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.

1. Vitalism and Abstraction

Rhythm and Non-Organic Life from Hans Richter to Sergei Eisenstein

The Reinvention of Cinema in Abstract Film

A number of early film and cultural critics, such as Rémy de Gourmont, Alfred Döblin, and Hermann Häfker, discussed cinema's fascination and potential in terms of the lifelikeness of its images. They sought to find words for the peculiar nature of the relationship in time, via movement, between the spectator and the moving image. It might seem that what I have called 'cinematic vitalism' relies on indexicality and the vitality of the photographed world. Cinematic vitalism would then be an aspect of a particular trajectory of film theory, namely the one that Siegfried Kracauer in his *Theory of Film* called the 'realistic tendency', which he privileged over the formalist tendency. This binary distinction was subsequently picked up in film theory, most notably by Dudley Andrew in *The Major Film Theories*, and has long shaped our understanding of film history.[1] According to Kracauer, a film's aesthetic validity, the consequence of a 'cinematic approach' to matter, needs to be led by an engagement with the physical world and only secondarily informed by formal interventions of framing, montage, narrative, and so forth.[2] Like Kracauer, Andrew traced the opposition of realism and formalism back to the films of the Lumière brothers versus those of George Méliès. However, he organized the history of film theory and practice as a whole chronologically around the two poles, by claiming that pre-WWII film theory, in reaction to early cinema's 'crude' realism, was by and large formalist (Hugo Münsterberg, Rudolf Arnheim, and Sergei Eisenstein serve as his prime examples), while Kracauer and André Bazin spearheaded post-WWII realist film theory.

Other early film critics, however, who play a central role in my inquiry into cinematic vitalism—including Georg Lukács and Béla Balázs—actually built their thoughts on cinema on the difference between the film image and reality; or rather, the difference between the image and unmediated perception. Both Bazin's and Kracauer's work, as well as early Lumière films and the 'Lumière aesthetic', are indeed central touchstones of this

1 See Andrew, *Major Film Theories*.

2 Kracauer, *Theory of Film*, 37-39.

book, yet the interaction with vitalism on the part of filmmakers and film theorists is by no means restricted to realist film and film theory—not least because (as both Kracauer and Andrew readily admit) the binary division between realism and formalism is itself too rigid and artificial to be useful as a means of orientation.[3] The distinction between a tendency toward the photographic and a tendency toward the non-photographic, formal aspects of film can help us, however, to sketch out a particular aspect of cinematic vitalism that, rather than relying on photographic realism, emerges from a consideration of the formal and formative properties of the cinematographic apparatus and of film itself, including mechanical movement, projection, and montage. A cine-vitalist approach is thus not restricted to the 'recording' and 'revealing' of the visible world, but also considers the vital exchange between the embodied spectator and the film body.

This chapter traces the role of vitalist conceptions of life in and for abstract film, on the one hand—that is, films that seem to be diametrically opposed to photographic realism and a depiction of 'life itself'—and montage theory, on the other hand. Early abstract film includes the work of filmmakers such as Hans Richter, Viking Eggeling, Walter Ruttmann, Germaine Dulac, and Fernand Léger. A number of these films were created in the context of broader art movements, especially Dada (Eggeling, Richter, Léger), and connected to attempts to distill something like cinema's essence by means of a pure or absolute film (Dulac, Richter). The elements of this essence were movement, rhythm, and light, and a peculiarly dynamic, intuitive connection between spectator and image. These filmmakers and theorists were concerned with re-building cinema from the ground up, starting with its literal body, its matter, and developing cinema's 'physical expression', its capacity to express and transmit ideas, on the basis of this physiognomy.

In the first and longest part of this chapter, I focus on Hans Richter's collaborative work with Viking Eggeling and the eventual production of Richter's first abstract film, *Rhythm 21* (the exact date of the film is unknown, but Richter seems to have begun work on it in 1921 and completed it in 1923/24). I argue that we ought to see *Rhythm 21* as a

3 A case in point of the limitations of this distinction is Andrew's classification of Béla Balázs as a formalist. Sergei Eisenstein, a 'formalist' filmmaker par excellence, formulated the sharpest critique of Balázs in this respect (*avant la lettre*): see Eisenstein, 'Béla Forgets the Scissors'. Dan Morgan has made a powerful argument for a reconsideration of classical 'realist' film theory and the role of style; see Morgan, 'Rethinking Bazin.'

'reinvention' of cinema. Cinema had become a well-established medium by this point, with abundant nickelodeons dotting city streets and an increasing number of picture palaces—grand cinemas in the style of theaters—accompanying efforts to reach bourgeois audiences and raise the medium's artistic profile. Yet Richter and Eggeling turned to cinema in order to solve a set of vitalist-aesthetic issues and problems that they had initially addressed in scroll painting, but that—at least, so Richter believed—could only be fully pursued by exploiting the capacity of cinema to merge the living temporality of the spectator with the mechanical temporality of the film apparatus. They tried to find an abstract expressive film language that could capture the potential of the new, mechanical vitality they felt the cinematograph possessed. In the second, shorter part of this chapter, I turn to montage theory, in particular Sergei Eisenstein's writings. I argue that Russian montage theory, especially Eisenstein's later conception of montage, presents a translation of the sensual-formal principles employed by Richter in *Rhythm 21* into photographic, narrative film, and can be seen as a continuation of a certain approach to film as vitalized matter.

None of the artists and filmmakers that I consider in this chapter were vitalists in the sense that biologist Hans Driesch was; that is, none of these artists and filmmakers felt the need to commit him- or herself to a specific set of ontological claims about the relationship between life and physical-chemical explanations of the natural world. However, all of the artists and filmmakers that I consider addressed a topic that was central to vitalist accounts of life, namely, the importance of vital rhythm; and for most of them, this seems to have been a function of reading vitalist philosophers such as Henri Bergson, Ludwig Klages, or Georg Simmel. The importance of vitalist conceptions of life to these authors and filmmakers is thus related to their belief in the ability of the medium of film to structure, that is, rhythmicize, time, and create a temporal organization. Rhythm paired with *Einfühlung* ('empathy'), abstraction, and animation, I am suggesting, provided a formula for a 'vitalist formalism'. A projected film, according to this line of thought, has an affinity for life not because it presents the living duration of the natural world, but rather because it is itself a temporal, organized body, an organism changing over time, whose rhythmic temporality—a result of flicker, the mechanical motion of the filmstrip, the movement in the image, *mise en scène,* and montage—is expressive of the film's life. The distinction between this vitalist formalism and a vitalist materialism in film theory and practice is just one of several tendencies, however, since both directions converge in a consideration of

the spectator's perception and sensations. This chapter thus also turns to painting and music, because it was by rethinking cinema *with the help of* other arts—and in particular music's temporal gestalt and painting's planar expressivity—that Richter and others sought to conceive of a vital expressivity specific to film.

A Universal Language

The 1910s and early 1920s saw the creation of a number of abstract films, especially in the context of futurist, constructivist, or Dadaist art movements. The non-representative, non-photographic images of these early abstract films challenged dominant ideas about the nature of cinema: while these films emphasized movement and rhythm, they also rendered the cinematic image independent from photographic realism. Some of these abstract films—for example, those of Oskar Fischinger (who later went to Hollywood and worked briefly for Disney on *Fantasia*, 1940) and Walter Ruttmann (who created the abstract *Opus 1-4* films before his famous film *Berlin: Symphony of a Great City* from 1927)—emphasized forms and movements that were organic, pulsating, reminiscent of natural movement, and intended to facilitate a mimetic response in the spectator. The early abstract films of Hans Richter and his friend Viking Eggeling, by contrast, lacked forms that would encourage a mimetic response, for their films featured geometrical, inorganic forms, such as lines, squares, and rectangles.

Yet I argue that it is precisely the inorganic quality of these films' formal language that demonstrates the amalgamation of vitalist ideas and technological medium. This amalgamation was the result of a work process over the course of several years on the part of Richter and Eggeling, and I thus develop my argument by retracing their steps in four stages. I first describe Richter's collaborative work with Viking Eggeling, which began with an attempt to create a universal sign language. Then, in part two, I discuss Richter's and Eggeling's move to the medium of painting on long scrolls, and, in part three, their move to the medium of film. In following this trajectory, I am especially interested in the different conceptions of the temporality of the aesthetic object and its relationship to the temporality of the beholder or spectator that accompanied their shift from one medium to another.[4]

4 One could argue that alongside this theoretical and aesthetic adjustment, there is a third one, namely the adjustment from the paradigm of artistic exclusive production and the artist-as-creator to the cinematic paradigm of a popular, democratic, mass-cultural medium and the

As I will try to make clear in the fourth and final part, what emerges from Richter's and Eggeling's engagement with cinema is an approach to the medium strongly influenced by Bergsonian vitalist ideas, which challenges not only our usual understanding of cinematic temporality, but also early twentieth-century discourses on abstraction and empathy. I argue that *Rhythm 21* provides us with an example of a cinema created on the basis of vitalist ideas of life, whereby the latter were transformed and mutated to accommodate the mechanical apparatus of cinema.

How should we approach a film like *Rhythm 21*? It is a film that consists only of white, black and grey squares and rectangles changing shape and shifting position; a film that is not only devoid of narrative, but also apparently of any other means that would allow us to project emotions or values. Moreover, the film's form, length, title and year of creation are also unclear: Richter and others provide contradictory information, and, as Holger Wilmesmeier concludes, the 'existence of four different designations—*Film ist Rhythmus, Rhythmus 21*, *Filmspiel, Ohne Haupttitel*—for one single film [...] indicates the rather provisional character of this work.'[5] And how might we relate a film that is so obviously lodged in an artistic, painterly context to film aesthetics, theory, and history? In 1921 (the year of *Rhythm 21's* partial creation; it was only screened publicly in 1924), films on international screens included Charlie Chaplin's *The Kid*, Fritz Lang's *Destiny* or *Der müde Tod*, and D. W. Griffith's *Orphans of the Storm*, while *The Cabinet of Dr. Caligari* had been produced the year before. All of these narrative films are representative of a moment in film history when film became more widely accepted as an art form in public discourse, and narrative cinema had developed a wide array of stylistic devices, from parallel editing to the close-up, from intricate special effects to increasingly experimental camerawork. By the time that Richter began to establish himself in the world of artists and bohemians, in other words, cinema had already been around for almost twenty years and had established itself as an art form in its own right with a distinct aesthetic.

At the same time, both film and its precursor, chronophotography, had had a huge impact on artists working in other media, such as painting, photography, architecture or theater. These new technological media shook

spectator-as-creator. After his experiments in abstract film, Richter made short essay films (*Inflation*) and became much more interested in socially-engaged documentary film that reached out to the audience. And in montage theory (see the final section of this chapter), the active role of the spectator is even more pronounced.

5 Wilmesmeier, 'Entstehungsgeschichte', 40.

artists' understanding of temporality, movement, and the relationship between human body and machine.[6] Richter's work in painting, which eventually led him to film, was thus itself already influenced by film; yet, because he was approaching film as a painter, through the back door, he was able to see film differently and, in this sense, reinvent it. Rather than as a model of influence, we might want to think about this intertwined path as a process of cross-pollination, with ideas of movement, form, time, abstraction, and nature generated by both media (and others, certainly) in the air, which were then taken up by artists such as Richter. (André Bazin develops a similar model of the mutual evolution of painting and cinema, as well as theater and cinema, according to which each only comes into its own by opening up to other art forms. I will return to this in Chapter 4.)

Richter's orientation towards film was forged during the time he spent in Zürich as part of the first Dada group that had formed there. While WWI was claiming the lives of friends, colleagues, and countless others around them, a group of artists had gathered around Hugo Ball and Tristan Tzara in Zürich in neutral Switzerland, and they soon called themselves 'Dada'. In the context of this group, in 1918, Hans Richter, a young painter from Berlin, began to collaborate with the Swedish painter Viking Eggeling. Eggeling was already undertaking systematic studies of the possibility of creating a universal visual language, something in which Richter had also just become interested. Initially, Hans Richter played the role of a student, studying the laws Eggeling had worked out for the relationship of lines to each other, and gradually incorporating them into his style.[7]

The term 'universal language' was a buzzword in the 1910s, especially with respect to the debate about the possibilities and achievements of film. Film pioneer D.W. Griffith claimed that film was universally understandable and fundamentally democratic, and he sought to put these principles into practice with films such as *Birth of a Nation* (1915) and *Intolerance* (1916).[8] This 'language of film', however, was by no means the semiotic, structuralist understanding of a parallel between film and language that dominated film theory in the 1970s and 1980s. The idea of film as universal language was rather based upon the idea that photographic film's representation of

6 Ideas of simultaneity, dynamism, time and movement, which occupied futurists, cubists, and Dadaists alike, are rooted in the confrontation with chronophotography and film—an important example would be Marcel Duchamp's *Nude Descending a Staircase*, which almost seems like a response to Muybridge's serial motifs. See also Marta Braun, *Picturing Time*.

7 Compare the descriptions of Eggeling's and Richter's collaboration in Louise O'Konor, *Viking Eggeling*; Hans Richter, *Dada: Art and Anti-Art*; and Richter, *Begegnungen von Dada bis heute*.

8 On Griffith's ideas of film as a universal language, see Hansen, *Babel and Babylon*.

a waving hand or a smile can be understood by all humans immediately, mimetically, and as such resembles a hieroglyphic language, which is based on mimetic signs. It thus bore a closer relation to Walter Benjamin's notion of language as a mimetic faculty. According to Benjamin, runes and hieroglyphs indicate the passing of a certain type of mimesis, namely 'non-sensuous similarity', from occult practices to (written) language.[9] This is also how Vachel Lindsay, an early American film theorist, defined the 'Egyptian' quality of cinema (and somewhat later, Sergei Eisenstein likewise compared cinema to hieroglyphics).[10]

Yet even as Eggeling and Richter used this same term, 'universal language', they seem not to have been aware at this point of a parallel between their project and the description by film directors and critics of cinema as a new, 'universal' medium. Rather, Eggeling's and Richter's studies of the possibility of a universal language took music and its time-based perception as their point of departure. Music, as a non-representational art form, has a long history of being conceived of as universally understandable; one need only think of the discussions of music in Lessing's *Laocöon*, Schopenhauer's *World as Will and Representation*, or Nietzsche's *Birth of Tragedy*, all of which grant music a privileged position among the arts due to its temporal, non-representational nature.[11] Eggeling and Richter were trying to develop a basic system of lines, forms, and interrelations between them that would constitute the underlying basis for more complex expressions; something Eggeling called a 'general bass (or basso continuo) of painting'.[12] As a consequence, they modeled the visual forms that they produced on the musical principles of harmony and counterpoint, that is, on the interplay of several musical lines. In music, the term 'harmony' describes the sound of notes that are heard simultaneously. Even though harmony is dependent upon the context within which it is heard, one could still say that it privileges the vertical aspect of sound. 'Counterpoint', by contrast, refers to the principle of simultaneous melodies that are interacting (harmonically) with one another. In counterpoint, both the linear or horizontal dimension of individual melody-lines and the vertical dimension of their harmonious interaction are important elements of composition. As a consequence,

9 See Benjamin, 'On the Mimetic Faculty', 722.

10 See Vachel Lindsay, *The Art of the Moving Picture*, esp. 199-216.

11 Gotthold Ephraim Lessing, *Laocöon*; Arthur Schopenhauer, *The World as Will and Representation*; Friedrich Nietzsche, *The Birth of Tragedy*.

12 An idea already formulated by Goethe; similarly, Leibniz had attempted a universal language based on musical and mathematical principles to express 'thoughts'.

contrapuntal music can become fairly complex, and often has an almost spatial, multi-dimensional structure.

The direct musical influence on Richter and Eggeling came, in large part, from the composer Ferruccio Busoni, who befriended Richter in Zürich in early 1918, shortly before Eggeling arrived (Richter himself was a skilled piano player).[13] Busoni's most important work, which occupied him for most of his professional life as composer, was the transcription of Johann Sebastian Bach's works for organ and clavichord to piano, the so-called Bach-Busoni Editions. Richter's and Eggeling's interest in counterpoint was thus not coincidental, but derived from a study of Bach's eighteenth-century fugues and preludes, rather than the music of Beethoven or Wagner, for example.[14] Richter himself later noted that Busoni had advised him to study the laws of counterpoint when 'form, as such, became a handicap' in his attempt to organize 'the relationship of one part of a painting to the other'.[15]

Richter's and Eggeling's translation of the principles of counterpoint into painting was itself part of a small movement within painting in the 1910s. Other painters within their sphere of influence had already done so, including Frantisek Kupka with *Amorpha: Fugue à deux couleurs* (1912), Wassily Kandinsky with *Fuga* (*Beherrschte Improvisation*) (1914), and Adolf Hölzel with *Fuge* (*Über ein Auferstehungsthema*) (1916). While these were stylistically all very different, they had in common the application of the structural principles of counterpoint by variations and inversions of shape and color throughout the image, resulting in dynamic compositions.[16] For Richter and Eggeling, counterpoint was the basic principle of their sketches toward a universal language, because they sought to dynamize expression. For them, expression was not located in a stable form, but in the relationship between forms. They thus systematically tested out the effects of various vertical and horizontal relationships; that is, the tension and relaxation between parts created by particular formal constellations. According to Eggeling, the guiding formal principles in their studies were 'polarity', 'contrast' and 'analogy'.[17] The concept of 'polarity ' as elemental natural dynamic has a long history in nineteenth-century philosophy and

13 See Marion Hofacker, 'Chronology', 288.

14 William Moritz adds to the musical influences on Eggeling Stravinsky, Arnold Schönberg and the Vienna School. See William Moritz, 'Der abstrakte Film seit 1930', 133.

15 Richter, *Hans Richter*, 112.

16 See Maria Teresa Arfini, 'Abstract Film as Viewable Music'.

17 Eggeling quoted in Richter, *Hans Richter*, 112. In 'Die schecht trainierte Seele' ('The Badly Trained Sensibility'), Richter describes the fundamental principle of *Rhythmus 21* with the same simple paradigm. See Richter, 'Die schlecht trainierte Seele'.

life science, from Schelling to Goethe to Schopenhauer, and Richter's and Eggeling's formal choice highlights the degree to which their universal language was meant to be modeled on principles of movement and growth applicable throughout the natural world.[18]

Eggeling's sketches show that he was primarily interested in working out these formal issues by means of lines (Fig. 1.1). This sketch reveals that he derived the basic forms for the elements of a universal language from abstractions of natural forms, such as the relationship between the outlines and structures of hills, trees, and other visual phenomena (this is especially evident in the drawings on the bottom right). In the upper half of the sketch, he systematically explores the effect of drawn-out, dotted, or non-existent outlines (first row) and lines (center of the page), as well as radial lines (second row). The latter, in turn, pose the question of the 'directionality' and 'spatiality' of lines: when radial outlines are added to a line or form (circle, square, triangle), this addition not only adds dynamism and direction to the form, but also upsets the perception of space, since the rays define further the relationship between the form and its environment. The sketch also illustrates Eggeling's experiments with contrast and analogy, that is, experiments on the ways in which forms influence one another, creating an expression based on their relationship. A quick glance at the variations of two pointed and two round shapes on the right side of the bottom half of the page reveals Eggeling's exploration of the relationships between outline (*Silhouette*, pointed/inorganic and round/organic), size, 'filling' (*Füllung*, striped and dotted), and position, and the consequences of subtle variations for the expression of the whole ensemble.

Richter, by contrast, was more interested in the relationship between planes, rather than lines, an interest that had already occupied him in the series of ink drawings entitled *Dada Head* (Dada Kopf), which constitutes his first experimentation with counterpoint (see Fig. 1.2). An exemplary sketch of his universal form language (Fig. 1.3) illustrates Richter's systematic exploration on the level of planes and volumes of 'contrast' and 'analogy' and the expression ensuing from the various tensions that are established between forms. Yet it is worth stressing that this was not just a mathematical sketch of possible positions, but rather an exploration of basic elements of design, of *Gestaltung*, and, as such, of artistic creation itself. Richter takes as his starting point two rectangles—one black and one white—that align on a horizontal plane, but that stand at right angles

18 On the relevance of the concept of 'polarity' for Richter, see also Cowan, 'Bewegungskunst,' 66-69.

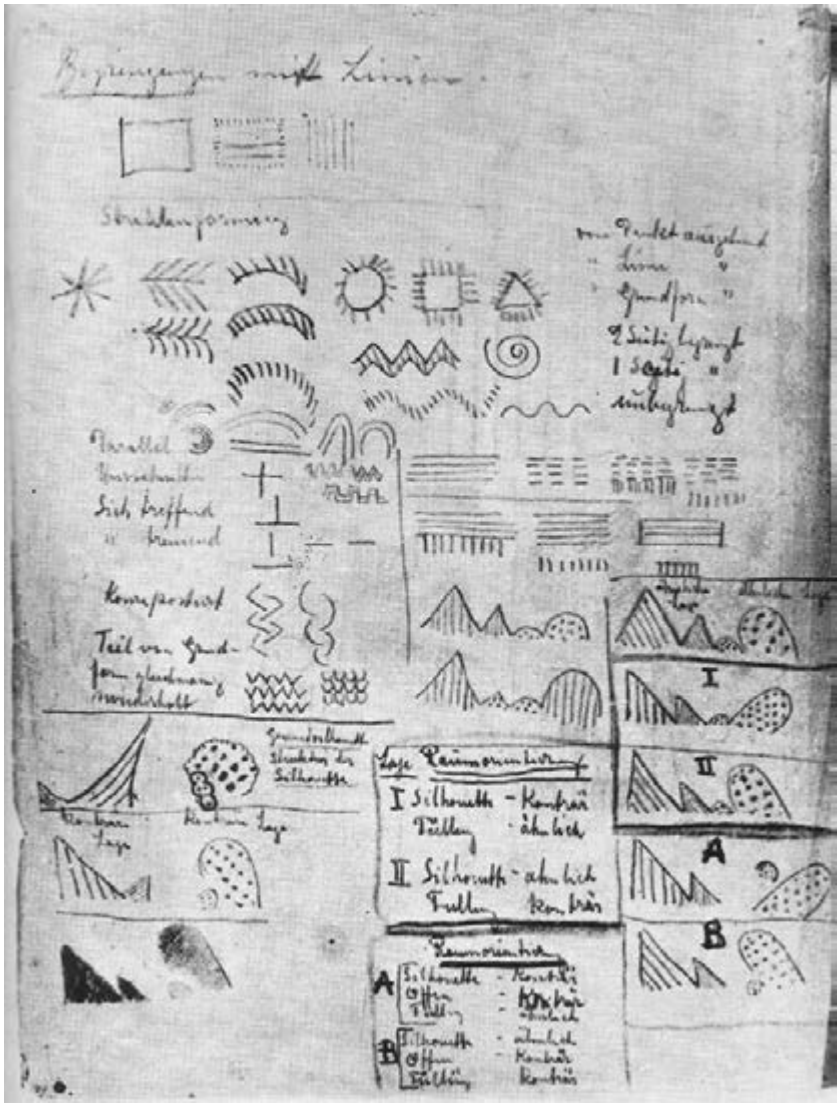


Fig. 1.1: Viking Eggeling's sketches for a universal language.

Fig. 1.2: Hans Richter's *Dada Kopf*.

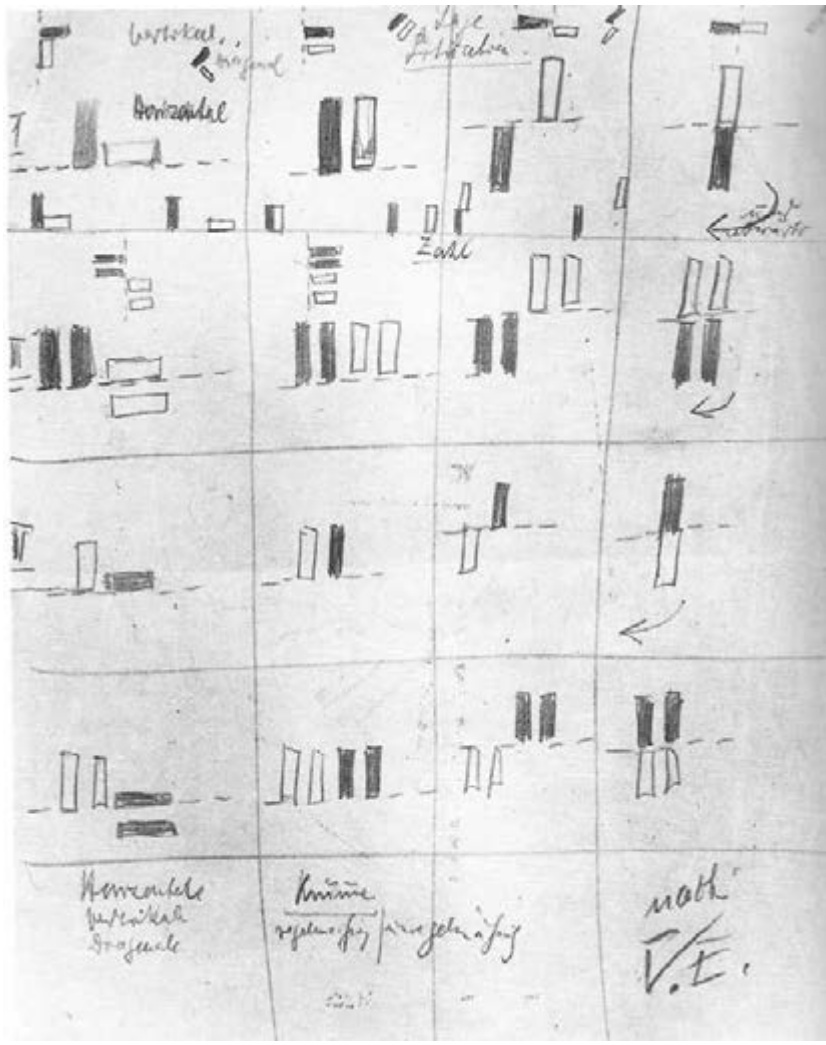


Fig. 1.3: Hans Richter's sketches for a universal language, entitled 'following V. E.' (undated).

to one another (top left). In the vertical column, he progressively changes *number* and *color*—he first doubles the rectangles, then switches their color, and then doubles them again—while the corresponding horizontal rows switch the *positions* of these variations in number and color. These early studies thus express a very specific and unique conception of form as dynamic interplay, rather than as static outline. Richter formulated his insight thus: 'Form could only be configured by its opposite and became alive only through the production of an intimate relationship between the opposites.'[19] For both Eggeling and Richter, a form was not expressive in and of itself. Rather, a form became expressive only *in relation to* something else. This relationality between forms produced an expressive tension, and it is from the perception of this tension that meaning emerged. It was in this tension, this relationship of one form to an Other, that Richter located vitality, the 'living' quality of form.

Bergson, Intuition, and Art

According to Richter and Eggeling, the meaning of this universal formal language had to be grasped intuitively, rather than intellectually. They founded this premise upon Henri Bergson's notion of intuition, introduced by Bergson in *Creative Evolution*, which appeared in France in 1907 (though the book was not translated into German until 1921) and which soon became an important reference work for artists throughout Europe.[20] The Zürich Dada group's connections to Paris, particularly via Hans Arp, Tristan Tzara, and Francis Picabia most likely initially introduced Eggeling and Richter to Bergsonism. Extensive notes on *Creative Evolution* by Eggeling, made at the time of Eggeling's and Richter's collaboration at the Richter family estate near Berlin in 1919/20, establish Eggeling's deep familiarity with Bergson's ideas—indeed, all of the notes that Eggeling subsumed under the heading 'Film' are quotations, summaries, and comments related to *Creative Evolution*.[21]

As discussed in the introduction, Bergson famously discussed the cinematograph as an example of the workings of the intellect, yet Eggeling and Richter, like many other painters in the early twentieth century, seized upon Bergson's notion of intuition as inspiration for their work in painting and

19 Richter, *Dada: Art and Anti-Art*, 65.

20 See, for example, Antliff, *Inventing Bergson*; Fink, *Bergson and Russian Modernism.*

21 See O'Konor, *Viking Eggeling*, 92-96.

film. In *Creative Evolution*, Bergson distinguished between two different approaches to the world, which he argued had resulted in two separate lines of biological evolution. He called the first an 'intellectual' approach. Intelligence, he argued, grasps objects as facts, and thus it grasps what it already knows; it is therefore always oriented toward inert matter and its spatial, factual extension. The intellectual approach to the world—of which humans are the most extreme instance—proceeds by constantly inventing new instruments that mediate among the self, the natural body, and the world. Intelligence, Bergson claimed, is unable to grasp time as the essence of life, as experiential, lived, qualitative time, or what he called *durée* ('duration'). By contrast, the instinctual approach to the world on the part of animals, and especially of lower animals, such as insects, is firmly lodged in life and cannot be strictly separated from the overall organization of a living being. Consequently, the instruments that instinctive beings use are an organic part of their body, and they have instinctive, immediate knowledge of how to use these instruments. Instinctual beings thus comprehend the surrounding world through a gesture of sympathy, in the original cosmological meaning of the term.[22]

To illustrate his understanding of sympathy as intersubjective instinct, Bergson turned to an animal that the famous French entomologist Jean-Henri Fabre had discussed repeatedly with great fascination, namely the sand wasp *Ammophila*.[23] Bergson recounted Fabre's observation that *Ammophila* paralyzes, rather than kills, its victim, the caterpillar, as a simple means of preserving it for longer as a food source for its larvae. *Ammophila*

22 Prior to the restriction of the term 'sympathy' to moral sentiment in the seventeenth century by moral philosophers such as David Hume and Adam Smith, sympathy and antipathy were understood to be the decisive cosmological forces that made possible, in their interplay, both change and identity, difference and sameness. In that sense, one could draw a connection between Richter's and Eggeling's formal language based on contrast and analogy, i.e., basic relationships between forms, and the ur-forces of sympathy and antipathy. Michel Foucault notes that in the sixteenth century, sympathy was understood to be a principle of mobility that draws distant things together while also exerting a power of assimilation by which each thing takes on the quality of other things, such that without the counterforce of antipathy, everything would be reduced to the same: 'The identity of things, the fact that they can resemble others and be drawn to them, though without being swallowed up or losing their singularity—this is what is assured by the constant counterbalancing of sympathy and antipathy. It explains how things grow, develop, intermingle, disappear, die, yet endlessly find themselves again; in short, how there can be space (which is nevertheless not without landmarks or repetitions, not without havens of similitude) and time (which nevertheless allows the same forms, the same species, the same elements to reappear indefinitely).' Michel Foucault, *The Order of Things*, 24-25.

23 Fabre provides a detailed and passionate account of the Hairy Ammophila's 'operation' of her victim. See Jean-Henri Fabre, *More Hunting Wasps*, 295-302.

Fig. 1.4: Sand wasp (Ammophila) with caterpillar in Carl Gottfried Hartman's Observations on the Habits of Some Solitary Wasps of Texas (1905).

does so by stinging the caterpillar in nine nervous centers and subsequently squeezing the caterpillar's head in its mandibles to manipulate the central nerves even further. The wasp somehow 'knows' where to sting its victim to paralyze it and render it unconscious without killing it. Fabre recounts how toward the end of his career, Charles Darwin admitted that he had not solved 'the problem of the instincts' and recommended in a letter that the case of the sand wasp would be the true test of any theory of instincts.[24] This is the puzzle that Bergson picked up. For him, *Ammophila*'s treatment of her victims was illustrative of a sympathetic relationship between the bodies of wasp and victim; the wasp feels itself instinctively into the nervous system of the other animal.

Such sympathetic, intersubjective access to the world and to other beings seems to be denied to humans, who approach the world through intelligence and analyze, identify, and individuate that which is given. But Bergson argued that though humans encounter the world almost entirely through intelligence, they nevertheless also have recourse to *intuition*, which is a form of disinterested, self-conscious instinct. Intuition, Bergson claimed, gives us access to life, duration, and sympathetic union; though in order to gain this access, one must train this capacity. Significantly, for

24 Fabre, *More Hunting Wasps*, 286-87.

Bergson, art could serve as a means for activating and accessing intuition. Aesthetic intuition, according to Bergson, is a form of sympathy between artist and world that allows the artist to feel into an object; to connect to the artwork on the basis of a vital temporality that unites both artist and object:

> Our eye perceives the features of the living being, merely as assembled, not as mutually organized. The intention of life, the simple movement that runs through the lines, that binds them together and gives them significance, escapes it. This intention is just what the artist tries to regain, in placing himself back within the object by a kind of sympathy, in breaking down, by an effort of intuition, the barrier that space puts up between him and his model.[25]

Intuition, understood as divining sympathy, was for Bergson 'an aesthetic faculty along with normal perception', a kind of inner feeling that allowed the artist to grasp not just external appearances (that is, matter), but life itself, 'the key to vital operation', 'the intention of life'. Bergson described this 'intention of life' in painterly terms, as a movement that 'runs through the lines, that binds them together and gives them significance'.[26]

For painters such as Richter and Eggeling, this notion of intuition as sympathy provided a model not only of the artistic process, but also of abstract painting and its reception. They wanted their universal language to be based on intuitively understandable forms—that is, forms to which one would relate by means of an embodied, sympathetic intuition, rather than by means of intelligence. These forms themselves represented the vital substratum, the 'intention of life' as movement in lines and planes. 'Art', Richter wrote in 1921, 'is not the subjective explosion of an individual, but rather organic language of human beings and of extremely serious importance.' Art should always aim at this general, overarching goal, and put those aspects of one's work that are subservient to one's will in the service of a much deeper, underlying organic language. 'Such a scientific presentation of a problem, as it were, is less an inhibition of the intuitive (upon which artistic creation is ultimately based) rather than its elementary means.'[27] The formal language that he and Eggeling sought to develop, in other words, presented a belief in giving expression to general

25 Bergson, *Creative Evolution*, 177.
26 Bergson, *Creative Evolution*, 176, 177.
27 Richter, 'Prinzipielles zur Bewegungskunst', 109-112 (translation mine).

intuitive relations. The forms are developed by means of artistic intuition, but aim at expression of generally valid relations and attitudes that can then become constructive stepping stones to create new intuitive (and, building upon the intuitive, new emotional, spiritual and intellectual) attitudes.

In addition to the influence of Bergson through (at least) Eggeling's studies of *Creative Evolution*, vitalist inspiration also came in other, less direct guises, through the work of groups and movements with whom Richter and Eggeling had contact and which also sought to dynamize 'form' in painting and other arts. The Dada group in Zürich began its infamous *soirées* in 1917, of which music and especially dance formed an important part. This emphasis on music and dance occurred not least because of the proximity of Rudolf von Laban's dance school, which provided the Dada group with a theoretical model of body, movement, and rhythm, dancers for the *soirées*, and, as Richter salaciously noted, a number of girlfriends.[28] In a project that bore many similarities to Richter's and Eggeling's formal efforts, Laban's school of *Ausdruckstanz* ('expressive dance') sought to break with the eighteenth-century model of dramatic gesture as providing direct access to the soul. Instead, gesture became abstracted in order to institute 'a split between emotion and expression.'[29] Laban was also interested in gesture as a universal language that allows us to reflect on and produce universal 'laws of movement' and modes of 'experiencing, being, and communicating.'[30] Gesture was able to do so, Laban maintained, because it made visible and performed the flow of life, and the resonance between body and environment in particular.[31]

Through their combination of painting, poetry, sculpture, music, dance, and performance, the Dada *soirées* were thus directly expressive of the inter-artistic influences at play within a given artist's work. Richter's and Eggeling's work shared with most of their Dada colleagues' work at the time an experimentation in expression. Ball's sound poems were another example, since they likewise sought to break out of the mold of meaning and signification of language by incorporating elements of other art forms. Moreover, the work of Wassily Kandinsky—whom Richter describes, along with Paul Klee, as one of the 'fathers' of Dada—and his 1911 book *Concerning*

28 See Richter, *Begegnungen von Dada bis heute*.

29 Mark Franko, *Dancing Modernism/Performing Politics*, x.

30 Rudolf von Laban, *Die Welt des Tänzers*, 58. Quoted in Lucia Ruprecht, 'Gesture, Interruption, Vibration', 23-24.

31 See Ruprecht, 'Gesture, Interruption, Vibration', 29-30.

the Spiritual in Art were likely an important influence on and inspiration for Richter and Eggeling. Kandinsky's paintings formed the centerpiece of two important exhibitions by Dada Zürich, and his texts were often read at gatherings and *soirées*.[32] Kandinsky's book spelled out—much more eloquently and clearly than comparable texts by other artists at the time, such as Piet Mondrian's writings on Neo-Plasticism—that music provides the best guideline for thinking about the spiritual meaning, effect, and value of painting.[33]

Even though Kandinsky's thought was heavily influenced by theosophy and oriented toward a purely 'spiritual' realm, there are also important correspondences between his and Bergson's work. Paralleling the relation that Bergson established between music and intuition, Kandinsky's chapter on 'The Language of Form and Colour' began with a discussion of music as an art form that produces a direct resonance in the mind. For Kandinsky, color and form could only be harmonic if they rested on 'a corresponding vibration of the human soul'.[34] This harmony could be achieved by means of organic, material, and purely abstract forms. And with respect to the overall composition and orchestration of forms, Kandinsky maintained that the harmony of the composition is altered by the relation of forms to one another: 'Nothing is absolute. Form-composition rests on a relative basis, depending on (1) the alterations in the mutual relations of forms one to another, (2) alterations in each individual form, down to the very smallest.' He concluded:

> The adaptability of forms, their organic but inward variations, their motion in the picture, their inclination to material or abstract, their mutual relations, either individually or as parts of a whole; further, the concord or discord of the various elements of a picture, the handling of groups, the combinations of veiled and openly expressed appeals, the use of rhythmical or unrhythmical, of geometrical or non-geometrical forms, their contiguity or separation—all these things are the material for counterpoint in painting.[35]

32 See Richter, *Dada: Art and Anti-Art*, 17, 35, 39, 78.

33 Mondrian's texts on Neo-Plasticism were first published in Theo Doesburg's journal *De Stijl* and in 1920 in book form. See Piet Mondrian, *Le néo-plasticisme*.

34 Wassily Kandinsky, *Concerning the Spiritual in Art*, 29.

35 Ibid., 32-33.

Kandinsky thus also posited the primacy of relationality and the principle of counterpoint—as well as other musical expressions, such as 'melodic', 'symphonic', 'rhythmic', 'fermata', and 'tonality', which he used to describe principles of painterly composition—in order to define how painting could express spiritual reality, or the 'inner need' of the soul, and create spiritual freedom in the relationship between beholder and painterly compositions that were free from external constraints.

Setting Form into Motion: Scroll Paintings and Empathy

Though Kandinsky's influence on both Richter and Eggeling is undeniable, their subsequent work on scrolls emphasized the difference between Kandinsky's and their own conceptions of form, composition, and movement, not least by moving on to a more constructivist, objective formal language. On the basis of their studies of form relations as a universal language, Richter and Eggeling created increasingly complicated successive figures on scrolls in order to spell out and develop the dynamism and movement that each single relation expressed.[36] These scrolls were long, mostly horizontal paper rolls hung on a wall, and the beholder would move her eyes—and possibly the whole body—from left to right to follow the progression of figures. As a consequence of the adoption of this new format, the temporality of the paintings, and the beholder's engagement with the painting in time, became increasingly complex. Even more than in their earlier sketches, the forms that Richter and Eggeling used in their scroll paintings were oriented toward musical analogies and strove to create a harmonic spiritual balance in the beholder, although the emphasis had now shifted toward a dynamic, constructivist conception of form and formal relation. While the forms were still composed with an understanding of abstraction as a spiritual liberation—a distillation of expression out of naturalistic forms—the role of movement had shifted. Rather than emphasizing static relations that

36 One inspiration for drawing scrolls came from the tradition of Chinese scroll painting, as Werner Gräff, who became Richter's technical assistant and developed his own abstract films, noted: 'Inspiration for the abstract scroll paintings came from great old Chinese scroll paintings that represented nature, such as the (artfully shortened) representation of the "Course of the River Yangtse Kiang from its Source to its Estuary".' Werner Gräff, 'Über den Ursprung der abstrakten Filme', 58 (translation mine). Before Eggeling and Richter turned to Chinese scrolls, however, they had studied Chinese language symbols for their means of expression using relationships of lines. See Richter's sketch on Chinese symbols in Richter, *Hans Richter,* 112.

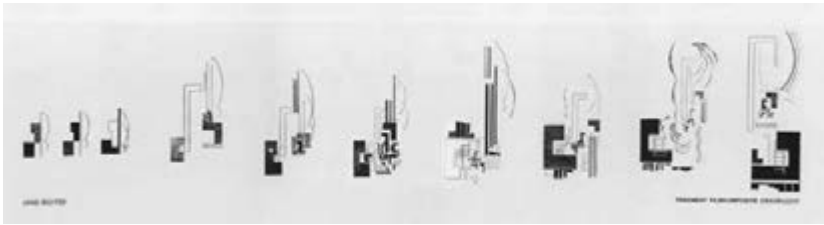


Fig. 1.5: Hans Richter, Präludium (1919).

express tensions and relaxations, the scrolls contain an implied dynamic, elliptical movement from one figure to the next. As such, they present not only an important step toward film, as I discuss in more detail below, but they also help us to understand how form, expression, sensual perception, and intellectual engagement are affected when the temporality of an artwork changes. Tracing this change will thus help us to understand the correlation of movement, temporality and perception with respect to film, and the location of a non-organic vital principle in the moving image.

Richter's first scroll from 1919 is entitled 'Präludium' ('Prelude,' see Fig. 1.5)—a term for a musical piece that often serves as an introduction to the musical motifs of the work as whole—and it illustrates not only the evolution of the contrapuntal principles he had studied, but also presents a step toward film. The scroll depicts a number of so-called 'chords'. Like a musical chord of several notes struck at the same time, these forms consisted of a number of shapes and lines interacting with one another. Richter and Eggeling called these shapes and lines 'instruments' or 'voices'. The chords develop from relatively simple forms to increasingly complex forms. On the scroll, then, the temporality of the forms is no longer one of tension and relaxation, of a cosmic balance of sympathy and antipathy that expresses movement more as potential (as inner tension) than as an actuality, but rather it suggests real, progressive movement from one chord to the next.

The scrolls' organization of distinct forms that succeed one another bears a more than formal resemblance to the new temporality introduced to photography by Eadweard Muybridge's and Etienne-Jules Marey's chronophotography in the late nineteenth century. Chronophotography influenced an entire generation of artists, most notably Giacomo Balla, Umberto Boccioni, Frantisek Kupka and Marcel Duchamp.[37] Like Richter and Eggeling's scrolls, chronophotography featured the successive depiction

37 For an overview of Marey's influence on the art world, see Braun, *Picturing Time,* 264 ff.

of a moment in time. Finally, just like chronophotography 35 years earlier, the scrolls also inspired Richter and Eggeling to try and set the shapes and their relationships into motion in film. Richter's and Eggeling's trajectory from scrolls to film could, in other words, be read as a belated repetition of the genesis of film out of chronophotography. Yet a more careful comparison of Richter's and Eggeling's work and chronophotography reveals a divergence between these two endeavors that will in turn force us to understand Richter's and Eggeling's 'reinvention of cinema' in quite different terms: not as belated repetition of something that had already occurred, but as a coming-to-cinema by a quite different route.

Chronophotography, a technique invented and made popular by Eadweard Muybridge in the US and Etienne-Jules Marey in France, is the production of a series of photographs shot at short intervals that allows the presentation of various stages of a continuous movement. An action that takes place over a given time is broken down into a series of photographs which are shot at regular intervals, and thus each resulting still photograph presents an instant, a singular moment, within that larger block of time. This procedure allowed scientists as well as artists to isolate and visualize instants of complicated, rapid movement—most famously, the positions of the legs of a galloping horse—that had previously been imperceptible. There are two different methods: either the photographic plate changes with every exposure, such that the result is a strip of singular photographs taken at short intervals (see Fig. 1.6), or—and this is the method we now most associate with Marey—multiple exposures are taken on the same plate, resulting in one photograph combining different positions in time of a moving subject (see Fig. 1.7).

