenology into new media theory.

2) environment (*Umwelt*, milieu), 3) attunement (*Stimmung*, mood), and 4) development (evolution, behavior). Each of these terms depends on and expresses those relationships between the human organism, its milieux, and technologies such as cinema that can be organized vitally, dynamically, and non-teleologically. As I note at several points in the book, however, this vision of cinematic vitalism articulated by classical film theorists and filmmakers is not simply of historical interest, but it also maps out connections among human beings, milieux, and technologies that have persisted throughout the history of cinema in the twentieth and twenty-first centuries, and which have come to the fore especially in recent discussions about the emergence of a fully digital cinema and alternative screen practices and installations. By contextualizing early twentieth-century film theories within debates about vitalism and life-philosophy, I aim to present cinema—both then and now—not simply as an echo of the dynamics of mechanization and modernization, but also as a site where film theorists, philosophers, filmmakers, scientists, and the everyday moviegoer could reflect on, negotiate, and even reorient themselves toward questions of life in the face of modernity, rationalization, and technologization.

Though the chapters are organized primarily around these four key concepts of cinematic vitalism, I argue that we can also locate four historic stages of the cinematic engagement with vitalism. For the first generation of film critics and filmmakers, the word 'life' signaled the profound way in which films called on the spectator as a living, sensing being, even as the use of this term also complicated earlier notions of life by providing spectators an opportunity to witness a technologically produced liveliness; that is, the experience of seeing life *outside itself*. In the second stage, what we now call 'classical' film theorists of the 1920s pursued these early intuitions about the vitality of film by developing a more full-fledged aesthetics of cinema that reflected on cinema's complex relationship with various conceptions of life in philosophy, biology, and aesthetic theory. The third stage took place in the immediate post-WWII period, characterized both by further scientific and technological advances and by the experience of systematic mass annihilation and destruction, which shifted cinematic engagement with life from an emphatic to a restorative or even redemptive (Siegfried Kracauer) project.

Finally, and not coincidentally, in the recent past we have witnessed resurgent interest in life and vitalism in contemporary theory, cultural studies, and the history of science; a resurgence into which this book also taps. This interest includes reflections on the imbrication of life, power and politics in the wake of Michel Foucault's elaborations on 'biopolitics',

work on 'non-organic life', work on forms of life that appear in particular historical constellations (such as Giorgio Agamben's 'bare life' or Judith Butler's 'precarious life'), work based on a renewed interest in (media) ecology, materiality, and environmentalism, and work on the history of vitalism in the light of contemporary biological developments.[58] My focus on the ongoing engagement of filmmakers and film theorists with vitalist ideas aims to put this contemporary neo-vitalist thought into historical perspective, by linking it to a continuous historical thread of experimental vitalist ideas inspired by the moving image.

While this book focuses on the first three stages, it is very much in dialogue with the contemporary engagement with life and ecology in various disciplinary contexts. It seeks to add a historical background to current debates while also providing historically-grounded key terms with very specific, yet historically variable definitions, such as *Umwelt* or *Stimmung*. The focus on the moving image as a technological medium with a special affinity to life should be understood as case study of the interrelationship, or rather mutual conditioning, of natural and cultural geneses. Following the description of this book's chapters, I will briefly outline the current debates on which the book's contents draw and inform.

Chapter 1 grounds cinematic vitalism in a medium specificity that is not simply based on photographic indexicality, but rather on temporality, movement, and spectatorial engagement. In the writings of the vitalist philosophers Henri Bergson, Georg Simmel, and Ludwig Klages, rhythm is a natural, flowing, and embodied temporality that is expressive of the internal living body of the performer, listener, or spectator, and is presented by these writers as in opposition to modern, urban, and capitalist temporality. The film theorists and filmmakers Hans Richter and Sergei Eisenstein engaged this discourse on rhythm in order to understand the dynamic challenge put to the spectator's lived temporality that is posed by cinema's mechanical temporality—a challenge prefigured in nineteenth century discourses in art history about *Einfühlung* (empathy) as well as vitalist-scientific discourses on intuition and instinct. Hans Richter's scroll paintings and abstract *Rhythm* films (1921-25) present an attempt to develop a non-organic aesthetic that combines life and machine, merging the temporality and