As scholars from Friedrich Kittler and Gilles Deleuze to Anson Rabinbach and Mary Ann Doane have argued, cinema's roots in chronophotography are not only technical—that is, the cinematographic apparatus is not just historically and technically derived from chronophotography—but the link between chronophotography and film is also conceptual and ontological.[38] From an aesthetic standpoint, chronophotographs did not restrict themselves to a synthesized 'pregnant moment', in Gotthold Ephraim Lessing's sense of the term—that is, a moment that is chosen because it best captures a narrative trajectory and implies prior and future movement.[39] Instead, the motion studies provided the observer with a *series* of scientifically correct,

38 See Friedrich Kittler, *Gramophone, Film, Typewriter*; Deleuze, *Cinema 1*; Doane, *The Emergence of Cinematic Time*.

39 Lessing develops the notion of the pregnant moment in Lessing, *Laocöon*.

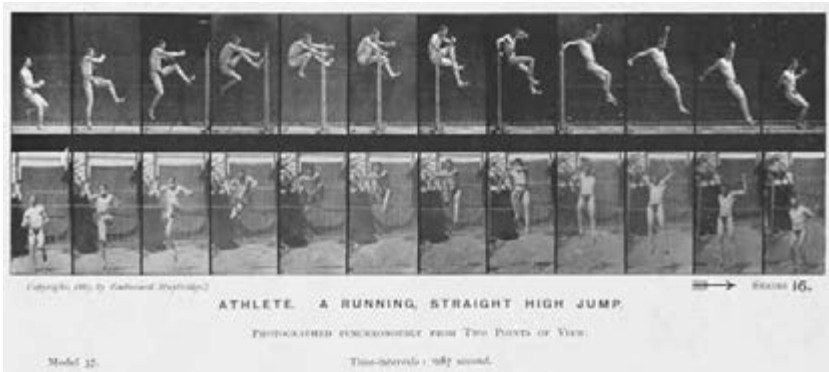


Fig. 1.6: Eadweard Muybridge, Athlete Running, Straight High Jump, from The Human Figure in Motion, series 16 (1887).

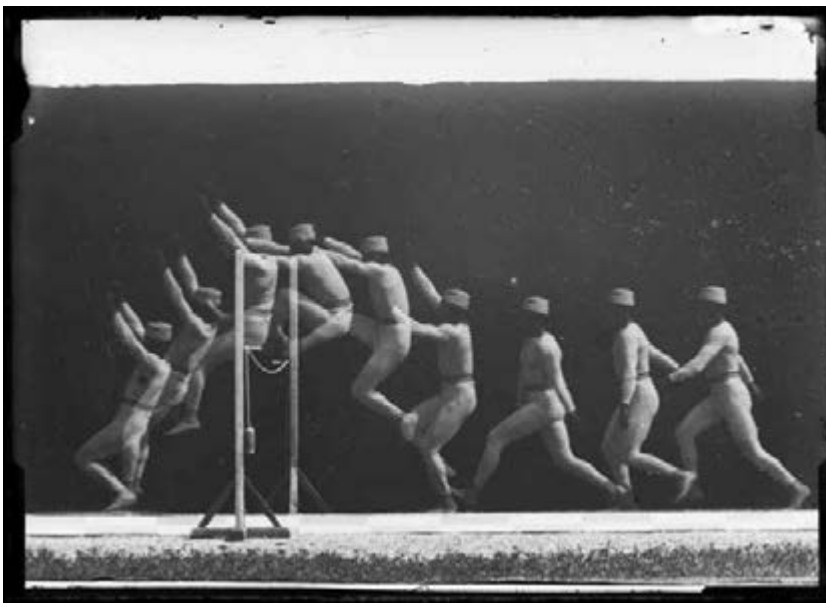


Fig. 1.7: Etienne-Jules Marey, High Jump. Chronophotography on a fixed plate (Archives at the Collège de France, no date).

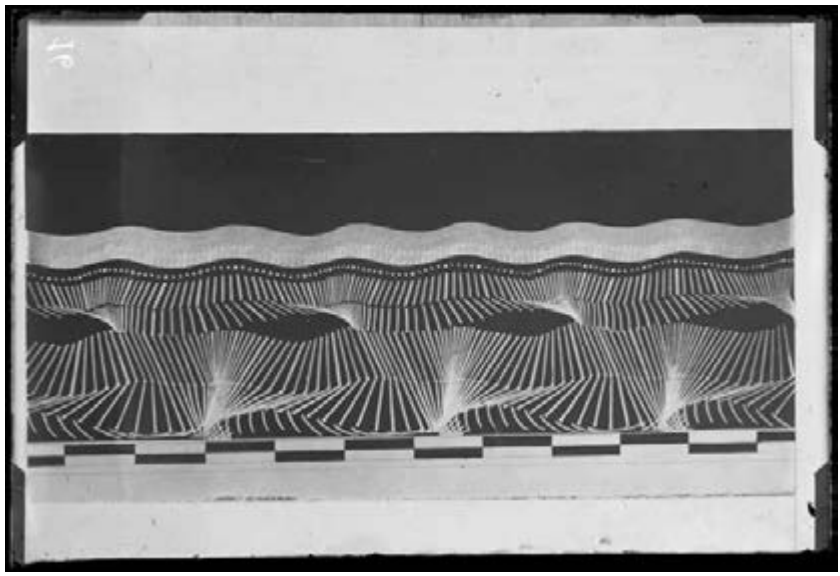


Fig. 1.8: Etienne-Jules Marey, Walk of Human Being: Filtered. Graphic obtained by means of partially geometric chronophotography (Archives at the Collège de France, 1883/84).

arbitrary (coincidental, contingent) poses that presented mere instants of an executed movement. Underlying Marey's scientific chronophotography in particular was a mechanist conception of the body as a vessel of physical and chemical forces and a conception of time as objective and divisible—conceptions, in other words, that put him at the forefront of the group of French mechanist physicists who aspired to implement Hermann Helmholtz's positivist principles in French science. Marey's approach to time was thus diametrically opposed to that of Bergson, who was his colleague at the Collège de France. In order to be legible, Marey's motion studies could only present a limited number of instants—or, to put it differently, scientific value was only achieved by the selection of information and by the extraction of data. The result of this negotiation of readability and data was a double abstraction: a temporal abstraction, since only a limited number of instants could be selected; and increasingly a visual abstraction, in order to manage the overflow of information provided by the photographic image (see Fig. 1.8).

While both chronophotography and Richter's and Eggeling's scrolls present a series in time, there are thus nevertheless important differences. Marey's chronophotography is a visualization of chronological, scientifically

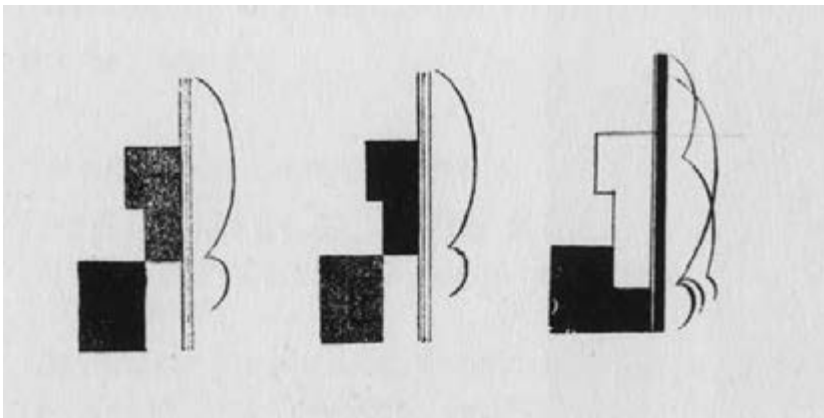


Fig. 1.9: The first three 'chords' of Richter's scroll Präludium.

measurable time; the images were to provide a stable relationship between time and space, that is, the spatial configuration of a body at a given moment.[40] Each image presented an instant in time and, as such, contained no duration in itself. Richter's scrolls, by contrast, feature a much more varied temporality that combines the conception of intuited, dynamically interrelated forms with an evolution from one chord to the next. Richter's scrolls do not depict an objective, progressive temporality, but rather a temporality that interacts with the perceptual activity of the beholder.

The first three images of Richter's scroll *Präludium* illustrate this point. The first chord consists of a black rectangle, a grey shape with six sides at right angles, two long, straight lines or a white pole (not clearly distinguishable), and a swinging line of varying thickness on the right that progressively varies throughout the scroll and most clearly suggests movement. Several 'harmonic' relations can be traced between the instruments within the single chord: there is an increasing lightness from left to right; the two planes react to each other, revolving around the point in which they touch; and the swinging line reacts to this point as well, which consequently appears to be a center of gravity. But as we explore these relations within the first chord, our eye already wanders on to the next

40 In fact, though, the simultaneity of instants in the display of chronophotography—as well as in Marey's later chronophotography, in which he recorded the movements onto the same photographic plate—actually inspired artists to think about non-scientific, non-chronological models of temporality. One only need think, for example, of Anton Giulio Bragaglia's photodynamism; that is, his series of long-exposure photographs that make visible the continuous trace of every movement executed during the exposure time.

chord and places the former in a durational context as well. This second chord features the same basic structure, only the planes have switched color, a small rectangle has formed within the bottom rectangle, the pole has turned grey and the line seems to swing upward now, indicated by a stronger stroke at its upper end. As our eye returns to the first chord, we can retrospectively add relations that we are now able to see because of our knowledge of the chord's progression (for example, the correspondence in emphasis of the swinging line with the black shape). The scroll thus contains two temporal expressions that interact contrapuntally: the relationship of instruments within a chord, and the relationship between chords. The first temporality is vertical, and corresponds to the simultaneous sounding of notes in a musical score. The beholder comprehends the expression of a chord—that is, a complex of shapes and lines—as a synthetic whole. The second temporality is horizontal, and corresponds to the melody developing by notes struck one after the other. The beholder sees the chords as stages, and the expression—the melody—develops between the chords, in the interval synthesized by the beholder.

In describing how people perceive the scrolls, Richter emphasized the active participation of the beholder, who compares, meditates and memorizes. He described the perceptual activity when looking at the scrolls thus:

> We experienced the sensation of arresting time, of enjoying the development of forwards and backwards. The eye was stimulated to a special kind of participation by the necessity of comparing and meditating [...] This sensation lies in the stimulus which the remembering eye receives by carrying its attention from one detail, phase or sequence to another that can be continued indefinitely [...] In so following the creative process, the beholder experiences it as a process, not as a single fact. In this way, the eye is stimulated to an especially active participation, through the necessity of memorizing; and this activity carries with it the kind of satisfaction which one might feel if one were to suddenly discover new or unusual forms of one's imagination.[41]

The key elements of the perception of the scrolls are thus the active participation of the beholder on the basis of eye and body movement and memory and an 'intensive' time that is both harmonic and contrapuntal, that is, both horizontal and vertical; a kind of voluminous, deep time. This active mode of perception and the resulting mode of temporality are a consequence

41 Richter, *Hans Richter*, 113-14.

of the fact that the scroll painting, as a medium, reveals and displays the procedural, developmental character of painting. All movement in the scroll is based on relations, and it is in the ultimate relation between the scroll as a 'living machine', as Richter described it, and the spectator's animating perception in time that the formal expression is realized—a process that is quite like *hearing* music as opposed to simply reading a score.

The comparison of the scrolls to music highlights the fact that there are two intertwined dimensions to the scrolls: they are both a notation system (like sheet music) and, when perceived durationally, actual temporal art, or visual music. In his notes, Richter described the scrolls as merging these two dimensions: 'The scrolls are "machines", complicated constructions like life with organic + alive and ever changing expression [...] not like a hammer that bangs on your head—more like an active living power—like a radioactive element for example, that without your knowing it transforms you—'.[42] The scrolls, in other words, are machines that contain life in the tension between their parts, but do not impose an automated, external movement, since they rely on the animating power of perception in time. Because the expression is founded on tension and relation between a form and its environment (i.e., the spatial organization of the other forms), it is always dynamic and indivisible; that is, 'living' expression. Even though Richter used mechanical terms for the scrolls, the temporality of the scrolls depends on the activity of the beholder, who is supposed to feel herself into the forms depicted on the scroll and correlate the temporal expressivity of those forms with her own lived temporality, just as the sand wasp entered into sympathetic union with the caterpillar.

It is important to note, however, that intuition, sympathy, and memory are not tied to individual perception, emotion, and history. Richter was after an elemental, material connection between beholder and art that is built upon, and activates, vital strata in the beholder that exist below or beyond personal histories and capacities. Therefore it is important that the artistic forms are abstract and do not invoke natural forms that would activate memories and concrete associations: 'Like [in music] the action (in an entirely spiritual sense) occurs together with the pure material, and finds in this pure material tension and resolution in a sense that is—because all material comparisons and memories cease to apply—elementary-magical.'[43] Richter's scrolls and his subsequent *Rhythm* films strove to be

42 Richter in his sketches on a universal language. Reprinted in: Stephen C. Foster, ed., *Hans Richter,* Appendix, 191.

43 Richter, 'Prinzipielles zur Bewegungskunst' (translation mine), 109.

elemental in order to forge an intuitive union between beholder and art that could bypass the influence of memory, history, convention, and tradition on perception. This, for him, was the way in which art could create new ideas. Theo van Doesburg, one of the most important members of the Dutch art movement De Stijl, reprinted Richter's 'Prelude' in an essay in his journal, *De Stijl,* in which he formulated this turn away from the individual in more programmatic fashion:

> We only know one thing, namely that the solution of the economic problem as well as of the problem of art lies outside of individual attitudes—and that is a gain. For this means that the supremacy of the individual (the attitude toward life of the Renaissance) has been broken [...] In order to rightly understand the task of our time, it is necessary that we grasp the structure of life not only with our eyes, but rather our *inner sense organs*.[44]

Richter's and Eggeling's application of Bergson's concept of intuition also evokes another important art-theoretical context that can help define Richter's work more closely; namely, the concept of *Einfühlung* ('empathy'; literally, 'feeling-into'). *Einfühlung* was developed as an art-historical concept in the late nineteenth century by German art theorists, including Robert Vischer and Adolf Hildebrand, and it became the centerpiece of Theodor Lipps' psychology of aesthetics in the early twentieth century. Art theorists claimed that in perceiving artworks—from paintings to sculpture and architecture—as well as nature, the beholder *animated* the lines and forms she saw with her own vitality. Lipps expanded this idea and gave it a broader and more psychologically nuanced foundation. '[W]riters taking up the idea of *Einfühlung*', Scott Curtis summarizes, 'explained aesthetic pleasure as a resonance between the structures of the body and the structure of the artwork, thereby explicitly acknowledging the embodied nature of perception.'[45]

Like Bergson's intuition, *Einfühlung* is a projection of vital forces into another object. The colloquial and academic uses of the word 'empathy' over the past decades obscure, however, the extent to which the historical concept of *Einfühlung* encompasses not only the alignment with living beings, but also includes inanimate objects as well as qualities such as

44 Van Doesburg, '"Der Wille zum Stil"', 23.
45 Curtis, *The Shape of Spectatorship*, 216.

atmosphere or acoustic or visual rhythms.[46] '[I]n the form of things we perceive an analogy to the expressive quality of the vitality of the human body', as Robin Curtis paraphrases Karsten Stueber.[47] Our living body involuntarily and instinctively engages in mimicry with things in the world. 'I give expression to this kind of *Einfühlung* in everyday life when I say that the line stretches or bends, surges up and away again, confines itself; and when I say that a rhythm strives or refrains, is full of tension or resolution etc.', Lipps wrote. 'This is all my own activity, my own vital, internal movement, but one that has been objectified.'[48]

Lipps' understanding of *Einfühlung* as a projection of the self into the surrounding world thus also views discrete objects as secondary to formal or qualitative properties with which our living body engages. Our primary attitude toward the world is not in fact a concern with the objective, given world, but rather, in Robin Curtis' words, 'one is occupied with characteristics of one's own embodied engagement with that world and its things, in short: with the sensations, activities, and atmospheric moods that come about through this engagement.'[49] We may understand Richter's and Eggeling's universal language similarly as an attempt to express an engagement with the world, rather than (qualities of) the world itself. Part of aesthetic enjoyment, according to Lipps' theory of *Einfühlung*, is thus a kind of *Selbstentäußerung* (variously translated as 'self-estrangement', 'self-distanciation' or 'self-alienation')—in aesthetic contemplation, we move into a form provided by an aesthetic object and are thus set free from the confines of the self.[50]

A closer look at Lipps' theory of *Einfühlung* also changes the division between empathy and abstraction that was postulated by Wilhelm Worringer in his popular 1908 study, *Abstraction and Empathy*—the text that allowed Richer and Eggeling to imagine an empathic animation of abstract, inorganic forms. In this study, Worringer roughly distinguishes between two types of art (a distinction that still bears upon art history today). For Worringer, there is, on the one hand, organic, natural representation with which we can empathize; that is, a representation we feel ourselves into and that we animate with our own life force. On the other hand, there is what

46 Lipps' *Einfühlung* has much in common with the uses of *Stimmung* as an aesthetic concept in the late nineteenth and early twentieth centuries. See Chapter 3. For a brief overview of the history of the understanding of *Einfühlung*, see Curtis, *The Shape of Spectatorship*, 216.

47 Robin Curtis, '*Einfühlung* and Abstraction in the Moving Image', 429.

48 Theodor Lipps, *Ästhetik*, quoted in Curtis, "*Einfühlung* and Abstraction', 429.

49 Ibid., 430.

50 See Lipps quoted in Wilhelm Worringer, *Abstraktion und Einfühlung*, 60.

Worringer calls 'inorganic abstraction', of which he believes Egyptian art to be exemplary. This inorganic abstraction voids representation of space, emphasizes tactility, isolates the various elements of the artwork and thus allows the beholder to experience instinctively an eternal harmony by bringing her into contact with a more primal form of being.[51] Worringer draws on evolutionary theory to make an aesthetic argument:

> A convinced evolutionist might [assert] that every differentiation of organized matter, every development of its most primitive form, is accompanied by a tension, by a longing to revert to this most primitive form so to speak [...] [I]n the contemplation of abstract regularity man would be, as it were, delivered from this tension and at rest from his differentiation in the enjoyment of his simplest formula, of his ultimate morphological law. The spirit would then be merely the instrumental provider of these higher relationships.[52]

For Worringer, the most primitive form is not the protozoon and its plastic quality.[53] Rather, Worringer sees the delivery from the tension of life in the return to preorganic or anorganic, that is, crystalline matter. Worringer was formulating a principle here that Sigmund Freud would pick up on in his 1920 essay, 'Beyond the Pleasure Principle.' Freud introduced the idea of a 'death drive' as the instinctual corollary of the 'soma,' the organic body that is destined to die (in contrast to the germ-plasm, which is, in essence, immortal). For Freud, the instinct to return to an original inorganic state is an essential part of life itself, and his formulations bear striking similarities to Worringer's:

> The attributes of life were at some time evoked in inanimate matter by the action of a force of whose nature we can form no conception. It may perhaps have been a process similar in type to that which later caused the development of consciousness in a particular stratum of living matter.

51 It is along these lines that Eggeling developed landscape paintings into abstract lines. However, Eggeling's and Richter's decision to make scroll paintings already points to an excess of energy that arose from combining different forms; and then the scrolls became an energy machine that demanded a movement of its own.

52 Worringer, *Abstraction and Empathy*, 35-36.

53 In Sergei Eisenstein's discussion of animation, cartoons, and the case of Disney films, he develops the argument that the malleability of matter in drawing can be explained by a quasi-biological theory of the protozoon and its plastic quality as the ur-form of animated matter. See Eisenstein, *Eisenstein on Disney*.

> The tension which then arose in what had hitherto been an inanimate substance endeavored to cancel itself out. In this way the first instinct came into being: the instinct to return to the inanimate state.[54]

Freud's discussion of the two opposing instincts—life instincts and death instincts—at work in living beings highlights what seems to be internal contradiction in organic life.

Worringer conceived of the two tendencies of abstraction and empathy in art in a similar way. Yet recent studies on the concept of *Einfühlung* have demonstrated that Worringer made use of very selective references to Lipps in order to be able to set up abstraction as *Einfühlung*'s opposite. Jutta Müller-Tamm has argued that both *Einfühlung* and abstraction are forms of projection.[55] Similarly Juliet Koss suggests that,

> [w]hile refusing to acknowledge that *Einfühlung* was abstract—insofar as it described a viewer's basic physiological response to pure form—he transposed its universalizing claims to the concept of abstraction (...) Beyond this, he reconfigured *Einfühlung* in his text as a general emotional identification, ignoring its spatial orientation, thus further separating the visual and applied arts from the discipline of architecture.[56]

A reading of Lipps and the critical reassessment of Worringer's opposition also affects our understanding of the role of abstraction and *Einfühlung* for Richter and Eggeling.[57] Worringer's description of the connection of abstraction to tactility and intuition coincides with the expressivity of the scrolls, which consist of abstract, inorganic forms, yet 'act like a living power' that can 'transform' the beholder. However, according to Worringer's interpretation of ancient art—he was, after all, writing prior to Expressionism and cubism—abstraction induces stability and rest, while the scrolls' main element is animation, vital movement.

There is one instance in Worringer's discussion where the opposition of abstraction and *Einfühlung* melts to create something like a living mechanics: namely, Nordic Pre-Renaissance art in general, and the Gothic cathedral

54 Freud, 'Beyond the Pleasure Principle', 46.

55 Jutta Müller-Tamm, *Abstraktion als Einfühlung.*

56 Juliet Koss, 'On the Limits of Empathy', 148.

57 Paul Dobryden has also explored the crucial role of the discourse on *Einfühlung* for *Rhythm 21*; see Dobryden, 'Einfühlung.'

in particular. This is the place where, arguably, Worringer stays closest to Lipps' comprehensive understanding of *Einfühlung*; it also constitutes the passage that, if not directly inspirational for Richter and Eggeling, certainly helps us to understand better the relationship between life and mechanics, empathy and abstraction in Richter's work.

> The first thing we feel with the Gothic cathedral is a strong appeal to our capacity for empathy, and yet we shall hesitate to describe its inner constitution as organic (…) In the Gothic cathedral (…), matter lives solely on its own mechanical laws; but these laws, despite their fundamentally abstract character, have become living, i.e. they have acquired expression. Man has transferred his capacity for empathy onto mechanical values. Now they are no longer a dead abstraction to him, but a living movement of forces.[58]

The heightened movement of forces Worringer found in the Gothic cathedral 'in their intensity of expression surpassed all organic motion'. In contrast to inorganic abstraction, which strives to provide rest and relief from the tension of life and is the result from a most fundamental instinct or intuition toward such a relief, the Northern line that dominates Gothic cathedrals and Nordic pre-Renaissance ornamental art is searching, striving, and vital. Its dynamism is expressive of the fact that Northern man is not experiencing an equilibrium of man and environment, but rather a struggle. The Gothic cathedral's 'living movement of forces' has a vital expressivity that is not based on organic laws, but rather combines organic *Einfühlung* with mechanic abstraction.

It is difficult not to read Worringer's description of the Gothic aesthetic in the context of modernity, that is, the time of Worringer's own writing. A perceived struggle between man and environment ensures that the abstract line remains alive and searching, even as it has abandoned organic expression. By mediating between *Einfühlung* and abstraction, it also mediates between life and mechanics, organic body and inorganic matter—a definition of artistic expression that subsequently comes to define modern art and also evokes Richter's description of the scrolls as 'living machines,' as well as the interface of spectator and film—which was what Richter and Eggeling turned to next.

58 Worringer, *Abstraction and Empathy*, 112-13.

The Transition to Film

Richter and Eggeling identified the affinity between their scrolls and film quite quickly, and were fascinated by the possibility of actually setting their 'chords' into motion.[59] Yet the attempt to shift from one medium (scroll painting) to another (film) fundamentally changed the way in which their project dealt with time and movement—and this, as it turned out, created significant problems for Richter and Eggeling. What made the switch from scroll painting to film so difficult on a theoretical level was—to return to Worringer's categories for a moment—the fact that rather than depending solely on an animating empathic beholder, the medium of film itself (that is, the mechanical, inorganic apparatus) took over the animation of forms. The apparatus, in other words, determined the temporality. In film, movement—the 'life force' of form—became independent from that of an empathic beholder.

There were not only theoretical problems, however, but also very practical ones. Neither Richter nor Eggeling had anticipated the conflict between the scrolls' temporality, which was primarily based on the flexible time of perception, memory, and empathy, and the uniform time units of the filmstrip. Much later, Richter recalled the words of a technician at UFA, Germany's largest and state-run film company, when he and Eggeling presented their scrolls to him and demanded that he transfer the scrolls onto film. The man reacted with disdain: 'If you want me to set your drawing in motion, you first have to show me which of these figures will begin the movement, when and where that figure will move, when and where to and how fast or slow the others will move, and then, when, how, and where they are supposed to disappear!'[60] Subsequently—and with the help of two friends, Bauhaus student Werner Graeff and Erna Niemeyer, who later went by the name of Ré Soupault (she married Philippe Soupault and became an accomplished photographer)—Richter and Eggeling began to develop different notation systems for the films, which took the unified time units of the filmstrip as their basis.

59 At the same time, another trajectory can be distinguished in Richter's work that leads to further scroll paintings, such as *Orchestration of Color* (1923), *Victory in the East* (*Stalingrad*) (1943-4), or the series of *Motorythms* and *Lyrrythms* in the early 1960s. These scrolls, while maintaining a directionality of reading (i.e., a time element), differ from the early scrolls in that they are non-serial and instead show a gradual process of dissolving the different stages into a single painting, sculpture, or mosaic, much like the Chinese scrolls that had originally fascinated Richter and Eggeling.

60 Richter, *Begegnungen von Dada bis heute*, 190 (translation mine).

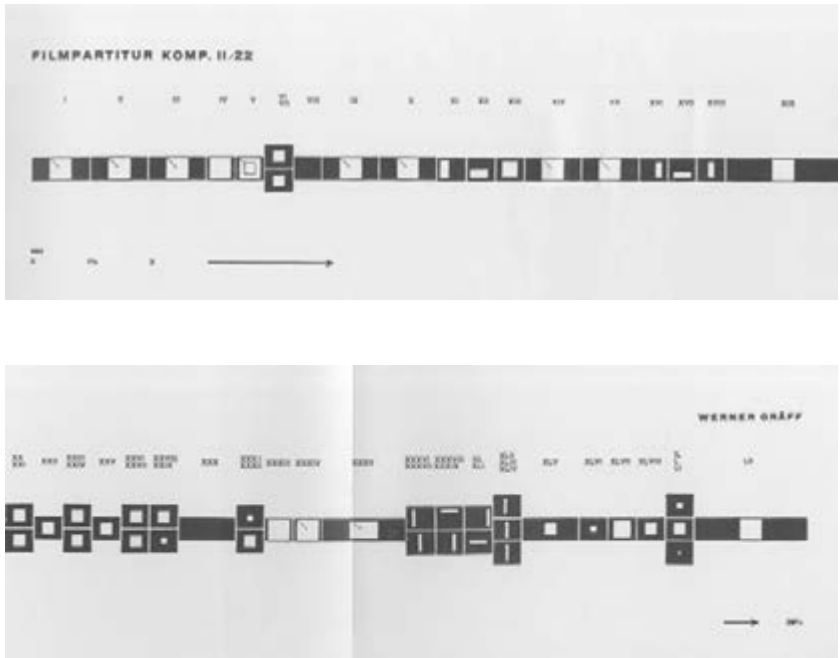


Fig. 1.10: Werner Graeff's *Film* Composition II/22.

Graeff's Bauhaus scroll 'Film Composition II/22' (Fig. 1.10) is one of these notation systems that has itself become graphic art. This scroll clearly demonstrates the separation of notation system and actual 'music' or 'expression'. Visually it already resembles a filmstrip, and like a filmstrip, every image has a predetermined duration, namely a third of a second. When the images are supposed to be shorter in duration, they are stacked on top of one another to share the time slot of one third of a second (on the bottom scroll, there are two instances of a sequence of three images, each one ninth of a second long).[61] Lines indicate the movement that will take place within this predetermined duration. On the top scroll, we see diagonal lines in white squares, indicating that the white square will shrink toward the center. This scroll is solely a script, while the actual expression is dependent upon the animation in film. The composition submits itself to chronological time, similar to the actual filmstrip, only in condensed temporal form and in stylized fashion. This notation system therefore bears a much closer relationship to chronophotography than to Richter's

61 See Gräff, 'Anmerkungen zur Filmpartitur Komp. II/22'.

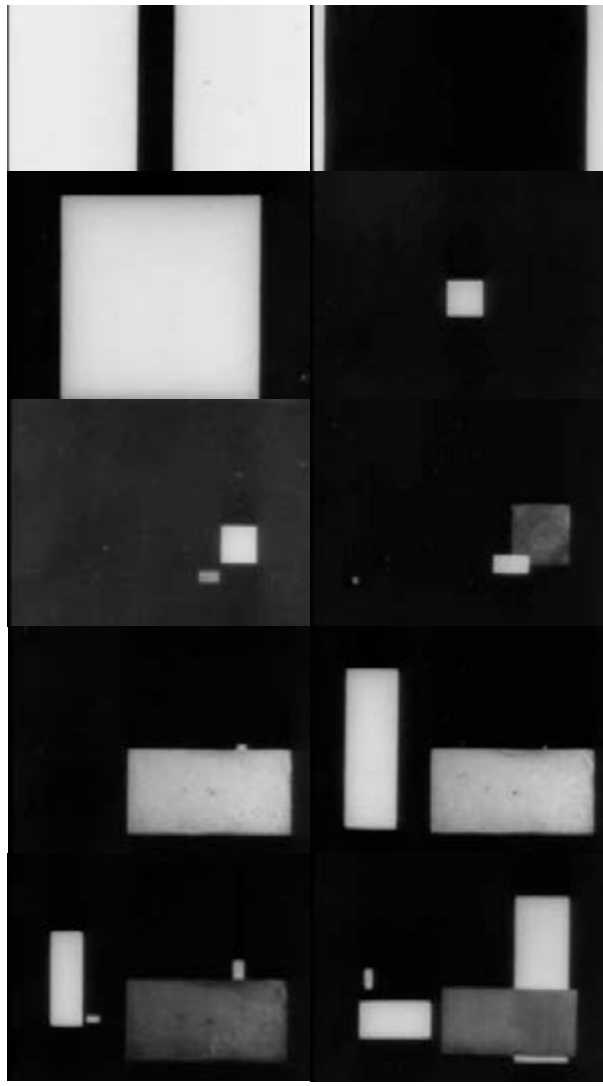
and Eggeling's earlier musical scrolls, insofar as it ties the relationship of movement to chronological time rather than the activating, individually varying perception of the spectator.

With the transition to film, time thus did not have to be created by means of the dynamic interaction between complex forms on a scroll, for the apparatus already provided time. The role of the film was to provide a nexus between apparatus and spectator, between cinematic time and lived time or duration. However, Richter was convinced that by creating a sensational rapport between the temporal expression of his film and the spectator, he could unearth new sensations. While Eggeling thus continued to work on the forms he had developed in his scrolls—the result of which was his *Vertical Symphony,* completed in 1924, shortly before his untimely death—Richter felt the need to translate the formal experiments of the scroll into the film material. In film, he realized, the question of design, *Gestaltung*, was not a question of form, but of time. The new task that he set himself was to visualize time and abolish formal expression as much as possible, and rhythm was the means to accomplish this. The formal language of *Rhythm 21* is thus basically a *Gestaltung*—a design or shaping—intended to rhythmicize time by creating a rhythmic figure or form. This rhythmic form is created by means of the reduction of film to its basic elements: light, movement, and the square of the screen. As such, Richter's film, much more so than Eggeling's *Symphonie Diagonale*, employs the constructivist principles of *faktura* and *tektonika* and might in fact better described as constructivist rather than Dada film experiment.[62] In *Rhythm 21,* the screen is neither a frame nor a window, but a form in its own right, the basic square, and fully part of the film's *Gestalt*.[63]

The first images of *Rhythm 21* seem to introduce precisely this activation of the screen, for white planes move inwards from the side and meet in the middle, creating a white screen that immediately breaks up again; the white planes then recede to the sides until the screen is black again. This

62 Richter was well aware of the affinity between his work and that of the Russian constructivists; in May 1922, he formed the International Fraction of Constructivism with van Doesburg and El Lissitzky, and Richter's journal *G* is in many ways a direct outcome of the international contacts he made in the spirit of constructivism. For more on Richter's ties to constructivism, see Hoffmann, "Hans Richter: Constructivist Filmmaker"; Finkeldey, "Hans Richter and the Constructivist International."

63 Richter's formal language is certainly influenced by the squares and rectangles of Piet Mondrian, Theo van Doesburg, and Kazimir Malevich. The latter also destroyed the function of a painting's frame with his iconoclastic black square on white ground, a square that itself hovers between being a frame-within-a-frame, an object, and the denial of an object. See Tupitsyn, *Malevich and Film*, 9-15.



Figs. 1.11.a-j: Hans Richter's *Rhythm 21:* white planes move in from the side and recede; squares increase and decrease in size, changing position and tone.

movement is reminiscent of theater curtains, but it pulls screen, curtain, and film onto one level. Squares that decrease and increase in size provide an illusion of depth: our perception goes back and forth between seeing a receding square that burns a third dimension into the flat surface, and seeing merely a two-dimensional change in size. The film presents increasingly complex 'contrapuntal' movements of squares and rectangles, with at least one shape constantly changing position and size. There is no firm ground for us to establish space such that we could distinguish it from time. This effect is not least due to the fact that for spatial effects, Richter relies only on overlapping planes and differing sizes, but eschews perspectival order. Pictorial perspective—including the use of vanishing points and horizon lines—'secures' space on a two-dimensional surface and separates it from time, while overlap and size can retain dynamism and simply propose variable relations between space and time.[64] Space is simply an effect of movement in Richter's film. Since the screen itself is a relational, rectangular temporal *gestalt*, there is no outside to the relationality of the contrapuntal principle in film; everything is subjugated to the rhythmic, flowing temporality of contrast and analogy. The squares and rectangles are not forms-in-space, but rather forms-in-time for the project of sculpting with movement; as Richter put it, the squares are 'limitations (borderlines, endings) of actions in different dimensions . . . [t]he film should be felt (when projected) as tensions and contrast-light-movements'.[65]

In contrast to the formal language of the scrolls, which was based on perception in time—that is, on 'matter and memory'—film subjects the spectator's perception to the fleeting forward-movement produced by the apparatus. The rhythm film thus forces the spectator to feel and perceive on the film's own rhythmic terms: 'This film does not provide us with "resting points," which allow us to return in recollection, instead, one is at the mercy of the film—forced to "feel"—to follow the rhythm—breathing—heartbeat;—By the up and down of the process, the film expresses what feeling and sensation really are.... a process.... movement.'[66] Though this temporality is restless, linear, technological and 'oblivious' to the temporality of the spectator, Richter understands that in the process of perception, in the encounter between film and spectator, this technological temporality is nevertheless animated by the spectator's temporal and

64 On space and time in *Rhtyhm 21*, see also Klaus Müller-Richter, 'Architektur', 45-47.

65 Even though Richter turned against Moholy-Nagy, there is a connection to the latter's ideas about the lightplay that would be worthy of further investigation.

66 Richter, 'Die schlecht trainierte Seele', 51.

spatial sensations. The film 'forces' and the spectator 'feels', and it is in this nexus of forcing and feeling that Richter locates the potential of the medium to create new sensations. The sweeping temporality of the film, which is dislodged from Euclidean space and instead itself creating a dynamic space, is fundamentally non-human, yet the spectator can perceive and incorporate these rhythmic forms in light.[67]

Rhythm 21 does something quite extraordinary. As a consequence of the fact that film's essence is a mechanical temporality, Richter sought to create a film that *expresses* temporality, rather than creating expression on the basis of temporality. *Rhythm 21* should be understood as a temporal sculpture, one that does not create a space in time, but that creates space *and* time; space, in Richter's film, is only a consequence of the temporal *gestalt.* This is what Richter is trying to express in a text from *G* in 1926:

> The real sphere of film is that of mobile space, mobile surface, mobile line. This space is not essentially architectonic nor essentially plastic, but rather temporal; i.e. the light creates by means of a change of quality (light-dark, large-small) light-spaces which are not voluminous, but rather only turn by way of their succession that into space which, if one interrupted the temporal progression, would only be surface, line, point.[68]

The 'light-spaces'—the shapes that structure spatiotemporality in the film—thus effectively abolish not only representation, but also presentation. They are synonymous with the film itself. As a consequence, as Philippe-Alain Michaud put it, the spectator's space becomes an integral part of the space of the film, while the separation between the projection surface and movie theater is abolished. 'The limit, or frame, of the representation disappears, and the spectator finds himself in the presence of a system that unfolds in the same space that he occupies: he no longer watches the film as a theatrical representation; he optically experiences it.'[69] Detlef Mertins describes the viewing experience of *Rhythm 21* in similar terms as a 'comprehensive, flowing and abstract spatiality, within which

67 Klaus Müller-Richter connects the spatial relationship betweenspectator and *Rhythm 21* to contemporary architectural discourses such as Ludwig Hilberseimer's, according to which a building's construction can only be understood in the context of the complex dynamic interaction of a building with its environment (*Umwelt,* see also Chapter 2). Müller-Richter, 'Architektur,' 48.

68 Hans Richter, 'Film', 65 (translation mine).

69 Philippe-Alain Michaud, 'Toward the Fourth Dimension', 56.

the spectator floats weightlessly in the endless, timeless play of expansion and contraction, light contrasts and rhythmical movement.'[70]

The importance of *Rhythm 21* for film theory lies not just in the fact that it, like other films belonging to abstract, absolute, or pure cinema movements, sought the essence of film beyond its representational capacities and in a movement-based expression of sensuality or spirituality. Rather, what makes this film and its precursors important documents is their exploration of the meeting point between, on the one hand, human perception, affect, and sensation, which are activities performed in time and which have a certain duration, and on the other hand, cinema, which seemed to be based on a mechanical time diametrically opposed to duration. This exploration of the creative potential inherent in the encounter between human and technological, organic and non-organic time, upsets the often too rigid distinction between mechanism and vitalism. It is in this sense that I describe the trajectory from Richter's scrolls to *Rhythm 21* as a retracing of the invention of cinema, or even as a reinvention of cinema.

Richter's 'reinvention' also allows us to reconsider how the shaping of cinema spectatorship as a thoroughly modern, embodied, sensually stimulating experience redefines the valence of central aesthetic terms. Scott Curtis discusses the clash of *Einfühlung*, interiority, and contemplation as traditional aesthetic cornerstones with modernity and cinema in particular. He argues that especially in Germany, modernity was understood to be 'too pushy; it shoved its spectators along, giving them no pause for reflection'; a formulation that highlights how Richter's denial of 'resting points' and opportunities for 'recollection' sought to break with bourgeois, nineteenth-century attitudes.[71] In contrast to the physical engagement and stimulation that is central to many early texts about cinema—for example Walter Serner's 'Cinema and Visual Pleasure'—in *Einfühlung* aesthetics, Curtis maintains, projection and movement are interior acts dependent upon the imagination, and thus ensure that real movement and physical sensation remain outside of the realm of aesthetic experience.[72] For Richter and other Dadaists, as well as many cinema enthusiasts, then, the emphatic embrace of movement and sensation went hand in hand with a renunciation of contemplation, which for them had become equated with passivity and complacency. *Rhythm*

70 Mertins, *Architektur des Werdens*, 128. See also Müller-Richter, 'Architektur,' 52.

71 Curtis, *The Shape of Spectatorship*, 208. For Richter, see footnote 61.

72 Walter Serner, 'Cinema and Visual Pleasure'.

21 is thus engaged in a direct dialogue with earlier texts on cinema and not only mirrors their perspectives, but also contributes formally to the redefinition of spectatorship and the dynamic interface of spectator and artwork that early film theory had set into motion. This new spectatorship seeks an interconnection that is profound, but nevertheless renders the spectator an active participant.

Understanding *Rhythm 21* as a reinvention of cinema also sheds new light on Bergson's reflections on the relationship between cinema and duration. In *Creative Evolution*, Bergson had famously referenced Marey's chronophotographs as well as the cinematograph to illustrate the workings of the intellect and its more or less complete rejection of duration. Like a film strip consisting of a series of static images stripped of duration, the intellect can only perceive spatially, by isolating moments in time. The filmic apparatus, Bergson claimed, restores a false movement to things, since it sets things in motion with one general movement that ends up making all things equivalent to one other, and in this sense, it is a movement that is indifferent to the qualitative differences between those things that it represents. Bergson argued that, like this filmic apparatus, we ourselves in everyday perception also abstract a general movement from the various qualitative, developmental, and extensive movements around us. This cinematic mode of perception and knowledge is a consequence of our adaptation to the demands of modern life, and thus our daily activities are also marked by a similar disjunction between our perception and the qualitative distinctions in duration between things. Bergson describes our everyday mode of action as kaleidoscopic: we position ourselves kaleidoscopically *vis-à-vis* surrounding bodies, reducing our being-in-the-world to disjointed configurations.

On the one hand, Richter's film experiments embraced this quality of cinema to create a non-human temporality. But he also understood that Bergson's description of intellectual perception as cinematographic perception did not describe the *experience* of film as intellectual. Rather, Bergson had used the cinematographic apparatus, that is, the technical functioning of the machine, as a metaphor. Bergson was not talking about the visual experience of continuous filmic motion that rendered its origins in discrete images invisible. Thus, Richter's understanding of film, and the development of his *Rhythm* film, was able to combine two elements of Bergson's philosophy that are generally understood to be diametrically opposed, namely, his description of film—which Bergson claimed was based on intellectual arrest and spatialization—and on the other hand, intuition, which grants access to duration, or life.

The restoration of non-prejudiced, non-intellectual, or non-conceptual sensation based on pure movement—which Bergson saw as threatened by cinematographic perception—is thus accomplished precisely *by means of* the cinematic apparatus as a kind of living machine. Drawing not only on Bergson's philosophy, but also on theories of empathy and vitalist conceptions of rhythm as organic temporality, Richter's *Rhythm 21* turned the cinema into a place in which technology enabled a reflection on, or an encounter with, life in the experience of visual, embodied sensation. As such, the film not only constitutes an important addition to the work of film theorists such as Jean Epstein, who describes cinema's animistic quality of bestowing life on objects (in photographic film), but it also constitutes an early experiment that performed an operation that Walter Benjamin would formulate more poignantly fifteen years later; namely, that the reflection of humanity in a technicized world, of life in the face of technology, is only possible in film.

Back into Matter: from Abstraction to Montage

Certainly, this focus on Richter is to some extent artificial; not only is Eggeling credited by many as being the driving force behind the duo, but Eggeling's and Richter's film experiments also lagged behind Walter Ruttmann's experiments, both chronologically and, more importantly, with respect to their technical accomplishment. My emphasis on Richter might also seem like a rather loaded contribution to what has been a surprisingly contentious debate among film scholars about the origins of early abstract film in Germany, and Richter's role in this movement. The animosity of this dispute can largely be attributed to the fact that Richter was the most outspoken of all the participants in this movement, and some of his accounts were either distorting or have been distorted. Richter's role in the Dada movements in Zürich and Berlin has been disproportionately emphasized in the form of performances, speeches, and publications in Theo van Doesburg's *De Stijl*, László Moholy-Nagy's *MA,* and Richter's own journal that he published together with Mies van der Rohe, *G. Zeitschrift für visuelle Kommunikation*—and later in books on the history of Dada, as well as on his own life and work. In contrast to Eggeling, who died in 1925 shortly after the first screening of *Symphonie Diagonale*, and Ruttmann, who stayed in Germany making war and propaganda films until he died in 1941, Richter remained an important public figure in the art world in the US until his death in 1976, and many film scholars have felt the need to

'correct' what is often seen as Richter's magnification of his own centrality to the development of abstract film.[73]

However, I have singled out Richter's film in my argument about a non-representational cinematic vitalism not in order to award Richter some special place in the pantheon of early abstract film, but rather to emphasize the trajectory that led him to the idea of a rhythmic-organic connection between film and spectator, a kind of non-organic life created by film. Richter sought to create an abstract language that used the cinematographic apparatus to transmit sensation directly to the spectator, thereby creating a direct relay between film and spectator. The result should be, he thought, a pure cinematic sensation that activates the spectator's thoughts and feelings by means of a direct communication with his corporeal vitality, bypassing engrained concepts and judgments. Ruttmann's abstractions, by contrast, did not seek such a pure form of sensation, but instead used film's potential for free movement of forms to present a formal play that enabled associations, memories, and analogies. This method and goal becomes especially evident in Ruttmann's own description of his film *Opus 1* in a 1919/20 manuscript entitled 'Painting with Time':

> [I]n a particular point of the canvas a star-like center of brightness develops—the wave-like movement from the beginning of the film reappears, but this time increasingly lightened in lively movement, always in conjunction with the crescendo of the light center—round, soft, bright ones are blooming—and glide into the black pointiness of the

73 In her biography of Viking Eggeling, Louise O'Konor tries to restore Eggeling's leading role in the collaboration of the two artists. Jeanpaul Goergen's work on Walter Ruttmann has uncovered the filmmaker's pioneering work on abstract film, foregrounding his technical expertise, especially evident in the 1921 *Lichtspiel Opus 1*. More recently, William Moritz denied Richter a legitimate part in the history of early abstract films, arguing that *Rhythm 21* and *Rhythm 23* were only completed in 1927/8 by Erna Niemeyer, and that Richter's films 'needed the special pleading of "first, early, primitive" to make them worth considering, since they lacked the quality of Ruttmann's film.' See Moritz, 'Restoring the aesthetics of early abstract films', 222. The most important and most recent account of the importance of Ruttmann's work is Cowan, *Walter Ruttmann and the Cinema of Multiplicity*. Since Moritz does not provide proof for his claims, it is unclear how accurate his information is regarding the production of the *Rhythmus* films. Accounts of other, previously disregarded figures, such as Richter's assistant Werner Graeff, or Eggeling's assistant Erna Niemeyer (first his girlfriend, then Richter's wife for three years; she later married Soupault) complement the picture; and most recently, a DVD entitled 'Medien-Kunst' (Absolut Medien, 2009), produced by the Bauhaus Foundation, juxtaposed Richter's and Eggeling's films with a series of abstract experiments by Graeff, Heinrich Brockspieper, Kurt Kranz and Kurt Schwerdtfeger.

> beginning and finally reach a radiating, happy brightness and dance-like motion of the entire image, which slowly transforms into a bright, joyful rest. Next, a threateningly dark, snake-like sneaking movement might set in, which increases, pushes back the brightness and finally calls up an extremely lively fight between light and dark—white forms in the movement of galloping horses throw themselves against the advancing dark masses—there is a shattering, a clamoring confusion of light and dark elements, until somehow, by means of the victorious intensification of the light, equilibrium and conclusion are brought about.[74]

Ruttmann's description, with its representational analogies (star, wave, bloom, snake, horse) and acoustic analogies (crescendo, shattering), mirrors the viewing experience of his *Opus* films quite accurately: we witness a play of organic and inorganic forms that pulsate, breathe, grow, shrink, and metamorphose, all the while evoking associations in a spectator.[75] As a consequence, the viewing experience encouraged by his film is intense and engrossing, and can be understood as a kinetic version of *Einfühlung* aesthetics. Richter, by contrast, strove—whether successfully or not—to create a film that would free perception from subjective recollection. Such a freeing of perception was to evoke, by means of new cinematic sensations, a new sense of being that, through technology, would break the shell of subjective human being. By relying on empathy, Ruttmann's films fell behind (or to the side of) such aspirations, since they left the empathizing subject intact.

My emphasis on the trajectory that led Richter to 'reinvent' film also suggests that we should see Richter's film experiments not just in connection with later abstract experimental film, but also in relation to a certain 'vital' conception of constructivist film aesthetics—montage in particular—and politics based on a material (sensorial, physical) connection between film and spectator. This is not to deny the historical

74 Walter Ruttmann, 'Malerei mit Zeit', 74.

75 This is somewhat surprising, since in 'Malerei mit Zeit', Ruttmann actually devalorizes an approach to the new temporality of 'speed' (*Tempo*) by means of the 'gloves of analogy'. The forms and movements in *Opus III* are recognizably derived from factory machinery and bear a strong formal resemblance to photographic films that focus on the movement of machines, such as Eugene Deslaw's *March of the Machines* (1927) or Germaine Dulac's *Disque 957* (1928) and *Arabesque* (1929). Yet because of the increased abstraction of forms, Ruttmann is able to play with the translation of three- into two-dimensionality much more effectively (when, for example, a spinning spiral is reduced to a two-dimensional line with growing and shrinking bulges).

trajectory that indeed leads from Ruttmann's and Richter's films to later abstract experimental film production in a variety of experimental film styles, ranging from psychedelic, mystic experiments in form and color, to perceptual experimentation to structural film, both in Europe (Peter Kubelka, Kurt Krens) and in the US; I am thinking especially of Jordan Belson, Harry Smith, Richard Breer, and Jonas Mekas.[76] However, what interests me here is the transition from abstract to photographic film, a step taken by both Richter and Ruttmann (Oskar Fischinger was the only one who continued to work on abstract films in the US). While a focus on formal composition continued to inform Richter's shots, there is a direct trajectory, based in their interest in a form derived from the materiality of film as medium, from Eggeling's and Richter's conception of the interaction of forms to montage theory.

In the abstract experiments of Richter, Eggeling and Ruttmann, montage could be said to be either non-existent or all-pervasive, since every shot is filmed by itself, separated from the previous and subsequent shots by an interruption and by a manipulation of the tinfoil (in Richter's case) or the glass plate (in Ruttmann's case). The transition from form language to scroll painting to film illustrated, however, that Eggeling and Richter were from the outset interested in relations and in an expression not intrinsic to one form, but based on the relationship between forms. This relationship could be spatial (in the universal language scripts) as well as temporal (in the scrolls and, differently, in film). In Richter's subsequent films such as *Filmstudie* (1926), *Vormittagsspuk* (*Ghosts Before Breakfast*, 1926) or *Inflation* (1928), photographic objects are investigated as symbols and as forms, and montage—the juxtaposition, comparison, and evolution of images on the basis of editing—becomes a new mode of expression.

From this perspective, montage—and especially the advanced montage films and theories of montage of Sergei Eisenstein and Dziga Vertov—emerges as a continuation of the line of a 'sensual-formal' (and, to some extent, formalist) cine-vitalism that so clearly comes to the fore in Richter's abstract film. Richter himself was aware of the resonance between his own work and that of Eisenstein, often describing seeing Eisenstein's *Battleship Potemkin* in 1926 as a watershed moment in his (Richter's) idea of cinema. He later became close friends with both Eisenstein and Vertov, and even embarked on a collaborative film project with Eisenstein for Meshrabprom Film in Russia (*Metal*, which was never completed and of which only film

76 On this trajectory, see P. Adams Sitney, *Visionary Film: The American Avant-Garde*; Moritz, 'Der abstrakte Film seit 1930'; Hein, 'Der strukturelle Film'.

stills and a script remain).[77] And though Richter's theoretical foundation for his early film experiments often sounds more metaphysical than political, it nevertheless bears a close resemblance to Eisenstein's montage theory.

Eisenstein's theory of montage, like Richter and Eggeling's work, is based on counterpoint.[78] Essential for Eisenstein's understanding of the cinema is the dynamic, antithetical relationship between two shots or other audiovisual elements and a resulting conceptual (psychological) synthesis. Eisenstein's understanding of the cinematic image (*obraz*) is thus profoundly dynamic and dialectical and eventually leads him to simultaneously describe the cinema as a synthesis of all arts and seek the cinematic in the long history of artistic expression across all arts. Montage in this tradition, to put it simply, is the organic, dynamic creation of a new whole by means of two shots. This conception of montage, and a conception of cinema that views montage as the medium's essence, follows logically out of the trajectory I have laid out in Richter's work—in fact, they mutually illuminate one another. Richter's early experiments with Eggeling on a universal language recall Eisenstein's foundation of montage principles in hieroglyphs and the ideogram, a parallel that emphasizes the inherent cinematic-ness of Richter's and Eggeling's studies. At the same time, if we return for a moment to Fig. 1.4 (Richter's sketch for a universal language), we can note the similarity of these formal experiments to Eisenstein's systematic exploration of the importance of the relationship of volumes, shapes, color, and so forth, to one another from one shot to the next. Richter's sketch appears to be a montage experiment itself, except that the 'parts' are not subsequent parts in time (as shots would be in montage),

77 On Richter's relationship to Eisenstein and Vertov in the context of the 1929 Congress for Independent Film at La Sarraz, where Richter and Eisenstein directed a film with participating filmmakers and critics, see the special issue of *Archives* on *Le 1er Congrès international du cinéma indépendant*, Roland Causandey and Thomas Tode, 'Le 1er Congrès international du cinéma indépendant'. Tode also published a letter from Richter to Vertov about the political dynamics at the congress, in which Richter confirms his alliance with Eisenstein and Vertov (whom he originally wanted to be the Russian delegate) against Bálazs. See Tode, '"Das Gegenteil von revolutionär"'. Günter Agde describes Friedrich Wolf's script of *Metal* in Agde, 'Filmutopien vor der Katastrophe'.

78 Counterpoint is a central term in Eisenstein's film theory. In 'The Heir,' part of his *Notes for a General History of Cinema,* Eisenstein describes 'The Method of Cinema' as '[m]ontage and counterpoint. The ultimate exposure of the fundamental patterns of being,' and both in his famous 'Statement on Sound' and elsewhere did he conceive of the relationship of sound and image as counterpuntal. See Eisenstein, *Notes for a General History*, 112, 207, 215-18; 'Vertical Montage'; Eisenstein, Pudovkin, Alexandrov, 'Statement on Sound.' James Tobias discusses Eisenstein's role in a film history of the role of music for structuring film images in Tobias, 'Cinema, Scored'.

but interacting parts in space. This similarity in turn highlights the fact that Eisenstein never understood montage to be purely linear—that is, as expressing the relation between two successive parts, as the images are located on a filmstrip—but rather as a dynamic interaction of 'montage cells' that creates a 'third image', a new whole. Moreover, Eisenstein, like Richter and Eggeling, developed a complex notion of counterpoint in film language that, in his later work and writing, focused more and more on 'vertical montage', that is, less on collision and more on integration.

Juxtaposing Richter and Eisenstein emphasizes that Eisenstein's work, even as it reveals an incredible breadth of artistic, literary, philosophical, historical, scientific, and political knowledge, also contains an interesting general tension between a materialist, dialectical, constructivist understanding of form (which is mechanistic in its basic orientation) and an organicist understanding of form (which is vitalist in its basic orientation). This tension is most obvious in Eisenstein's discussion of the basic elements of montage. Eisenstein criticizes the conventional conception of montage, exemplified by Lev Kuleshov's and, by extension, Vsevolod Pudovkin's work as static, linear, and inorganic. Eisenstein maintained that, according to the Kuleshov school, montage is the assembly of one 'brick' on top of another.[79] A good montage then yields a solid, stable wall, and improvement can be measured as an evolution toward ever more stable, skillfully constructed walls. The problem with this view of montage, according to Eisenstein, lies not only in a false conception of montage, but also a false conception of matter. Matter for Eisenstein is inherently dialectical and proceeds by dynamic tensions and conflicts between material elements, which resolve into new syntheses. Eisenstein's dialectical materialism is thus not to be understood as mechanistic, but rather is a materialism that nevertheless is oriented toward forms that are found only in the register of life.

Linking Richter's Bergsonian-inspired vitalism with Eisenstein's 'organicist' dialectical materialism may seem like a flawed enterprise, even if we acknowledge that Eisenstein's intellectual sources were not limited to Bolshevik, party-line views, but also included conservative, reactionary vitalists such as Ludwig Klages. Conceiving of Eisenstein as a 'vitalist' is undoubtedly problematic, for it threatens to confuse theoretical positions that seem fundamentally opposed, even if there are some points of minimal contact between the two (e.g., a mutual interest in organic form). However, it is important to stress that the link that I am establishing between Richter and Eisenstein is ultimately less concerned with the 'sources' of theoretical

79 Eisenstein, 'The Cinematographic Principle,' 36-37.

inspiration—that is, is less focused on the vitalist provenance of ideas that filmmakers, film critics and film theorists brought *to* cinema—and rather emphasizes the creative potential of cinema as dispositif. From this perspective, the question of what is 'put in' or 'brought to' cinema—in Eisenstein's case, a dialectical, materialist view of nature that is not originally focused on film—matters, but only with regard to the emergent product, be it a film or a theory of film. In Eisenstein's film theory, the cinema essentially becomes a constructed cosmos: starting from a material base of filmstrips with recorded footage, Eisenstein literally sought to animate the material by a method of editing and image composition that aimed at a construction that would follow the progression from inorganic matter to living bodies to living thought that is described in both Hegel's idealist philosophy and Marx's dialectical materialism.

Eisenstein's view of nature is very close, in fact, to Friedrich Engels' materialist updating, in *Dialectics of Nature*, of Hegel's philosophy of nature. Engels grounds dialectics in matter and makes extensive reference to modern scientific advances, from Helmholtz to Darwin, to substantiate this view. For Engels, the fact of life, the workings of complex organisms, and thought itself can be explained on the basis of a fundamental conception of matter as ceaseless motion and on the basis of a dialectical interaction between parts.[80] Eisenstein was thus following Engels—and not more mechanistic biologists—when he (Eisenstein) wrote that the action of thinking is 'the highest form of movement'.[81] If matter is characterized by ceaseless motion, then the shots as elementary montage pieces are not bricks, but themselves dynamic entities—they are 'montage cells', as Eisenstein laid out in his early writings, that are characterized by collision and conflict.[82] There are a number of implications that follow from the term 'cells'. What Eisenstein was aiming at with this organicist vocabulary was an animation of the cinema. Every film frame contains a number of conflicts—of space, line, volume, color, etc.—which, like 'molecules', form a creative new whole; namely, a cell (a shot) which, in contrast to a brick, links to and interacts with other cells in multiple directions and on various levels.[83]

80 See Friedrich Engels, *Dialectics of Nature*, especially Chapter 2, 'Dialectics.' Yet it is possible that Engels' philosophy of nature reached Eisenstein mostly indirectly, through Lenin's writings; at least, Lenin is most frequently quoted in Eisenstein's writings on dialectic materialism.

81 Eisenstein, notes. Quoted from Anne Nesbet, *Savage Junctures*, 248 n2.

82 Eisenstein, 'The Cinematographic Principle and the Ideogram', 37; see also Eisenstein, 'A Dialectical Approach to Film Form', 53.

83 Based on Eisenstein's discussion of rhythm as a struggle between the organic and the technological in 'The Dramaturgy of Film Form', Michael Cowan also makes the point that

Over the course of his career, Eisenstein increasingly shifted the focus from a confrontational model of montage—a montage of shocks and 'simple' dialectical oppositions—to a more complex, integrated, organic model. By the time that he wrote the main texts in what now comprise the volume *Nonindifferent Nature* in the late 1930s and 1940s, his efforts had shifted to a conception of film structure as mimicking organic structure. If a film not only constitutes an organic whole, but is also created on the basis of a unified set of organic laws—just like a real organism—then it is able to become part of nature, and both show a greater affinity to the nature it represents and to the spectator who herself is part of organic nature:

> It is obvious that a work of this type has a very particular effect on the perceiver, not only because it is raised to the same level as natural phenomena but also because the law of its structuring is also the law governing those who perceive the work, for they too are a part of organic nature. The perceiver feels organically tied, merged, and united with a work of this type, just as he feels himself one with and merged with the organic environment and nature surrounding him.[84]

To return to Engels' materialist nature-philosophy for a moment, Eisenstein thus sought to locate the principles of the *Gestaltung* of a film within the kind of natural creation that leads to self-determining organic entities. If this is accomplished, a film can organically communicate with the spectator (and all of nature), since its matter, its orders of motion, are based on the same principles as the rest of animate nature. Antonio Somaini, using Eisenstein's words, call this 'an ecstatic "flow" that circulates between the artist, the work, and the spectator: a flow which becomes possible if all three of them "participate" in the stream of dialectic, ecstatic enegery which runs across all natural phenomena, across a "matter" which Eisenstein conceived "as a continuous process of becoming."'[85]

For Eisenstein, these organic principles were most perfectly expressed in the formula of the 'golden section', which expresses the relationship of parts to whole. The golden section describes a ratio between two parts that is equivalent on two levels: part a is to part b as a + b is to a. The relationship between

'Eisenstein's notion of filmic "conflict," while derived from Marxian dialectics, also resonates with the vitalist models of rhythm so important for the early 20th century's understanding of the body.' Cowan, 'The Heart Machine', 234.

84 Eisenstein, *Nonindifferent Nature*, 12.

85 Somaini, 'Cinema as "Dynamic Mummification,"' 70.

a and b is thus not only that of two parts to one another, but immanent to it is also the relationship of the whole to the parts. In the nineteenth century in particular, physiologists such as Adolf Zeising and Gustav Fechner had been interested in grounding the golden section in nature, in the arrangement of branches on a tree, the veins on a leaf, or in the spiral of a Nautilus shell. What distinguished the golden section for Eisenstein is the fact that it simultaneously expresses a principle of natural organic structure, a mathematical principle, and a principle of organic development and evolution, a principle of growth; it is thus structural, calculable, *and* dynamic.[86] In this combination, the golden section can create relationships that literally spiral something given out of its framework into a new, higher order, into a different state.

The emotional-affective expression of the organic model of development in which Eisenstein sought to ground cinematography and in particular his own films, especially *Battleship Potemkin*, is an understanding of *pathos* as a state of ecstasy, of being-beside-oneself. This state of ecstasy is exemplified as much by that water which, in the encounter with heat, is about to turn into steam, as by the man who, in *Battleship Potemkin*, is at the point of transforming his sadness into anger and who thereby rises up in resistance and revolution. *Pathos* comes into being at all points at which the collision of two oppositional forces creates a new whole and catapults that whole into a new stage. From the perspective of this image of an energized, vitalized cosmos—a nonindifferent nature indeed—the responsibility of the filmmaker consists not just in orchestrating pathos in the leading actors, but likewise making that pathos resonate in objects and landscapes.[87]

Eisenstein's later conception of montage cinema—as well as of literature, painting, and other arts—as a mutual interpenetration and orchestration of various dialectical dynamics (rather than simple collision on one plane), provides us with an example of how the vital conception of form and of form reception in Richter's *Rhythm 21* is not restricted to abstract form. Rather, Richter's film experiment simply distilled a model of the interrelation of a spectator or beholder and moving matter. Both Richter's and Eisenstein's conceptions of the material interface of film and spectator can be described

86 Ibid., 15-26.

87 Although outside the scope of this book, it should be noted that in his *Notes for a General History of Cinema* written largely contemporaneously with *Nonindifferent Nature,* Eisenstein applies these thoughts on the dynamic history to not only the history of cinema and the arts at large, but history in general. He detects a 'dialectic polarity' between 'regression' and 'progress' in every work of art, linking artworks not only to both 'the deepest layer of emotional thinking' and 'the highest peaks of consciousness,' but also to both ancient or primitive art and contemporary or even future art. See Eisenstein, 'Closing Speech,' 38, 41-46.

with reference to Henri Bergson's famous example of sugar water. Bergson described the combination of sugar and water, two distinct substances which, after a little while, transform into a new whole, namely sugar water.[88] Eisenstein would describe the state of the sugar as it lay in the water and was about to dissolve, and the state of the water which surrounded the sugar crystals, as a state of ecstasy—if they 'could psychologically register their own feelings at these critical *moments*—moments of achieving the leap, they would say they are speaking with *pathos*, that they are in ecstasy'.[89]

While both Bergson and Eisenstein were interested in the creation of a new whole, Bergson emphasized duration as a lived temporality that is open to the future, to creation. The mode of experiencing duration is aptly captured in the image of the philosopher waiting passively until the sugar is dissolved, finding pleasure in the adaptation of his duration to that of the creation of sugar water. Eisenstein, by contrast, was interested in the active transformation of matter. His focus lay not on duration as the experience of open time, but on the property of matter to clash and collide and thus create new wholes. Eisenstein took a spoon and began to stir the water to accelerate the process of dissolution. Gilles Deleuze, who also picked up on Bergson's example of the sugar water, described the consequence of this action: 'If I stir with the spoon, I speed up the movement, but I also change the whole, which now encompasses the spoon, and the accelerated movement continues to express the change of the whole.'[90] One might say that Eisenstein envisioned montage to be a tool just like this spoon, by means of which the filmmaker creates a 'sped-up' movement with an increased ratio of conflict and *pathos* of which the spectator becomes a part. The 'change of the whole' system works itself up organically:

> [B]orn out of the pathos of the theme, the compositional structure repeats that single basic principle by which organic, social, and all other processes of the formation of the universe are achieved, and cooperation with this principle (whose reflection is our consciousness, and the area of application—our whole being) cannot but fill us with the highest feeling experienced by man—pathos.[91]

88 See Bergson, *Creative Evolution*, 9-10. It is likely that Eisenstein would also have found this example intriguing on the level of writing, since the newness of the new whole that is sugar water is indicated simply by eliminating the 'and' (or, for the German word *Zuckerwasser*, the space) between sugar and water.

89 Eisenstein, *Nonindifferent Nature*, 36.

90 Deleuze, *Cinema 1*, 9.

91 Eisenstein, *Nonindifferent Nature*, 36.

Just as in Bergson's example of waiting, the film spectator as organic, intellectual, *and* social being becomes part of Eisenstein's stirred-up film cosmos of revolution. However, the spectator—at least, this was Eisenstein's hope—participated in this stirred-up film cosmos by experiencing the same state of ecstasy, of transformation into a new whole, as sugar, water, and all the elements needed to bring a social revolution into motion.

The trajectory from simple formal experiments to abstract film to montage theory that I have pursued here thus outlines not only Richter's and Eisenstein's conception of vital form in cinema, but also seeks to locate a cine-vitalist element in the *construction* of films, in their formal aspects. Both Richter and Eisenstein were interested in creating a rhythmic dynamic of forms and formal relations on the screen that are innervated sensorially by the spectator. The vitality of film is a consequence of the fact that film as a temporal medium can merge with the organic, rhythmic temporality of the spectator. This experiential fusion, which takes place on the basic level of organic functions, and which affects mood and thought 'from the bottom up' (in Eisenstein's model), is the basis for what I have called, with respect to Richter's film, not just a non-organic aesthetic, but also a non-organic vitalism that extends to technology and inorganic matter. The principle of a dynamic dialectic evolution that underlies Eisenstein's idea of the 'leap' into a new quality, a new state of being, and Richter's experience of new sensations, namely the confrontation, or contrast-analogy tension, between two entities, ultimately also applies to the encounter between spectator and film: the living, sensing being and the technological medium, in their confrontation, leap into a new qualitative state.

2. New Worlds

Uexküll's *Umwelt* Theory at the Movies

> The deadening of the affects, and the ebbing away of the waves of life which are the source of these affects in the body, can increase the distance between the self and the surrounding world [*Umwelt*] to the point of alienation from the body.[1]
> Walter Benjamin, *The Origin of German Tragic Drama*

> Like a chameleon, the human mind disguises itself by camouflaging the globe . . . The cinema has given man an eye more marvelous than the multifaceted eye of the fly.[2]
> Blaise Cendrars, 'The Modern: A New Art, the Cinema'

Forays

In 1934, the German biologist Jakob von Uexküll published his second book, intended for a general audience. *Streifzüge durch die Umwelten von Tieren und Menschen: Ein Bilderbuch unsichtbarer Welten* (*A Foray into the Worlds of Animals and Humans: Picture Book of Invisible Worlds*) promised its readers 'worlds (that) are not only unknown; they are also invisible'. At the same time, it invited its readers to transform their very way of seeing and step into a new world:

> We begin such a stroll on a sunny day before a flowering meadow in which insects buzz and butterflies flutter, and we make a bubble around each of the animals living in the meadow. The bubble represents each animal's environment [*Umwelt*] and contains all the features accessible to the subject. As soon as we enter into one such bubble, the previous surroundings of the subject are completely reconfigured. Many qualities of the colorful meadow vanish completely, others lose their coherence with one another, and new connections are created. A new world arises in each bubble.[3]

1 Benjamin, *The Origin of German Tragic Drama*, 319.

2 Blaise Cendrars, 'The Modern: A New Art, the Cinema', 182.

3 Jakob von Uexküll, *A Foray into the Worlds of Animals and Humans*, 43. See also the translation in Uexküll, 'A Stroll through the Worlds of Animals and Men', 319.

Uexküll's Romantic, pastoral image of a leisurely stroll through a summer meadow might initially suggest a familiar scene to the casual reader—an outdoor enthusiast or occasional birdwatcher, perhaps, convinced of the benefits of fresh air, constitutionals, physical exercise, and a general sense of the beautiful and at times sublime nature surrounding him. The next sentence, though, transforms this image and its corresponding mood into a fantastic scenario by means of the fanciful soap bubbles we 'blow' around each creature. Yet even this step—from the pastoral to the fantastic—is only a precondition for an even more radical transformation of perception, one that promises the reader the possibility of stepping into a completely alien and unfamiliar world, much in the way that Lewis Carroll's Alice entered Wonderland; or, for that matter, the way that the city stroller enters the movie theater.

Imagining stepping into the soap bubbles surrounding other creatures not only enabled a radically different vision, but it also depended on a paradigm of vision other than that of objective perception; a different dispositif. Uexküll playfully introduces the basic assumption of his theory of biology: there is no common ground and there is no common world, for every living being perceives the world differently and as a result lives in a world different from that of other beings, each surrounded by a subjective world that Uexküll terms *Umwelt* ('environment', but more literally 'surrounding world'). These individual *Umwelt* bubbles envelop plants, animals and humans like an outer shell or extended body, while simultaneously isolating and separating each entity existentially into quasi-monadic units. The cheerful stroller has himself evoked and painted this picture, and following a familiar trope of the fantastic, is able to step inside; but once there, he becomes captivated and loses control.

This scenario bears more than just a superficial resemblance to the experience in a movie theater. The surface of the bubble that Uexküll invokes surrounds us and shows us a world we hardly recognize. We know that this is 'our' world, yet everything looks different; if we were to imagine this scenario as a film scene, the genre would be science fiction rather than *Heimatfilm* (homeland film). Uexküll's reference to new and unfamiliar worlds brings to mind Charles Urban's film series 'The Unseen World', which in 1903 marked the beginnings of the popular science film with a program consisting of comical or dramatic animal scenes and microcinematographic films. Microcinematographic films presented everyday objects and creatures that had never been seen before, or at least not seen at such close quarters, and they evoked strong responses of amazement, awe, and disgust in the contemporary press. One of the most popular films, for example, used

microcinematography to transform an image of a man eating cheese into the horrifying scenario of countless giant spider-like cheese mites crawling over his seemingly lifeless piece of food.[4] By employing the technical capacity of film to change the scale of vision, microcinematographic films established a technical analogue of the soap bubble that Uexküll asked his readers to create in their imaginations.

In its focus on the centrifugal organization of the environment by a living being, Uexküll's *Umwelt* theory constituted not only an interesting example of a vitalist conception of life, but also a cinematic theory of biology. On the one hand, of course, Uexküll's *Umwelt* theory was simply one of many early twentieth-century transdisciplinary attempts to rethink the relationship between the subject and that which conditioned the subject; that is, the relationship between subject and world. On the other hand, though, *Umwelt* theory was a particularly significant instance of this rethinking, for in linking biological concerns with the question of perception, Uexküll brought to the fore questions of methodology (by means of which concepts and techniques can this rethinking be accomplished?) and technicity (what technical instruments are necessary for this rethinking?). For these reasons, Uexküll—and, as I shall note in this chapter, a number of social critics and film theorists—saw *Umwelt* theory as a significant advance over the Darwinian concept of 'adaptation'. The concept of adaptation also focused attention on the ways in which the surrounding world conditioned the organism, but this concept renders the surrounding world as a 'milieu', rather than an *Umwelt*—that is, as a deterministic, conditioning set of forces, rather than as an environment that was actively constituted by the perceptual capacities of living beings. Many of the key terms that we associate with early twentieth-century philosophy, social theory, and psychology—for example, attention, intention, and consciousness—were worked out on the terrain between milieu and *Umwelt*, in attempts to understand how human subjects were able to react to an environment that was itself rapidly changing; that is, they were attempts to understand how subjects were able to evaluate, make decisions, and successfully interact with what is 'given'. We might say that the concept of the 'environment' formed the backdrop to the most pressing issues and concerns in this period: the environment was that which was

4 On Urban's films and for a discussion of *Cheese Mites*, see Oliver Gaycken, *Devices of Curiosity*, 16-37.

'there', whether one paid attention to it or not; it defined the horizon for one's actions and perceptions; and it was shaped by people as they were shaped by it.[5]

For many early twentieth-century theorists, cinema turned out to be an especially important part of the modern environment, for—as Walter Benjamin noted—cinema not only epitomized the conditions found in the modern world at large, but it also brought these conditions into what he called the optical consciousness. Uexküll's theory suggested an explanation of why this could be the case, for his account of *Umwelt* suggested that what cinema presents is simultaneously *of* this world and *a* world. Since cinematic images are not the direct result of human perception, they do not show us the world as our *Umwelt*. This difference is not only a consequence of the fact that we are watching recorded images on a screen. It is, in addition, a consequence of the fact that viewing film images requires a doubling of perception: we perceive film images as embodied spectators, yet these images themselves present a perception of the world that is not dependent upon our body (which perceives the world within physiological limits determined by our intentions and radius of action). We see, instead, the perception of a 'film body', to use Vivian Sobchack's expression, that the screen relays to us.[6] We thus perceive another perception, the perception of an apparatus. In doing so, we can integrate, and 'innervate', the way the world appears to us in these images.[7] These properties of cinema allocate it a central role in reflecting, changing, and reformulating the 'natural' environment and our relationship to it—and with that relationship, our sense of our bodies (and, indeed, our bodies' senses themselves). In contrast to the much more pervasive notion of 'milieu', then, Uexküll's concept of *Umwelt* is of particular interest for media studies, since it goes beyond the conditioning aspects of the relationship between organism and environment and

5 Theories of environment are thus closely related to the concepts of 'atmosphere' or 'mood' (*Stimmung*), which are likewise held to influence and determine foreground actions and perceptions without themselves being the subject of focus or attention (both of which they tend to dissolve when one attempts to focus upon them); see Chapter 3 on *Stimmung*. On the relevance of the notions of atmosphere and *Stimmung*, see David Wellbery, 'Stimmung', and Leo Spitzer, 'Milieu and Ambiance'.

6 On the phenomenological notion of the film's body, see Sobchack, *Address of the Eye*. Christiane Voss has recently developed further the relationship between body and cinematic illusion for a phenomenology of film in Voss, 'Film Experience and the Formation of Illusion'.

7 Innervation is a concept important to both Uexküll's and Benjamin's understanding of the relationship between mind and body. See Uexküll, *Die Lebenslehre*, 109-11. For an account of the role of innervation in Benjamin, see Hansen, 'Benjamin and Cinema', especially 315-20.

encompasses the effects on perception of specific bodily comportments, as well as the translation of stimuli into signs.

Umwelt theory's extension of life into what surrounds the finite body (that is, into the *Umwelt* of the living being) brings to the fore two issues, both of which were central to film theory in the 1910s and 1920s: the role of perception as the sensible link between body and environment, and world-creation as the active shaping of and engagement with our environment. While Chapter 1 considered the implications of theories of the internal organization of a living body for film theory and practice (i.e., duration and rhythm as vitalist conceptions of time), in this chapter I am interested in the implications for film theory when the focus moves to a living being's perceptual organization of its surroundings. The first half of this chapter introduces the question of *Umwelt* and the intersection of animals and media by means of a meditation on three differently mediated dogs. It then traces the genesis of the concept of *Umwelt* in Uexküll's own writings, documenting how this theory emerged at the intersection of Uexküll's physiological studies, his reading of Kant, his interest in aesthetic theories of empathy, and his work in chronophotography. The second half of the chapter outlines the reception of Uexküll's theory by philosophers, social theorists, and theorists of film. I emphasize that this reception was not unified, but instead theorists blazed two quite different trails leading from *Umwelt* theory to broader cultural, including film-theoretical, concerns. The first trail—what we might call the path of man—was traced out in German philosophical texts of the 1910s and 1920s. The authors who took this path focused on the implications of *Umwelt* theory for the reconception of the mutual constitution of 'world' and 'subject', and developed concepts such as Edmund Husserl's *Lebenswelt* ('life-world'), as well as Max Scheler's, Helmuth Plessner's, and Martin Heidegger's distinctions between man and animal, *Umwelt* and world.

Travelers on the second trail, which we might call the path of alienation (or the path of the animal), were willing to abandon—to varying degrees—the terrain of the human. These travelers were mostly film theorists and artists, rather than philosophers. Some, such as art critic Adolf Behne and artist Franz Marc, were inspired by Uexküll's colorful theories, images, and imaginings, which provided them with a model for breaking up the habitual perception and conception of both things and living beings, thus opening up the senses to enable a new unity with the cosmos.[8] Film theorists including

8 In 1918, Adolf Behne wrote the most comprehensive text on the ways in which Uexküll's work underpinned the interests of contemporary art, including the work of Paul Scheerbart, Bruno

Blaise Cendrars and Jean Epstein went a step further, for they gave in to the temptation—and aesthetic and political potential—to cross-breed human, animal, and technological perceptions. Their texts express the idea of a queered, or cross-species perception that Uexküll's own references to film inspire, describing the alien, and alienating, worlds and worldviews that film offers, as well as film's (re)integration of the human being into a leveled playing field (or, in Uexküll's words, a grand symphony of interweaving melodies) of animals, plants, and inanimate objects. In mapping out this second path, I take Walter Benjamin as my guide, for his work provides a comprehensive framework for understanding *Umwelt* theory in the context of the playful experimentation with a new physis. He is central to this chapter not only because he was familiar with Uexküll and integrated the concept of *Umwelt* into his writings on film and modernity, but also because in doing so, he developed the concept of *Umwelt* in a way that gave it a much more urgent and critical valence.

This second path also allows us to reevaluate the question of Uexküll's modernity. Uexküll might initially seem an unlikely protagonist for a project concerned with cinema. A biologist from the old, German-speaking Estonian nobility, his sociopolitical texts betray a staunch conservatism, and he was later to apply his notion of *Umwelt* to questions of the German family and state.[9] In addition, Uexküll's scientific theories were themselves perceived as untimely for most of his career: he was seen as old-fashioned and conservative by leading Darwinist, mechanist, and behaviorist biologists, but at the same time he was seen as too subjectivist—and as suspiciously close to 'socialist' milieu theory—by National Socialist ideologues. And, finally, his close friendships with Nazi ideologue Houston Stewart Chamberlain and the conservative philosopher Ludwig Klages emphasize that while Uexküll might not have agreed with Third Reich political practices such as genocide, the ideological gap between his positions and those of National Socialism was marginal when it came to other elements of blood

Taut, Wassily Kandinsky and Franz Marc. See Adolf Behne, *Die Wiederkehr der Kunst*, esp. 57, 109-11. In his animal paintings, Marc tried to depict a harmonic unity of animal and its *Umwelt*: 'What does a deer have to do with the worldview we have? . . . Who says that a deer senses the world cubistically; it senses it as "deer", the landscape therefore has to be "deer"' (Franz Marc, 'Aufzeichnungen auf Blättern in Quart (Winter 1911/12)'). For more information on Uexküll's influence on artists and painters, including Theo van Doesburg, Raoul Haussmann, Gottfried Benn, and Thomas Mann, see Malte Herwig, 'The Unwitting Muse', and Botar, 'Notes Towards a Study of Jakob von Uexküll's Reception'. Behne and Marc are further discussed in Chapter 3.

9 See Florian Mildenberger, *Umwelt als Vision*, 156-67.

and soil ideology.[10] Yet at the same time, Uexküll's scientific work betrays an astonishing modernity and aesthetic sensibility that was recognized by both artists and film theorists alike. While Uexküll's own cultural and political views might have been conservative, his biological work produced theories, concepts, and images that could be dislodged from conservative ideology in order to serve other, more progressive purposes.

A Meditation on Mediated Dogs

Uexküll's Dog: A Dog's World

In 1937, The American Museum of Natural History (AMNH) in New York finalized its plan for a Hall of Animal Behavior, to be curated by Dr Gladwyn Kingsley Noble and sponsored, promoted, and supported amongst others by William Douglas Burden, the writer and creative force behind the 1930 documentary drama *The Silent Enemy* (Burden also had ties to the Hollywood film industry, especially Merian C. Cooper and Ernest Schoedsack, the directors of films such as *Chang: A Drama of Wilderness* (1927) and *King Kong* (1933)). The Hall, as well as an entire lab devoted to behavioral studies, was a tribute to the fact that ethology had become an important zoological discipline that needed representation—and a place for research—at the AMNH. Noble himself had published important ethological papers and had sought to translate them into film with his scientific documentary, *The Social Behavior of the Laughing Gull* (1940). The creation of a department of animal behavior thus spurred forays on the part of the museum in two seemingly opposed directions: on the one hand, toward experimental research on live animals, a direction that also involved including live animals in exhibitions; and on the other hand, toward the use of film and other media for educational and entertainment purposes, a direction that included interest in documentaries that presented animals in their natural habitat, displays of animals with interactive elements such as lights, sound recordings, and images, and even amusement park-like rides.[11]

Though these two approaches might seem to push in opposite directions—one real, one virtual; one grounded in scientific research, the other

10 See Anne Harrington's comprehensive, though reductive, description of Uexküll's social and political views in Harrington, *Reenchanted Science*, 34-71. By focusing primarily on his later sociopolitical texts, Harrington does not always do justice to the complexity of Uexküll's biological work, which she sees as simply one of several 'holistic' approaches that emerged in early twentieth-century Germany.

11 See Gregg Mitman, *Reel Nature*, 62-63.

one in popular entertainment—they are nevertheless closely related. Both moved away from (literally) dead, static, and uncontextualized displays and instead sought to engage animals *in vivo*, which meant observing the behavior of animals as actions and reactions in time and within a certain environment. 'If the interpretation of life is not the proper main objective or goal of our Museum, then what is it?', Burden asked in various letters that he sent in the hopes of gaining support for the new directions of the museum.[12] Film, for Burden and Noble, was not only an important scientific research tool for the scientific study of animal life, but it was also an excellent means of popularizing such study. This belief that film was both a means of conducting research on, and popularizing research about, animals was thus a vision Burden and Noble shared with ethologists such as Konrad Lorenz, Niko Tinbergen, Julian Huxley, and Karl von Frisch, all of whom produced animal behavior films beginning in the late 1920s, continuing the legacy of early popular science filmmakers such as Jean Comandon, J. C. de Mol, and Charles Urban.[13] For all these figures, the mediation by film was able to provide something that displays of live animals lacked: namely, the behavior of animals in their natural environment, rather than in captivity. Noble, in fact, had begun to combine diorama displays of Komodo dragons with a film of the same species: while the diorama allowed visitors to study closely the body and physiognomy of the animal, the film provided a sense of the natural movement of the Komodo dragon and the engagement of these animals with their environment. Inspired by Noble's displays, Julian Huxley tried to implement film displays in the London Zoological Garden that were intended to supplement the fact that the live animal's presence occurred solely within a restricted, artificial environment, by providing filmed representations of the natural behavior of the animal.[14]

It is against this background of the relationship between taxidermied, mediated, and live animals, between different modes of display and spectatorship, that I want to consider a particular diorama that was part of the small 1937 exhibition entitled 'Some Suggestions for a Future Hall of Animal Behavior'. This exhibition sought to give visitors a sense of what to expect, and what they might learn, from the new behavioral department at the AMNH. The centerpiece of this exhibition was inspired by Uexküll's work

12 See Ibid., 62, 233.

13 On early popular science films, see Gaycken, *Devices of Curiosity*; on the films of Lorenz, Tinbergen, and von Frisch, see Tania Munz, *The Dancing Bees*. On the work of these early ethologists more generally, see the comprehensive book by Richard W. Burkhardt (Burkhardt, *Patterns of Behavior*).

14 Mitman, *Reel Nature*, 74-75.

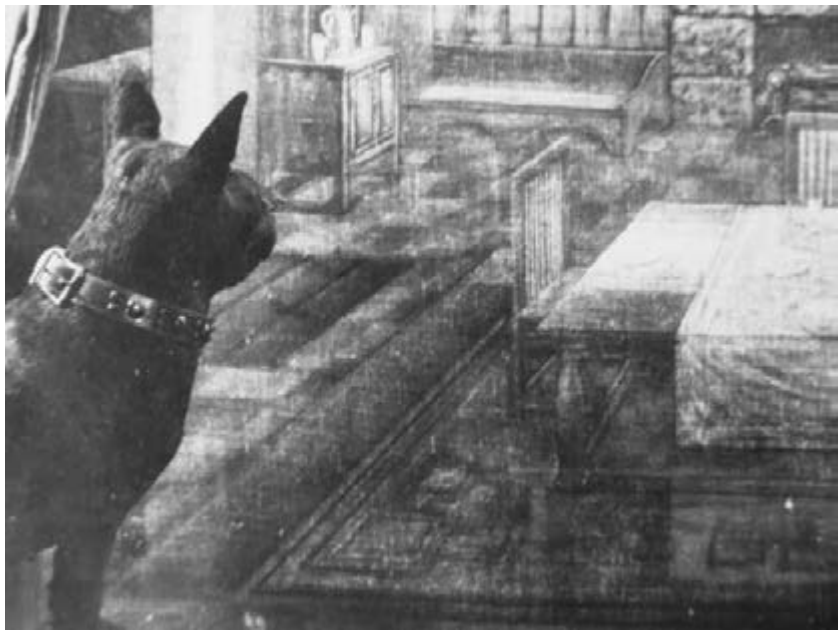


Fig. 2.1: Diorama 'A Dog's World', American Museum of Natural History, New York (1937).

and consisted of several interactive dioramas, all of which depicted animals and their respective *Umwelt*.[15] A stuffed animal—in one diorama, a fish; in another, a dog; and in a third, a hen—occupied the foreground of the diorama. The animals were positioned with their backs to the spectator, and each animal focused its attention on a painted background that represented its familiar environment: a riverbed, a living room, and a chicken pen. The exhibit received some attention in the press, since its interactive features and incorporation of visual trickery were novelties against a background of traditionally 'serious' educational museum displays. A review of the exhibit in *The New York Times* exclaimed:

> **MUSEUM VISITORS CAN SEE AS FISH DO—New Gadgets Also Let Them View a Colorless World as It Appears to Dog—HENPECKING IS EXPLAINED—Psychic Factors Distort Fowl's Vision So That Objects Seem to Be Thrice Their Size**

15 On the importance of Uexküll for the exhibition, see Mitman, 'Cinematic Nature'.

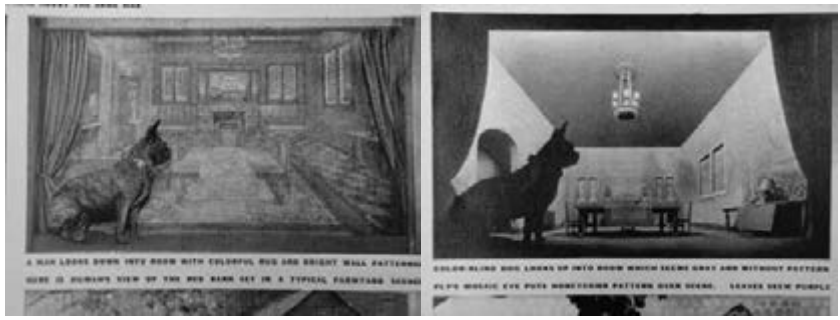
> . . . [the exhibit] presented an array of living and dead snakes, fish, rats, lizards and other specimens and a series of gadgets by means of which all sorts of miracles can be performed. By the turning of a switch every day scenes are presented to the human eye in the way that *animals are supposed to see* them.[16]

The dog diorama featured a stuffed black bulldog, complete with studded collar, that was directing its attention at a bourgeois living room painted on a canvas (see Fig. 2.2.a). If the visitor pressed a button, however, the backdrop magically changed. The activation of different light sources allowed the screen to fade and make visible a three-dimensional room that corresponded to the animal's vision: in the case of the dog, a lower point of view, an absence of colors and details, decreased depth perception, a loss of distinction of certain lines, and a foregrounding of elements that held a functional character in the dog's life, such as a chair on which the dog could jump and sit or a table under which it could hide (see Fig. 2.2.b). The dog's view has an almost threatening, uncanny quality, since it strips the living room of all its distinguishing markers of class, value, and identity.