58 On biopolitics, see Roberto Esposito, *Bios*; Melinda Cooper, *Life as Surplus*; on non-organic life, see Manuel De Landa, *A Thousand Years of Nonlinear History*; on 'bare life', see Giorgio Agamben, *Homo Sacer*; on 'precarious life', Judith Butler, *Precarious Life*; on an expanded notion of ecology and materiality, see Timothy Morton, *Ecology without Nature*; Jane Bennett, *Vibrant Matter*; and Matthew Fuller, *Media Ecologies*; and on the contemporary revisiting of vitalism, Sebastian Normandin and Charles T. Wolfe, eds., *Vitalism and the Scientific Image*.

formal properties of cinema with the rhythm of the embodied spectator. Whereas the abstract films of Walter Ruttmann and Oskar Fischinger were based on an aesthetic of organic forms, Richter's films sought a non-organic aesthetic that combined life and machine, merging the temporality and formal properties of cinema with the embodied spectator. This non-organic formal aesthetic found its equivalent in Richter's writings, which likewise expressed the dynamic challenge put to the spectator's lived temporality by cinema's mechanical temporality. Richter's work thus constitutes an example of a *formalist* cinematic vitalism based on movement, composition, and embodied perception rather than the realism of cinema's moving photographic images. I conclude by noting that Soviet montage filmmaker Eisenstein's theory of montage from the 1920s and 1930s transferred this formalist vitalism to the film technique of montage, which for Eisenstein is cinema's way of engaging with the inherent vitality of all matter.

Moving away from the organizing capacities of life internal to organisms, such as rhythm, Chapter 2 shifts the focus to the external organization of the world by a living being. I discuss how, in both biology and the avant-garde film of the 1910s and 1920s, there was a new conception of life as radiating outward into the environment of living beings. The biologist Jakob von Uexküll serves as the protagonist of this chapter, for his interest in the way in which the perceptual abilities of different living beings 'created' or determined that being's world proved inspirational to many theorists of early cinema and, in its use of photographic and cinematic techniques, as well as the idea of perceptual worlds, itself constitutes a kind of cinematic biology. In contrast to prior understandings of the environment as a 'milieu' influencing and shaping largely passive living beings, Uexküll's theory of *Umwelt* (the 'surrounding world') describes the active *creation* of the environment by a living being. The chapter begins by tracing the central role played by chronophotography, cinema, and aesthetic theory (especially that of Kant and that developed under the term *Einfühlung*) in both the development of Uexküll's theory of biology and for his literary and pictorial imaginations of various *Umwelten*. The literary and imaginative qualities of Uexküll's work—the idea that there was not one common world, but rather a multitude of worlds—in turn inspired avant-garde artists and filmmakers from the Dada and Bauhaus movements, as well as Walter Benjamin, who drew upon *Umwelt* theory in his most seminal writings on film. Unearthing the role of *Umwelt* theory is thus not only a matter of recovering a lost context of cinema's early history, but it is also a means of theorizing how cinema provided a blueprint for imagining life, life forms, other bodies, and other sensations, both animal and machinic. The chapter concludes

with an analysis of the work of the surrealist documentary filmmaker Jean Painlevé, to discuss how the spectator's negotiation of film as *Umwelt* and the technological mediation of animals enables an encounter with non-human senses and sensibilities.