The museum display connected spectator and animal in a peculiar way. Fig. 2.1 illustrates that the setup of the diorama resembles that of an over-the-shoulder-shot. The 'safely stuffed' dog in the foreground confronted the visitor with its materiality and authenticity, while the interactive spectacle of the *trompe l'oeil* scenery change emphasized the immateriality and instability of the latter.[17] At the same time, it is the dog that, by withholding from us its face and gaze, remains out of reach, even as we are able to control the view that we project onto the dog with the push of a button. The wistfulness and melancholia we sense when we focus on the dog, with its inherent temporality of pastness ('I once lived') and the sense of elusiveness and ultimate unattainability that is the consequence of the dog's denial of the possibility of face-to-face encounter, finds an equivalent in that melancholia that, according to Alice Kuzniar in *Melancholia's Dog*, generally marks encounters between human and dog. As a companion species, dogs are attuned to humans and generally exist as dependent upon humans. As 'man's best friend', dogs can not only have their own food, bed, and hairdresser, but their death can also be mourned like that of a human companion. Yet at the

16 Anon., 'Museum Visitors Can See as Fish Do', 27.

17 See Ibid.; Anon., 'Science: Museum Wants' .



Figs. 2.2.a-b: The two visual modes of the dog diorama: left, human view; right, dog's view.

same time, the dog's being—its feelings, its language, its drives—remain unattainable.[18]

Formally, then, the diorama introduces us to a number of interrelated questions about subjectivity, environment, and mediality that will reoccur throughout this chapter. First, the diorama emphasizes the problem of access to the animal, both physical and metaphysical. It also brings up the question of materiality and the role of media in the contrast between taxidermy and light show *trompe l'œil* (and the question of whose *œil* we are thinking of). Second, the diorama highlights the relationship between animal and spectator, and between animal and its environment, natural or contrived, fact or fiction. And third, it brings up the role of the medium's 'framing' of the animal, which can direct and limit our approach. The diorama also illustrates that there are always (at least) two aspects to a (re-) presentation of an animal: there is, on the one hand, the animal's view and, on the other, the view of the animal—or, to put this less anthropomorphically, we have the animal's world (*Umwelt*) and we have our world, which includes the animal as an element. The diorama confronts us with two modes of relating to an animal: a playful or scientific desire to feel like a dog, and an existential or philosophical desire to feel for, and with, a dog. The dog diorama thus allows us to ask how the desire for communication, mutual understanding, and sympathy, on the one hand, and the sense of absolute, existential difference, incongruity, and isolation, on the other hand—in other words, the simultaneity of difference and sameness we can

18 Alice A. Kuzniar, *Melancholia's Dog*. See also Donna Haraway, *When Species Meet.* On the history and aesthetics of animal dioramas, especially Carl Akeley's dioramas at the AMNH, see Stephen Christopher Quinn, *Windows on Nature*, 8-24.

feel in a 'live' encounter with a dog—changes with technological mediation. Mediation intervenes in the physical presence of two living beings, which might also mean relief from being-human or being locked into being-human (in the face of a dog).

Nipper—The Dog as Medium

The iconic image of Nipper the dog attending to the voice of his master as it emerges from the gramophone has become emblematic, and not just for Victor RCA, for the painting visualizes perfectly the complex relationship between animals and technological media. The painting of the dog listening attentively to what the viewer presumes is coming out of the gramophone horn was registered as trademark, along with the inscription 'His Master's Voice'. As such, the painting and trademark link sound recording, death, and animality in an iconic image. The story of this painting is well known: Francis Barraud painted a picture of his dead brother's dog Nipper (whom he had taken in) listening to an Edison gramophone. The painting itself was painted three years after the dog's own death. While the Edison Company showed no interest in the image, the Gramophone Company (later Victor RCA) did, and Barraud repainted his representation of the gramophone to match the company's model. The new layer of paint allowed for corporate appropriation, while the new logo for the image—'His Master's Voice'—provided a new interpretation of the dog's attention. The most important transfer enabled by the painting, however, was that of acoustic marvel to visual spell. It is the dog's attentive gaze directed at the gramophone horn that actually visualizes the sound by standing in for it, transforming the acoustic medium into a visual cipher. As Tom Gunning notes, Nipper's confusion about the mismatch between a familiar voice and an unfamiliar machine depicts how the dog 'experiences the sense of disproportion that early audiences did in experiencing sound reproduction without an attempt at visual simulation'.[19]

However, it is worth exploring the complex relationship between the temporality of the beholder's reception and the temporality of the two media involved, namely painting and phonograph. While the painted Nipper will forever identify the apparatus with his late owner, the beholder of this image begins by identifying with the 'Dog looking at and listening to a Phonograph' (the original title of the painting), but then distinguishes herself from this animal, which must remain a dog listening to 'His Master's Voice' (the corporate inscription of the image). What makes the image amusing is

19 Gunning, 'Doing for the Eye', 20.

Fig. 2.3: 'His Master's Voice': Nipper in Barraud's 'Dog looking at and listening to a Phonograph' (1899, second version).

precisely the beholder's transition from one attitude to the other, as well as the fact that, once we have performed the transition, we are able to move freely back and forth between these two attitudes. This movement from immediate, empathic identification to reflective analysis and distinction is a temporal transition that the dog cannot perform, since, in this painting, it is forever frozen in the position of immediate reaction; the position of false belief, of being duped. In other words, the beholder's own sensory confusion when she first encountered a gramophone playing a recording—which, for a moment, creates a bond between the beholder and the listening dog as a visualization of the beholder's confusion—is sublated by a double mastery: both the mastery of Mark Barraud/Francis Barraud/the gramophone over the animal (i.e., the dog as an owned pet, a commodity, a painted object), and the mastery of the beholder of the image/early gramophone listener over

the animal ('stupid dog!'). Like the gramophone itself, the listener, in beholding a painting, plays out her mastery over temporality. The momentary bond between spectator/listener and dog thus gives way to a breach between a superior and an inferior being, which in turn reestablishes the mastery of the future record buyer.

This establishment of a hierarchy between animal and human simultaneously allowed the apparatus of the gramophone to appropriate the dog. Upon the incorporation of the painting into the RCA Victor logo, the painted, copyrighted, and endlessly reproduced dog served to reunite the sound apparatus and the human beholder/customer. The dog lent its body to the gramophone, visualizing, and thus signifying, the capacity of the apparatus for faithful sound reproduction—a corporeal transfer so complete that commentators have often referred to this image as the 'Talking Dog'.[20] This transfer is eased by the symmetry of the painting and the correspondence in 'posture' and 'attitude' of gramophone and dog. With the boundaries between dog and human, and between dog and human senses and sensibilities, safely redrawn, the dog can lend a body, a face, and an attitude of docile servitude to the technological apparatus, whose unsettling alterity now becomes the safe otherness of a mastered pet. Nipper thus sets into motion what Michael Taussig describes as the 'imperial balance of mimesis and alterity'.[21]

Yet it is precisely this 'imperial balance of mimesis and alterity' that, I will suggest below, is often upset by *moving*—rather than painted—reproductions of animals. Taussig's discussion of Nipper and the gramophone does not seem particularly interested in the specificity of the media involved, nor in the particular role animals play in capitalism and modernity. Yet such considerations cannot simply be bracketed here, for in the case of the image of Nipper, the pleasurable, albeit momentary, destabilization produced by an initial identification with Nipper is kept in check by the ability of the spectator to redistribute and separate out the (visually stable) positions of machine, dog, and her human self. The freeze-frame of the painting, in other words, makes it possible for the beholder to surpass the deceived dog by 'moving on' to a superior position of knowledge. In this temporal movement, the beholder aligns herself with the temporal flow of the gramophone's sound. In other words, it is the temporal friction between the two media

20 Michael Taussig, *Mimesis and Alterity*, 212.

21 Taussig seems even less interested in the question of the extent to which mimesis and alterity—as well as empathy, identification, projection, readability, and interpretation–might function differently for animals as opposed to humans.

Fig. 2.4: *Athlete with Wand* (Dickson/Heise, 1894).

involved (gramophone and painting) that allows for an exciting destabilization, since one can always safely return to fixed positions. The painting of Nipper shows us, in short, that in the encounter between human, animal, and technological media, the ontological dividing line between human and animal can become blurry, perhaps even breached; but it also shows us that this line can be reinforced, at the expense of a blurring of lines between animal and technology. The painting, or rather, the reception of the painting rehearses the effacement of the capacity to recognize both the dog's animality and its sameness, as a living, sensing creature, and locates it in the grey zone of human pet. The body and spirit Nipper transfers on to the gramophone have a similarly toned-down grey hue and protect us from recognizing the technological medium's affinity with both the wildness and otherness of animals as well as with a life, expressivity, and sensuousness that does not differentiate between animals and humans.

Dickson's and Heise's Dog—Spectacle and Spectator

A quite different dynamic between medium, animal, and spectator was established by one of the first dogs to ever star in a moving picture. This was a dog that appeared almost incidentally in one of W. K. L. ('Laurie')

Dickson and William Heise's early film experiments at Edison's Black Maria Studio in 1894. Like their other short films for Edison's Kinetoscope—a viewing device that allowed one spectator at a time, paying one nickel at a time, to peep through a hole into a box—*Athlete with Wand* shows a human subject on a stage against a flat black background engaging in extreme movements that make the mechanical reproduction of motion especially spectacular and visible. The athlete takes on different poses with his 'wand' (a long pole roughly 4 feet in length), each pose separated by a bend of his knees or a repositioning of his legs; he lifts the wand horizontally above his head, holds it in front of his stomach, or twists it vertically to align it with his body. According to Charles Musser, the man was an athlete from the Newark *Turnverein*, and the entire film was probably a test run for the filming of Eugene Sandow, which took place shortly thereafter.[22] What is unusual about the framing of this short, however, is that it includes a dog lying on the ground next to the athlete, in the bottom right of the frame. The dog is obviously at home in the studio environment and presumably belonged to Dickson, Heise, or the man they were filming. The camera is surprisingly oblivious of the dog (as are, it is worth noting, most descriptions of the film, all of which completely neglect to mention the dog's presence), and the dog is oblivious of the camera. The dog, resting its head on its front paws, is turned away from the athlete swinging his pole and seems to be disinterested in the spectacle; only when the end of the pole swings particularly close to the dog does it get up on its front legs and lift its head to watch the athlete cautiously.

The dog's presence in this film is noteworthy for several reasons. First, the fact that the dog appears in the film emphasizes, or reveals, the experimental studio character of Dickson and Heise's films, in which someone's dog is able simply to lie on the stage while the filmmakers and technicians take turns before and behind the camera to film and act out short scenes. Second, the fact that we cannot decide whether the dog's presence in the film was an 'accident' or a deliberate aesthetic or experimental decision emphasizes the question of the dog's relationship to the spectacle.[23] The dog functions as a stand-in for the film spectator, such that its presence and witnessing of the stage act mirrors the mediated presence of the film spectator, while the dog's body becomes a medium that transfers the spectator onto the film

22 Charles Musser, *Before the Nickelodeon*, 29-56.

23 My guess is that the dog happened to lie on the stage and Dickson and Heise decided on a whim to include it in the film—after all, the athlete is filmed slightly off-center to allow the entire body of the dog to occupy the bottom right.

itself. Yet this dog-spectator is, for the most part, apparently oblivious of the performer who constitutes an attraction for us, as he (the performer) is so spectacularly animated and mediated. In contrast to Nipper, though, this dog is *part of* the technological mediation. It thus sets in motion a shift back and forth between presence and mediation, subject (in its presence *to* the spectacle) and object (in its presence *as* attraction itself). Moreover, the fact that the dog is peripheral to the scene and the framing, and the fact that the dog is decidedly not 'performing', add to its spectral quality. In contrast to the many other film dogs that would follow it, this dog presents an anomaly, since it does not constitute an attraction in itself.

The dog's ability to elicit this subtle, complex response from the spectator is exemplary of the way in which animals on screen are able to punctuate the film experience and enable meditation not only on animals themselves, but on film—and life—as media. Though both Nipper and the dog in *Athlete with Wand* react (at least briefly) to a spectacle, their reactions do not invite identification in the same way. Nipper's facial expression and posture were painted by Barraud in a careful balance of dogness as both other (non-human) and the same (the facial expressivity of a complex mammal) in order to invite identification and association. The joke consisted in the momentary conflation of one's own human attitude with the animal's, followed by a subsequent dissociation from the animal. In *Athlete with Wand*, one cannot appropriate the dog's expressivity through identification and a projection of emotions, since the dog's existence in time provides resistance to such appropriation—it *exists;* it 'behaves like a dog'. As a consequence, though, we also do not need to dissociate ourselves from the dog in the way that we dissociated ourselves from Nipper, and we are thus 'relieved' from the reestablishment of rigid boundaries.

We are, however, able to establish a connection to the dog based on its movement and expression of intention, its behavior. When the dog lifts its head to gaze cautiously at the pole that has swung close by its body, we too can become aware of this 'spectacle' of the athlete as an event that has a relationship—possibly threatening—to living bodies in its environment. This is not connection via appropriative identification, but rather a connection by means of a corporeal and sensual link. While the painting of Nipper sets up an absolute dynamic of being the same/being different, Dickson's and Heise's dog presents us with a life that is both different and the same, that we recognize and are bound to as temporal, living creatures, but that we nevertheless do not conflate with our own being. These three dogs—in a diorama, in a painting, and on film—illustrate that in the mediation of animals, there is always a double transfer that takes place. The

spatiotemporality of the medium, as well as its addressing and configuration of a beholder or listener, intersects with the negotiation of attitude, empathy, and perspective between spectator and dog. Both dog and media do not just present themselves to us; they present a world, or worldview, to us, and thus an invitation to step outside of our spatiotemporal, perceptual coordinates into uncertain territory.

The Agony of the Starfish: Uexküll's Chronophotography

For Uexküll, the role of media for comprehending the intersection of organism and environment began in the final decade of the nineteenth century, when he connected his studies in biology with philosophical and art-historical theories of perception and comprehension. In Dorpat, Estonia, Uexküll studied with the anti-Darwinian biologist Karl Ernst von Baer. However, it was while working at Anton Dohrn's Zoological Station in Naples in the late 1890s and early 1900s—at the same time, as it turned out, that neo-vitalist biologist Hans Driesch was also working there—that Uexküll began to turn away from Darwinism and pure physiology and sought to integrate his earlier studies of Kant with the organicist-vitalist approaches of von Baer.[24] This was not, however, a turn that had purely intellectual origins, and the crucial role of photography, especially chronophotography, in helping Uexküll to redefine the task of biology and his notion of organicity is evident in his early work.

Uexküll began to reconceive the relationship between organism and environment by developing a new theory of 'organic form' around a Kantian conception of biology. In a 1902 article entitled 'In the Battle over the Soul of the Animal [*Im Kampf um die Tierseele*]', Uexküll elaborated on Kant's theory of apperception in order to criticize the premise that psychology was able to make any claims about the 'psyches' of non-humans. He reminded his readers of Kant's claim that apperception is the process by means of which sensations are transformed into intuition (*Anschauung*), and he stressed that, in addition to this ability to synthesize and recollect sense perception, apperception also included a process of *Gestaltung* (creation, design, construction, formation). This so-called *Gestaltungsprozess* for Uexküll emphasized the role of the brain in perception, for the brain is not

24 On Uexküll's time in Naples and his indebtedness to von Baer, see Mildenberger, *Umwelt als Vision*, 16-41. Tim Lenoir provides the most thorough discussion of von Baer's embryology as a form of 'vital materialism'; see Timothy Lenoir, *Strategy of Life*, esp. 72-95.

only the organ in which sensory data is collected, but is also the location in which these data are informed by previous perceptions, and in which concepts are formed (and it is only by means of these latter that we can grasp percepts). Uexküll thus claimed that, in this sense, apperception is completely subjective, for it is the individual as subject that provides unity to all percepts. Taking his lead from Helmholtz, Uexküll described the relationship between thought and extensive matter—the fact that movement in the brain seems to stand in a lawful relationship to the external world, even though mediated by manifold sensations that give incoherent input—as one of 'signs': the sensuous qualities of consciousness are signs of the movements in the brain and, as mediated by the latter, of the external world.[25] The relationship between objects in the world and consciousness of them (qua sensations) can therefore be traced physiologically and is indeed indexical, but nevertheless non-deducible—the objects in the world cannot be determined by looking at the brain.

Uexküll would not develop the concept of *Umwelt* until a few years later, but we can already discern the first elements of this concept in the implications of the essay. First, since we have no access to the signs that other living beings employ and we are, moreover, unable even to imagine sensations different from our own, we cannot make any claims about the psyche of non-human subjects (i.e., animals). Second, by understanding biological processes as signs—that is, in terms of a biosemiotics—we can substitute for a psychological approach to animals a model that captures the subjectivity and arbitrariness of human and animal perception. And finally, the diversity in the arrangements and functions of animal tissues and organs (and thus, perceptions) is due to the diversity of milieux to which organisms had to adapt. A study of the milieu, the essay concludes, is therefore an integral, yet to date neglected, part of biology.

Though these three elements might initially appear to limit themselves to biological and philosophical issues, Uexküll's attempt to reformulate the concerns of biology as a science of life were closely related to questions with which contemporary aesthetic theory was also grappling. The importance of aesthetic theory for Uexküll is underscored by his reference to Adolf Hildebrand's 1893 book *The Problem of Form in the Fine Arts* (*Das Problem der Form in der bildenden Kunst*).[26] Hildebrand's *Problem of Form* was among the most popular theories of art at the time, and Uexküll's reference to this book in his discussion of *Gestaltung* emphasized the extent to which he

25 Uexküll, *Im Kampf um die Tierseele*, 17.

26 Adolf Hildebrand, 'Problem of Form', 227-79.

was creating a new biological theory by bridging the concerns of multiple disciplines.[27] In part, this convergence of German aesthetic theory and German theoretical biology can be explained by the common Kantian heritage of both disciplines. Like those turn-of-the century aesthetic theories that have been grouped under the rubric of 'empathy' (*Einfühlung*, literally 'feeling-into'), Uexküll was working from Kant's understanding of the relativity of perception. And like these same art theories, Uexküll was interested in the organization of matter, in 'form'. Kant had defined the form of an appearance as 'that which so determines the manifold of appearance that it allows of being ordered in certain relations', and he distinguished between 'pure forms of intuition' (space and time) and 'forms of thought' (concepts and categorizations that mediate intuition).[28] Rather than being an inherent property of objects, form is a subjective, and necessary, element of apperception—a 'mode', as Mallgrave and Ikonomou put it, 'under which we arrange the objects of perception, a transcendental reality'.[29] According to Kant, the form of an object and the body of the perceiver are correlated, such that pleasure in certain forms, whether natural or artistic, is based on a harmonious relation of the external form with our cognitive faculties. Art theorists such as Robert Vischer (who coined the term *Einfühlung*), Conrad Fiedler, and Adolf Hildebrand (and, a few years later, philosopher Theodor Lipps) developed further Kant's suggestions concerning the active, and constitutive, participation of the body in perception. For these theorists of art, the ground for the apperception of form and for aesthetic appreciation was provided by the organic structure of the human body, including its spatial arrangements (e.g., symmetry of body parts or horizontal and vertical axes), its temporalities (e.g., the rhythm of heartbeat, circulation, muscle tension, etc.), and also by kinesthetic perception (such as eye movement) in particular and bodily movement more generally. Additionally, the organic connection of body parts meant that the senses were interrelated and supplemented each other's input, resulting in synesthetic perception.

In striving to incorporate this interdependence of the perception of form and perceiving body into the new discipline of biology, Uexküll focused on the question of how a subject constitutes an object, and what this allows us

27 In their comprehensive introduction to *Empathy, Form & Space*, the editors describe how the publication of *The Problem of Form* coincided with Hildebrand's artistic success as a sculptor, and the book quickly went into seven editions. See Harry Francis Mallgrave and Eleftherios Ikonomou, 'Introduction', 36.

28 Immanuel Kant, *Critique of Pure Reason*, 66.

29 Mallgrave and Ikonomou, 'Introduction', 5.

to say about the subject.[30] First, he notes that in the process of *Gestaltung*, an object is formed on the basis of 'lawful relations' to an 'I' (that is, an apperceiving beholder).[31] More specifically, the arbitrary and momentary sensations this I receives only gain coherence because the I itself is coherent; because the I gathers the sensations in apperception in order to form a definite object on the grounds of the object's relationship to the I itself. The structure of the object corresponds to the structure of the I, the subject. Yet what can we know about the perception of form in beings completely different from ourselves, such as animals? Since Uexküll insists that we cannot make any claims about their psyches and processes of apperception, the application of psychological methods to animals is ill-conceived, which means that we have no idea of how animals constitute objects. And this in turn brings up the question of how to proceed when investigating other species.

It was by turning to chronophotography that Uexküll found a way to avoid making recourse to an inaccessible 'inner life' of animals. Photography not only restricted its information to the surface, the externally visible, without any interpretive work (from which even drawings were not completely free), but it also depicted its object independently of human perception. In his early work, Uexküll focused on the relationship between nerve stimulation and muscle tension in lower animals such as starfish and sea urchins, and he needed a medium able to record changes over time. Chronophotography had just become more widely known through the publications and traveling lectures of Eadweard Muybridge and Etienne-Jules Marey, with Muybridge focusing on chronophotography's aesthetic potential and Marey using it as a scientific-analytic tool. Having become frustrated with the limited possibilities for analyzing and representing the movement 'of the whole animal', Uexküll traveled to Paris to study chronophotography with Marey for two months.[32] For his second paper on muscle tone, Uexküll prepared a number of chronophotographs that functioned as the backbone for his conclusions about the starfish Ophioglypha's ability to walk, turn, feed, and perform defensive movements. By focusing closely on his chronophotographs, we can see how Uexküll was able to make the shift from a criticism of animal

30 Evolutionary biologist Ernst Haeckel was another scientist whose work on form influenced aesthetic theories. His book *Art Forms in Nature*, with its fantastic illustrations, became an especially important source for *Jugendstil* artists. Uexküll, however, was the first to bring the *perception* of form as a concern to biology. See Robert J. Richards, *The Tragic Sense of Life*, and Stacy Hand, 'Embodied Abstraction'.

31 Uexküll, *Im Kampf um die Tierseele*, 9.

32 See Gudrun von Uexküll, *Jakob von Uexküll*, 39, and Uexküll, 'Studien über den Tonus', 5.

psychology and a denial of its methodology to the development of a new approach to animals, one that focused on the relationship of animals to their environment.

At the beginning of his paper, Uexküll distinguished between two different kinds of 'photographic time-writing': chronophotography with a static plate and chronophotography with a running film. If an animal moved swiftly past the camera, the result was a recording of separate phases of movement, or what Uexküll calls a 'record of coordinates' (*Koordinatenschreibung*), no matter which method of chronophotography was employed. Such a record of coordinates consisted of segments in time and allowed for an analysis of the progression of the coordinated movement. However, if an animal was fixed to a specific position in front of the camera, chronophotography with a static plate allowed for a 'record of amplitudes' (*Amplitudenschreibung*) of the animal's movement. The record of amplitudes is a form of 'stacked time' and gives us segments in space. Such a record tells the researcher nothing about the order and temporal dimension of movement, but rather visualizes the intensity and extension of the movement (of, for example, a starfish pinned on a black surface).[33] This recording method allowed Uexküll to represent graphically the distinction between two different kinds of starfish 'strolls': on the one hand, a form of walking with the inactive, unpaired fifth leg being dragged behind the four paired, active legs (Fig. 2.5, picture left); on the other hand, a form of walking in which the fifth leg was positioned in front of the other four (Fig. 2.5, picture right).

Though Uexküll had learned chronophotography from Marey, his use of this technique pointed to an entirely different conception of the living body than Marey's. As I noted in the first chapter, Marey's chronophotography was based upon a Helmholtzian notion of the body as an energetic machine, and the measurements that his recordings yielded allowed him to analyze the distinct components of different processes of movements, such as walking, running, jumping, flying, crawling, or fighting, whether the subjects of these movements were human or animal. Marey's chronophotography has for this reason become synonymous with the modern spatialization of time, the analysis and decomposition of perception, and the scientific

33 There is a sad irony in the fact that such chronophotographs are unable to record the passage of time, for in order to obtain the image, the starfish was pierced and held fast to a piece of cork. Uexküll assures us that 'the arms' movements are the same as under normal circumstances, only faster'. While these images may thus give us a correct sense of the movement, they erase the agony of the animal.

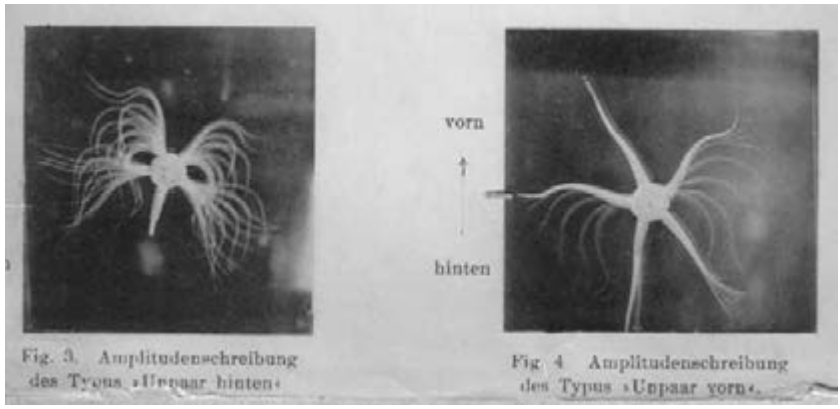


Fig. 2.5: Record of amplitudes of Ophioglypha prepared by Uexküll.

rationalization and mechanization of the body and its performance—in a trajectory that leads, both historically and ideologically, to cinema.[34] Uexküll's chronophotography provides not only a different use and analysis of the medium, but also points toward an alternative legacy of chronophotography for cinema. He was not simply interested in analyzing the movements of the starfish with respect to their function and efficiency, but rather explored the animal's ability to organize and reorganize its use of its legs depending upon the circumstances in which it found itself; that is, in the face of the stimulations that the animal received from the environment. Uexküll's quite different focus is especially evident in his 'record of coordinates' (Fig. 2.6) of the starfish. This photographic series consists of filmstrips 2-4 meters in length, which Uexküll claimed to have shot by means of a 'new apparatus'. What is evident in these strips is that the legs not only change their pairings and mutual coordination in response to stimuli, but, in addition, the starfish, which is prone to 'shed' its legs at the slightest resistance, instantly adapts its walk to the new constellation of limbs, proving that there is an intricate collaboration between the different body parts. Any given local change, whether internal or external, thus prompts the entire organism to adapt and change systemically. The graphic serial images of the starfish's stark silhouette illustrate this quality almost symbolically: the distinct, coordinated, and regular arm movements are

34 See, for example, Braun, *Picturing Time*, Rabinbach, *The Human Motor'*, and Doane, *The Emergence of Cinematic Time*.

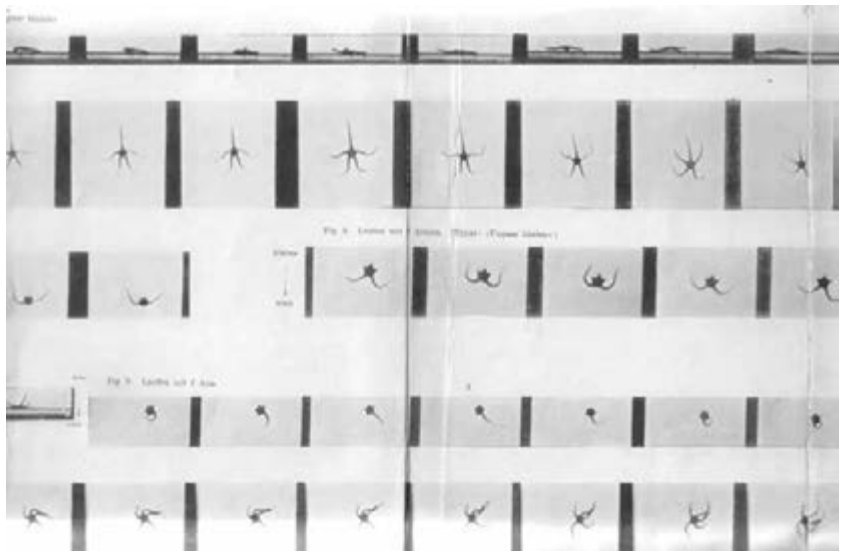


Fig. 2.6: Record of coordinates of Ophioglypha (excerpt). First row: side view ('unpaired arm behind'); second row: walk with 5 arms; third row: walk with 2 arms ('unpaired arm behind'); fourth row: walk with 1 arm; fifth row: intelligence experiment.

the result of impulses travelling from the periphery of the starfish body to its center, where they are organized and travel back into the limbs.

In interpreting the results of his photographs and experiments, Uexküll stressed that there must be a center, a 'differentiated mechanical apparatus' of a quality different from that of the regular nerve pathways.[35] In contrast to Marey's motion studies, which simply analyzed bodily movements, Uexküll's photographs positioned movement as an organized reaction to stimuli, with the consequence that the bodily surface or external *Gestalt* of the animal became an integral part of the observation. These differences between Uexküll's and Marey's approaches to chronophotography were in large part disciplinary: where physiology (Marey) sought to trace biological processes back to physical or chemical processes, and in this sense ground life in the anorganic world, biology—at least according to Uexküll's definition—began with living tissues and sought to deduce from the properties of those tissues the functions of the organs and the life of the organism as a whole.[36] What was at stake in Uexküll's photographs, in short, was a concept of organic form, rather than simply bodily movement.

35 Uexküll, 'Studien über den Tonus', 37.

36 See Uexküll, *Im Kampf um die Tierseele*, 20.

Uexküll's work with chronophotography and aesthetic theory was thus on the cusp of a new understanding of biology—or, more precisely, a new conception of the relationship between an organism and its environment, between life and world—without yet being fully able to draw its own conclusions. Uexküll's initial solution to the problem of animal perception was to investigate an organism's physical reactions to the environment, as that sole aspect of the interaction of an animal with its world that is available to us. Chronophotography was the medium of this investigation, for it allowed Uexküll to focus solely on the visible body—that is, the response of nervous tissue to outside stimuli and resulting muscular movement—and make observations about the organism's 'fight' against its milieu. But there is a conflict inherent in this answer, a stumbling block, and that is the conventional understanding of environment as milieu from which Uexküll was working. If we focus solely on the way in which the milieu influences the organism, and we understand milieu as 'that part of the external world [*Außenwelt*] that is impacting [a particular] animal', then all we have on the part of the living being is passive reaction.[37] The only formation (*Gestaltung*) that occurs is that of the organism by the milieu. Yet this view is incommensurable with Uexküll's aesthetic—empathic—understanding of *Formgestaltung* in perception as the active, creative, and willing capacity of the body to relate to its surroundings.

This traditional notion of milieu with which Uexküll was working, but against which he was also struggling, had a long lineage in both biological and sociological thought. While Jean-Baptiste Lamarck introduced the term 'milieu' into biology, it was Auguste Comte who redefined it more specifically in 1838 as the 'sum total of outside circumstances necessary to the existence of each organism'.[38] Milieu became a strictly mechanistic term: for example, Jacques Loeb, a mechanist biologist greatly admired by Uexküll, proclaimed that all movement of the organism was forced upon it by the milieu. Hyppolite Taine extended the forces of the milieu to the social sphere; according to Taine, humans are conditioned by race (collective cultural conditions), milieu (specific circumstances of living), and moment or time (accumulated experiences). Milieu was thus firmly established over the course of the nineteenth century as an all-powerful force, 'mindless of man, who is its finished product, its creature'.[39]

37 Ibid., 21, footnote 1.

38 *The Positivist Philosophy of Auguste Comte* Vol. 2 (New York: D. Appleton, 1853), 364, quoted in Canguilhem, 'The Living and Its Milieu', 10.

39 Spitzer, 'Milieu and Ambiance', 177. While my focus here is on film, it is worth stressing that debates about the virtues of using the term 'milieu' also emerged in discussions about literature, in part because Émile Zola—drawing on Claude Bernard's use of the term—proposed that the

Recognizing this tension between the determinism inherent in milieu theory, on the one hand, and his account of the activity essential to an organism's perceptual abilities, on the other, Uexküll introduced the term *Umwelt* into biology and philosophy. Where milieu is an objective set of determining conditions, *Umwelt* is a subjective environment that envelops every living being like a soap bubble. Uexküll's theory thus opposed the 'centripetal' architecture of inorganic things, which are formed by outside forces, to the 'centrifugal' plan of organic life that develops from the inside out in a self-regulating fashion (a model that André Bazin would ascribe to the cinematic image itself some fifty years later; see Chapter 4). Since we are ourselves creatures of the world, we are confined to our individual human soap bubble. Even in our attempts at objective scientific knowledge, we will inevitably project the elements of our *Umwelt*—its phenomenal objects and its temporal and spatial paradigms—onto other creatures. Uexküll's biology is therefore an attempt to create a methodology that aims not at getting *behind* appearances (the goal, for example, of Uexküll's contemporary Helmholtz), but rather accepts that there is *only* appearance, yet this appearance in turn reveals something about the living body to which things appear. Since 'all reality [*Wirklichkeit*] is subjective appearance', investigating different organic interactions with the environment will mark the manifold of subjective worlds which ultimately give us a richer sense of the world itself. Such marking often depends upon technologies, such as chronophotography and film, that mediate between these other *Umwelten* and our human *Umwelt* by enabling our senses to grasp phenomena that they could not have registered in the absence of such technologies. These technologies thus alter and expand our all-too-human gaze, enabling relationships to the world that, even if still necessarily human relationships, were nevertheless not possible prior to a sustained encounter with non-human *Umwelten*.[40]

naturalist novel should focus its 'experimental' technique on the milieux that determine social action. Georg Lukács' 1936 attack on Zola and his conception of milieu (in the essay 'Narrate or Describe?') should thus be seen as part of the same dynamic that I outline for the case of film. See Émile Zola, 'The Experimental Novel' and Georg Lukács, 'Narrate or Describe?'

40 Jakob von Uexküll, *Theoretische Biologie*, 9.

Of Ticks and Humans

One of the most famous and dramatic examples that Uexküll used to illustrate *Umwelt* theory is his evocation of the world of a tick. This little parasite—which Uexküll describes as like a 'blind and deaf highway woman'—with its limited *Umwelt* had become an infamous example by this point, since it had been taken up lovingly by a now-long lineage of philosophers and historians of biology, including Georges Canguilhem, Maurice Merleau-Ponty, Gilles Deleuze and Félix Guattari, and Giorgio Agamben.[41] According to Uexküll, the tick's capability for perception and reaction is limited to three stimuli, which he called 'effector cues': the sun on its skin, the smell of butyric acid that issues from the skin of mammals, and the temperature of blood in a mammalian body. The photosensitivity of the tick's skin compels it to climb up trees or bushes; when it smells butyric acid, it lets itself fall; if it senses warmth, it will move to find a hairless spot on the skin and begin to burrow into the skin and start sucking. (Uexküll focused on the female tick for his example, which after having filled her stomach, drops to the ground, lays her eggs and dies.) Nothing aside from these three elements can be perceived by the tick; nothing else, consequently, exists in its *Umwelt*.

Though Uexküll's restriction of the female tick's *Umwelt* to three factors might seem analogous to contemporary biological concepts, such as 'tropism', that pointed to the role of specific external influences in triggering automatic biological responses, the concept of *Umwelt* was, by contrast, intended to underscore the autonomy of the living being's subjective world. Jacques Loeb's concept of 'tropism'—for example, the heliotropism of sunflowers or moths—placed its emphasis on external factors that determine plant and animal movement and positioned these movements as simply physico-chemical reactions. Uexküll, by contrast—and much more in line with teleological and vitalist colleagues such as von Baer and Driesch—understood these external factors as an extension of the animal's *Bauplan*, its blueprint or body plan.[42] The difference between *Umwelt* theory and Loeb's tropism (as well as similar concepts conceiving of the organism as physico-chemical and the environment as milieu) was

41 See Uexküll, 'A Stroll', 321. References include: Canguilhem,'The Living and Its Milieu', 20-21; Maurice Merleau-Ponty, *Nature*, 173-75; Deleuze and Felix Guattari, *A Thousand Plateaus*, 51, 257; and Agamben, *The Open: Man and Animal*, 45-47.

42 See, for example, Jacques Loeb, *Forced Movements, Tropisms, and Animal Conduct,* and Arnold E. S. Gussin, 'Jacques Loeb'. On Uexküll's rejection of Loeb, see Uexküll, 'Biologie in der Mausefalle'; Uexküll, *Die Lebenslehre*, 132-33; and Uexküll, *Theoretische Biologie,* 326-29.

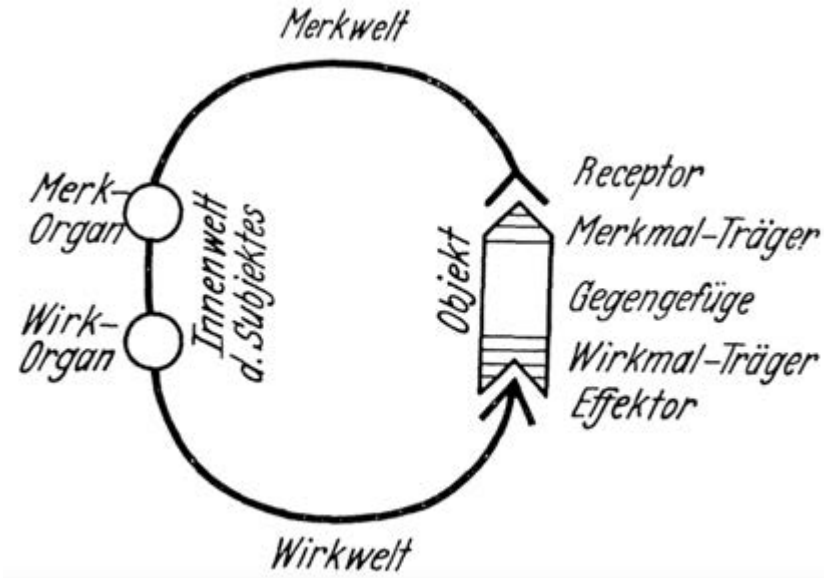


Fig. 2.7: Functional circle showing how inner world of the subject ('Innenwelt') and object ('Objekt') interact by means of a perception organ ('Merk-Organ') that constitutes a perception world ('Merkwelt') and an effect organ ('Wirk-Organ') constituting an effect world. The perception organ grasps the object by its perception-mark carrier ('Merkmal-Träger') and the effect organ by its effect-mark carrier ('Wirkmal-Träger').

thus the directionality of the relationship between external and internal factors: it is the organism determining how its *Umwelt* is constituted, rather than the milieu determining the organism. By means of what he called a 'functional circle', Uexküll explained how 'subject and object are interconnected with one another and form an orderly whole' (see Fig. 2.7).[43]

The double link of receptor and effector signs, of perceptual and motor activity, by means of which the subject grasps—and thus also constitutes—the object, illustrates how those aspects of external objects that function as bearers of perceptual and functional cues (the striped part of the object in Fig. 2.7) become interwoven with the subject's capacities. Consequently, in a fly's world, everything, including the spider's net, is 'fly-like'.

This image of subject and object 'interconnecting' with one another has an ambivalent emotional valence. On the one hand, the perfect correspondences between subjects and objects seem to point to a miraculous, overarching 'plan' of nature (how else to explain the fact, Uexküll asked,

43 Uexküll, *A Foray*, 49.

that a spider's web is woven with threads just beyond the threshold of a fly's vision, in a pattern ideal for capturing flies?).[44] On the other hand, though, the reduction of subjective worlds to perceptual and functional cue bearers produces a feeling of claustrophobia; each animal is enclosed in its own circle. Contemporary philosophers who engaged Uexküll's texts grappled especially with this latter aspect, and either sought to create more room for agency in the notion of *Umwelt* or sought to restrict the functional circle to animals, thereby excluding humans from its enclosure.

Phenomenologists and philosophical anthropologists were especially interested in probing the consequences of the relationship between animal and *Umwelt*, so clearly illustrated by the functional circle, for the relationship of the human being to the world.[45] In *Ideas*, for example, Edmund Husserl introduced consciousness and intentionality into the notion of *Umwelt*, thereby adding historical variability and freedom to the subject-object relationship. '*Umwelt*', for Husserl, is

> the world that is perceived *by the person* in his acts, is remembered, grasped in thought, surmised or revealed as such and such; it is the world of which this personal Ego is conscious, the world which is there for it, to which it relates in this or that way, e.g. by way of thematically experiencing and theorizing as regards the appearing things or by way of feeling, evaluating, acting, shaping technically, etc.[46]

Umwelt, he continues, is the physical reality a person 'knows' about; it is that of which the person has consciousness. 'Speaking quite universally', Husserl summarizes, 'the surrounding world [*Umwelt*] is not a world 'in itself' but is rather a world 'for me,' precisely the surrounding world of its Ego-subject, a world experienced by the subject or grasped consciously in some other way and posited by the subject in his intentional lived experiences with the sense-content of the moment.[47] As a consequence, Husserl asserts, the *Umwelt* is 'always in the process of becoming', constantly producing itself by

44 Darwin, of course, had a different answer, namely natural selection.

45 In most of the cases mentioned here, the authors directly, and often extensively, reference Uexküll. However, it is likely that Uexküll was often present virtually even in texts in which he was not mentioned by name, for though the term *Umwelt* was rarely used before the publication of *Umwelt and Innenwelt der Tiere*, it became a central category in German philosophy after 1909, suggesting the extent and importance of Uexküll's work. See G. H. Müller, 'Umwelt'.

46 Edmund Husserl, *Ideas II*, 195.

47 Ibid.

means of transformations of sense. Husserl distinguished between a 'natural' relationship between body and environment—the physico-chemical reaction of the body to stimuli that can be explained by causal (scientific) laws—and an *intentional* relationship that constitutes our *Umwelt*. This intentional relationship is governed by 'motivation', and things exist not 'in themselves', but rather as experienced (or thought) things. Husserl thus adopts from Uexküll the notion of *Umwelt* as an individual or personal world, but by introducing intention and experience, our relationship to things, and thus to our *Umwelt* as a whole, becomes subject to constant change and becomes historical.

For the philosophical anthropologists Max Scheler, Helmuth Plessner, and Arnold Gehlen, as well as for Martin Heidegger, *Umwelt* theory functioned as a starting point for making an ontological differentiation between human and animal, and the functional circle came to illustrate the closed nature of the animal's interaction with the world, its boundedness.[48] On the basis of the claim that every animal is bound to, and unable to transcend, its particular *Umwelt*, each of these authors developed ontologies that fundamentally distinguished between humans and animals. Scheler, for example, introduced the notion of 'openness to the world' (*Weltoffenheit*) as the definition of the human being's active capacity to engage and shape its world, and contrasted this capacity with the animal's closedness: as a 'being having spirit', the human being is existentially released from the laws governing organic matter and is 'not tied anymore to its drives and *Umwelt*, but is 'free-from-*Umwelt*' [*umweltfrei*] or, as I wish to put it, "world-open" [*weltoffen*]. Such a being has "world."[49] In similar fashion, Heidegger turned to Uexküll's biology in order to make a distinction between beings that simply 'live' and those that have what he called 'existence' (*Dasein*). He ascribed to humans the capacity for 'world-forming', while animals are 'poor-in-world' (*weltarm*) and non-organic things, such as stones, are 'worldless' (*weltlos*). Heidegger contended that animals are 'captivated' by what they can perceive—they cannot relate to objects 'as such', but rather relate only in the sense that perceptual cues selectively 'disinhibit' the animals' relationship to the world—and as a consequence they have no access to *Dasein*.[50]

48 See Max Scheler, *The Human Place in the Cosmos*; Plessner, *Stufen des Organischen*; Arnold Gehlen, *Man, His Nature and Place in the World*; Martin Heidegger, *The Fundamental Concepts of Metaphysics*.

49 Scheler, *The Human Place in the Cosmos,* 27 (translation modified).

50 See Heidegger, *The Fundamental Concepts of Metaphysics*, 238-70. The somewhat reductive treatment Uexküll received from Heidegger—and, by extension, Agamben—is, of course,

Yet Uexküll's work was not solely the starting point for a lineage of thought that sought to establish a division between humans and animals—a lineage of which Giorgio Agamben's *The Open: Man and Animal*, is one of the latest and most prominent examples—and thus arrive at a definition of human being, essence, or existence. This line of reception of Uexküll's work has received significant attention in the last decade, in large part as a consequence of Agamben's use of Uexküll's example of the tick in *The Open: Man and Animal*. What has received far less attention, however—and perhaps even fallen by the wayside—is another path of reception, one that takes up the creative potential of Uexküll's work, its thrust against anthropocentrism, and its interest in the visual mediation of difference.[51] If we take another look at Uexküll's image of the functional circle, for example, we see that there is a blank center of the object, indicating those aspects of the object that escape the subject (what Uexküll calls counterstructure, '*Gegengefüge*').[52] This elusive part of the object differs from subject to subject. In Uexküll's attempt to reconstruct and depict other *Umwelten*, new views of the object can emerge, since with the change of perception and possible action, the blank center—the invisible, imperceptible, untouchable part of the object—is also transformed, opening up non-human vistas. And opening up these non-human vistas was, as we shall see in the next section, an interest that Uexküll shared with many early film theorists.

Against Anthropocentrism: *Umwelt* and Cinema

As I noted above, Uexküll's descriptions of *Umwelten* evoke feelings of estrangement and encourage an uncanny fascination with creatures we thought we knew; despite occasional lapses into comparisons with our

mostly due to the interest of these latter in linking a human/animal difference to a (differently perceived and defined) crisis of humanity.

51 Amongst the recent publications on Uexküll, I found the following useful when thinking about this lineage: Geoffrey Winthrop-Young, 'Afterword: Bubbles and Webs'; Jussi Parikka, *Insect Media;* and Brett Buchanan, *Onto-Ethologies*.

52 This is a trope we can already find in Henri Bergson's *Matter and Memory*. The 'images'—matter's halfway stage between thing and representation—'act and react upon one another in all their elementary parts', yet subjective perception displays images only with respect to 'the eventual or possible actions of my body'. Uexküll follows Bergson in conceiving of objects as entwined with the perceiving body: since the body's possible actions are *reflected* by the external images as in mirror, this realm of possibility is located exactly between body and image, such that it seems to be dependent upon the body's recognition of itself in the image-as-mirror. See Bergson, *Matter and Memory*, 17-21.

familiar human world (e.g., the tick as a 'highway woman'), Uexküll's descriptions and the scientific implications that he drew from these descriptions derive their strength from the attempt to tear off the veil of human perception—not in idealist fashion, as an attempt to show us objects in the world as they really are, but rather as an attempt to reveal the plurality of perceptual worlds (the world as it is to a tick, or a dog, or a fly). By opening up every object to a manifold of creaturely perceptions, we have the impression of a multitude of veils, all of which provide different glimpses of objects, without there ever being an object-in-itself, or one veil that would reveal everything as it is, if only it could be lifted.

In the technical mediation of film, Uexküll found not only a surfaceness that, like chronophotography, revealed the organized interaction of living being and environment, but also a technical method for producing an estranging veil. Uexküll introduced the cinema in his writings as a privileged apparatus that was able to mediate between species perceptions because it was able to alter time and space. Uexküll's biological inflection of Kantianism encouraged him to treat time and space as dependent upon the body of the respective living being: 'without a living subject, there can be neither space nor time'.[53] He defined the space of a given living subject as a composite of operational, tactile, and visual space. Operational space is produced by the kinesthetic sensations of our own bodily movement, as well as of the three-dimensional bodily coordinate system that issues from the semi-circular ear canals in higher animals and humans. Tactile space is produced by the ability of living beings to localize touch on their bodies, while visual space can be thought of as a 'place-mosaic' that the visual elements on the retina spread over the environment.[54] The spatial

53 Uexküll, *A Foray*, 52.

54 This sense of kinesthetic orientation in space as enabled by a moving body, as well as similarities in the conception of tactile and visual space, between 'roving eye' and 'feeling hand', echo Uexküll's indebtedness to theories of empathy and recall Adolf Hildebrand's and August Schmarsow's theories of perception (see Hildebrand, 'Problem of Form'; and August Schmarsow, 'The Essence of Architectural Creation'). In particular, Schmarsow's interest in bodily comportment in space in the perception of architecture has strong resonances with Uexküll's notion of bodily space and makes it especially interesting for thinking about film perception. At the same time, Uexküll's conception of space as produced by, and dependent upon, the body points forward toward theories of orientation in cinematic space, such as the work of perceptual psychologist James Gibson, who coined the term 'ecological psychology', as well as to recent applications of theories of empathy and embodied perception by Robin Curtis, Laura Marks, and others. Despite many parallels with Uexküll's work, though, Gibson's influence seems to be restricted to the American context (e.g., William James' pragmatism). See James Jerome Gibson, *The Perception of the Visual World*; Gibson, *The Ecological Approach to Visual*

paradigms of a given *Umwelt* are thus completely dependent upon the body of the subject and its capabilities for sensing.

While Uexküll sometimes employed references to the cinematograph as a metaphor for his understanding of the biological nature of time, this did not exhaust the role that film played in his work. Much more fundamentally, his conception of the relationship between biological time and perception was based on the way in which film functions as a technology for manipulating time. The paradigmatic status of film for Uexküll is especially clear in his description of an experiment on the time perception of a snail:

> A snail [*Helix pomatia*] is placed on a rubber ball which, because it is floating on water, can slide freely past beneath the snail. The snail's shell is held in place by a clamp. The snail is thereby free to crawl and also stays in the same place. If one places a small stick at the foot of the snail, it will crawl up on it. But if one strikes the snail from one to three times a second with it, the snail will turn away. However, if the blows are repeated four or more times a second, the snail begins to crawl onto the stick. In the snail's environment, a stick that moves back and forth four or more times a second must be at rest. We can conclude from this that the perception time of the snail takes place at a speed of between three and four movements a second. This has as a result that all processes of motion take place much more quickly in the snail's environment than they do in our own. Even the snail's own movements do not seem slower to it than ours do to us.[55]

The experiment is conceived so as to create the illusion of movement for the snail. Instead of the snail moving itself across space, however, a rubber ball moves underneath the snail (see Fig. 2.8). If a stick is positioned underneath its foot, the snail takes it for a continuation of its path. As the experimenter begins to wiggle the stick, the snail will refuse to climb onto it, presumably because the stick seems unstable and unsafe to the snail. However, as soon as the stick oscillates faster than one third of a second, the snail will continue to climb as though the stick was stable. The conclusion that Uexküll drew from the experiment is based on von Baer's notion of the 'moment' as the basic time-unit of apperception: that is, a moment is the shortest time-span during which a living being can distinctly perceive different qualities. For the duration of its moment-unit, everything in a living being's perceptual world

Perception; Curtis, 'Einführung in die Einfühlung'; Curtis, 'Expanded Empathy'; Antonia Lant, 'Haptical Cinema'; and Laura U. Marks, *The Skin of the Film*.

55 Uexküll, *A Foray*, 72.

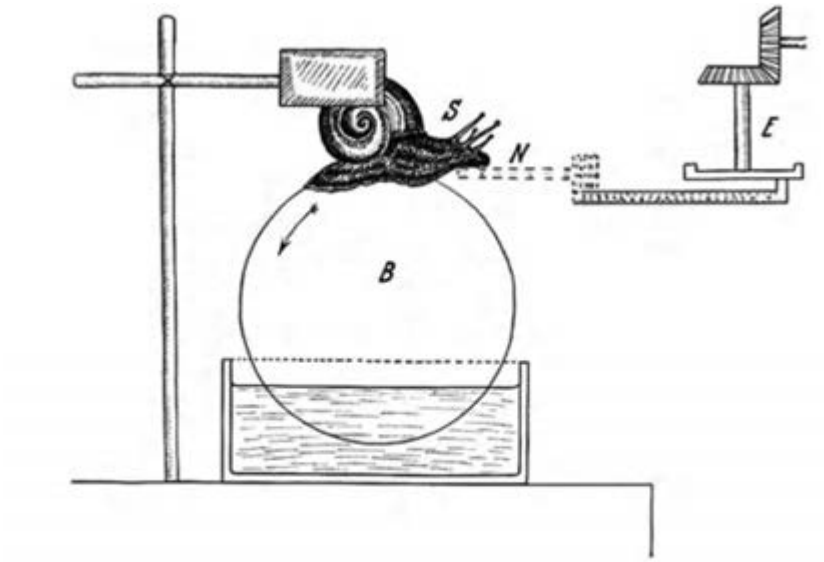


Abb. 16. Der Moment der Schnecke. B = Ball, E = Exzenter, N = Stab, S = Schnecke.

Fig. 2.8: Experiment on the time perception of a snail.

is immobile, since change has become imperceptible. (In contrast to Henri Bergson's concept of *durée*, which is an organic-vitalist temporality, von Baer's moment-time is therefore a psychophysical temporality.) Just as space for Uexküll was a subjective variable dependent upon the body, time was similarly subjectivized by the 'moment', and he derided the idea, encouraged by the prevalence of objective time-measuring, that time itself is in any way objective. Apparently, the snail cannot perceive anything shorter than a quarter of a second; a 'snail moment', he concluded, is thus somewhere between one-third and one-quarter of a second long, such that 'all processes of motion take place much more quickly in the snail's *Umwelt* than they do in our own'.[56]

56 Clearly, there are flaws in this interpretation of the experiment. First, this interpretation assumes that the snail behaves in the lab setting just as it would in nature; in other words, that the snail is duped by the set-up. And second, this interpretation assumes that the snail's decision to get onto the stick is necessitated by its perception of movement; in making perception and action equivalent, the experimenter does not leave any room for a decision on the part of the snail ('This is wobbly, but I might still dare to climb onto it!'). Finally, for the sake of his argument, Uexküll does not distinguish between different sensory receptor times. This experiment is based

The snail in the experiment cited above is in many ways reminiscent of an immersed film spectator. The snail is held in place while various objects (rubber ball, rod) move around it. The 'flicker' of the rod marks its threshold of perception, just as the discrete images on the filmstrip replace one another at a speed that marks the human receptor-time (which Uexküll determined to be one-eighteenth of a second). And indeed, in all of his references to time perception, Uexküll mentions the cinema: 'The cinema alternatingly presents an image and darkness to our eyes. If both occur during the same [human time] moment, the darkness is not perceived. Only when the time-units last longer than one [human] moment does flicker set in, which for so long has been part of imperfect cinemas.'[57] One could even imagine devising a cinematographic apparatus for snails, hoping their visual capacities would be up for the task: films would only need to be filmed and projected at four frames per second in order for a gastropodian audience to enjoy a spectacle of smooth life-like movement.

Of course, a 'species cinema' sounds like a crazy idea, since in the case of cinematic representations of living beings, time manipulation is normally used not to mimic the time perception of the creature being represented, but rather simply to visualize an animal movement for the curious or scientific human eye. In such uses, cinema actually functions as an *anthropomorphizing* machine, one that translates non-human registers of movement into a human scale, taking into account the human perceptual apparatus and its attention span. Uexküll emphasizes this anthropomorphizing capacity of cinema, noting that in slow-motion photography, 'more than eighteen pictures are taken per second, and then projected at a normal tempo. Motor processes are thus extended over a longer span of time, and processes too swift for our human time-tempo (of 18 per second), such as the wing-beat of birds and insects, can be made visible.' Similarly, time-lapse photography speeds up motor processes, so that 'processes that are too slow for our speed, such as the blossoming of a flower', can be brought within the range of our perception.[58] As a translation machine from plant and animal temporality to human temporality, cinema serves both a scientific interest (making visible temporal processes that were previously invisible or obscure) and a popular interest in seeing that which is curious and spectacular.

on skin contact, yet other senses such as vision or hearing might work according to differing intervals.

57 Uexküll, *Die Lebenslehre*, 141.

58 Uexküll, *A Foray*, 71.

Yet the implications of Uexküll's snail experiment are in fact more radical than this anthropomorphizing interpretation suggests. Even in cases in which cinema anthropomorphizes time or space (in the sense of translating into human standards spatiotemporal events that would otherwise be too fast, slow, big, or small for human perception), cinema nevertheless bends the spatiotemporality of the world as we know it and breaks with the conditions of our *Umwelt*: if we change either the time of recording or of projecting, we are manipulating the duration of the 'moment' as the basic time-unit of perception. By watching something in slow motion or fast motion, we either stretch or shorten the 'moment' and are thus able to form an image, within our perceptive frame, of the temporality of a living being of a different kind. A time-lapse shot of a snail shows us its movement not as it naturally appears to us in our *Umwelt*, but as it is mediated by an apparatus with different perceptual-actual capacities than our own, namely those of camera, film and projection. Thus, following Uexküll's conclusions and calculations above, if we filmed a snail's movement using a film camera that recorded at a speed of four images a second and the film was then projected at the regular speed of 1/18 second, we would see a snail that no longer appeared to be 'crawling'—that is, no longer appeared to move at a slow pace relative to our own bodily sense of 'normal' speed—but would instead appear to move at close to our normal walking speed. Such an image is uncanny, because it stretches and deforms our habitual sense of the relationships between slow, normal, and fast movement, in part by reminding us that the snail likely has its own sense of 'normal' speed which differs significantly from our own, and in part by making the snail move 'too fast'—4.5 times too fast, to be precise—in comparison with our habitual understanding of snail speed. This film of speedy snails thus provides us with a template for reorganizing, in the wake of the snail, our sense of what constitutes 'normal' temporality.

Researchers such as Henri Fabre, Charles Otis Whitman, and Julian Huxley had already conducted similar experiments to obtain data concerning 'natural' animal behavior. Yet for Uexküll, the result of an experiment such as the one described above, despite its use of 'objective' instruments and calculations, does *not* provide us with an objective result, if by 'objective' we understand that 'view from nowhere' later made famous by Thomas Nagel.[59] Rather, the experiment provides us with an indication—an image—of the subjective perception of a snail by destabilizing our pre-given conceptions of what constitutes 'normal' (or 'fast' or 'slow') movement. The theoretical paradigm of *Umwelt* research thus puts Uexküll somewhat at odds with

59 Thomas Nagel, *The View from Nowhere*; see also Nagel, 'What Is It Like to Be a Bat?'

the late nineteenth- and early twentieth-century research agenda Lorraine Daston and Peter Galison describe as 'mechanical objectivity', according to which images that are mechanically produced—such as photographs or drawings made by an uninformed, non-judgmental individual—reveal the truth, even though they might be more difficult to decipher.[60] While Uexküll employed photography and similar technical instruments to obtain data, he rejected the idea of objectivity per se, including the idea of objective time and space, as a construction or illusion. Precisely for this reason, however, illustrations and colorful descriptions in his work are liberated to take on a new valence, to provide alternate paths for creating images of animal *Umwelten*—illustrations become 'intuitions' (*Anschauungen*) of *Umwelten*.[61] Even though Uexküll seldom says so explicitly, he is aware of the fact that the (human) image of the *Umwelt* of a sea urchin will always project human *Umwelt* values and percepts into the image, and can for this reason never be more than an image or an intuition. The technological production and alteration of images thus makes possible a view that is not *objective*, but rather *other* or *alien*. Film can alter temporality, as I have discussed with respect to the snail; similarly, photographs shot with specific lenses or otherwise enlarged and reproduced can alter space and make *anschaulich* animals' spatial perception.[62] Rather than remaining immanent and transparent, technological media become tools that allow Uexküll to create images of species soap bubbles more effectively than experiments and conceptual tools such as the notion of the moment could.

Cinema presents a particularly valuable technological medium, since it is able, as the earliest film theorists noted, to evoke a world of its own that has the capacity to question or tear at the seams of our 'natural' world. By

60 Lorraine Daston and Peter Galison, *Objectivity*.

61 Uexküll says of images produced by taking a photograph of a village street and altering it by means of a rougher and rougher grid that they 'offer a chance to gain an intuition of an animal's environment if one knows the number of visual elements in its eye' (Uexküll, *A Foray*, 63). Similarly, already in 'In the Fight about the Soul of the Animal', Uexküll grants literary imagination—he mentions Maurice Maeterlinck's book on bees—its own epistemological value. Since we are not able to criticize or exclude the colorful possibilities of what life is like from the perspective of various animals, real or not, creative fantasy can provide us with 'graceful problems' with respect to animals' perception. See Uexküll, 'Im Kampf um die Tierseele', 18.

62 Another way of putting this would be to say that in Uexküll's use of images, objectivity is revealed to be an illusion. Mechanically-produced images such as photographs thus do not reveal nature as it really is, unfiltered by an informed, opinionated, and selective human observer, as those committed to what Daston and Galison describe as the paradigm of 'Truth-to-Nature' would have it, but rather reveal a space-time alien to our human bodies' being-in-the-world that might be closer to the space-time of other beings, real or not.

bringing previously imperceptible details and movements into our field of vision, close-up, slow motion, and time-lapse 'queer' our anthropocentric perspective by providing us with images that do not coincide with our regular embodied vision of the world.[63] In queering our perceptual relationship to things—in breaking with the functionality of the functional circle, in other words—cinema creates new relationships between bodies and things. This operation, however, requires technology on all levels. It occurs in the filmic construction of time and space, which means: the decision to film at a certain speed (i.e., by employing specific Baerian moments) and with specific lenses positioned at a specific distance. This queering also occurs in the visualization of the cinematic recording, which means: the decision to project at a certain speed, through a particular system of lenses and mirrors, onto a screen of a certain size. Consider, for example, a representation of a flower that grows and blossoms in extreme time-lapse, so that we can translate its striving toward the light, its search for space, its stretching, wriggling and unfolding, into our bodies and connect these movements to those sensations produced by the movements of our own muscular and nervous tissues—such a flower, as Benjamin taught us, is Romantic-blue (whatever its actual color) and has its roots in the 'land of technology'.[64]

Uexküll's theory of *Umwelt* thus pointed to the ways in which cinema provided an apparatus that offered a new vision, and many writers, critics, and artists embraced this potential, indeed finding in the cinema a mechanical eye that confronted them with *Umwelten*—and with an image of themselves—to which their bodies and minds were unaccustomed. The world in the cinema often seemed threatening, since its vision was not grounded in a coherent subject, in an interiority that provided depth and cohesion. During the *'Kinoreform'* debates in Germany in the 1910s about the moral and aesthetic value of cinema, a number of progressive voices (among them Hermann Häfker, Georg Lukács, and Herbert Tannenbaum)

63 My notion of 'queering' here bears similarities to Sara Ahmed's use of the term in *Queer Phenomenology*, where she pays attention to the issue of orientation. A queer phenomenology, Ahmed suggests, is one that redirects attention toward 'different objects, those that are "less proximate" or even those that deviate or are deviant'. I suggest here that film queers our *perception of* everyday objects. See Sara Ahmed, *Queer Phenomenology*.

64 See Benjamin, 'The Work of Art', 115: 'In the film studio the apparatus has penetrated so deeply into reality that a pure view of that reality, free of the foreign body of equipment, is the result of a special procedure—namely, the shooting by the specially adjusted photographic device and the assembly of that shot with others of the same kind. The equipment-free aspect of reality has here become the height of artifice, and the vision of immediate reality the Blue Flower in the land of technology.'

discussed the cinema as purveyor of not just a new aesthetic, but a new experience of body and world that was expressive of modernity.[65] In the late 1910s in France, the members of a progressive film movement spearheaded by Louis Delluc and Jean Epstein began to formulate their thoughts on the specific aesthetic of cinema—what they called *photogénie* (Epstein) or the Seventh Art (Ricciotto Canudo)—and developed further the ideas that were only implicit in Uexküll's use of cinema.[66] Authors such as Blaise Cendrars, Epstein, Émile Vuillermoz, and Colette euphorically described the film experience as a new 'symphony' that might initially sound strange and unusual, but would ultimately result in a new techno-organic harmony.[67] In responding to this cinematic challenge, these authors found that they had to adapt or train their perception and innervate the new environment in order to adjust their bodies to this new experience. Authors in this camp took up literally the idea of species-queering, of experiencing a temporary shift of their perception—and along with their perception, their body—into that of another techno-organic creature.

French poet and novelist Cendrars, who assimilated cinematographic elements into his writing style at an early stage, freely assembled human, animal, plant, and machine elements into phantasmatic configurations in his texts on cinema. They present a theory of modernity as techno-organic cosmogony, of which cinema becomes a privileged expression. In *The ABCs of Cinema* (written between 1917 and 1921), Cendrars exclaimed:

> Like a chameleon, the human mind camouflages itself, camouflaging the universe. [...] A hundred worlds, a thousand movements, a million dramas simultaneously enter the range of the eye with which cinema has endowed man. And, though arbitrary, this eye is more marvelous than the multi-faceted eye of a fly. [...] Everything is rhythm, word, life. No longer any need to demonstrate. We are in communion. [...] At high speed the life of flowers is Shakespearean; all of classicism is present

65 See, for example, Hermann Häfker, *Kino und Kunst*; Häfker, 'Kinematographie und echte Kunst'; Herbert Tannenbaum, 'Probleme des Kinodramas'; and Lukács, 'Thoughts on an Aesthetics of Cinema'. On the *Kinoreform* debates, see also Anton Kaes, 'Literary Intellectuals and the Cinema' and Heide Schlüpmann, *The Uncanny Gaze*. For a detailed discussion on the role of 'life' as an aesthetic category in early comments on cinema, see the Introduction.

66 See the essays by these authors in Abel, ed., *French Film Theory and Criticism*.

67 The parallel between Vuillermoz's theory of film, which describes the medium in musical terms as new symphonic harmony, and Uexküll's symphony of *Umwelten* that are linked harmonically, is striking. Both authors attempt to dissolve fragmentation (montage and the static image on the filmstrip, in Vuillermoz's case, and the individual, closed soap bubble, in Uexküll's case) into a harmonic unity. See Vuillermoz, 'Before the Screen: Hermes and Silence (1918)'.

> in the slow-motion flexing of a biceps. On screen the slightest effort becomes painful, musical, and insects and microbes look like our most illustrious contemporaries [...] The least pulsation germinates and bears fruit. Crystallizations come to life. Ecstasy. Animals, plants, and minerals are ideas, emotions, digits. [...] We see our brother the wind, and the ocean is an abyss of men. And this is not some abstract, obscure, and complicated symbolism, it is part of a living organism that we startle, flush out, pursue, and which had never before been seen.[68]

This text contains a number of tropes that echo throughout the writings of French film theorists like Epstein, Germaine Dulac, or Vuillermoz, such as the idea that cinema has provided the human being with a new prosthetic eye, and that details presented in 'high speed', 'slow-motion' or close-up lay the groundwork for the new aesthetic of *photogénie*. Cendrars' emphasis on camouflage, mimicry, and mimesis also expresses a sense of new bodily potentials of assimilating the environment. Anorganic (crystals, minerals) and organic matter (non-anthropomorphic animals, plants) is combined with the abstract and machinic (ideas, digits, etc.) to create a new organism. Cendrar's style—the short sentences, enumerations, comparisons, and equations—mimics that of a film with fast-paced editing that joins together disparate shots. This literary strategy translates the power Cendrars ascribes to cinema into his text *about* cinema: a taking-apart, or blasting apart, of the world, and a defamiliarization of the familiar and habitual that extends into one's own body.

A Necessary Field of Action: Benjamin, *Umwelt*, and Play

Partaking in the broader European discourse on film (which, aside from Germany and France, also included Russia), authors such as Walter Benjamin, Siegfried Kracauer, Léon Moussinac, Dziga Vertov, and Sergei Eisenstein emphasized the political importance of the aesthetic of film. However, Benjamin's media theory is especially important in the context of my inquiry, since he not only made recourse to the notion of *Umwelt*, but he also converted it into a central aspect of what he deemed to be a necessary revolutionary practice of aesthetic engagement with cinema. Benjamin saw the techniques of cinema that the French critics had highlighted—that is, the techniques of 'a taking apart, or blasting apart, of the world, and a

68 Cendrars, 'The ABCs of Cinema', 25-26.

defamiliarization of the familiar and habitual that extends into one's own body'—as the brutal but necessary process of an image space that tears apart 'the inner man, the psyche, the individual, or whatever else we wish to throw to them' for the sake of the creation of a body space.[69] Even though Benjamin used the term *Umwelt* not in a strict Uexküllian sense, Uexküll's theory of *Umwelt*, as well as his more playful writings, illustrations, and experiments, provide a powerful instrument that highlights what is at stake in Benjamin's writings on cinema and surrealism: nothing less than the attempt to bridge the gap between body and *Umwelt* that technology and commodification had introduced.

As was common in sociological and philosophical texts at the time (for example, in Scheler's writings), Benjamin used both 'Umwelt' and 'Milieu' (as well as 'Außenwelt', external world, and 'Lebensraum', living space or home territory) in talking about human surroundings.[70] For Benjamin, the German term 'Milieu' connoted those environmental forces that influence and shape the human beings (and, presumably, all other living beings) that reside within such surroundings. So, for example, Benjamin used the word 'Milieu' when he discussed the visibility of the environment in Russian film.[71] Furthermore, as Antonio Somani has detailed, Benjamin—just as some of his contemporaries, such as Ludwig Klages, Béla Balázs, or László Moholy-Nagy—used the term 'Medium' not for technical media such as photography or film, but rather to describe the '"medium of perception": the environment, the milieu, the atmosphere, the *Umwelt* in which perception is configured and organized by a series of steadily evolving technical *Apparate* [apparatuses, I.P.].'[72] Benjamin's use of 'Medium' can thus be said to encompass both 'Umwelt' and 'Milieu'; it is a realm of a historically and materially specific and variable quality, in which specific relationships between humans and objects can be established. The slipping, or slippage, from 'Milieu' to 'Umwelt' in Benjamin's writings, especially in his essay on 'The Work of Art in the Age of Its Reproducibility', as well as in his texts on surrealism and photography, indicates a crucial qualitative change of the 'medium of perception.'

69 Benjamin, 'Surrealism', 217.

70 Benjamin's use of the Uexküllian neologism 'Merkwelt' (perceptual world) in his text 'On the Mimetic Faculty' also emphasizes his familiarity with Uexküll's work. See Benjamin, 'Über das mimetische Vermögen', 211.

71 See Benjamin, 'Kleine Geschichte der Photographie'/'Little History of Photography; 'Erwiderung an Oscar A. H. Schmitz'/'Reply to Oscar A. H. Schmitz'.

72 Antonio Somaini, 'Walter Benjamin's Media Theory', 27.

Benjamin employed this distinction between *Umwelt* and milieu in order to address what he understood to be a profound and dangerous historical alienation between body and environment. In his dissertation on the *Origins of German Tragic Drama*, he had described the state of melancholy as one in which '[t]he deadening of the affects, and the ebbing away of the waves of life which are the source of these affects in the body, can increase the distance between the self and the surrounding world [*Umwelt*] to the point of alienation from the body'.[73] In melancholy, the subject's loss of affect caused in turn a loss of links to his *Umwelt*—that is, this loss of affect produced detachment, since feelings 'respond like a motorial reaction to a concretely structured world'.[74] Because the feedback loop between body and environment has been disrupted, the 'distance' of the subject from its *Umwelt* can go so far as to alienate the subject even from her own body.

Benjamin's use of the term *Umwelt* thus significantly modified Uexküll's original concept. Though Uexküll's concept of *Umwelt* was intended to counter the *external* determinism implicit in concepts such as milieu, he nevertheless tended to describe the elements of subjective *Umwelten*—for example, the 'effector cues'—in terms that seem quasi-automatic, and thus make it difficult to understand whether any 'distance' could open up between a self and its *Umwelt*. Would Uexküll, for example, have allowed for the possibility of a melancholy tick—a tick, that is, that smells butyric acid, but cannot quite bring itself to drop from the tree onto the body of the animal whence the smell originates? For authors such as Scheler and Heidegger, animals lacked such capacities of non-response, or varied responses, to effector cues, and hence these two philosophers appropriated the term *Welt* solely for humans. (For Heidegger, for example, the purported automaticity of animal response is precisely what denies animals the openness of the world, and instead makes them simply 'poor-in-world'.) Benjamin, by contrast, was less interested in parsing out the limitations of animal being than in thinking about what had in essence remained an unexplored dimension of Uexküll's account: namely, how is it that a living being's *Umwelt* can *change,* and how does this change relate to possible changes of the living being? Uexküll's descriptions of

73 Benjamin, *Origin of German Tragic Drama*, 140. There is a remarkable similarity between Benjamin's description of melancholy and Heidegger's description of boredom as a method of detaching us from our *Umwelt* in order to gain more 'authentic' access to our *Dasein*. See Heidegger, *Fundamental Concepts of Metaphysics*.

74 Benjamin, *Origin of German Tragic Drama*, 139.

the variety of human *Umwelten*—for example, the *Umwelt* of the child vs. that of the adult, or the *Umwelt* of the hunter vs. that of the non-hunter—made it clear that there was not one, but many, human *Umwelten*, and that through changes in their physical capacities and their knowledge, *Umwelten* also changed.

Rather than understanding moods like melancholy solely as experiences that afflicted isolated individuals, however, Benjamin was interested in the ways in which such moods were widespread consequences of social, political, and economic changes. In his later texts, Benjamin warned that if we are not able in some way to re-insert ourselves into the *Umwelt*, we will become playthings of the forces of nature and technology. The goal that Benjamin suggested ought to guide our attempt to reconnect ourselves with the modern capitalist *Umwelt* is not that of mastery, but rather a functioning interaction between body and environment, an 'equilibrium'—a functional circle, as it were, in which the body has become as naturally unnatural as the technologized environment.

Film, Benjamin proposed, can take on a mediating role in our efforts to produce this equilibrium, for when we watch a film, it is not simply part of our *Umwelt*—that is, it is not like the theater seat on which we sit. Instead, the film screen relays the *Umwelt* of the camera and of film as an industry to us, a technologized and capitalized *Umwelt*. This *Umwelt* can take on human or animal qualities, but it remains fundamentally alien. Benjamin's notion of *Umwelt,* like his notion of perception, thus took on a political and historical dimension, and photography and cinema for him were means 'for a salutary estrangement between man and his *Umwelt*'.[75] This capacity of cinema is summarized in his notion of the 'optical unconscious'. Everyday objects (as well as humans themselves) become unfamiliar and escape those efforts to 'grasp' them that are grounded in the circuit of perception-actualization; the habitual links between subject and object break down. By stepping into the soap bubble that is the cinema, we can see our own *Umwelt* in a different light; and by allowing us to become estranged from our surroundings, film also allows us to become aware of the force that these surroundings, as milieux, are exerting upon us.

Cinema is able to perform this function because it does not simply 'reveal', but can function as a tool, or toy—both *Werkzeug* and *Spielzeug*—by means of which humans can claim this estranged *Umwelt* back as *their Umwelt*.[76] By

75 Benjamin, 'Little History of Photography', 519.

76 This is why Benjamin calls the cinema a 'second technology' in the artwork essay. See Benjamin, 'The Work of Art', 106-08, 117-18.

training their perception collectively through film reception, by adapting their bodies through an innervation of cinematic shocks and by putting their bodies in front of the camera lens, film spectators can realize new potentials for action. With these connotations of *Umwelt* in mind, a familiar quote from Benjamin's artwork essay takes on new meaning, since the terms 'Milieu' and 'Umwelt' he used now signal the dialectical operation of the cinematic apparatus:

> The most important social function of film is to establish equilibrium between human beings and the apparatus. Film achieves this goal not only in terms of man's presentation of himself to the camera but also in terms of his representation of his environment [*Umwelt*] by means of this apparatus. On the one hand, film furthers insight into the necessities governing our lives by its use of close-ups, by its accentuation of hidden details in familiar objects, and by its exploration of commonplace milieux [*Milieus*] through the ingenious guidance of the camera; on the other hand, it manages to assure us of a vast and unsuspected field of action [*Spielraum*, literally 'room-for-play'].[77]

For Benjamin, there can be a lag, or a gap, between creature, *Umwelt*, and milieu. If the milieu changes, due to economic, social, and technological forces, we are not able immediately to adapt our bodies, senses, and actions to the new conditions, which also means that our *Umwelt* does not adapt immediately. There is a temporal lag between milieu, on the one hand, and body and *Umwelt*, on the other. A medium such as cinema can help us bridge this lag, not only, but particularly, because it itself is one of modernity's capitalist, technological, mass-oriented enterprises. It literally reflects back to us the 'new' environment with which our bodies, and *Umwelt*, are out of sync. Since this reflection includes us, as actors, and our *Umwelt*, we gain creative space in the gap between our immediate sensorial *Umwelt* and our *Umwelt* reflected and refracted through the cinematic apparatus. The reclaiming of the *Umwelt* as field of action in the cinema, the coincidence of body-space and image-space (as Benjamin put it in his essay on 'Surrealism'), opens up room-for-play, a space within which a new body, penetrated by technology, can be playfully tested out. This creative space not only allows us to adjust our outdated sensorium to the present, but it also makes possible new provisional constellations geared toward possible futures.

77 Ibid., 117.

In his writings on play—which are influenced by contemporary child psychology and Uexküll's *Umwelt* research, as I will outline below—Benjamin provided an implicit methodology that clarifies how we could actually make use of this room-for-play which becomes visible in the alienated image cinema provides of human being and of human *Umwelten*. The child's engagement with its *Umwelt* in the mode of play is for Benjamin exemplary of film's creative and restorative potential for enabling new engagement with our surroundings, and thus allowing us to appropriate the modern *Umwelt*.[78] As a number of his essays testify, throughout his life, Benjamin maintained a keen interest in children's play and in toys. *Berlin Childhood around 1900*, for example, documents Benjamin's serious engagement with the phenomenal world of the child. In short vignettes, Benjamin recounts and retrospectively analyzes in this text the sensations, experiences, games, and fantasies that occupied him as a bourgeois child in Berlin: his relationship to the disembodied voice that issued forth from the telephone in the hallway; butterfly hunting, in which the relationship of hunter to prey was characterized by a magical metamorphosis and a becoming-prey; the intense and intimate relationship of a sickly child to his bed as a sort of territory that contained a comforting landscape of valley-folds, wrinkle-mountains, and pillow-buildings that could be rearranged at will; his secret bond to the numerous statues in the *Tiergarten* park. All of these short vignettes emphasize the instability of the child as a subject and of the objects in its environment, as well as the magical power of these objects to change, to become-other, and sweep up the child in their transformation. Though the child might initially have summoned up the transformation, stable identities were soon lost in the vortex of a mutual metamorphosis of subject and object.

In establishing the connection between *Umwelt* and play, Benjamin is likely to have drawn on the work of child psychologists who had explicitly connected Uexküll's work to children's engagement with the world.[79]

78 My work on Benjamin and play is indebted to Miriam Hansen's essays on Benjamin, especially Miriam Hansen, 'Room-For-Play'.

79 Benjamin may also have known Uexküll personally, for Agamben has claimed that Benjamin stayed in Uexküll's villa on Capri during his first visit to the island in 1924. See Agamben, *The Open: Man and Animal*, 39. While I have not been able to verify this claim, it seems likely that Benjamin and Uexküll at least met in the tightly-knit German community on Capri. In 1924, Benjamin rented a room in a separate little cottage at 'Villa Dana', but never mentioned any details about the location. See Benjamin, 'Letter to Gershom Sholem, Capri 7.7.1924'. Since Dana is the name of Uexküll's and Baroness Gudrun of Schwerin's daughter, this might have been their villa, though they seem to have moved several times, from the villa of Gudrun von Schwerin's aunt, to one of Axel Munthe's villas, and ultimately to an old villa in Anacapri (which is now

Martha Muchow's 1935 *Der Lebensraum des Großstadtkindes* (The Living Space of the Metropolitan Child), a wonderful, albeit now largely forgotten text, may have pointed out to Benjamin the productive potential of Uexküll's concept of *Umwelt*, especially when it came to describing (and seeing) the world differently on the basis of children's playful action and perception. Muchow had applied Uexküll's *Umwelt* theory to modern urban life and contrasted 'adult perceptions' of city spaces with the perceptions of children. She analyzed how children in Hamburg-Barmbeck interacted with typical urban spaces, such as an unused industrial area, a playground, streets with just a little traffic in comparison with streets with significant traffic, and a *Karstadt* department store.[80] Her work originated in William Stern's Psychological Institute at the University of Hamburg, which was working closely together with Uexküll's *Umwelt* Institute and Ernst Cassirer's Philosophical Institute.[81] Stern, Eduard Spranger, and Heinz Werner focused on child psychology and language, and Muchow combined Uexküll's and Stern's work in order to explore the premise that the *Umwelt* of children is entirely different from that of adults. Benjamin was well acquainted with the research at Stern's institute; moreover, William Stern was the husband of Benjamin's cousin Clara, and in their book on children's language, the Sterns included a number of examples from a four-year-old 'Walter B. from

available as a vacation rental). See Uexküll, *Jakob von Uexküll*. Uexküll's and Benjamin's paths also might have crossed at the café *Zum Kater Hiddigeigei*, which both frequented.

80 While Muchow's study testifies to the climate of lively interdisciplinary exchange in Hamburg in the late 1920s and early 1930s, it simultaneously and tragically exemplifies the brutal end of this atmosphere with the rise to power of the National Socialists. In April 1933, Stern and Cassirer, who, like most of the other employees of the Psychological Institute, were Jewish, were prevented from entering university property and subsequently fled to the Netherlands and England, respectively. Muchow was denounced as a collaborator with Jews and on the basis of that claim, it was further claimed that she was an 'active member of the Marxist *Weltbund für Erneuerung der Erziehung* (World Association for the Reformation of Education)'. In September, shortly after she was fired and the Psychological Institute was closed, Martha Muchow attempted suicide and died two days later. Her brother published Muchow's *Lebensraum* posthumously. See Jürgen Zinnecker, 'Recherchen zum Lebensraum des Großstadtkindes'.

81 Uexküll's *Umwelt* Institute was founded in 1926. Until its closure in 1946, one of its most important employees was Emilie Altenloh, who had published one of the first sociological studies of cinema in 1914: Altenloh, *Zur Soziologie des Kino*. On the collaboration between the institutes, see Mildenberger, *Umwelt als Vision*, 145-65. The integration of Uexküll's *Umwelt* theory into Stern's personalist psychology and Cassirer's philosophy also illustrates the far-reaching interdisciplinary proliferation of Uexküll's thinking. Cassirer based what he proposed as the distinction between man and animal—namely, man's symbolic capacity—in an Uexküllian foundation. See, for example, Ernst Cassirer, *An Essay on Man*, 27.

Berlin'.[82] Benjamin in turn made references to Stern's work in his letters and described Heinz Werner's work as 'the most advanced treatment' of a 'physiognomics of language' that locates 'linguistic and choreographic expression in one and the same mimetic faculty'.[83]

Muchow's analysis of the role that a former cargo-unloading area at Hamburg's Osterbek Canal played for children, in contrast to its role for adults, provides a striking example of children's appropriation of a functional, purposive space and their playful, tactile, and mimetic transformation of it. Muchow begins by describing the site objectively, as a 'thing in itself', and goes on to describe how the unloading area relates to different subjective worlds: the 'purpose-space' (*Zweckraum*) as it was intended by the construction agency; the 'space of action' (*Handlungsraum*) in the worlds of workers or of anglers, who used the space to fish in the canal; and finally, the 'room-for-play' (*Spielraum*) in the world of the child. In the children's *Umwelt*, there is no 'functional tone' to the site; that is, they do not regard its features with respect to their intended purpose. Instead, their activities are centered around a gate and the banks of the canal. To adults, the gate is only in the periphery of their perception as something that marks the border between street and workspace and that protects passers-by from falling down onto the lower ground of the unloading area. It is primarily an optical perceptual cue (*Merkzeichen*) that 'structures space, blocks movement and provides protection'. The kids, by contrast, whether they are passing by or looking for a place to play, try to 'establish a direct relation' to the gate:

> The gate literally has a calling-character. Hardly any child between three and thirteen years of age on the sidewalk along Osterbeckstraße passes by the gate without touching it. They may choose to let their hand glide over the upper or middle bar of the gate, or touch it with a stick, a ball or even a schoolbag or shopping bag; or they may mark their path past the gate rhythmically by just beating, touching or tapping the gate's posts: in any case, and in fact invariably, a touch, a tactile sensation is sought. Other children—and not only those who want to enter the unloading area—seem to feel like a passionate mountain climber (or does the latter feel like them?): they cannot leave the towering height unconquered. Even though two broad, convenient sets of stairs and a slowly inclining runway offer comfortable possibilities for getting up and down, the

82 William Stern and Clara Stern, *Die Kindersprache*. On the references to Benjamin in their work, see Heinz Brüggemann, *Walter Benjamin über Spiel, Farbe und Phantasie*, esp. 86-88.
83 See Benjamin, 'Problems in the Sociology of Language'.

> children almost exclusively use the gate and the slope behind it. They either climb across the gate or go through the bars, if they are among the smaller children—sometimes for no other reason than to return the same way, sometimes in order to enter the unloading area via the slope, and sometimes to clamber about the gate. . . . In the world of the child, [the gate] presents a tactile perception- and action-image [*Merk- und Wirkbild*]. By means of the strongest, irresistible power, it seems to exert a force that compels the children to touch it [*Berührungszwang*].[84]

Muchow's careful observations highlight that whatever we (grown-ups) think of the gate, however we perceive it (even when we see kids playing on it), the gate has completely different qualities in the *Umwelt* of a child. For children, is a 'grasp-, jump-, climb-, sit- and squat-thing' that almost magically summons the child and demands to be touched.

In Muchow's evocation of the world through a child's eyes and senses, the urban landscape is transformed and restructured as we enter the child's 'soap bubble'. As in watching a film, where we shift back and forth between awareness of, and attention to, the world the film presents (thus making it our immediate *Umwelt*) and the *Umwelt* of the movie theater, in reading Muchow's descriptions we drift between immersion in the children's *Umwelt's* new order, sensations, and attractions (which resonate in us by triggering memories), and a comparison with our preconceived understandings of the importance, meaning, and function of these same urban sites. The quiet residential street becomes a playground and protected 'home zone', while the busier streets have little importance and are often only a space for passing through, whose features hardly enter the children's *Umwelt*—with the exception of shop windows, which compel only one-sixth of the children. The youngest ones make contact by touching the glass or tracing the outlines of exhibited goods; the attention of somewhat older kids is caught by attractions such as moving puppets, colorful pictures, toys, candy, and so forth. Only older kids are interested in shop windows as the presentation of purchasable commodities. The department store, finally, figures as a fantastical 'adventure world' for children. Their energy focuses on bypassing the doormen (who keep out unaccompanied minors) by sneaking past them, showing forged notes from their mothers, or pretending to be 'with someone', that is, a customer whom they either asked beforehand or who unknowingly takes on the role of parent or older sibling in the children's acting scheme. Once inside, they try to become invisible in the

84 Muchow and Muchow, *Der Lebensraum des Großstadtkindes*, 47-48.

shopping crowd, make use of the store's labyrinthine structure to play, compare, touch, or slip into their pockets objects of their desire, or mimic adult consumers by discussing expertly the qualities of clothes, tools, pens, and so forth, and inventing reasons for their use.