In Chapter 3, I turn to the aesthetic implications of the modernist concepts of subject-environment interaction outlined in the previous chapter. German Expressionist and *Kammerspiel* ('chamberplay') film of the 1920s, as well as accompanying film-theoretical texts, located the vitality of film in its ability to create a dense, atmospheric surrounding world that a spectator might inhabit by attuning herself to its qualities. Lupu Pick's and F.W. Murnau's films in particular were able to create intense moods by means of stylistic choices pertaining to the *mise en scène* (close shot ranges, lighting, etc.) that vivified landscapes, locales, and things, and dynamize the relationship between protagonists and their environment. In discussions of these films, filmmakers, scriptwriters, critics, and theorists turned to the aesthetic concept of *Stimmung* (mood, attunement, tonality), which captures simultaneously the tonal quality of what surrounds us (atmosphere), our own tonality (mood), and the process of attuning to a mood or atmosphere. In the long history of *Stimmung* as an aesthetic term, philosophers, writers, and art historians, including Kant, Friedrich Schiller, J. G. Fichte, Friedrich Nietzsche, Georg Simmel and Alois Riegl, made recourse to *Stimmung* to think about the relationship between subject and environment, objectivity and subjectivity, imagination and reason, and sensation and thought. Expressionist and *Kammerspiel* film of the 1920s continued this aesthetic inquiry, but infused it with a vitalist dynamic, as evidenced in texts on these films by Béla Balázs, Willy Haas, Lotte Eisner, Mayer and Pick. I show how the aesthetics of cinematic *Stimmung* intervenes in broader debates about the role of 'environment' in social, cultural, and scientific debates, and does so by counteracting the notion of a rigidly determining milieu developed in realist and naturalist novels and plays (and, by extension, in the scientific debates upon which those literary discourses drew).

The focus of Chapter 4 is the return (and, in some cases, the continuation) of specific vitalist motifs in immediate post-WWII film theory, in a context in which scientists had abandoned the opposition of vitalism and mechanism in favor of more integrative models of how dynamic-organic qualities and physico-chemical forces interact. Vitalism was especially unpopular after the war, for many vitalist ideas had merged with Nazi ideology in the Third Reich, as holism and the idea of the state as organism served to justify an aggressive foreign policy and racial ideologies. Yet a

progressive strand of vitalist thought persisted throughout this period, particularly in France, appearing both in the work of a few individuals in disciplines such as philosophy (e.g., Maurice Merleau-Ponty, Helmuth Plessner), but also, significantly, in film theory. Rather than concentrating on holistic notions of the body and, by extension, communities, authors such as André Bazin and Siegfried Kracauer focused on the idea of a (vulnerable) open body; instead of the eternal temporality of the Third Reich and the ecstasy of its well-orchestrated mass festivals, they maintained an open temporality of the everyday (which, for them, was exemplified by Italian neorealist cinema). This chapter examines Bazin's film essays and Kracauer's *Theory of Film*, and in particular the conceptions of nature, life, and evolution in these texts, as well as their connection to post-catastrophic narrative forms and visual styles in cinema, from neorealism to modernist and new wave films from the 1950s and 1960s. The questions of vitality, emergence, evolution, and development that are central to Bazin's and Kracauer's film theories build on the discussions of rhythm, mood, and environment in chapters 1-3, but also reflect the post-vitalist debates about behavior, evolution and cybernetics of the 1950s and 1960s. In the conclusion, I reflect on the ways in which the contours of cinematic vitalism outlined in this book relate to recent 'neo-vitalist' theories of materiality, media, and affect.

Insofar as the goal of my project is to trace the affinity between cinema and vitalist concepts of life, it also serves as a necessary corrective to many current ideas about the relationship between cinema and science, which often cast this relationship in terms of transmission: either the transmission of scientific concepts and methods into cinema, or the transmission of cinematic concepts and methods into science. Focusing on affinities, by contrast, means considering the ways in which cinema alters and draws out new points of interest from scientific ideas even as it incorporates them, and it means looking at the ways in which cinematic technologies and concepts of cinema facilitate new modes of science. Focusing on the affinities between film and vitalism is thus a means for developing a different historical, ontological lens for looking at film, and it provides a way both to break up narrow ideological conceptions of vitalism and life-philosophy and to illuminate the all-too-familiar contours of classical film theoretical texts from an unusual angle, which in turn enables us to draw new insights and interrelations.