I have stressed the importance of Uexküll and his theory of *Umwelt* for an understanding of early film theory not simply for the sake of historical completeness, but also in order to establish the concept of *Umwelt* as an important intervention in theories of cinema and, by extension, an addition to the conceptual tools by means of which we think about the conditions of modernity. From this latter perspective, we might summarize the importance of Uexküll and *Umwelt* theory for our understanding of early cinema, as well as cinema more generally, under three headings. First, in contrast to more simplistic concepts of milieu which focus only on the influences of the environment *on* the individual, *Umwelt* research stressed that mental and physical engagement with the environment opens up new leeway, or room-for-play, in the relationship between the individual and what surrounds it. Second, the concept of *Umwelt* emphasizes that cinema—like Muchow's study and like Uexküll's imaginings in a text such as *Forays into the Worlds of Animals and Humans*—makes use of our capacity to *imagine* other worlds. Third, and finally, cinema's world, at least as perceived by a number of critics in the 1910s and 1920s, bears significant similarities to the child's world.

The central elements of children's play in both Muchow's study and Benjamin's childhood memories—mimicry and mimesis, the testing of spatial boundaries, a blurring of subject-object distinctions, the animation of objects or their investment with magical powers, a dominance of the sense of touch over other senses—outlined, in a sense, a blueprint for those aesthetic operations that film critics performed in their perception of cinema itself. Jean Epstein, for example, described the animistic quality of cinema. For Epstein, cinema not only bestowed life on objects such as 'a revolver in a drawer, a broken bottle on the ground, an eye isolated by an iris', but these objects were also 'elevated to the status of characters'; they gained a mysterious personality.[85] And in his essay on the close-up, he emphasized the intimacy and pressing proximity of touch of the image.[86] Blaise Cendrars' account of film perception is also modeled on a playful engagement with the world: 'the human mind disguises itself by camouflaging the globe'.[87]

85 Epstein, 'Photogénie', 317.
86 Epstein, 'Magnification (1921)', 237.
87 Cendrars, 'The Modern: A New Art, the Cinema', 182.

When the children in Colette's description of an educational film screening watch 'the intentional and intelligent movement' of flowers in the cinematic land of slow-motion technology, they 'get up, imitate the extraordinary ascent of a plant climbing in a spiral, avoiding an obstacle, groping over its trellis: "It's looking for something! It's looking!"'[88] The magic bond that the children formed with the plant in this experience of cinema reflects that of little 'Walter B. from Berlin' as he is hunting butterflies: 'the more butterfly-like I became in my heart and soul—the more this butterfly itself, in everything it did, took on the color of human volition.'[89] The spell cast by both the 'old law of the hunt' and cinema (both encompassing the activities of shooting and capturing), reveals how the latter, as technology, activates the same perceptual-actual—even ontological—mobility in the child as the magical and ritual aspects of the hunt.

However, it was only in Benjamin's appropriation of *Umwelt* and play for his texts on art, technology and politics that play became a politically viable, even necessary methodology of engaging one's environment, at least if we are to avoid false subjugation and to effect real, mutual transformation of subject and environment. Benjamin's approach emphasizes that film has the capacity to create its own world, even as the film world's 'stuff' is taken from *the* world, in the sense that film is 'of' this world. When we watch a film, it becomes part of our *Umwelt*, our subjective world. However, it does not just show us things—a stone, a tree, a smile—as they appear to us in our normal *Umwelt*. Rather, everything is transformed by the apparatus. In cinematographic mediation, things—whether a dog, a smile, or a magnified cheese mite—become visible and audible to us. They are no longer immediate objects of our *Umwelt*, yet they remain recognizably objects in the world. The cinema, to use Benjamin's terms, is a technical apparatus that reorganizes 'the medium of perception', that is, our perceptual world, yet it also produces a medium of reflection between spectator and screen. This experience is exhilarating and unsettling—and, as Benjamin warned, necessary in order to take on a world full of apparatuses. What is given to us in the film experience is thus simultaneously familiar and unfamiliar, old and new, *heimlich* (in the sense of familiar, intimate) and *unheimlich* (unfamiliar, uncanny)—uncanniness is a fundamental part of the film experience. We might say, in fact, that Epstein's concept of *photogénie* seeks to describe precisely this surplus value that is produced by means of cinematic reproduction, a surplus value that, as Epstein wrote, 'acts on

88 Colette, 'Cinema (from *Aventures Quotidienne*)', 61.

89 Benjamin, 'Berlin Childhood around 1900', 351.

one's feelings more to transform than to confirm them, and personally, it makes me uneasy'.[90]

Uexküll's *Umwelt* theory thus not only introduced a concept with which to understand one's environment as a subjective creation, but it also provided film critics of the early 1920s—and can continue to provide us—with the example of a playful engagement that breached the *Umwelt* boundaries of 'proper' perception. Engaging this latter potential, of course, requires that we move beyond Uexküll's own interpretation of *Umwelt* theory as describing an ahistorical system of functional circles, and toward the approach outlined in Benjamin's texts on film, which emphasize the critical issue of historical environments and conditions of perception. As Benjamin stressed, things that change as a consequence of the processes of commodification and technologization—and these include goods, but also patterns of work and daily life—can slip out of our radius of perception and action because our body does not automatically adapt to these changes. That is why, as Benjamin stressed, we need film as a second technology, a technology that in the name of play and experiment distances the human being from nature—which means, as well, from natural perception.

Painlevé's Cinema of Bewilderment

I began this chapter by discussing animals in non-cinematic media, considering first, a taxidermied dog that appeared in a diorama inspired by Uexküll's work, then the painted dog Nipper in RCA Victor's iconic 'His Master's Voice', and finally the appearance of a dog in one of W. K. L. Dickson's early film experiments for Edison. These three examples of mediated 'companion animals' allowed me to identify three quite different relationships between technological medium and animal life. The relationship between medium and animal can emphasize the gap that separates animal life and technological mediation, pointing toward a loss in modernity of animal life as radical otherness; it can also, conversely, conflate technological medium and animal in an operation that drains both of their potential to upset traditional understandings of what constitutes a human being. Yet media, and especially cinema, can also allow animal vitality to play a more destabilizing role by eschewing strategies of identification and narrative control, instead enabling a more corporeal mode of relation that sets into motion a feedback loop between animal and

90 Epstein, 'Magnification (1921)', 239.

technology as two media that allow a renegotiation of, and reflection on, life in general and human life in particular. This feedback loop destabilizes rigid boundaries between animals and humans and thus enables an exhilarating state of bewilderment.

In his films between 1927 and 1954, Painlevé combined scientific documentary with avant-garde techniques as a way of finding the strange and unfamiliar in the seemingly familiar waters of France. Painlevé's films, whether they take sea urchins, water spiders, octopuses, or seahorses as their subject, are interested in life forms that do not correspond to our mammalian sense of the body and anthropocentric perspective on behavior and interaction, and his films thus destabilize our understanding of movement, physicality, bodily comportment, and sexuality, as well as our relationship to our environment. Stylistically, these films combine the scientific with the fantastic and even the political (as, for example, in a film on the 'fascist' vampire bat), using techniques such as microcinematography, coloration, slow-motion, and the first underwater cameras.

The engagement with animals in early cinema is due to the affinities of animals with technical reproduction, an affinity based on both physical and metaphysical correspondences. These affinities include the visual appeal of animal bodies, movements, and behavior, their strong presence on the screen due to their un-self-conscious being, and their kinship with the cinematic apparatus due to the way that both seem to transmit life (a transmission that, in the case of animals, is often positioned as a function of unquestioning situatedness in life). In various ways, early films and animals each harnessed the resonant power of the other, or gave themselves over to the other, serving the other, often in the form of play. This was a play that already implied, like the playful fights of young animals, a struggle over life and death—but at the same time we need to distinguish this from that Hegelian death-struggle that has so marked twentieth-century philosophical engagement with the relationships between animals and humans.[91]

The popular science film combines many of the strands of film-animal interaction I have discussed above. These films have their origin in the attraction and spectacularity of animals, which is often heightened by means of special effects ranging from manipulations of the animal or its environment—for example, a terrarium the size of the film frame containing

91 See Hegel's account of the struggle between master and slave in Georg Wilhelm Friedrich Hegel, *Phenomenology of the Spirit*, 11-19. For the importance of this for a variety of figures, including Kojève, Bataille, and Sartre, see Descombes, *Modern French Philosophy* .

two antagonistic species—to suggestive montage to microcinematography and timelapse photography. These films then combine such images with explanations and with scientific facts and educational information about the animals.[92] In the case of *Flies: A Scientific Film* (Charles Urban, 1913), for example, intertitles explain; 'The fly larvae dig into the soil to undergo a metamorphosis'; 'The pupa'; or 'After one hour.' The visualization of 'How a fly transmits tuberculosis', invisible to the naked eye, is achieved by means of a Kuleshovian montage effect, namely the image of flies crawling around in a spittoon, followed by a close-up of flies on a pacifier, followed by a child sucking on a pacifier.

Jean Painlevé not only continued the legacy of the early popular science film, but also thematized in his films questions of animal presentation, *Umwelt*, and technology. Painlevé's work on scientific cinema follows in the footsteps of Marey, in a genealogy that Painlevé himself laid out, and which includes Dr Eugène Doyen and Jean Comandon as important intermediaries. I will focus on Painlevé's early popular films, most of which were spin-offs of research projects and research films. Especially in their employment of microcinematography, the films combine scientific interest and facts with an aesthetic impulse to reveal bizarre, unusual life forms, reproductive cycles, organs, and behaviors. On the most basic level, Painlevé's films make visible life as movement where the naked eye was not able to see anything, or at most a tiny, undifferentiated creature. Consistently, the films take up a creature and provide closer and closer views of parts of its body, creating the impression of a vortex that draws one deeper and deeper into life, where everything is revealed to be organic movement (one could call this first level the level of interest in the ubiquity of life as movement, or movement as life). On a second level, the films are interested in the moving animal or animal part depicted (an interest in the spectacular visuality of animals). The pumping air hole of an octopus, the grasp of the unhinged jaw of a stenorhynchus, the labor contractions of a male seahorse: all of these scenes pivot on the border between factual representation and scientific interest, on the one hand, and the presentation of a fantastic world—some sort of alternate universe—that leaves the spectator astounded, confused, disgusted, and amused, on the other hand.

Painlevé's real skill, however, lies in a combination of images, music, playful comments, and scientific fact (via intertitles and voice-over) that probes the spectator's relationship to the image and the animal depicted; this constitutes the third level of the films' engagement with animal life.

92 See Hamery, *Jean Painlevé*, 27-33; James Leo Cahill, *Cinema's Copernican Vocation*.

Intertitles and image track—or, in the later films, soundtrack, voiceover, title cards and image—pull the spectator in various directions at once. Animals, often mundane, but of such a small size or so familiar that they had never been given a second look before, are elevated into beautiful and horrifying creatures. The spectator is constantly called upon to compare physical or behavioral traits of animals to human physiognomy and demeanor. As soon as the spectator is lured into appreciating the animal scientifically or 'objectively', an image or a verbal comment highlights the relationship of the animal to the human being and destabilizes any objective, simply factual stance.

Painlevé's films thus mobilize cinematic means to break open notions of human self and animal other. Not only does life become a cinematic matter in his films, but cinematic life no longer remains bound by man-animal distinctions. Painlevé's films do not simply focus on the aesthetic dimension of science films, but rather jolt the spectator out of a distanced mode of aesthetic reception, bringing her body and her sense of human self into the game. The reception is thus not only involved and physical, but takes apart the spectator's self-movement, behavior, feelings, and cultural customs and sets these, as elements, alongside or against the movement, behavior, and feelings of the animals onscreen. This cinema works by continually confronting scientific fact with unfounded, interpretive fiction, rationality with fantasy, documentary style with manipulation pre- and post-production, and neutral observation with anthropomorphization. The screen itself becomes the space where the animality—of animals and of the spectator—is negotiated as something physical, instinctual, and intellectual.

Painlevé's indebtedness to Marey as both a scientist and father of chronophotography highlights again that the commitment of a scientist to non-vitalist positions by no means implies that his work in or on film could not be important for the formulation of a cinematic vitalism. What makes Painlevé such an important filmmaker for this project is the way in which his film style allows film and animal to engage in an open exchange of vital expression, each profiting from the other and engaging, or rather incorporating, the spectator. The camera makes visible life and movement on microscopic levels, where the naked eye, or previous, less magnifying shots, had only seen stillness. His popular science films emphasize that our senses have only an incomplete grasp of the life that surrounds us and the films inevitably turn into a journey into the abundance and ubiquity of everyday life, since they always remain with everyday environments and everyday creatures in and around freshwater and seaside in France.

Painlevé's cinematic operations depend on the mobilization of different genres and styles, of different regimes of knowledge, such that they mutually question one another. Most importantly, these are the genre of scientific film and the reliance on facts derived from external observation and analysis, on the one hand, and the genre of the avant-garde and experimental film and artistic operations of making-strange, making-familiar, and of highlighting irrationality and the unconscious. The origins of this unique combination lie in Painlevé's association with various camps. He studied zoology and biology at the Sorbonne, where he became the research assistant of Paul Wintrebert, an important embryologist associated with the Marine Biology Station at Roscoff, who employed Jean Comandon in the 1910s to collaborate on a film together (Wintrebert had relied on films as research tools and for presentation early on). Yet simultaneously, Painlevé became part of artistic circles, especially the surrealists, in his early twenties, mostly mediated by his cousin Pierre Naville, in whose apartment André Bréton's 'Bureau of Surrealist Research' found a home in 1924. Around the same time, Painlevé befriended Yvan Goll and contributed to the first and only issue of Goll's journal *Surréalisme*. In 1926 and 1927, he participated in films with Antonin Artaud, contributed footage of a starfish to Man Ray's *L'Étoile de Mer* in 1928 and, the following year, one of his photographs (of a lobster claw) to George Bataille's *Documents.* Film critics including Elie Faure, Germaine Dulac, and Fernand Léger praised Painlevé's first films in 1928-29, and some of Painlevé's closest friends were filmmakers, including Jean Vigo and Sergei Eisenstein.[93]

In an essay entitled 'Neo-Zoological Drama', his first artistic publication in Goll's *Surréalisme*, Painlevé provides an early literary example of his cinematic strategy of interlacing science and art, as Roxane Hamery, in her comprehensive monograph on Painlevé, and more recently, James Cahill, have argued. In this text, Painlevé amasses scientific names and references, combining and embellishing them with word plays, poetic turns of phrase, and anthropomorphizing, eroticizing descriptions:

> The plasmodium of the Myxomycetes is so sweet; the eyeless *Prorhynchus* has the dull color of the born-blind, and its proboscis stuffed with zoochlorellae solicits the oxygen of the *Frontiniella antypyretica*; he carries

93 See Brigitte Berg, 'Contradictory Forces', 19. Léger, along with Marc Chagall, was quoted in a review of Painlevé's film in *L'Intransigéant* (23 December 1930). Elie Faure mentions Painlevé in *De la Cinéplastique*; and Germaine Dulac and Jean Renoir were invited to the premiere of Painlevé's first film, *La Pieuvre*. See Roxane Hamery, *Jean Painlevé: le cinéma au cœur de la vie*, 65. Dulac frequently rented a copy of *La Pieuvre* for the film screenings and lectures she organized.

> his pharynx in a rosette, a locomotive requirement, horned, stupid, and not at all calcareous. But *Dendrocoelum lacteum* and *Planaria torva*, gonocephalous and olive-greenish, sharpen the pleasure of the hoops; the little turbellarian knows the embrace of their mouth; good for *Chironomus plumosus* to outline their intestinal arborizations in red lace; what spherical astonishment: he flees and ruptures the phlegmy threads reserved for the *Bythotrephes longimanus*, that sacred little crustacean with close-cropped hair; he would rather be born by parthenogenesis than touch these threads of the ovoviviparous *Mesostoma* . . .[94]

To be sure, all scientific names and facts that Painlevé mentions are correct; a biologist could decipher the references and would find the text to be a poeticization of the life cycle, diet, enemies, and companion species of a flatworm (*turbellarian*) called *Prorhynchus*. However, to the lay reader with a sensitivity to literary aspects—that is, the majority of the intended readership—the Latin genus and species names only reference the treasure chest of unknown life forms without classifying particular identities. Rather than ascribing identities within the Linnaean taxonomic system, the scientific names have here the opposite effect. The result is not dissimilar from the effect produced by Dada sound poems, for which the evocative power lies in the sound and rhythm of non-sensical words; yet in the case of Painlevé's text, these words do have a real denotation. Painlevé's employs the device of defamiliarization in two directions: the language of science is defamiliarized by an injection of non-scientific language and semantic procedures at the same time as poetic language is defamiliarized by the injection of scientific classification and description of facts. Hamery notes that this text coincided with 'the Gollian conception of surrealism, in which brute, living matter provides the basic support for poetic images, subversive misappropriations and incongruous association'.[95] In contrast to André Bréton's definition of surrealism, which soon—a few months after Goll's publication—became the predominant and canonical definition of the movement, Goll insisted on deriving surrealist elements from brute reality, rather than the unconscious: 'Every artistic creation has its point of origin in nature . . . the most beautiful images connect elements of reality far removed from one another as directly and as rapidly as possible.'[96]

94 Jean Painlevé, 'Neo-Zoological Drama', 117.

95 Hamery, *Jean Painlevé*, 32.

96 Yvan Goll, 'Manifest des Surrealismus', 186 (translation mine). On Goll's definition of surrealism in contrast to Bréton's, see Jeremy Stubbs, 'Goll versus Bréton'. See also Andreas Kramer,

For Yvan Goll, film was the surrealist medium par excellence, since it could connect disparate bits of reality directly, as images, without any detour through language or other symbols. Film was based on 'movement', which he identifies as the single most important element of modern art. Film relayed reality as brute matter on the basis of its technical reproduction, yet transformed it into surreality due to the newly-won visibility provided by the camera-eye, and it was able to connect disparate parts of reality through 'synthesis and the play of opposites' on the basis of montage.[97] Painlevé's interest in filmmaking thus had a double foundation that is reflected in the double defamiliarization of his 'Neo-Zoological Drama'. There were scientific filmmakers such as Jean Comandon, who made educational films for the broader public and were very aware of the aesthetic quality of the films they were producing. And then there were avant-garde artists such as Yvan Goll, who regarded film as the most powerful medium of expression of the current time, since it could take bits of (also scientific, factual) reality and translate them 'onto a higher artistic plane'.[98] In his best popular science films, Painlevé mobilized both our understanding of the natural scientific world to yield an aesthetic value and our understanding of aesthetics to yield an epistemological value. As a consequence—and this is often overlooked—Painlevé's films develop not only a kind of scientific aesthetic, but also a methodology for a different understanding of science that includes a sense of wonder, or, as Hamery describes Comandon's work, 'a poetic approach to life where the exploration of physical phenomena retains a profound mystery'.[99]

Painlevé's first popular science films, or 'zoological dramas', from 1928-29, while lacking the modern musical accompaniment and ironic voiceover that characterizes his later films, already contain the aspects I have highlighted in the beginning of this section. First, they are interested in life as a movement that determines pace and structure of the film. Second, they are focused on animal bodies, developments and behaviors that we can

'Yvan Goll und das Medium Film'.

97 Yvan Goll, 'The Cinedram', 53.

98 Goll, 'Manifest des Surrealismus', 186. Indeed, Goll's conception of film art and Comandon's notion of cinematic mediation are not that far apart. Comandon writes, for example: 'Soul speaks to soul without conventional intermediary: these here are the universal languages, the spiritual diapasons the vibrations of which are passed on with intensity to the minds [*esprits*].' Jean Comandon, 'Le cinéma et les sciences de la nature', quoted in Hamery, *Jean Painlevé*, 50-51.

99 'For [Comandon]', she continues, 'the discovery of a strange microcosm, populated with unknown elements, exceeds the limits of pure science and elevates the mind [*pensée*].' Hamery, *Jean Painlevé*, 50 (translation mine).

grasp and comprehend with our mammalian understanding of life, but that nevertheless stretch and bend this understanding. And finally, they open up a space for reflection on our limited perspective on life, which focuses on intelligent behavior, the mammalian body, and easily perceivable body size, and our relationship to the bizarre animal world we are witnessing in the films, a world to which the film brings us too close to remain comfortable in our seat.

The Octopus (*La pieuvre*, 1928), *The Daphnia* (*La Daphnie*, 1928), and *Sea Urchins* (*L'Oursin*, 1928) were shown as short features preceding a main feature (and, in some cases, accompanied by another short film) at the most important avant-garde theaters in Paris between December 1928 and October 1930; these theaters included the Studio Diamant, the Studio des Ursulines, and the Parisiana.[100] Painlevé conceived of these films following his first scientific films in 1927, most notably *The Stickleback's Egg: From Fertilization to Hatching* (*L'Œuf de l'épinoche, de la fécondation à l'éclosion*) and his participation in a couple of avant-garde ventures, first as an actor alongside Michel Simon in René Sti's never completed *The Unknown Woman of the Six-Day Race* (*L'Inconnue des Six-Jours*, 1926), and subsequently as director of Yvan Goll's play *Methuselah* (*Mathusalem ou l'éternel bourgeois,* 1927), with Antonin Artaud as protagonist.[101]

The Octopus stands out among the early films, since it seems to have the least consolidated form. The film is still very much suspended between a

100 A few months after these three films, Painlevé completed his first sound films that had a similar circulation and include *The Hermit Crab* (*Le Bernard-l'ermite*, 1929), *Hyas and Stenorhynchus* (*Hyas et Sténorinques,* 1929) and Crabs and Shrimp (*Crabes et Crevettes*, 1929). The premiere of *The Octopus* took place at the Studio Diamant. It was shown together with Georg Wilhelm Pabst's *Abwege* or *Begierde* (*The Devious Path / Desire / Crisis*, 1928—the film was released under various titles)—a brilliant pairing, I think. Not only do the images of the octopus and Brigitte Helm's characteristic body movement (stretched-out head, angular, exaggerated movement of the limbs, pliable, almost boneless torso) complement (and compliment) one another, but the latter film's first half, which shows Helm trapped in her *haute-bourgeois* life in a modern glass villa, more than resembles an animal trapped in an aquarium, while the second half, which shows her ecstatic experience at a nightclub, mirrors the drama of octopuses fighting a crab, a lobster, and one another in the second half of *The Octopus*.

101 See Berg, 'Contradictory Forces', 12-19; and Hamery, *Jean Painlevé*, 276. Berg, who directs Painlevé's archive 'Les Documents Cinématographiques' in Paris, also recounts that it was Painlevé who introduced actor Michel Simon to Painlevé's best friend Jean Vigo for the role of the old sailor in *L'Atalante* (Jean Vigo, 1931). However, there are also further personal entwinements between Painlevé's artistic and scientific endeavors in film: the cameraman for *The Unknown Woman*, André Raymond, employed time manipulation techniques that inspired Painlevé to pursue a scientific film on the basis of the same techniques. Raymond became his cameraman for many subsequent popular science films.

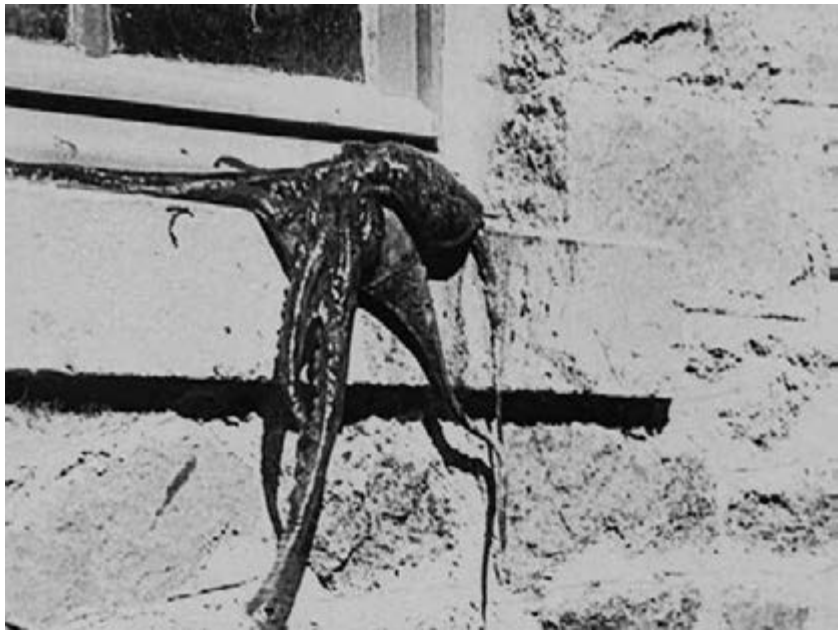


Fig. 2.9: An octopus sliding down a window sill in Painlevé's *The Octopus* (1928).

surrealist film experiment and an aestheticized documentary, and it lacks the more complex engagement with scientific discourse that characterizes Painlevé's later films. The film nevertheless has a discernible structure. It begins with a kind of surrealist overture of various shots of an octopus in absurd settings: following two introductory shots that acquaint us with the body and movement of the octopus, we see a living octopus slithering from a window sill (Fig. 2.9), an octopus crawling over a doll lying on its back, an octopus sliding down from a tree and a few shots of an octopus in water, moving around a human skull. The overture thus functions like the introductory scene in Luis Buñuel's *Un chien andalou*, in which an eye is cut open in close-up: an opening scene that provides not only a symbolic image of the destruction of conventional (artistic) vision, but also a violent physical reminder that the spectator ought to remain on the edge of her seat, distrustful, suspicious, and alert, paying heightened attention to every image and subsequent cut.

In *The Octopus*, the opening shots deliver this lesson more gently: Painlevé uses the capacities of film to present photographed movement and to combine seemingly disparate things in order to confront us with images of a real, living, moving octopus, in and of itself already an uncanny creature

of monstrous appearance, such that we open up our vision and imagination to the many *unscientific* associations the animal's body, features, and movements evoke. The introductory images, in other words, fulfill a sort of educational task, namely that of ensuring that over the course of more sober images, we remain open to the mythical, monstrous, and irrational dimensions of the creature, in order to leave space for the mystery that science cannot explain away and to ensure that our perceptual frame remains open to ideas, stories, facts, and associations of all kinds. While it might seem as though these images are just a joke that does not do justice to the real animal, I argue instead that it is not *only* a joke, but also a trick to ensure that the film, spectator, and animal represented are not limited to scientific logic and reasoning, but maintain a right to make illogical, unreasonable connections. In this interplay of discourses and visual strategies, not only is the spectator enabled to combine reactions such as amazement, disgust, arousal, and insecurity with a scientific interest in knowing and seeing, but the film itself also insists on a freedom to rip at the seams of genre ascription, and the filmed animal regains a freedom of expression in the spaces thus opened that it did not have in films that tried to stitch narrative trajectories predetermining the animal's attraction. The film then transitions into a more educational style by means of a dissolve to a landscape shot of the Atlantic, with long waves slowly rolling in against a rocky shore (long-distance shots of the ocean occur twice more, segmenting the main body of the film into three parts). Subsequently, two long shots allow the spectator to 'discover' octopuses in shallow tidal pools. An intertitle helps us to see and understand further indices of the presence of octopuses, such as ripples in the water around a rock that betray the otherwise hidden creature. Rather than lecturing at us in a top-down fashion, these shots turn the spectators into independent students and accomplices.

Though the subsequent, more 'scientific' shots lack the obviously transgressive qualities of the opening sequence, they nevertheless instantiate a similar aesthetic by subordinating the film's pace to the animal's vital movement. This remains one of the most important aspects of all of Painlevé's subsequent films, in fact: the exploration of animal movement, from the plainly visible (as in the octopus) to the microscopically small, and the willing subjugation, or loving yielding, of the film's temporality to the vital rhythm of animal movement. The first segment of the film's main part contains a series of shots that focus first on the octopus' eye, which with its eyelids and iris resembles a human eye, and then on the octopus' breathing mechanism. The otherwise motionless animal inhales through two breathing holes on its sides, and uses one of its two breathing tubes

Figs. 2.10.a-f: Zooming into the rock urchin in Painlevé's *Sea Urchins* (1928).

to exhale. As it takes water in, the breathing tube closes like a mouth, and the entire animal body extends; as it exhales, the body compresses and water flutters out of the tube. Painlevé slows down considerably the cutting rate for this scene and fills the images with the rhythmic movement of the octopus' breath. At the same time as one takes note of the strange breathing apparatus and makes uncomfortable or exciting physiological connections (both pulsating hole and tube resemble other malleable orifices and boneless extremities), one cannot help but be affected by the rhythmic breathing and a need to willfully disengage oneself from an alignment with the pace of the octopus' breath (which has a faster rate than the average human's breath).

Painlevé achieves the most effective integration of film and animal movement when he employs microcinematography to make visible otherwise unseen life forms, organs, body parts, and movements. Both *Sea Urchins* and *The Daphnia*, as well as the majority of Painlevé's later popular science films, contain moments of increased excitement built around increasing magnification. A sea urchin, for example, is a less immediately spectacular subject for a film than an octopus. In Painlevé's *Sea Urchins*, it is thus the magnification (and, to a lesser degree, timelapse) that slowly undoes our conception of the sea urchin as a distant, boring, fairly motionless animal and allows us to discover in the urchin an entire republic of fantastic creatures in wild animation. After briefly presenting the sand urchin, the film turns to the rock urchin. We see Painlevé himself standing in the ocean water in a bathing suit, fetching an urchin from underneath the water (Fig. 2.10.a). A series of shots show us the urchin in extreme close-up, revealing far more detail than an unmediated look at a sea urchin would have provided, and functioning as an incentive to take a closer look. After the film explains, with intertitles, microcinematographic shots, and an animation, how the sea urchin moves by means of sinuous spines ending in suckers, underwater shots present to us 'The sea urchin's walk' (Fig. 2.10.b). The attraction of this shot is not only the close-up of the animal, but the witnessing, and understanding, of how a rock urchin moves up a rock, one contracting sucker after another—the attraction of seeing the animal's natural behavior in its environment. This shot constitutes the transition from perceiving the sea urchin as an object to realizing that even an animal as bizarre and non-human as the sea urchin engages in activities and movements to which we can relate. The following shots magnify more and more details of the sea urchin's body. We move into 'the forest of spines' that now appear as enormous Doric columns stretching to the sky (Fig. 2.10.c). Between the spines, numerous pedicellariae (swiftly moving snake-like extensions ending in three jaws) become visible. The jaws open and close, turning in every direction, in a wild search for food (Fig. 2.10.d). Moving ever closer, we discern various teeth in these threatening jaws, teeth that range in appearance from a shark's serrated teeth to a snake's fangs, ready to inject poisonous venom into their victim (Fig. 2.10.e). The maximum magnification—200,000x—reveals that the surface of these pedicellariae is actually covered by swiftly moving cilia, slender protuberances 0.001 mm long, the rotation of which generates whirlpools that bring food into the reach of the jaws. Having undone our conception of the sea urchin as a unified, somewhat boring animal/object, Painlevé ends with a panoramic sunset over the water (Fig. 2.10.f), returning us to our familiar vision with

a canonical image that, as we now know, belies the incredible life forms contained in it.

By the time we are watching the cilia, and thus movement on a cellular level, the film has several times revealed an excess of life forms where we had previously been unable to see movement, nor had we been expecting it. The sea urchin has been transformed before our eyes into a foreign planet with a plurality of different life forms and movements. Uexküll had described the sea urchin as an animal with a large number of independent functional cycles or reflex arcs that are not centralized—'when a dog runs, the animal moves its legs. When a sea urchin runs, its legs move the animal.' In Uexküll's vocabulary, the sea urchin constitutes a 'reflex republic' in which spines, pedicellariae, and so forth, each constitute 'reflex persons' that react separately to different receptor cues that are not centralized into a concerted response or the perception of a distinct form or motion.[102] While Uexküll's description highlights the difference between the sea urchin's organism and *Umwelt* and ours in order to make clear that we cannot project our conception of the body and perception onto this and other animals, Painlevé's film instead seeks to create a confusion of boundaries, or what I would like to call a strategy of bewildering.

Etymologically, the term 'to bewilder' first came into use in the late seventeenth century and is a compound of *be-* 'thoroughly' + archaic *wilder* 'lead astray, lure into the wilds', which latter is derived from the Old English word *wildern* (adj.) 'wild, savage' (from *wilde* 'wild' + *deor* 'animal'). According to the Oxford English Dictionary, bewilderment, that is, the state or condition of bewildering or being bewildered, can mean a), confusion arising from losing one's way; mental confusion from an inability to grasp or see one's way through a maze or tangle of impressions or ideas; or b), a tangled or labyrinthine condition of objects, an inextricable confusion or medley.[103] Painlevé's films take the word literally: they confuse us, they create an entanglement of the ideas of man and animal, by leading us astray, into the wilderness, that is, to where the wild animals live. According to the change in meaning from wilderness to bewilder, modern wilderness consists precisely in mental and physical confusion and disorientation. Painlevé's films provide an example of a film form that uses the confrontation of styles, genres, and the audience's expectations such that in the resulting confusion and disorientation, a sense of wilderness, a wild sense of life,

102 Uexküll, *A Foray*, 76.

103 See Oxford English Dictionary, 'bewilderment, n.' Oxford University Press, May 2017. http://www.oed.com.libproxy.lib.unc.edu/view/Entry/18465? (accessed May 5, 2017).

is set free. This sense of life comes close to what Maurice Merleau-Ponty termed 'wild being', namely a mode of being in which self, perception, and world are all part of a dense weave of flesh.[104] 'Wilderness' understood in this sense does not refer to a separate realm that is opposed to civilization, but rather constitutes a mode of existence in which human and animal are connected on the basis of a 'lateral kinship'.[105] This kinship expresses itself in an act of perception that is based on a corporeal continuum and connects human spectator, film, and screen animal.

Painlevé brings this wild kinship into our awareness by creating a cinematic texture of life that envelops animal body, film form, and embodied spectator, but combines it with maneuvers that jolt us out of wild being and into a state of objective reflection by means of scientific or educational discourse and an objectification of the animal. An example of this shift from affective, corporeal engagement to detachment would be when, in *Sea Urchins,* he evokes the image of the sand urchin getting sand into its mouth as it is digging, creating a corporeal bond between the spectator and the urchin. In the following shot, however, he simply cuts open a sand urchin with a knife, allowing its bodily fluids to run over his hand, in order to reveal the urchin's sand-filled intestines. It is the contrast between modes, the jolt that marks our switch from corporeal, sensual bond to reflective, intellectual engagement, that creates an awareness of film and animal as vital participants in our own being, both corporeal *and* spiritual or intellectual.

Painlevé's films, even though they did not strive to present the *Umwelten* of animals, thus illustrate the aesthetic implications of Uexküll's attempts at imagining other worlds. While *Umwelt* at first glance might seem to be a concept that reduces world and world-perception to a limited subjective sphere, it in fact opened up biological research, philosophy, imagination, and images to a multiplicity of worlds imaginable by, but inaccessible to, humans—a conception of world and perception that was reflected in early film theory. At the basis of the concept of *Umwelt*, however, is the impression (and scientific validation) of the fact that each kind of animal does not simply have an organic structure that differs from ours, but in addition its world, and its access to the world, is also a different from ours. Our engagement with animals—and, by extension, with other human beings, as well as with plants—thus not only opens up our eyes and minds to new visions, but it also sensitizes us to a different *mode* of being, of

104 On wild being, see Merleau-Ponty, *The Visible and the Invisible*.
105 Louise Westling, 'Merleau-Ponty's Human-Animality Intertwining', 173.

being-in-the-world, and of life. Early twentieth-century films that depicted animals were, deliberately or not, doing two things. They were, first, making use of the medium's 'affinity with life' to gain an understanding of animals that is impossible, or difficult, to achieve otherwise. Second, these films were using the cinematic mediation of animals to transmit a different sense of being, corporeality, and life to the audience.

Uexküll's theories thus opened up the question of the extent to which media, and especially technological media, can mediate between different forms of life, including different *Umwelten*. The aspects of a man-animal encounter—seeing, being seen, and (man) seeing (animal) seeing (man)—when brought into cinema, extend into an existential, all-encompassing confrontation with one's participation in animality. Cinema makes this possible, because the cinematic image is continuous with our world, is part of our world, while, at the same time, cinema brings into our world a new visibility. Cinema can thus make visible animality, as that which we share with animals, where before we only saw categorical distinctions. This capacity of cinema is not least based on the spectator's attitude toward the cinematic image, namely the fact that the spectator is half situated in her own body, and half situated in the screen image as she is making sense of the image. This position of both being a body and lending one's body to the image is one of heightened passivity (the capability of being affected) and vulnerability. Cinematic images of animals thus reveal a mode of being of passivity and vulnerability that links being animal, relating to the animal, and being in cinema.

3. The Interweaving of World and Self

Transformations of Mood in Expressionist and *Kammerspiel* Film

The Mediation of a Dog's World

Franz Marc's 'The White Dog (Dog before the World)' from 1912 looks like the aesthetic complement to the Uexküll-inspired diorama that would be shown at New York's Museum of Natural History some thirty years later. The painting shows a dog at an angle that allows us to see part of the dog's face, despite the fact that this is an almost complete back view. We see the dog seeing, but perceive this act from the outside—we ourselves are not part of the connection between the dog and its environment. 'Is there for an artist an idea more mysterious than [imagining] how nature might be reflected in the eye of an animal? How does a horse see the world or an eagle, a deer or a dog?' Marc asks in notes preceding the painting.[1] 'From now on, we have to unlearn to relate animals and plants to us, and to present in art our relationship to them [...] Every thing in the world has *its* forms, its formula, which we cannot grope with our plump hands, but which we can rather grasp to the degree to which we are artistically gifted.'[2] The task of an artist in getting to know, and trying to represent, animal being, perception, and *Umwelten* is, in contrast to the task of the scientist, not one of experimentally inferring perceptual abilities, but rather one of intuiting, empathizing, in a process that seeks to transcend human perception. '(I seek to increase my) sensitivity for the organic rhythm of all things, [a pantheistic feeling-into] (I seek to pantheistically feel myself into) the trembling and running of the blood in nature, in the trees, in the animals in the air.'[3] The resulting painting is supposed to present the forest or the horse '*as they really are,*' as they 'themselves feel' by avoiding looking at the world with our human eye.[4]

While the painting of Nipper set into motion a feedback loop of gazes—a reading of the image is only successful once the observer has dislodged herself from the dog duped by the gramophone (Chapter 2)—*Einfühlung* ('empathy, feeling-into') into the dog in Marc's painting is key to understanding and

1 Marc, 'Aufzeichnungen auf Blättern in Quart (Winter 1911/12)', 99 (translation mine).
2 Marc, 'Aufzeichnungen auf Bogen in Folio (1912-13)', 113 (translation mine).
3 Marc, 'Über das Tier in der Kunst (April 1910)' (translation mine).
4 Marc, 'Aufzeichnungen auf Bogen in Folio (1912-13)', 112.

Fig. 3.1: Franz Marc, 'The White Dog (Dog before the World)' (1912, oil on canvas, 111 x 83 cm).

unlocking the painting for us. We are insufficiently equipped if we do not grasp the object of the dog's attention. There is a double projection from beholder of the painting to beholding dog to dog's world. That is why we see this dog not as a complete *Rückenfigur* ('figure seen from behind') turned away from us, but rather still see the dog's gaze. The real object in Marc's painting, then, is the dog's being as it is expressed in the interplay of its body, its gaze, its attitude, and its *Umwelt.* Yet we can still place the painting in the long lineage of images that combine a view of nature with the self-reflexivity of a *Rückenfigur* from the paintings showing painters by Jan Vermeer or Jan van Eyck to Velasquez, Caspar David Friedrich, and Gustav Carus. A *Rückenfigur* such as Caspar David Friedrich's *Wanderer above the Sea of Fog* combines perception and reflection in its mediation of our own gaze; nature, in turn, becomes visible as a construction, since it is the exterior world as seen by someone, as connected to an interior world, as something that is always already an image. The painting allows us to participate in the loneliness and intimate attitude of an opaque figure, while we are simultaneously kept at a distance. For Hartmut Böhme, this reflexivity of perception accounts for 'the melancholia of the image' in general: the reflexivity of seeing is connected to 'the longing for unmediated coincidence of I and World, which we might see, but cannot *have*, no less *be*'.[5]

5 Hartmut Böhme, 'Rückenfiguren bei Caspar David Friedrich', 56.

Yet instead of depicting man's eccentric positionality (Helmuth Plessner), Marc's painting forces us to engage with the dog because it holds the key to the simultaneously interior and exterior world surrounding it.[6] We see it seeing, but only understand its vision by relating the exterior world back to it.

For art historian Adolf Behne, one of Marc's earliest and most vocal supporters, Uexküll's work in biology is a direct complement to Expressionist art—indeed, Behne calls Uexküll himself 'Expressionist,' even though Uexküll himself responded to Behne's ascription with harsh words concerning Expressionist art. At least until Uexküll's more nationalist and conservative essays appeared in the late 1910s, Behne maintained that surely, Uexküll had not seen good Expressionist art yet; he might just be rejecting it on the basis of the 'half-new, decorative' art of *Brücke* painters such as Ludwig Kirchner or Erich Heckl, rather than the painters associated with the *Blaue Reiter* or others similar to them in style, including Franz Marc, Chagall, Paul Klee, and Oskar Kokoschka.[7] These latter artists, Behne maintains, create according to the same organic laws Uexküll describes for the creative force of organisms; their works—'"spiritual organisms"'—are not 'made,' they rather 'become' and 'grow'. 'Uexküll's insights,' Behne proclaims, 'allow us to tear down the wall between art and life, to connect art to life, yes, to identify it with life'.[8] As living beings imbue everything in their *Umwelt* with life in the act of perception, so do the new artists turn away from artistic renderings of the 'concrete' (das *Gegenständliche*), since they understand the concrete as itself already the result of perception. Instead, they seek to approximate life by transcending the limited position of their own subjective *Merkwelt*—the world according to their individual senses. Life, for Uexküll, encompasses two unequal worlds, the perception world (*Merkwelt*) and the effect world (*Wirkwelt*). While we are limited to our subjective view, life simultaneously stands outside of it: it encompasses the genetically-driven coloration of the wings of the eyed hawk moth, which protects the animal from predators, but it also encompasses the way the wing-image appears to various birds who flee from any eye-like appearance. Artistic creation, for Behne, can approximate the dovetailing of perceptual and effect worlds into one another. 'Franz Marc's animals! Shouldn't Uexküll be able to comprehend them first of all when he writes these sentences: "The essence of an animal is not the form, but rather the transformation, not the structure, but rather the process of life. The animal is a mere event!"'[9]

6 See Plessner, *Stufen des Organischen*.

7 Adolf Behne, 'Biologie und Kubismus', 696-97 (translation mine).

8 Ibid., 700.

9 Ibid., 704.

In this chapter, I seek to explore the emergence of a new aesthetic—what I call *Stimmung* aesthetics—in cinema and related art discourses; one that, like Marc's painting, seeks to present the interweaving of world and self, including other selves that would be inaccessible without a mediating *Stimmung* or mood. More specifically, I argue that the vitalist biological conceptualization of the relationship between organism and environment explored in the last chapter finds an aesthetic expression in *Stimmung*, a word encompassing mood, attunement, and tonality that entered aesthetic discourse in the late eighteenth century. The *Rückenfigur* itself is an aesthetic motif tied to the entrance of *Stimmung* into aesthetic discourse via Caspar David Friedrich's friend Carl Gustav Carus. Yet where the Romantics understood *Stimmung* to be the attunement to an objective, shared situation, for later vitalist writers such as Friedrich Nietzsche and Hugo von Hofmannsthal, the term denominated primarily subjective moods that are unstable, decentered, and dependent upon external circumstances, including the perception and voluntary and involuntary recollection of these circumstances.

This latter, vitalist understanding of *Stimmung* encompasses several experiential registers that became central to film theory and practice. First, *Stimmung* allows us to grasp the entwinement of the spectators' own temporality and situatedness with the temporality and (world) view that unfold in a film. Second, it can also illuminate the relationship between individual spectator and collective audience, that mysterious co-presence in the theater and the co-experience of the film. Most important for my project, however, is the capacity of *Stimmung* to describe and illuminate stylistic and formal aspects of films themselves—a grasp of *mise en scène* that already includes experience and effect (or affect) in its articulation.[10]

To contextualize my discussion of film and *Stimmung*, I begin by outlining the Romantic invocation of *Stimmung*, from Kant to Friedrich and Carus, before then contrasting this early use of the term with Nietzsche's and Hofmannsthal's 'affective' use of the term, on the one hand, and Alois Riegl's and Georg Simmel's reflections on the relationship of *Stimmung* and the observer, on the other hand. I argue that the *Stimmung* aesthetics developed by these writers, and in the cinema and painting of the early twentieth century, can only be understood when it is brought into connection with life-scientific models of subject-environment interaction. In the nineteenth century, the rise of milieu theory was concomitant not only with, say, Émile

10 Robert Sinnerbrink has written an illuminating essay on the importance of mood for film analysis. See Sinnerbrink, 'Stimmung'.

Zola's 'naturalism,' which held that individuals are 'determined' by their milieu, but it also enabled a much more indeterminate understanding of external *Stimmungen* that take hold of individuals, and which is expressed in the literature of Adalbert Stifter, Gottfried Keller, and Theodor Fontane.

The rise of Expressionism in art and subsequently in film, however, presented a turning point in the history of *Stimmung* aesthetics, enabling a new way of thinking about *Stimmung* and environment, one in which the individual is *not* determined by her external surroundings, but rather struggles with 'problems' proposed by that environment. To explore how Expressionism reorients *Stimmung* aesthetics, this chapter focuses on various films from the Expressionist period in German cinema, in particular *The Cabinet of Dr. Caligari* (*Das Cabinet des Dr. Caligari,* Robert Wiene, 1920) and *Shattered* (*Scherben*, Lupu Pick, 1921). Not coincidentally, *Stimmung* became important for the film-critical and aesthetic discourse of the time as well, and Béla Balázs makes extensive use of the term in his discussion of Expressionist, Impressionist, and *Kammerspiel* ('chamber play') film, for example, as do Rudolf Kurtz and Lotte Eisner in their books on Expressionist cinema. Focusing especially on Balázs' arguments, I argue that Balázs helps us to see how *Caligari's mise en scène* effectively creates a determinist aesthetic, but the *Kammerspiel* films—despite the return to 'naturalist' motifs in these films—in fact reframe and mobilize the subject-environment interaction by means of their use of closer shot lengths and an increasing mobilization of the camera, and hence develop a *Stimmung* aesthetic that proposes an *open* relationship between an individual and her surroundings.

This chapter thus has three primary goals. First, it demonstrates an important link between the vitalism discussed in earlier chapters and the concept of *Stimmung*. Second, the chapter explains *why* the concept of *Stimmung* was of interest to early film commentators: namely, it enabled early film critics to describe moods as well as processes of resonance, attunement, and animation in cinema and on the film screen, and to do so by discussing cinematic style in a way that did not subordinate form to plot elements or questions of photographic representation. *Stimmung,* to return to the discussion of Walter Benjamin in Chapter 2, describes the aesthetic quality of the 'medium of perception' and the contacts and correspondences it enables. Third, and finally, focusing on Balázs' use of the term gives us greater insight into why recent critics have found the historical genre category of German Expressionism problematic, and also helps us to understand better the dialectic between Expressionist films and later chamber play films that relied on differing understandings of how an environment 'determines' characters.

A Brief Aesthetic History of *Stimmung*

As David Wellbery has shown in his enlightening history of the term, the use of the word *Stimmung* combines nuances that set it somewhat apart from related English terms, such as mood, atmosphere, or attunement.[11] *Stimmung* is both subjective and objective (it can be ascribed to a person or a landscape, for example), internal and external, communicating and communicable, and it carries a strong musical sense that connects it to tune, voice, and harmony. *Stimmung* as an aesthetic concept captures the sense of mood as well as processes of resonance, attunement, and animation between living beings and their environment, and there is thus no precise translation of the term into English. Wellbery also argues that *Stimmung* became a concept or term at a particular historical point—the late eighteenth century—when the subject had lost its secure and predetermined place in the world, and the world and its order became subject to change; that is, the relationship between subject and world needs to be negotiated again and again. The concept of *Stimmung* thus supplants the idea of a pre-stabilized world harmony (as in, for example, Gottfried Wilhelm Leibniz's philosophy). There is the possibility of harmony (in the sense of an attunement) between subject and world, but this harmony only means attunement of subject and world to a random (*beliebige*) and temporary, not an absolute, value. In that sense, *Stimmung* is often connected to longing (*Sehnsucht*), because it allows for a connection with a larger whole—environment, nature, community—while still lacking absolute determination.

Immanuel Kant made an explicit connection between the concept of *Stimmung* and aesthetic theory. In his *Critique of Judgment*, Kant addresses the attunement between self and world when considering the fact that judgments of beauty, while based on subjective grounds, still contain a reference to universally validity. How do subjective judgment and universal validity cohere? If reason is what connects us as individuals to a community and the world at large, how can this connection be achieved when we are dealing with beauty, that is, a judgment made beyond reason? The 'pleasure' that is bound up with aesthetic judgment grows out of the subject's reflexive understanding that its own 'subjective condition' at the moment of aesthetic experience amounts to something 'universally communicable' (*allgemein mitteilungsfähig*). This communicability is pre-conceptual, pre-conscious; it must be located in our 'mental state' (*Gemütszustand*). This mental state is characterized by a free play of the faculties of cognition (*Erkenntniskräfte*), namely imagination and

11 Wellbery, 'Stimmung'.

understanding (*Einbildungskraft und Verstand*), which somehow 'zusammenstimmen' ('harmonize', fit/tune together). A specific presentation (*Vorstellung*) brings the faculties of cognition into a *Stimmung* that is proportionate to this representation: because of this link between our cognition and presentation, our judgments of beauty can be subjective yet general, even though they are not based on concepts.[12] Thomas Pfau summarizes this process as follows:

> The 'proportionate accord' (*proportionierte Stimmung*) of the faculties of cognition, Kant argues, constitutes both the cause and the substance of the aesthetic-reflective judgment (§ 9, 54). At its most general, all cognition (*Erkenntnis*) can thus be characterized as a way of being 'attuned' to discrete phenomena, such that their contemplation will gradually 'determine' (*bestimmen*) the subject via its affective experience of a 'concord' (*Übereinstimmung*) or 'conformity' (*Zusammenstimmung*) that connects an (empirical) appearance to the (transcendental) form in which the subject's sensory and discursive faculties relate to one another.[13]

Pfau's analysis of this passage highlights the fact that for Kant, feeling, or affect, holds a privileged position both for cognition and for an ethical being-in-the-world. The attunement to phenomena is already the attempt to comprehend and judge the world; it is not simply pre-cognitive, but a substantive and necessary part of the process of cognition. At the same time, Kant's use of the term *Stimmung* signals how these feelings are always already connected to an awareness of their communicability and sharedness; aesthetic experience thus appears as the nexus of self and imagination with community and livable reality (as projection). Much later, Martin Heidegger would deepen this logic, asserting that wherever we are, a *Stimmung* is already there and encompasses us; hence, *Stimmung* cannot be an event in the soul, but rather determines the conditions of our being-together: 'It is clear that attunements are not something merely at hand. They themselves are precisely a fundamental manner and fundamental way of being, indeed of being-there [Da-sein], and this always directly includes being with one another [Miteinandersein].'[14] In both Kant's and Heidegger's (otherwise quite different) uses of the concept of *Stimmung*, an inquiry into the conditions and tonalities of *Stimmungen* implies an ethical dimension.

12 Kant, *Critique of Judgment*, 62. See Immanuel Kant, *Kritik der Urteilskraft*, 67.

13 Thomas Pfau, *Romantic Moods*, 34.

14 Heidegger, *Grundbegriffe der Metaphysik*/Heidegger, *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude*, 67; 100/101.

As both Kant and Heidegger suggest, though in different ways, *Stimmung* always concerns mediation, whether this is the mediation between imagination and reason, between self and representations, or between self and others. This mediating role remains central in others' use of the term: in Schiller's *Aesthetic Education*, it is the mediating moment between sensation and thought that suspends the determining force of either domain; in Hegel's *Vorlesungen über die Ästhetik* it is the lyrical mediation between subjectivity and the outside world. In most eighteenth- and nineteenth-century accounts of *Stimmung*, no matter whether the focus is on the interior/subjective or exterior/objective, this mediating moment arises reactively, passively; it comes forth without a will or clearly identifiable agent. Particularly in its nineteenth-century use in literary texts (for example, in the writings of Goethe, Adalbert Stifter, and Gottfried Keller), *Stimmung* designates a whole that encompasses people and their environment.[15] Yet this is not an organic, predetermined, or teleological whole; rather, this whole is the result of a precarious network of indeterminable, unwilled relations. *Stimmung,* in other words, is a vitality of relations, of the in-between, possessing people and things, possessed by none, and requiring sensitivity to both internal and external voices.

Perhaps because the history and aesthetic valence of the term *Stimmung* has been a topic of interest primarily to literary scholars in German studies, the fact that this concept has an inherent temporal dimension and is almost always connected to movement has often been ignored or deemphasized.[16]

15 See, for example, Eric Downing, 'Binding Magic in Gottfried Keller's *Der Grüne Heinrich*'; Timothy Attanucci, 'Atmosphärische Stimmungen'; Thomas Pfau, '"Epochenwandel . . . mit metaphysischen Anklängen'.

16 For example, Anna-Katharina Gisbertz, ed., *Stimmung;* Hans-Georg von Arburg and Sergej Rickenbacher, eds., *Concordia discors;* Pfau, *Romantic Moods*. Recently, several cognitive theorists—most notably Noël Carroll, Greg M. Smith, and Carl Plantinga—have sought to integrate 'mood' into cognitive film theory and theory of art at large. But because they understand mood functionally and as something that is neuro-scientifically verifiable (and in this sense dislodged from aesthetic-historical uses and transformations, and beyond etymological and semantic considerations), their account only aims to describe the important role mood—in contradistinction from emotions or affects—plays in film *reception*. The use of the English term 'mood' further means that, in contrast to *Stimmung*, they do not think about subjective (human) mood and environmental atmosphere together. To them, the question of transference of mood from one entity (say, a film) to another (a spectator) is a 'mystery' onto which they aim to shed light. Smith, for example, maintains that mood is film's primary way of communicating. Films, for him, extend an 'invitation to feel' rather than make people feel. In contrast to more short-lived emotions, sustaining 'mood cues' serves to 'orient' us and pave the way for emotions proper. To this end, Plantinga invented the term 'art moods' to distinguish the mood *of* a film—as the affective character of a film—from the human mood that a film may evoke. Such an invocation of mood as a critical category fails to grasp the complex interaction between cinematic mood

Given that this aspect of *Stimmung* is one that made it especially suitable for early-twentieth-century discussions of moving images, it is worth stressing this aspect here. Just as tuning an instrument is connected to the vibration of strings, for example, *Stimmung* for the poet Johann Wolfgang von Goethe is a vibration in nature that connects things. The Romanticist philosopher Gottlieb Fichte, in particular, emphasizes the role of movement in the communication of a *Stimmung* in art:

> The enthusiastic artist expresses the *Stimmung* of his soul in a mobile body, and the movement, the gait, the flow of his characters are the expression of the inner vibrations of his soul. This movement is supposed to produce the same *Stimmung* in us that was in him; he lent his soul to the dead matter, so that it may transfer this soul to us [...] those characters are the mediators between him and us, like the air is a mediator between our ear and an instrument's string. This inner *Stimmung* of the artist is the spirit of his product; and the arbitrary characters, by means of which he expresses them, are the body or the letter of this spirit.[17]

For Fichte, in contrast to Kant, *Stimmung* 'is not the condition of possibility of communication, but rather that which is supposed to be communicated in art', as Wellbery succinctly puts it.[18] Yet Fichte still distinguishes between *Stimmung* and its mediation: *Stimmung* is internal only and refers to the movement of the artist's soul, which can be transferred to others' souls by means of a different medium (in the case of the vibration of string instruments, for example, this would be air). Attunement is thus the product of the mediation of *Stimmung* as a mood or tonality.

Stimmung itself became a medium in nineteenth-century art theory and practice, whereby it was increasingly understood to encompass inner life and life outside oneself. In contrast to the letter (*Buchstab*), which Fichte conceived as the independent mediator of an inner *Stimmung*, a medium such

and the spectator, namely the capacity of a film to envelop the spectator with a mood that is as complex and intense as moods found in directly experienced environments. It also fails to answer a question that scholars of melodrama have been asking for decades, namely: why would we willingly subject ourselves to a film that affects our mood negatively? Because cognitivist film theory maintains that our reception of films is always goal-oriented, it ultimately does not allow for Kant's 'free play' of the faculties of cognition or for disinterested pleasure, both of which are central elements of film spectatorship. See Noël Carroll, 'Art and Mood'; Greg M. Smith, *Film Structure and the Emotion System*; and Carl Plantinga, 'Art Moods and Human Moods in Narrative Cinema'.

17 Johann Gottlieb Fichte, 'Ueber Geist und Buchstab in der Philosophie', 294 (translation mine).

18 Wellbery, 'Stimmung', 715 (translation mine).

as landscape painting can express a *Stimmung* contained in that landscape, which then can influence the beholder's soul. For Carl Gustav Carus, a painter, doctor, and philosopher who was close to Caspar David Friedrich, the main task of landscape painting was the '(re)presentation of a certain *Stimmung* of inner life (*Gemüthlebens*) (sense) by means of the imitation (*Nachbildung*) of a corresponding *Stimmung* of natural life (truth)'.[19] This correspondence has its origin in the fact that for Carus, sensations (*Empfindungen*) emerge from a sense of the self as part of a larger whole, in contrast to the individualizing tendency of ideas (*Vorstellungen*). As sensing beings, we are part of nature, because the same life pulses through us; a life that expresses itself through the states of growth, chaos, organization, equilibrium, decline, decay, and death; the manifold *Stimmungen* can be attributed to various combinations of these states. Only the free, unbiased mind will be able to be tuned by, to attune to the *Stimmung* of landscapes, while the biased (*befangen*) mind, which is already tuned by an inner mood or agitation, might transfer this inner agitation to what it perceives. A sick mind might be affected wrongly by things—be depressed by a spring morning, for example. Attunement for Carus might go both ways, but *should* only go from environment to observer; ideally, the observer should be empty, unprejudiced, calm, and even-keeled.

Two decisive late nineteenth-century shifts in the sense of *Stimmung* helped set the stage for its subsequent adoption by early critics and theorists of film. The first shift was the introduction of historicity into an understanding of the relationship between *Stimmungen* and art: that is, the idea that art-*Stimmungen* play different roles in different periods. This shift is evident in Alois Riegl's early twentieth-century considerations of *Stimmung* and modern art. For him, quietude and a distanced view ('Ruhe und Fernsicht') enable *Stimmung* to come forth, while anything close that stimulates the senses of touch, including the perception of fast or close movement, throws us into the pressure of existence as fight.[20] What distinguishes Riegl's invocation of *Stimmung* from that of Carus, however, is his introduction of the term as a historically determined approach to art. The end goal of all art, Riegl surmises, is harmony, a relief from the fight for existence; rather than a metaphysical harmony that would allow for insight based on an attunement to the larger forces, Riegl's harmony is functional and simply allows for a reprieve. The kind of art that would grant a relief from existential pressure, however, is dependent upon the historical context of that which constitutes the most pressuring fight: for the primitives, man against man, each for

19 Carl Gustav Carus, *Neun Briefe über Landschaftsmalerei*, 41.

20 Alois Riegl, 'Die Stimmung als Inhalt der modernen Kunst', 28-29.

themselves, resulted in the fetish as protection; in antiquity, the strongest against the weaker resulted in admiration of the strong and beautiful body that is equally god and human; in medieval times, moral and spiritual purity against sin resulted in art focusing on the face and gesture as expressions of such purity; and in modernity, the conflict between the dissecting knowledge of the natural sciences and belief resulted in 'Stimmungskunst' (*Stimmung* art) that represents nature as a chain of causalities.

The second key shift, which we see in the work of life-philosopher Friedrich Nietzsche, is the position that *Stimmungen completely* determine the individual: that is, rather than *Stimmungen* serving as a means for the faculty of reason, as in Kant, the subject is instead the outcome of competing *Stimmungen*. With Riegl's sober analysis of why *Stimmungskunst* pleases and appeases us, *Stimmung* became dislodged from any immediate and absolute epistemic value. Such a disconnection between *Stimmung* and knowledge also informed nineteenth-century vitalist and life-philosophical discourses, where it was further tied to the qualities of life that determine the perceiving individual. With surprising wit and insight, in 1864, the young Friedrich Nietzsche analyzed, in an essay entitled 'On Moods,' how the mental state is determined by conflicts between old thoughts and new impressions, and 'Stimmung' simply names the current state of the conflict.

> Let us admit it: I am writing about moods, insofar as I am right now in a certain mood; and it is fortunate that I am just in the mood for describing moods. Today I played Liszt's Consolations many times over, and now I feel how its tones have penetrated my being and continue, spiritualized, to resonate within me. I recently underwent a painful experience that had to do with a parting or a not parting, and now I notice how this feeling and those tones have fused together, and I see that the music would not have appealed to me had I not just had this experience. So the soul strives to attract what is like it, and the current mass of feelings squeezes like a lemon the new events that impinge upon the heart, but always in such a way that only a part of what is new fuses with what is old, and a residue is left over which is not yet able to find anything related to it in the household of the soul, and thus lodges here alone, quite often to the displeasure of the older residents with whom it often comes into conflict. But look! Here comes a friend, there a book is opening, a girl passes by. Listen! Music! Already new guests are streaming in from all sides into the house that stands open to all, and the one who was just now standing alone finds many noble relatives.[21]

21 Friedrich Nietzsche, 'On Moods (1864)', 5-6.

The soul is influenced—pushed, attacked, confirmed, elevated—by impressions that can stand in a relationship of confluence or contrast with its current state. To the musical image of a string in the soul that vibrates and resonates with a related external event, Nietzsche adds an additional material element: even where there is no resonance, since we are matter among matter, external events still put pressure on the soul. Against the *Stimmung* art that appeases the fight of existence, Nietzsche celebrates *Stimmung* as subjective experience of the confrontation between self and world. Rather than understanding *Stimmung* as simply a continuous, contingent change, Nietzsche values *Stimmungen* because in the encounter between self and world, the moods change and grow, become simultaneously deeper and higher, since the amassing of experiences in the self allows for more intense encounters with the world. As such, the change of *Stimmungen* rises above the changes in nature, since the latter is determined by eternal sameness.[22] In his short text on moods, Nietzsche ends by demonstrating the power of the moody soul over nature by invoking a thunderstorm: 'And I implore a thunderstorm; does the tolling of the bell not attract the lightning? Now, you approaching thunderstorm, clarify, purify, blow fragrances of rain into my dull nature; welcome, at last, welcome!' In art, nature attunes to the soul, and the voice of the creative soul now addresses the self magnified, as instantiation from the world: 'Be cleansed!' 'Hope!' 'Become new!'[23]

Turn-of-the-Century *Stimmung* and Cinema: Georg Simmel and Hugo von Hofmannsthal

During the first few decades of cinema, vitalist writers turned to the interface of self and world with a curiosity fueled by the readiness to let the borders of the self dissolve in the onslaught of manifold *Stimmungen*, stimuli, and impulses. Knowledge and experience, it seemed, were not achieved internally after a reflection on external events, but rather at the seam of inside and outside, on the skin, in the evocations of a word, sound, rhythm, line. Without postulating a relationship of cause and

22 'Dear moods, I salute you, marvellous variations of a tempestuous soul, as manifold as nature itself, but more magnificent than nature, since you eternally transcend yourselves and strive eternally upwards, whereas the plant still exhales the same -fragrance it did on the day of creation. I no longer love as I loved some weeks ago; I am no longer this moment in the mood I was in as I began to write.' Nietzsche, 'On Moods (1864)', 8.

23 Ibid., 9-10.

effect, I see the development of technological media in the nineteenth century—in particular, photography, the gramophone, and cinema—as a direct companion of a notion of *Stimmung* that sought new configurations of self and world, dissolving not only the contours and coordinates of the self, but also its environment. These media allowed for new experiences of temporality characterized by achronology and simultaneity, and new experiences of the body based on a separation of immediate sensual and spatio-temporal connections (the disembodied voice that is suddenly found to carry a body with it and fill a room, for example). These experiences also informed Georg Simmel's and Hugo von Hofmannsthal's use of *Stimmung*, and it is through these authors that the term also influenced early texts on cinema.

Simmel, like Nietzsche, worked out how *Stimmung* mediates between nature and human being precisely because an original unity is lost. He did so by invoking landscape, writing: 'By nature we mean the infinite interconnectedness of objects, the uninterrupted creation and destruction of forms, the flowing unity of an event that finds expression in the continuity of temporal and spatial existence.'[24] Nature is spatially whole, all-encompassing; temporally, it is eternal and uninterrupted, and natural life is interwoven, characterized by permanent change. The idea of landscape is itself already the signature of an attempt at a unity of a second order, one that derives its coherence from human perception and comprehension (and, we could add, thus also one that bespeaks the loss of the original harmony that allowed human beings to understand themselves as part of the cosmos): 'a self-contained perception intuited as a self-sufficient unity, which is nevertheless intermeshed with an infinite expansiveness and a continual flux'.[25] In Simmel's text, the dynamic interplay of soul and world that for Nietzsche characterized the 'moody' self becomes a dynamic that is played out in aestheticized and quasi-objectified nature itself, as a fluctuation between a human-given form and the borderlessness of transcendent nature (a non-nature-bound aesthetic object such as a painting would present such a fluctuation in a different way, namely as one between aesthetic form and the creator's vitality that remains connected to it).

For Simmel, this dualism of form and life characterizes culture more generally. Simmel views any cultural product, including 'civil laws and constitutions, works of art, religion, science, technology', as artifacts that

24 Simmel, 'The Philosophy of Landscape', 21.

25 Ibid., 22.

are produced by the 'creative dynamism of life' and, since they have form and life is formless, 'provide it with forms of expression and actualization' by absorbing life's flow.

But a peculiar quality of these products of the life process is that from the first moment of their existence they have fixed forms of their own, set apart from the febrile rhythm of life itself, its waxing and waning, its constant renewal, its continual divisions and reunifications. They are vessels both for the creative life, which however immediately departs from them, and for the life which subsequently enters them, but which after a while they can no longer encompass. They have their own logic and laws, their own significance and resilience arising from a certain degree of detachment and independence *vis-à-vis* the spiritual dynamism which gave them life. At the moment of their establishment they are, perhaps, well-matched to life, but as life continues its evolution, they tend to become inflexible and remote from life, indeed hostile to it.[26]

Landscapes, for Simmel, are a form given to nature by life as it manifests itself in us. A 'form drive' (*Formtrieb*) is inherent to life, and an artwork constitutes an object that is a now self-sufficient and independent product of this drive, the result of a kind of crystallization. The landscape is an in-between object: it is the result of our vital drive to form, but it has not ossified into a fixed, stand-alone object.[27] For Simmel, *Stimmung* is that which carries the new unity of the elements that make up the landscape. The intuitive unity of what we call landscape; its *Stimmung*; and the *Stimmung* into which it moves us—this is one indivisible act that transcends the subject-object dichotomy and unites perception and feeling.[28] The new, man-made unity of a landscape and *Stimmung* as a feeling are both located in the interaction of our individuality and the specificity of the surroundings we perceive. *Stimmung* is thus part of the very act of vital creation of a form (i.e., landscape), it is inscribed in that form; since the form is itself

26 Simmel, 'The Conflict of Modern Culture', 75-76.

27 Simmel is simultaneously drawing on and distancing himself from Friedrich Schiller here, without naming him directly. In 'On the Aesthetic Education of Man', Schiller distinguishes between two basic drives: a 'sensual drive' and a 'form drive', whereby the latter strives toward a distance from the feeling body, harmony and permanence to secure man's identity through the changes over time. Friedrich Schiller, *On the Aesthetic Education of Man*.

28 The basis for Heidegger's understanding of *Stimmung* is not that dissimilar: because *Stimmung* puts us in touch with the world and highlights how we are part of the fabric of the world, we can gain an understanding of the conditions of *Dasein*. See Heidegger, *The Fundamental Concepts of Metaphysics*.

made by a person based on that which she actually finds before herself, both form and *Stimmung* are simultaneously subjective and objective.

For Simmel, *Stimmung* encompasses the aesthetic and emotional dimension of the encounter between individual and environment, an encounter in which neither exists autonomously for the duration of the perception of the landscape. Simmel's approach to landscape thus also allows us to think about the viewing of an image, a moving image, since his definition of landscape describes nothing other than the process of turning a view into a mental image; a view that is 'made,' that is delineated by a stable frame and determined by certain spatial relations between things and by certain qualities (light, color, etc.). Like the landscape, the moving image is an in-between object, a form on the edge of formlessness, a form threatening to dissolve back into the flow of life at any moment. With a landscape, its instability results from the fact that it is defined by a purely perceptual frame; it does not exist outside of our perception, unless we recreate it in an image. Moving images have a set frame and perspective, but have reconstituted natural movement which defies a determinate form; instead, the image assimilates, or reintegrates, seamlessly back into the flow of life. While landscapes maintain a connection to the flow of life via perception as vital act, moving images maintain this connection via the properties of the new medium of cinematography itself.

Most early reflections on cinematography, that is, texts about the potential, danger, and possibilities of the new medium, focus on either the new world that cinema opens up—a world that lacks sound, color, gravity, fate, and anthropocentrism, but also promises a new awareness of the body and nature, expanded senses, and overall nerve stimulation—or on the experience of watching moving pictures in a movie theater. *Stimmung* is usually not a central term in these texts to describe the effect of film images or the relationship between spectator and image, presumably because the colloquial use of *Stimmung* referred back to its mid-nineteenth century definition of a captured, but removed and reflecting observer who finds himself *vis-à-vis* an image, rather than enmeshed in it. Authors and critics thus explicitly turned against the spatiotemporal coordinates of *Stimmung* in Carus' or Riegl's sense and focused on how the motion picture upset those aesthetic attitudes. They described the vertiginous temporality, the loss of cohesion, direction, and causality; the tearing at the nerves, the lust and sensationalism, the pure, sensual, and non-sensical spectacle. While for Riegl, *Stimmungskunst* was a reprieve or counterbalance to the pressure of modern life, early film reviewers (at least those who were not fighting cinema on moral and cultural grounds)

celebrated the ability of film to reflect back to them the reality of modern life, in particular its speed, amorphousness, possibilities, and imbrication with technology.[29]

Yet *Stimmung* still provided an important aesthetic structure for these critics, and it did so in two ways upon which I shall expand below. Descriptions of the effect of cinema were often closely related to the modern subjective permutations of *Stimmung* (i.e., in its sense of an individual mood) by Nietzsche and *fin-de-siècle* Viennese writers such as Hugo von Hofmannsthal or Fritz Mauthner, for whom *Stimmung* was fleeting, contradictory, and in its connection of self and world, current and past experiences a companion of a decentered, unstable self.[30]

Hofmannsthal, Mauthner and other fellow travelers found their medium—language—to be lifeless and distant from actual experience; they thus attempted to define and carve out a space for poetic words to touch life *despite* language.[31] *Stimmung* in its modern, Nietzschean understanding describes that space, especially when it is turned against its more colloquial, holistic use. In the brief text 'Poetry and Life' (*Poesie und Leben*), Hofmannsthal rejected the common use of *Stimmung* (that is, *Stimmung* as something that can be objectively described and ascribed to texts and paintings) to define, in one long, winding sentence, the essence of poetry as *Stimmung*—the latter now understood as a subjective state of being.

> I don't know if, among all that tiresome chatter about individuality, style, attitude, *Stimmung* and so forth, there has not been a loss of awareness of the fact that the material of poetry is words, that a poem is a weightless weave of words which, by way of their order, their sound and their content; by connecting the memory of visible things and the memory of audible things with an element of movement; elicit a precisely

29 These reviews generally read like an illustration of Walter Benjamin's argument about the loss of aura with media such as photography and film—an argument that reframes Riegl's discussion of *Stimmung*. For Benjamin on aura, see Benjamin, 'Little History of Photography', 518-19; Benjamin, 'The Work of Art, 103-05, 112. On the distinction between aura and *Stimmung*, see Hansen, *Cinema and Experience*, 233; and Dirk Niefanger, *Produktiver Historismus*, 52.

30 Another group of film critics, among them Hermann Häfker and Herbert Tannenbaum, turn to external *Stimmungen* (i.e., in the sense of the mood or atmosphere of a landscape) to discuss a new aesthetic of nature and landscape connected to movement that film has ushered in. See Helmut H. Diederichs, 'Frühgeschichte deutscher Filmtheorie'; Häfker, *Kino und Kunst*; and Herbert Tannenbaum, *Der Filmtheoretiker Herbert Tannenbaum*.

31 See Gisbertz, *Stimmung – Leib – Sprache;* Carsten Strathausen, *The Look of Things;* Assenka Oksiloff, *Picturing the Primitive;* Stefanie Harris, *Mediating Modernity;* Heinz Hiebler, *Hugo von Hofmannsthal und die Medienkultur der Moderne*.

> circumscribed, dreamily clear, fleeting condition of the soul we call *Stimmung*.[32]

As is typical of Hofmannsthal, he used contradictions to outline the qualities of this state—'dreamily clear'—that highlight how its quality eludes the grasp of words. *Stimmung* designates this quality of words beyond any objective ascription: it is a weave without weight, so what matters is the interweaving, not what the weave could carry—what matters is the medium, not the message. This interweaving includes subjective associations, both sensual and intellectual, evoked by the words' rhythm, sound, appearance, and content. Important for us is the role of movement: the material qualities of words in poetry resonate with our embodied feelings and memories. There is a ripple that poetry can send through the atmosphere and through our fibers, and this ripple, like a weaver's shuttle, connects the memories of visible and audible phenomena nudged by poetry into a fleeting texture.

This weave is diametrically opposed to those holistic understandings of the world that are associated with vitalism more generally, namely the idea that there is an overarching unity to an individual living being and its connection to the cosmos. Instead, this weave is a tenuous connection that claims no unification or completeness; in contrast to the holistic claim that the sum is greater than the parts, *Stimmung* for Hofmannsthal and fellow travelers replaces the illusion of holism, unity, and coherence with a decentered, temporary connection. This is one way of reading Hofmannsthal's 'Letter of Lord Chandos' from 1902, even though in this watershed text of the so-called 'language crisis' among *fin-de-siècle* Viennese writers, Hofmannsthal never discusses *Stimmung* directly. In the form of a letter to Francis Bacon, Lord Chandos chronicles his development from poet to someone unable to grasp anything coherently, either in language or in thought. In the days of his belief in poetry and in his ability to understand and convey both himself and the world, Chandos writes that he, 'in a state of continuous intoxication, conceived the whole of existence as one great unit: the spiritual and physical worlds seemed to form no contrast'. In everything he 'felt the presence of Nature . . . and in all expressions of Nature I felt myself'. Both physical and spiritual experiences were the same: 'neither was superior to the other, whether in dreamlike celestial quality or in physical intensity—and thus it prevailed through the whole expanse of

32 Hugo von Hofmannsthal, 'Poesie und Leben', 14-15 (translation mine).

life in all directions; everywhere I was in the centre of it, never suspecting mere appearance'.[33]

Yet in being unable to view things from a distance and put them into perspective, Chandos experiences the loss of determining relationships—both his self and objects disintegrate. Increasingly, he becomes unable to use words; first, concepts such as 'soul' or 'body,' and soon any abstract words and verbal judgments. The mediation of perception by a magnifying glass becomes indicative of this disintegration:

> As once, through a magnifying glass, I had seen a piece of skin on my little finger look like a field full of holes and furrows, so I now perceived human beings and their actions. I no longer succeeded in comprehending them with the simplifying eye of habit. For me everything disintegrated into parts, those parts again into parts; no longer would anything let itself be encompassed by one idea. Single words floated round me; they congealed into eyes which stared at me and into which I was forced to stare back—whirlpools which gave me vertigo and, reeling incessantly, led into the void.[34]

What Chandos describes as a disorienting loss—the floating of words signals that all firm coordinates have indeed been lost—reappears in early film theory a few years later in often exhilarating terms, when vaudeville programs and distraction were seen as a marker of modernity and mass culture.[35] For Chandos, the crisis is set off by mediated vision and results in the transformation of words into eyes with a commanding gaze—an image very similar to Alfred Döblin's description, seven years later, of the movie screen as a 'white eye' that spellbinds the masses with its 'fixed stare'.[36]

This loss of a sense of self, however, becomes for Chandos the precondition for a new sensitivity to things, views, and thoughts. Stephanie Harris has argued that what I would call 'found images' in the Chandos letter correspond very closely to the images Hofmannsthal conjured up in his essay on cinema, 'The Substitute for Dreams' (1921). In this essay, Hofmannsthal describes cinema's moving images as an antidote to words, about which the masses have become wary and distrustful. In the Chandos letter, Chandos mentions 'a pitcher' half-filled with water, 'a harrow abandoned in a field, a

33 Hofmannsthal, 'The Letter of Lord Chandos', 132.
34 Ibid., 134-35.
35 See Kracauer, 'Cult of Distraction'.
36 Hofmannsthal, 'The Substitute for Dreams', 38.

dog in the sun, a neglected cemetery, a cripple, a peasant's hut—all these can become the vessel of my revelation'.[37] The film essay turns to similar images to describe how the effect of the moving images resembles the daydreams of children: 'a dark corner, a breath of wind, the face of an animal or the shuffle of a stranger's steps . . . the dark space behind the cellar steps, an old keg in the yard half-filled with rainwater'.[38] But the case against language as a transparent, conceptual vehicle in the Chandos letter takes a social-critical turn in the essay on film written almost twenty years later. In an argument prefiguring Siegfried Kracauer's and Walter Benjamin's critique of film, Hofmannsthal connects the language crisis to comprehensive processes of rationalization undermining language, processes extending in particular to the living and working conditions of the urban masses. People's heads are 'empty;' landscapes, houses, factory routines, administration, all reduce life to a 'number.' What is missing are 'strong images that condense the essence of life'.[39] For Hofmannsthal, the movie theater resembles dreams in its provision of images connected to 'the only true power' there is, and these dream-like images that come to the audience from without, but then take with them the entire person, down into its very depths, provide the only true antidote to any external power, whether capitalist, political, or social, as these latter are powers that rely on words and numbers.

While neither the Chandos letter nor 'Substitute for Dreams' mention *Stimmung*, they are nevertheless closely connected to Hofmannsthal's understanding of the term. *Stimmung* grasps the potential of poetry, but even more so of art forms such as dance, theater, or film, to stir the essence of life, and to do so with images, sounds, gestures, movements, and rhythms that awaken something deep inside us that nothing else can stir. Film 'offers beautiful beings, transparent gestures, and expressions and looks from which the soul as such bursts forth'.[40] The spectator/dreamer is stirred in her entirety—not as a whole person, but rather in everything that her sensing, thinking, dreaming self has collected over her lifetime, consciously and, even more importantly, unconsciously. Hofmannsthal's indebtedness to Sigmund Freud's *Dreams*, which was published just two years prior to his film text, is most apparent here.[41] From every dream, including those we cannot recall, 'there remains within us a certain something, a quiet

37 Hofmannsthal, 'The Letter of Lord Chandos', 135-36.
38 Hofmannsthal, 'The Substitute for Dreams', 387.
39 Ibid., 384 (translation modified).
40 Ibid., 386.
41 See Harris, *Mediating Modernity*, 72-75; and Hanno Loewy, *Béla Balázs*, 290-98.

but decisive coloration of affect (*Färbung der Affekte*)'—a *Stimmung*.[42] Hofmannsthal's thoughts on cinema prefigure not only Kracauer's and Benjamin's ideas (their awareness of film's social-critical relevance, as well as the former's notion of photography as go-for-broke game of history and the latter's notion of the optical-unconscious), but also resonate with Béla Balázs' *The Visible Man*, one of the earliest comprehensive attempts at an aesthetic theory of the medium film.[43]

Balázs, *Kammerspielfilm*, and Expressionism

The Romantic and early modernist history of *Stimmung* that I have outlined above puts us in a position to understand better the appearance of this term in debates on 'German' cinema in the 1920s. In this period, German cinema had begun to distinguish itself on the basis of a kind of *Stimmung* film aesthetics, though most critics used the term 'Stimmung' in its more conventional form, as synonymous with atmosphere. The invocation of a distinct, sophisticated German cinema occurred originally in the context of the *Autorenfilm* around 1913/14, films that employed famous writers (Gerhart Hauptmann, Arthur Schnitzler, Hugo von Hofmannsthal) and well-known theater actors, and told stories inspired by literary and folk motifs.[44] As Thomas Elsaesser and Dietrich Scheunemann convincingly argue, *Autorenfilm*, Expressionist cinema, and *Kammerspiel* film—those intimate psychological dramas that mostly play out in petit-bourgeois parlors and are related to Max Reinhardt's theater experiments in intimate spectator-stage relations at his *Kammerspiele* theater in Berlin—are linked on the basis of not only their cultural and international market ambitions, but also similar motifs and visual strategies. All three groups of films rely on Romantic stories that are often set in the past and feature supernatural and/or gothic elements. At the same time, style and plot are driven by

42 Hofmannsthal, 'The Substitute for Dreams', 386.

43 Kracauer's notion of a 'last image' that he develops in his essay on 'Photography' resonates particularly with Hofmannsthal's symbol that flashes up from the depths of inner life: 'As the eyes read from the flickering film the thousand-sided picture of life, the whole of this subterranean vegetation, down to the darkest regions of its roots, joins in the stirring movement . . . Before this dark view from the depths of being, the symbol appears like a flash: the sensual image of spiritual truth beyond the reach of *ratio*.' Hofmannsthal, 'The Substitute for Dreams', 386. On Kracauer's essay, see Chapter 4.

44 See Dietrich Scheunemann, 'Activating the Differences'; Thomas Elsaesser, 'Weimar Cinema, Mobile Selves, and Anxious Males'.

technical innovations in film, most often by innovative cameramen such as Guido Seeber or Karl Freund, as Katharina Loew has demonstrated in her work on early German cinema's 'technoromanticism.'[45]

By reconsidering films from the early 1920s that are generally described as Expressionist or *Kammerspiel* films in terms of the way *Stimmung* operates in these films, my work participates in the critical reassessment of these stylistic attributions by recent scholarship. The very idea and definition of an Expressionist cinema, as well as the question what films could be categorized as in this group, has come under scrutiny by German film scholars such as Elsaesser, Scheunemann, and Thomas Koebner.[46] How can one dissociate Weimar cinema from Expressionist cinema? What makes a film Expressionist; is it the story and its narrative construction (as in, for example, *From Morn to Midnight* [*Von morgens bis mitternachts*, Karlheinz Martin, 1920], which is based on an Expressionist drama and maintains the source's structure)? Is it the style, in particular the set design, lighting, and camerawork? Or might Expressionist ideas translated to film result in a creature bearing very little resemblance to Expressionist literature or painting? Lotte Eisner's *The Haunted Screen* (published in France in 1952, in Germany in 1955, and in the US in 1969) and Siegfried Kracauer's *From Caligari to Hitler* from 1947, long constituted the canonical texts on Expressionist cinema and determined our understanding of these films. As authors who were both part of the film world they described, their account has a symptomatic quality, as Elsaesser asserts: 'If, as their different arguments imply, the German nation is haunted by its cinema screen, and the films are haunted by German history, then their books are themselves haunted by the history that came after the films.'[47] While Expressionist cinema is still a favorite example of a distinct, coherent style bound up with national history in film studies textbooks and survey classes, this cinema's stylistic coherence, its symptomatic quality, and relevance for German history, but also the stylistic elements themselves have spread out and diversified, at times to a degree that the object itself seems to dissolve.

My focus on *Stimmung* as a critical category is part of this revisionist view of early Weimar cinema. While the term was important in Eisner's *Haunted Screen*, it was also central to texts contemporary with the films themselves, most notably Balázs' *Visible Man* and Rudolf Kurtz's *Expressionismus und*

45 See Loew, 'The Spirit of Technology: Early German Thinking about Film'.

46 Elsaesser, *Weimar Cinema and After*; Thomas Koebner, ed., *Diesseits der 'Dämonischen Leinwand'*; and Dietrich Scheunemann, ed., *Expressionist Film – New Perspectives*.

47 Elsaesser, *Weimar Cinema and After*, 3-4.

Film, which was published in 1926. *Stimmung* was an important category to describe the stylistic innovations that made films such as *The Cabinet of Dr. Caligari*, *Shattered* or *Nosferatu* (F.W. Murnau, 1921) exciting for critics, filmmakers, and other artists. Balázs distinguishes the *Kammerspiel* film from *Caligari* by means of *Stimmung*, and in his writings, the social relevance of *Stimmung* aesthetics comes to the fore because it is intimately tied to social-scientific understandings of milieu. Kurtz—in a rhetorical gesture similar to Hofmannsthal's in 'Poetry and Life'—invokes a new meaning of *Stimmung* to simultaneously define Expressionist film and set it off from earlier (impressionist, psychological) *Stimmungskunst*.[48]

Balázs attributes to film the power to impart to everything—faces, objects, gestures, landscapes—a physiognomy; that is, a symbolic expressivity that transcends anything we could perceive under normal conditions. Balázs takes inspiration for his claims from both von Goethe and Lavater's *Physiognomic Fragments*.[49] He quotes Goethe: 'The things surrounding a person do not simply impinge on him; he also reacts to them, and, while letting himself be modified, he modifies his surroundings.' Arguing that we need to go beyond a simplistic distinction of nature and culture, interiority and exteriority, Balázs contends that everything we see in film is expressive: '*everything external testifies to an internal reality*'.[50] The scenes Hofmannsthal lists in the Chandos letter and in 'Substitute for Dreams' are typical examples of images that film can provide with a 'face', according to Balázs. Furthermore, Balázs' account of the limitations of normal perception—which is characterized by habit, prejudice, generalization, and conceptualization—is related to the impoverishment that for the 'language crisis' authors had also befallen language. Whereas Hofmannsthal believed that film could activate all unconscious thoughts, feelings and sensations

48 The critical and innovative edge *Stimmung* receives in these texts can also put Eisner's reference in context: 'In any German film, the preoccupation with rendering *Stimmung* ("mood") by suggesting the "vibrations of the soul" is linked to the use of light. In fact, this *Stimmung* hovers around objects as well as people: it is a "metaphysical" accord, a mystical and singular harmony amid the chaos of things, a kind of sorrowful nostalgia which, for the German, is mixed with well-being.' Lotte H. Eisner, *The Haunted Screen*, 199. The definition of a national *Stimmung* and the metaphysical aspects of *Stimmung* are part of Eisner's explanatory pattern of a national stylistic tradition originating in Romanticism, even though in the 1920s, the term had achieved more modern connotations.