In describing the relationship between film and life in terms of affinity, I am borrowing from Siegfried Kracauer, who claims that cinema harbors an

'affinity' for 'the "flow of life"'.[59] Affinity is a term that Kracauer never conceptualizes or explains. According to the Oxford English Dictionary, it can describe a connection both 'by inclination or attraction', be it voluntary and social, natural, chemical, or spiritual; and 'by position', that is, by marriage, by kinship, or by structural resemblance between languages, animals, or plants.[60] For our present purposes, the term 'affinity' thus encompasses both the notion that cinema and vitalist conceptions of life may be connected by position (because they blossomed historically around the same time; because they are indeed structurally related; etc.) and the notion that they are connected by inclination (they are drawn to one another since they are similar, and thus mutually complement one another, or reaffirm one another). Additionally, the term 'affinity' encompasses both a scientific-analytic meaning (as in, for example, the chemical affinity between atoms) and a cultural, emotional meaning. This double sense, both scientific and cultural, is something that the term affinity also has in common with cinema, which from its inception has been grounded in both science and art, analysis and synthesis, fact and fabrication.

It was upon this double meaning of affinity that Goethe also built his novel *Elective Affinities* (*Wahlverwandtschaften*). The novel explores marriage, attraction, and free will from the perspective of chemical reaction, by describing the experiment whereby a married couple add another man and woman to their household.[61] Joseph Vogl has embedded Goethe's novel in the context of the then-current scientific debates about chemical affinity. Louis Berthollet had discovered that attraction between elements is an unstable system, constantly producing new divisions and leaving a remainder that ensures the continuation of chemical processes ad infinitum. The scientist Johann Wilhelm Ritter, a friend of Goethe's, subsequently reduced chemical affinity—and along with it, every organic process—to the electric polarity

59 Kracauer mentions four 'affinities' of photography: an 'affinity for unstaged reality', a tendency 'to stress the fortuitous', a tendency 'to suggest endlessness', and 'an affinity for the indeterminate'. Film has a fifth affinity: 'Now films tend to capture physical existence in its endlessness. Accordingly, one may also say that they have an affinity, evidently denied to photography, for the continuum of life or the "flow of life," which of course is identical with open-ended life. The concept "flow of life," then, covers the stream of material situations and happenings with all that they intimate in terms of emotions, values, thoughts.' Kracauer, *Theory of Film*, 18-20, 71.

60 'Affinity', in *Oxford English Dictionary* (Oxford University Press, 2016). http://www.oed.com.libproxy.lib.unc.edu/view/Entry/3417?redirectedFrom=Affinity& (accessed March 15th, 2016).

61 Goethe, *Elective Affinities*. On the wider implications of the term 'affinity' in Goethe, see Andrew McKinnon, 'Elective Affinities of the Protestant Ethics'.

of hydrogen and oxygen, a process that does not merely combine, join and divide separate entities, but also creates a new 'product' by consuming the joined elements.[62] As the four characters in the novel embark on their social experiment ('Description is inadequate', after all), one of them, a captain possessing chemical knowledge, explains:

> One has to have these entities before one's eyes, and see how, although they appear to be lifeless, they are in fact perpetually ready to spring into activity; one has to watch sympathetically how they seek one another out, attract, seize, destroy, devour, consume one another, and then emerge again from this most intimate union in renewed, novel and unexpected shape: it is only then that one credits them with an eternal life, yes, with possessing mind and reason, because our own minds seem scarcely adequate to observing them properly and our understanding scarcely sufficient to comprehend them.[63]

Film is reflected in this quote in two ways. The experience and witnessing of a chemical reaction bears no relation to its lifeless description. By viewing the elements and the unstable forces of attraction themselves, we grant them life, mind and reason, a phenomenon reflected in film theorists' description of the vivification of things. But film and life are elements like these, too, such that description of the medium becomes theory of the medium. Both film and life, I argue in this book, react to one another under various conditions and in the context of different additional elements in the various films and film-theoretical texts under consideration. The result is never an 'essence' (of the medium, of life), but an unstable, temporary state that seeks to name a fleeting state before it changes shape again.

62 Joseph Vogl, 'Nomos der Ökonomie', 519-24.
63 Goethe, *Elective Affinities*, 47.