49 Balázs thus steps into a long tradition of physiognomic thought in Germany, a tradition that includes Lavater, Goethe, Carus, and many mostly conservative thinkers with racist or eugenic leanings, such as Oswald Spengler and Ludwig Klages. See Richard T. Gray, *About Face*. See also Erica Carter's discussion of Balázs' references to Goethe in Balázs, *Early Film Theory*, xxvii.

50 Balázs, *Early Film Theory*, 29.

in spectators (and was hence akin to dreams, in that film reached down to the 'darkest region of the roots' where myths originate), for Balázs, film could unlock unseen, unknown views (and thus knowledge) that seem to transcend the boundaries of human being-in-the world.[51] By theorizing film perception as able to activate forgotten or unknown aspects of being-human (and thus effectively transgressing the human), Balázs' film theory returns us to Marc's and Uexküll's attempt to glimpse a world beyond that given to our regular human being-in-the-world.

Whereas Marc's paintings seek to connect to animals and animal worlds intuitively and empathically, and whereas Marc understands *Umwelt* as a feeling and vision, Balázs believes in a more invasive penetration of perception by the camera:

> Our normal situation is that we perceive the objects around us only vaguely, paying heed to them only through the fog of habitual generalizations and schematic conceptions. We look out mainly for the possible benefits they could bring or the damage they might inflict—to observe them *in themselves* happens rarely, if ever. Now when the cameraman cranks up his projector he penetrates the foggy cataract that obscures our vision, and we suddenly find ourselves confronted with an unaccustomed, mysterious, *unnatural* image of nature. We sometimes feel at this point that we have eavesdropped on a profound, sacred mystery, a hidden life that frequently possesses the secret charm of the forbidden.[52]

The 'profound, sacred mystery' and 'hidden life' of which Balázs speaks is a world of which we, as human beings, are not part. Film provides us with the possibility 'to see what things are like when we are not present'.[53] In order to describe the mediation of this mysterious image of nature, Balázs makes recourse to *Stimmung*: '*Such images of nature always contain a very special mood* [Stimmung]. And it is this mood the camera most wishes to capture.'[54] *Stimmung* describes the relationship between spectator, image, and camera: an image of nature that is not directly witnessed, but only relayed to us by a camera, contains a profound mystery that manifests itself as *Stimmung*. *Stimmung*, as something we sense and to which we attune

51 Hofmannsthal, 'The Substitute for Dreams', 386.

52 Balázs, *Early Film Theory*, 60-61.

53 Stanley Cavell later made this idea an important aspect of his film philosophy in Stanley Cavell, *The World Viewed*.

54 Balázs, *Early Film Theory*, 61; emphasis Balázs'.

ourselves, is the true medium between us and this mystery. The camera makes these images visible, but it can only seek to 'capture' the *Stimmung* of that of which it provides an image—that is, the *Stimmung* is not solely created by the camera.

This attempt to represent *Stimmung* extends beyond individual moving images to narrative cinema as a whole. A film succeeds in capturing *Stimmungen* if it is able to make use of the natural expressivity all things and places possess—their physiognomic quality which lends them symbolic meaning. This meaning is a *Stimmung* that emanates from the expressive object and interacts with the *Stimmungen* of the other objects, characters, and the background. Balázs makes recourse to musical metaphors to express this: 'The sounds of an object ring out whether he will or not, and he *must* turn them into meaningful music or else they will degenerate into a confusing babble of sound.' Balázs thus completely refutes the idea that the documentary qualities of photography and film consist of a 'factual-objective' mode of representation; representation in a film is always 'physiognomically significant'.[55]

By understanding *Stimmung* to be synonymous with the expression, essence, or physiognomy of something, Balázs' definition of the term is not unlike Hofmannsthal's. This is probably not a coincidence, since Balázs had relocated to Vienna in 1920 and in all likelihood was familiar with Hofmannsthal's work even prior to leaving Hungary.[56] In a text on the capabilities of Max Reinhardt, the grand German theater director who also tried his hand in film and who created the first chamber play theater in Berlin in 1907, Hofmannsthal uses *Stimmung* to describe the expressivity of skilled, and skillfully directed, acting: 'Indeed, above every thing, every event there floats a something that wants to present itself, so to speak, and which separates itself from this thing—floating above it—in order to crown and complete the thing's existence'. This 'something' is *Stimmung*, he says, itself a 'floating and ambiguous word'. The more sensitive the observing human being, 'the more distinct and manifold the transparent shadow of this *Stimmung* for him will lie on moments and encounters, places and instants—a *Stimmung* in which the true essence of individual things seems to float above them'. For Hofmannsthal, '[t]he thousand nuances of *Stimmung*'—when the latter

55 Ibid., 56 (translation modified).

56 On Balázs' first years in Vienna and parallels with Hofmannsthal (in particular their notion of the dream), see also Loewy, *Béla Balázs*, 260 ff.

'is brought to life'—then become a means to create a 'true atmosphere of life [*Lebensatmosphäre*]'.[57]

Both Balázs and Hofmannsthal understand *Stimmung* as something transcendent, even as it is also intimately tied to the 'texture' of cinematic elements or the 'weave of words' that bring it forth.[58] *Stimmung* is not itself life; it is *brought* to life by artistic elements—in film by *mise en scène* in particular, as well as by cinematography and montage—and in turn creates a dense atmosphere in art that gives the latter life. Both authors define 'atmosphere' as dependent upon, and evoked by, the suggestive expressiveness of *Stimmung*. Atmosphere, Balázs writes, 'is the air and the aroma that pervade every work of art, and that lend distinctiveness to a medium and a world.' *Stimmung* creates atmosphere, for its resonances are the medium of films' 'living atmosphere, the dense, aromatic fluidity they possess of a living life'.[59] Atmosphere is 'the soul' of the whole, an immanent meaning that is nevertheless opaque and ungraspable. In order to capture this soul, a director has to create an image that captures that aspect of a landscape, milieu, event, or person that is most expressive—its 'eyes', in Balázs' words.[60] Balázs explored the temporal and spatial conditions of *Stimmung* in film to work out the stylistic differences between Expressionist, Impressionist, and *Kammerspiel* films. How *Stimmung* works in these films—which is also how these films express meaning—not only throws into relief the particularities of the respective films' aesthetics, but also the implicit notion of subject-environment interaction in *mise en scène*, shot lengths, montage patterns, and camerawork.

In Balázs' *Visible Man*, *Stimmung* is an important reference in order to distinguish stylistic elements from Expressionism, naturalism, and New Objectivity in film, and to describe how these elements combine with the technological and aesthetic possibilities of film to forge a new register of images. The images in these films probe definitions of background, milieu, and environment by means of their *mise en scène*, in particular the shot length and the ensuing compositions. Balázs correlates the aesthetics of Expressionist films, the *Kammerspiel* film, and Impressionist films with different renderings of the environment: how the latter is constituted,

57 Hofmannsthal, 'Max Reinhardt', 314 (translation mine).

58 'For a film text consists of its texture, of that language of images in which every group, every gesture, every perspective, every lighting set-up has the task of conveying the poetic mood and beauty that are normally to be discovered in the words of an author.' Balázs, *Early Film Theory*, 18-19. On the 'weave of words', see quote above from Hofmannsthal, 'Poesie und Leben'.

59 Balázs, *Early Film Theory*, 22.

60 Ibid., 44.

how it shapes the creatures in it, and how it may be shaped by subjects in turn. Each conception of environment that emerges is tied to a specific shot length and *mise en scène*: Expressionist films thrive on full shots, *Kammerspiel* films come into their own in mid-range shots, and Impressionist films occasion Balázs' interest in the work done in close-up shots. Of these shot lengths, Balázs' thoughts on the close-up are certainly the best-known, not only because he himself describes close-ups as 'film's true terrain', but also because many other film theorists shared this assessment, from contemporaries of Balázs, including Jean Epstein and Walter Benjamin, to Gilles Deleuze and Jacques Aumont.[61] While the close-up is also instrumental for Balázs' thoughts on *Stimmung*, Balázs' comments on Expressionist and *Kammerspiel* films reveal the interaction of *Stimmung* aesthetics and concrete social, political, and scientific conceptions of milieu. It is thus important to consider his discussion of all three shot lengths, and their connections to *Stimmung* and milieu, for these discussions reveal an unexpected aesthetic-political problem at the heart of Expressionist film and *Kammerspiel* film. While we commonly associate *Kammerspiel* film's psychologized plots with a return to naturalism, and we associate Expressionist cinema with a drive toward abstraction that counters naturalism, these films' *Stimmung* aesthetics undercuts these literary, theatrical, and painterly correlations by changing the relationship between spectator, characters, and milieu. Together with Balázs' description of Impressionist films, his discussion of these film styles reveals how *Stimmung* in film becomes a film aesthetic category in its own right. This new film aesthetic category retains links to earlier discussions of *Stimmung* in art history and literature, but the aesthetics of the moving image and the different address and situation of the spectator change how *Stimmung* is produced and how it mediates between spectator and image.

Following Balazs' account of *Stimmung* requires us, though, to understand how his description of shot lengths differs significantly from today's terminology. When we speak of close-ups, medium shots or long shots, we use the human body as a stable frame of reference. Balázs used a different terminology; he talks about 'Premierplan' (foreground shots or close ups) and 'Sekundärplan', second plane, long and medium long shots that capture the midfield, that which is in between foreground and background, proximity and distance. These terms seem to have been quite common when he was writing, and they highlight a conception of the visual field in the frame

61 Jacques Aumont, 'The Face in Close-Up'. For more recent scholarship on the close-up, see Doane, 'The Close-Up', as well as Noa Steimatsky, *The Face on Film*.

that differs from our terminology as well. The following classification of shots by Robert Kümmerlen, published 1930 in *Zeitschrift für Ästhetik und allgemeine Kunstwissenschaft* ('Journal for Aesthetics and Art History'), throws some light on Balázs' references to shot lengths:

> We distinguish: 1. the group of full shots or long shots (*Totale*), in which the space, which records all those circumstances that are of relevance for the pantomime, is always the greatest. The individual elements of the space or the image are, independent from one another, subordinate to the general impression of the total space. Movement also adds efficiently to the total characteristic of the space. 2. The second-plane shots (*Sekundärplan*) or so-called intermediary images are images of relation (*Beziehungsbilder*), which are relatively dependent and only receive their full spatial value from other spatial framings. These presentations have the purpose of heightening spatiality; the second-plane shot is the truly 'space-creating' presentation in film. The 3rd group is generally conceived of as the most characteristic for film, here the images are generally completely 'detached' from space. It is the group of close-ups, which lift a certain detail-image out of the film-whole and which direct our gaze to a solo performance that stands out qualitatively.[62]

This categorization highlights the fact that shot lengths were not necessarily determined relative to the human figure, but rather relative to the space of action, as well as relative to the preceding and following shots. For this reason, full shots depend on the size of the space of action—which in indoor shots, is generally a room, such as a small living room, but may also be a grand hall, and can become much larger outdoors—while *Sekundärplan* shots are even more difficult to discern. They are those shots that show only part of the plane of action, and they are 'in between': size-wise, in between close-up and total image, and also cut in between full shots of the place of action and detail shots. Balázs seems to understand the notion of *Beziehungsbilder* ('images of relation') in two ways. They relate other shots, especially close-ups and full shots, to one another (and themselves need to be integrated carefully into shot sequences for 'visual linkage'), but even more importantly, they relate characters to their environment.[63] These mid-level shots do not take the milieu as a whole into view, as full shots

62 Robert Kümmerlen, 'Über die Bildwirkung der pantomimischen Filmbühne', 50 (translation mine).

63 Balázs, *Early Film Theory*, 39.

do, but focus on the relation of a character to this milieu (or, in the case of shots of objects, the role of a thing in/for a milieu).

Balázs ascribes to Expressionist film an aesthetic that mostly relies on full shots that show the entirety of the milieu: 'Expressionism [...] provides the total image of a milieu, but stylizes it into an expressive physiognomy rather than leaving it to the viewer to imbue the scene with his own momentary mood (*Stimmung*)'.[64] This claim helps us to make sense of the fact that the most important register of images in Expressionist films such as *Caligari, Genuine* (which Robert Wiene directed in 1920, shortly after *Caligari*) or *From Morn to Midnight* shows an entire room or street. The elements of the environment—that 'total image of a milieu'—dominate our understanding of the expressive content in these images. The use of the terms milieu and *Stimmung* in this sentence denote a particular connection between Expressionist aesthetic and environment. 'Milieu' defines the relationship of the environment to the character; 'physiognomy' describes the cinematic expression of what is visible on the screen, whether character, object, or environment; and *Stimmung* describes the complex interaction between spectator and image. Expressionist stylization, in other words, provides the milieu with a physiognomy, but does not leave any options to the viewer's imagination. Rather, the spectator is drawn into, and submits to, the image's rendering of the environment. Yet a problem concerning the relationship between Expressionist stylization of the image and the spectator also becomes apparent in Balazs' comment: the Expressionist stylization runs the risk of excluding the spectator in its totalizing effect.

Some of the most famous shots from that most iconic Expressionist film, *The Cabinet of Dr. Caligari,* illustrate both this formative, totalizing effect on the spectator and the force the milieu exerts on the characters. In many shots, supported by a static camera that renders the setting absolute, the character will literally 'click into place' over the course of his movements through the setting. Take, for example, Cesare's (Conrad Veidt's) approach to the sleeping Jane in order to murder her, although he then decides to kidnap her instead. The view of the street is framed by black, round shapes that intrude into the image, focusing our gaze on the illuminated spot of street and house wall. The shapes simultaneously imitate a realist equivalent—tree branches thick with leaves—and have the suggestive appearance of phantoms leaning in to the image, observing the crime about to be committed. However, they also provide a mold for the movements and expressive gestures of the actor. Veidt's black silhouette glides along

64 Ibid., 51.

Fig. 3.2.a-d: Cesare's approach of the sleeping Jane and his flight in *The Cabinet of Dr. Caligari* (Robert Wiene, 1921).

the wall with similar organic movements that are seemingly dictated by the diagonal composition of the wall. Once inside Jane's bedroom, the two dark, dagger-like shapes protruding down from the top of the frame indicate the danger Jane is in, while they simultaneously, like arrows, draw our attention to Cesare. When Cesare lifts his dagger to murder Jane, the bright blade of his dagger appears as an exact copy of the black dagger-like shapes in the background. After he has decided instead to kidnap Jane, and then leaves her behind as he is pursued, Cesare enters a shot dominated by the silhouettes of abstract, dead trees against a white background. Once in the frame, he lifts his arms in a powerless and exhausted dramatic gesture before falling to his death.

In their discussion of the compositional qualities of 'Expressionist films' (which they define rather broadly), David Bordwell and Kristin Thompson highlight that in Expressionist films, the setting is an active, expressive, 'living' component of the film, which allows the actors to interact with the environment in new ways, not least by becoming graphic elements. Bordwell and Thompson cite Conrad Veidt in this context: 'If the decor has been conceived as having the same spiritual state as that which governs the character's mentality, the actor will find in that decora [sic] valuable aid in

composing and living his part. He will blend himself into the represented milieu, and both of them will *move* in the same rhythm.'[65] Similarly, Kracauer praised both Conradt Veidt's and Werner Krauss' acting abilities: 'Werner Krauss as Caligari had the appearance of a phantom magician himself weaving the lines and shades through which he paced, and when Conrad Veidt's Cesare prowled along a wall, it was as if the wall had exuded him.'[66] The turn to *Stimmung* in film criticism and theory in conjunction with Expressionist films seems to be directly connected to the stylistic quality of the films. Graphically as well as materially, the image is conceived as one expressive unity. While the setting attains an expressive face, the actors can appear flattened and abstract, blending into their environment. *Stimmung* encompasses the ability of the images to express with all of their elements. This is quite reminiscent of nineteenth-century landscape paintings and Carus' description of these paintings as representing 'a certain *Stimmung* of inner life (*Gemüthlebens*) (sense) by means of the imitation (*Nachbildung*) of a corresponding *Stimmung* of natural life (truth).'[67] Expressionist films are different, however, in that their images do not depend upon an absolute distinction between non-human and human, inner and outer life—distinctions upon which the motif of the *Rückenfigur* still insisted, even as it put these terms into play. The film image grants everything in it the same vitality and potential for expression; there are no qualitative differences between characters, objects, and environments. Veidt's and Kracauer's comments express the way in which *Caligari* made use of this qualitative sameness by having the actors assimilate to the décor.

There is, however, an aesthetic wager associated with Expressionist films such as *Caligari*. For Balázs, Expressionism in film is, to some extent, film's natural terrain—not only because of film's ability to control and stylize environments, but also because film can give equal expressive value to characters, things, and landscapes. He claims that 'no director today can still tolerate a lifeless background, a neutral milieu; instead, he attempts to animate the entire screen with the same mood [*Stimmung*] that animates the faces of his actors'.[68] However, many Expressionist films—which were, after all, also consciously marketed as German Expressionist stylizations for an international market—precisely do not provide the object world

65 Conrad Veidt, 'Faut-il supprimer les sous-titres?', quoted after David Bordwell and Kristin Thompson, *Film History*, 92. This conception of milieu also connects quite well to some remarks in reviews of the film, for example the criticism that the characters did not fit into the setting.

66 Kracauer, *From Caligari to Hitler*, 69-70.

67 Carus, *Neun Briefe über Landschaftsmalerei*, 41.

68 Balázs, *Early Film Theory*, 47.

with 'the *living naturalness* of the human sphere', as Balázs claims to be true for *Caligari*. Instead, their stylization is formal, external, or 'decorative', as Balázs says: the films' effect becomes 'ornamental, a consistent, constant style that has lost the character of spontaneous expression'.[69] While he does not name specific films, Expressionist films such as *Genuine* or *From Morn to Midnight* both come to mind. Stylization can ossify the background, which thereby loses its expressive qualities. In the case of both living expression (physiognomy) and dead expression (decorative stylization), the aesthetic stylization of the milieu into an expressive 'face' prevents the spectator from imbuing the scene with his or her own mood. There is thus a tension, an imbalance in the relationship between spectator and image in these long shots in Expressionist cinema. *Stimmung* pervades the entire image and reaches out to the spectator as well, whose personal *Stimmung* will not find a place in the expressivity or faciality of the image as a whole. If an Expressionist film image attains a living expression, the spectator must engage with, and attune herself to, the polyphonic *Stimmung* of the film and becomes unable to engage in a dialogic exchange of moods with the film. If the image has congealed into a decorative, dead formalist mode of Expressionist film, it has become completely determinist, and the spectator is, as in the case of the characters in the film itself, subjected to the formative force of the film as a milieu.

Balazs sees shots like the ones from *Caligari* described above as avoiding dead decoration, but—as shots in an Expressionist film—they still balance on a narrow ridge between determinism and open expression. These shots also highlight the fact that in Expressionist film aesthetics, definitions of *Stimmung* and milieu are mutually dependent. Although we generally associate Expressionism with an externalization of internal conflicts, and thus with a projection of the soul out into the surrounding space, in the reception or experience of these films, due to the stylization of the setting over other formal elements (acting, camerawork, editing), the image's dynamic is one of a determining milieu. This determinist effect of 'typical' Expressionist films in the wake of *Caligari*—*Genuine, From Morn to Midnight,* to name but a few—might not be stylistically faithful to the spirit of Expressionism, but they rather return, in their aesthetic effect, to a determinist milieu aesthetic we associate with naturalism. In order to explain this further, I briefly turn to the permutations of understanding of 'milieu' and then explore how these map onto the films Balázs discusses.

69 Ibid., 51.

Particularly in the Marxist discourse of the early twentieth century, milieu referred to determining environmental conditions, including social, political, psychological, biological, or climatic influences. Originally, milieu—the French word for 'middle'—denoted a *place* located in the middle. Beginning in the Renaissance, milieu was used in the sense of an intermediary, that is, something that *mediated* between two poles.[70] Milieu is thus closely related to medium, especially when the focus is on a relation rather than a location. As the term milieu migrated from physics to biology (and finally to sociology), it became conjoined with life: it is that on which organic life depends, including not only surrounding fluid or air, but also all external circumstances. For Jean Baptiste Lamarck, for example, writing in the early nineteenth century, the milieu is a dynamic, ever-changing entity, yet '[t]he life and the milieu that is unaware of it are two asynchronous series of events.'[71] The movement of life is thus ignored, unregistered by the milieu, which remains indifferent to it. Auguste Comte, by contrast, stressed the harmony of milieu and life, since the former protected and benefitted the latter. Subsequent sociological, medical, and literary appropriations of the term by Hyppolite Taine, Claude Bernard, and Emile Zola took a sharp mechanist turn and denied agency to life. Taine, for example, focused on the power and mindlessness of the milieu that has produced man. For him, milieu is completely severed from the perceptions and actions of life, untouched by it. The living being is molded by the forces the milieu exerts on it, and these forces are mechanical and static in nature.

Caligari and subsequent Expressionist films are certainly 'milieu films' in that they place an extraordinary emphasis on the setting, which supports, guides, or even determines the action and creates the atmosphere. Yet they are not dialogic in their presentation of the milieu qua setting: the environment of the characters might reflect their (or 'an') inner disposition, but the aesthetic effect is a determinist one—the characters cannot but act and move in the way their environment prescribes. To some extent, their actions are reduced to 'behavior', with the latter term understood as determined by instincts. This even seems to be true of the famous sequence in which Dr Caligari is haunted by his obsession with the historic figure of Caligari, such that on a path in the woods, he is suddenly physically threatened by the sentence 'Du musst Caligari werden ("You have to become Caligari")', which appears repeatedly, letter by letter, amid the abstract, barren tree

70 For the French history of the term, see Spitzer, 'Milieu and Ambiance'. The development of meanings in English in German is quite similar; see J. Feldhoff, 'Milieu', 1393-95.

71 Canguilhem, 'The Living and Its Milieu', 12.

Fig. 3.3: Caligari threatened by letters superimposed on the setting in *The Cabinet of Dr. Caligari* (Robert Wiene, 1921).

silhouettes and the black sky, in bright, superimposed lettering. While the scene is certainly an externalization of Caligari's state of mind, the depiction visualizes his psychological state as a threatening, commanding milieu that confronts the tortured individual with an imperative he cannot escape—the precise understanding of milieu as mechanist and determinist that we find in late nineteenth-century scientific texts and in naturalist novels and plays.

The *Kammerspiel* Film: Naturalist Plots and Progressive Aesthetics

The Expressionist film married commerce and mass appeal with an artistic sensibility that derived its impulses from styles in painting that had been avant-garde a decade previously. As a consequence of this difficult alliance, the *Stimmung* effect and a corresponding understanding of milieu gained a totalizing, determining effect. In this context, we should read Balázs' comments on 'the recent tendency, visible in the latest films, to make

expressive use of the middle-ground shot' (the 'shots of relation' according to Kümmerlein's classification), as a description of a counter-strategy. Even though Balázs does not say so explicitly, we can assume that he is referring to *Kammerspielfilme* here; those films by Lupu Pick, Leopold Jessner, and Murnau that are characterized by an intimate setting, naturalistic acting, and a stripped-down plot that focuses on its characters' psychologies. These films' middle-ground or second-plane shots show the whole figure only in their immediate environment, rather than the environment at large. By doing so, they avoid the totalization and determinism of the Expressionist films and instead bring variable, specific relations between characters, and between characters, environments and things, into view. Balázs puts this as follows:

> [The second-plane shot] shows only the characters' immediate surroundings, and by drawing the image frame in more tightly it enables a human being to illuminate the image, as it were, with the emanation of his soul. The milieu becomes the visible 'aura' of the human being, his physiognomy expands beyond the contours of his own body. The human play of gestures and expressions continues to prevail over that of objects and his facial expressions will interpret the expression of objects. For, in the final analysis, it is only human beings that matter. And the 'facial expressions' [*Mienen*] of objects become significant only in so far as they relate to the human being.[72]

By restricting the view of the environment to that which immediately surrounds a character, something happens to the expressivity of these surroundings. Instead of showing the wider milieu as an independent agent with its own expression, everything becomes tinged by the expression of the character at the center of the shot. As a consequence, nothing can be seen or interpreted on its own terms anymore, but everything must be interpreted in its relationship to the human being at the center.

This discussion of the middle-ground shot seems to run counter to the most frequently discussed trend in 1920s film theory, namely, that of highlighting the non-anthropocentric qualities of cinema and its ability to alienate our vision and understanding of the human being, not least because characters no longer appear as privileged in the image. (This is a theme that emerges in the work of Jean Epstein, Siegfried Kracauer, Walter Benjamin, and even Balázs himself.) The term 'aura' in the quote above highlights this

72 Balázs, *Early Film Theory*, 51 (translation modified).

difference. Aura for Balázs is a human quality; he does not use the term to describe the quality of objects or landscapes. Neither does aura for him seem to be a category subject to historical change or dependent upon its form of mediation. In all of these respects, Balázs' notion of aura therefore differs significantly from Benjamin's use of the term. Erica Carter thus describes Balázs' aesthetic as anthropomorphic (and not anthropocentric, an important difference).[73] Because of the anthropomorphic scale of the long shot, the milieu is transformed into a character's aura.

Balázs' description might seem conservative, a retreat into a humanism somewhat at odds with his poetics of the close-up. However, the focus of his description lies much more on the animating forces of the image than on the human center of these forces. In contrast to the decorative and static conception of milieu in Expressionist films, in the *Kammerspiel* films the whole image resonates expressively. The shot length in combination with the realist *mise en scène* grants an expressiveness, akin to a face, to objects. Their individual expression is not suppressed or dominated by the character in the image, but rather enters into a dynamic relationship with the character, such that this expression partakes in a human drama. As a consequence, the *Kammerspiel* aesthetic and its second-plane shots produce a delicate resonance between the *Stimmung* of the film—the expressive interplay of things and characters in the image—and the *Stimmung* of the spectator. They thus correspond to, even evoke, a conception of milieu that runs counter to the determinist milieu of the nineteenth century and instead seems to be based on a more open dynamic of calling and responding.

Shattered, a 1921 film by Lupu Pick with a screenplay by Carl Mayer, is generally credited as one of the first *Kammerspiel* films, and it provides some examples of the image dynamics suggested by Balázs. The film describes five days in the lives of a railway worker (played by Werner Krauß), his wife, and his daughter. Their daily routine is interrupted by a visit from a railway inspector. The young inspector rapes the daughter, the mother dies while praying outside in the snow, and when the father finally finds out the truth, he kills the inspector. The film—which, no doubt in part because of limited circulation and availability, has not received much critical attention—possesses a haunting quality. The plot takes place over the course of a short period in one single locale and is shot in concise, rhythmic images that emphasize the relentless unfurling of the tragedy. With the exception of titles that announce the beginning of a new day and the final confession 'I am a murderer,' the film does away with intertitles. In many ways, *Shattered*

73 See Ibid., xxvi.

is reminiscent of Gerhart Hauptmann's *Lineman Thiel* (*Bahnwärter Thiel*), a masterpiece of naturalist playwriting. In *Lineman Thiel*, a quiet railway worker tending to a lonely railway outpost in the woods kills his domineering wife and their baby, after his son from a previous marriage is killed by a train as a consequence of his wife's inattention.

The first minutes of the film focus on the dreary family routines, and the film keeps returning to the same shot setups of the inside of the house, the front door, and the tracks, to introduce the individual characters' everyday movements and tasks. In the first shot, with the camera mounted on the front of a train, we look down at the rapidly moving tracks underneath. Slowly, the camera pans up and reveals a lonely, hilly winter landscape and a small station house in the distance. The following shots are extremely concise vignettes that depict the small family's life. We see the front door and part of a window, with a railing alongside the front doorsteps in the foreground. The door opens and the wife steps outside, an apron around her waist and a large laundry basket in her hand, warily checking the weather, with her gaze directed toward the sky and the horizon as the wind moves her hair, before she descends the stairs and exits the frame. The following shot looks out toward the yard: white sheets hang on clotheslines and sway in the wind in front of a rickety picket fence; in the background, we see a snowy field, the dark silhouettes of a forest and a line of mountains in the distance, all emphasizing the family's spatial isolation and the hostile weather. On the right, the stark legs of an electrical line pylon stand out against the sky and indicate the proximity of the train tracks. The wife enters the shot and begins to pull the sheets off the clotheslines as the wind continues to tear at them (Fig. 3.4).

On the surface, this shot fits the bill of the (seemingly) naturalist story. It depicts the confining milieu of this family, and in particular the life of the railwayman's wife, out in the middle of nowhere, in the shadow of the loud, smoky, faceless trains rushing past, battling everyday life in isolation. The laundry, one might say, determines her life. Yet even though the laundry, the fence, and the other elements of the image bear markers of a determining milieu, the aesthetic impression of the image is not determinist; rather—and in contrast to Expressionist film images—the image is open and dependent upon the feelings of a spectator. Composition, movement, and montage rhythm all contribute to images that seek to connect to our body and senses. The shot above makes visible how the laundry is beckoning; we see the image of the fluttering sheets as what they mean to her. Rather than visualizing the milieu as a formative force bearing on the character, we see the environment as her world, as how objects appears

Fig. 3.4: The wife tending to the laundry in *Shattered* (Lupu Pick, 1921).

to her, what they say to her. Two important factors help Lupu Pick achieve this effect: first, a *mise en scène* in which the character enters the frame only after the setting is established, such that we initially only experience our affective relationship to the moving image; and second, movement: the wind literally animates the sheets and gives them their calling-character. As a consequence, we see various forces and force fields that we can relate to as well: the wind tearing at the sheets, the precarious homestead defending itself against both an overbearing, determining technology (the railway) and cold, uncivilized nature, the coldness affecting the shuddering wife's body, and her struggle to grab hold of the sheets and tear them off the clotheslines. Even though this landscape, and everyday tasks such as doing laundry, determine the railwayman's wife's existence and are thus legible as milieu, the images themselves reach out to and demand comprehensive understanding from a sensing, thinking, and feeling spectator. Meaning in these images is only generated in the process of the spectator's embodied participation in the images.

The relationship between milieu and character that we experience in images such as this corresponds to a much more contemporary conception

of milieu. When Balázs indicates that the total expressive stylization and determinist *Stimmung* of the Expressionist film might have had its day, we could thus conceivably connect this claim to the paradigm shift in conceptions of milieu as outlined above, too; namely, a movement away from static conceptions of milieu, and towards more dynamic ideas of subject-environment interaction. Beginning in the late 1910s, new dynamic models for milieu-life interaction emerged. A new generation of biologists such as Kurt Goldstein, Jakob von Uexküll, and Frederik J.J. Buytendijk developed theories of a dynamic and mutually constituting relationship between organisms and environments (as I discussed in detail in the previous chapter). According to these paradigms, as Georges Canguilhem put it, the milieu poses a problem and often 'proposes' but never imposes a solution; the solution can only be found by the living being, through the activity of living in the world.[74] Over the course of the nineteenth and twentieth centuries, the term milieu thus lost its denotation of a concrete place and instead described the force field, the interrelations between an individual and her surroundings (the *medium*).[75] What characterizes in particular Uexküll's work on environment as individual *Umwelt* is the idea that the milieu is subjective, a world shaped by the living being (see the discussion of Uexküll in Chapter 2). The shots of a character in her environment are not simply anthropomorphic or anthropocentric in the sense that they return to an old-fashioned, anti-revolutionary humanism; rather, they partake in a new understanding of life in its environment, and the ability of film not only to make visible a living attitude, a living impulse, but also how this impulse is reflected in and constitutes the meaning of the milieu.

Lotte Eisner also picked up the terms *Umwelt* and *Stimmung* in both *The Haunted Screen* and her book on Murnau, and linked them to Carl Mayer and his cinematic scriptwriting.[76] She cited director Lupu Pick, who said about Mayer's script for their following collaboration, the film *Sylvester* (1924): 'The composition of this moving picture seems to me novel because it encloses the action within a limited framework, giving a major role to the *Umwelt* without involving it in the action proper, which would

74 Canguilhem, 'The Living and Its Milieu', 17.

75 It is also in this context that one should understand Balázs' references to Goethe's scientific thoughts. See Balázs, *Early Film Theory*, 29, where he quotes Goethe on physiognomics: "'The things surrounding a person, do not simply impinge on him; he also reacts to them, and, while letting himself be modified, he modifies his surroundings.'" However, the references to Goethe also make clear that for Goethe, the distinction of living being, and man in particular, and environment are clearly drawn, as they generally are in nineteenth-century landscape painting.

76 Lotte H. Eisner, *Murnau*.

be banal. The *Umwelt* must constitute the base and symphonic background of a particular destiny, and thus become the emblem of a principal idea.'[77] Contemporary reviewers of *Shattered*, in particular the scriptwriter and film critic Willy Haas, described this effect of the role of the environment as it was captured by Pick's camera, namely a universal animation as a result of the interconnection of the characters and their milieu—that is, the world presented—that swept the spectator along as well.

> This simplicity – all this would hardly be tenable as a drama . . . . But incredibly stronger than in drama are, in my opinion, the unity, the flowing feel, the rhythm, the stanza, the verse, the refrain, the trembling melody in the air, the dullness of the earth, daily life, the tragedy of the times, the bell toll of eternal sameness and the mystery of strange elements within this sameness. This film can show a railroad track of eternal length. And the railroad worker who walks, walks, walks along it . . . endlessly: for the span of a human life—it is tangible. The camera walks with him—endlessly. This can never be expressed on the stage: a symbol of life barred to theater.[78]

The vitality with which Haas credits *Scherben* is the result of the spatiotemporal dynamism of the image due to *mise en scène*, camerawork, and montage (see Fig. 3.5). Haas' language reveals how the rhythmicization of the image expands the film's elements beyond the confines of the screen into the spatiotemporality of the spectator ('melody in the air', 'daily life', 'tragedy of the times', 'eternal sameness', 'eternal length', 'tangible [*man fühlt es*]', 'endlessly'). The spectator grasps not only the story told, but also the larger social, cultural and natural environment (including the forces of the milieu on the railwayman) on the basis of an attunement to the *Stimmung* that unfolds in the film over time. The film's *Stimmung* aesthetics allows for the 'feeling' of the complex subject-environment dynamic implicit in the film and implicating the spectator. It thus becomes a more effective vehicle for conveying both the forces of the milieu and the inner turmoil and projections of the characters. Affective, sensorial cues combine with the sensible

77 Eisner, *The Haunted Screen*, 186. Eisner is citing from Lupu Pick's foreword to Carl Mayer's script for *Sylvester*, which was published separately. See Carl Mayer, *Sylvester: Ein Lichtspiel*, 10-11. In an illuminating essay on Mayer's script for *Sylvester*, Hermann Kappelhoff makes the case—supported by contemporary film critics such as Herbert Jhering and Willy Haas—that the film to some extent did not quite live up to the role Mayer had assigned to the environment. See Hermann Kappelhoff, 'Literarische Recherchen am kinematografischen Bild', 177.

78 Willy Haas, 'Scherben'.

Fig. 3.5.: A tracking shot of the railway worker (Werner Krauß) inspecting the tracks in *Shattered* (Lupu Pick).

aspects of story and content and allow the spectator to enter and engage with the cinematic image while still retaining freedom of judgment.[79]

A film such as *Shattered* uses a new mode of *Stimmung* aesthetics to depict the interrelations among the working-class family, society (in the form of the inspector as well as the business and leisure travelers on the train, who witness the family drama as spectacle from the windows of their compartment), nature, and technology. This mode of *Stimmung* aesthetics is determined by disturbances, interventions, and dialogic contrasts; *Stimmung* never encompasses a whole, since it requires an image that is open to the spectator's senses and thoughts (the 'open image' would become important in the post-war cine-vitalist discourse, as I show in Chapter 4). It is thus in stark contrast to understandings of *Stimmung* that presume

79 Haas' film review also highlights the similarity between the effect of a film such as *Shattered* and Richter's abstract *Rhythm* films, as discussed in Chapter 1, since the rhythm and musicality of *mise en scène* and montage are important carriers of affect in this film. *Einfühlung* is central to the *Stimmung* aesthetics under discussion here.

a holistic congruence of inner disposition and environment, such as that of Carus, but also some more recent definitions. Hans-Ulrich Gumbrecht, for example, recently advocated for *Stimmung* as a reading practice that foregrounds the prosodic element of literary texts and focuses on presence rather than representation; atmosphere, tone, and rhythm rather than plot and interpretation, thus allowing for a merging of historical and aesthetic experience. For Gumbrecht, the capacity of literary texts to 'surround' and 'envelop' us with a *Stimmung* fulfills a need in times characterized by technological mediation to experience the thickness of material presence.[80] *Stimmung* for him is a 'warm' concept; it envelops us like a coat.

Against this concept of *Stimmung* and mediation, I insist on the crucial role of the conditions of particular forms of mediation. In the case of film, this means technological mediation and film's capacity to reflect on technological conditions. A film's *mise en scène* and cinematography interweave not only nature and dramatic narrative with somatic affection, a texture we could describe by means of the traditional use of *Stimmung*, but they also interweave cinema's own technological conditions, so that the technological medium becomes the place where *nature* becomes empowered to speak of rationalization, technology, and the modern condition in a language that addresses the reasonable subject as much as the embodied subject.

A film such as *Shattered* can teach us about the mood, attunement, and subject-environment dynamics exactly because it reflects the conditions of its technological making—an achievement that also makes this film much more than simply a film version of a naturalist play. When the father, mother, and daughter sit down for dinner at the table, the camera suddenly pans to the right, and with the help of an iris mask, focuses our attention on a Morse telegraph receiver that then comes into view. A sudden cutaway shows powerlines against the sky, and with the help of a special effect, we see one of the lines illuminated, transmitting short and long signals. The following shot shows a close-up of the telegraph at work, all parts moving and spitting out a received message. Whereas films such as Karl Grune's *The Street* (*Die Straße*, 1924) set up an opposition of bourgeois parlor and alluring metropolitan street life, with the window as gateway, in *Shattered*, technology and modernity have already pervaded this living room. Mother and daughter continue to eat their soup as the father eventually gets up to read the telegram (Fig. 3.6). The conditions of his line of work have already torn apart the coherent fabric with which *Biedermeier* culture was woven;

80 Hans Ulrich Gumbrecht, *Stimmungen lesen*, 29.

Fig. 3.6: The *petit-bourgeois* parlor and daily rhythm are punctuated by the intrusion of a telegraph receiver and the railway schedule in *Shattered* (Lupu Pick).

the father sleeps on the sofa and his rhythm is determined by train schedules that require him to get up night and day.

The *mise en scène* (in particular, the setting and lighting), camera position, and, increasingly, the camera movement—in shots such as the one described above—change the role of *Stimmung* in the *Kammerspiel* film. In *Shattered*, *Stimmung* signifies the dynamic exchange between the relationships within the image and the relationship the spectator establishes to the image. The mobility of the image and the rhythm of changing views ensure that *Stimmung* retains the ephemeral character that Hofmannsthal and Nietzsche had already described. The moments in which a *Stimmung* formulates itself are nevertheless accompanied by a flash of instant cognition [*Erkenntnis*]—constellations and relations of which we are part, and which are, in a film such as *Shattered*, seared by moments of photographic realism, be it laundry sheets fluttering in the wind or branches hitting the illuminated windows at night. This dynamic returns us, in fact, to the one we witness in Franz Marc's *White Dog*—a painting that seeks to expand cognition and feeling by interlocking the observer's feeling-into the dog with the dog's feeling-into its environment.

The development of Marc's painting style, in fact, foreshadowed the development of *Stimmung* aesthetics from the early *Kammerspiel* films onward. In subsequent paintings, Marc increasingly dissolved the boundaries between animal and environment, and animal vision and modes of perception. His later paintings, such as 'Picture with Cattle' (*Bild mit Rind*, 1913), 'Lying Bull' (*Liegender Stier*, 1913), or 'Abstract Forms II' (*Abstrakte Formen* II, 1914) abandoned distinct divisions between animal body and background; animal sensation seems to spread across the entire canvas and not be bound to particular senses, and brushstroke and paint have become more visible.[81] A similar dissolution takes place with the progression of *Kammerspiel* films and the increasing use of camera movement. *Shattered* already features some rudimentary camera movement that does not have a purely subservient function—that is, keeping the characters in view—but rather becomes a narrative agent in its own right. *Sylvester* is famous for its use of a camera moving along a busy street at night, connecting various spaces, and Murnau would 'unshackle' the camera even further in the late *Kammerspiel* film *The Last Laugh* (1924) and the subsequent *Faust* (1926). The breakdown of immobile standpoints and stable frames in these films, and the discursive activity of a camera engaging with spectator and image in its own right, turns the *Rückenfigur* of Friedrich's paintings into a virtual, mobile agent (that is, the camera) who invites us to engage with the world presented to us in film under conditions of absolute mediation. '*The human being will become visible again*', was Balázs' prognosis in 1924. Yet it increasingly seemed as though the human being could only become visible in a medium, and by means of an aesthetic, that increasingly blurred the boundaries between the human, technology, and other forms of being.

81 I thank Kimberly Smith for making me aware of the relationship between animal vision and abstraction in Franz Marc's paintings of 1913 and 1914. See Kimberly A. Smith, 'Becoming Human / Becoming Animal'.

4. *Open Bodies, Open Stories*

Evolution, Narration, and Spectatorship in Post-war Film Theory

In the post-war period, European film theory was dominated by approaches to film that incorporated post-catastrophic narrative forms and visual styles, especially those of Italian neorealism. Yet this period also saw a return of vitalist motifs in film theory. Even more so than in pre-war film theory, the vitality of the moving image was related to the question of the human being and its relationship to other forms of life, as well as questions of humanism. This novel combination of interest in life, realism, and modes of narration is especially evident in the work of André Bazin, but also seems to set Siegfried Kracauer's belated *Theory of Film* (1960) apart from his pre-WWII writings. The resurgence of vitalist motifs in post-war film theory should surprise us, for classical accounts of vitalism see this as a movement that achieved its apotheosis when it merged with Nazi ideology in the Third Reich, where holism and the idea of the state as an organism served to justify an aggressive foreign policy and racial ideologies; it is not difficult to detect, for example, the chilling resonance between this political interest in holism and Uexküll's idea of the *Umwelt* of the state.[1] In the interwar period and during WWII, in other words, a politicized notion of life encouraged value distinctions between good and bad forms of life, and fueled the idea of 'cleansing' the state organism, a goal that was then used to justify radical measures against 'harmful elements' such as Jews, gypsies, homosexuals, and handicapped people. From this perspective, the dangers of vitalism were thoroughly exposed by Nazism, and the Allies' triumph over Nazism was also understood to be a triumph over vitalist thought.

At the same time, though, a different strand of vitalist thought persisted through the 1930s and 1940s, resurfacing after the war both in the work of a few singular individuals in disciplines such as philosophy (e.g., Maurice Merleau-Ponty) and the history of biology (Georges Canguilhem), but also, significantly, in film theory.[2] Rather than concentrating on holistic notions of the body and, by extension, communities, authors such as André Bazin and Siegfried Kracauer insisted on the idea of a (vulnerable) open

1 Uexküll, *Staatsbiologie*. For such an account of vitalism, see Harrington, *Reenchanted Science*.

2 See Canguilhem, *The Normal and the Pathological* and Merleau-Ponty, *Nature*.

body; instead of the eternal duration of the Third Reich and the ecstatic era of its well-orchestrated mass festivals, they sought to define an open temporality of the everyday (exemplified for them by Italian neorealism). Their work, in quite different ways, provides us with an example of post-war film theory that continues the lineage of cinematic vitalism that this book has traced.

This chapter discusses the conceptions of nature, life, and evolution in Bazin's essays on cinema and Kracauer's early essays and in *Theory of Film*, and investigates the way in which these conceptions are linked to post-catastrophic narrative forms and visual styles in cinema. In contrast to earlier vitalist ideas in early texts on film and in the interwar avant-garde, this post-catastrophic cinematic vitalism is marked by a kind of quiet, passive urgency. For both Bazin and Kracauer, despite their theoretical and biographical differences, cinema is *necessary* in order to formulate a metaphysic of life that is able to work against the political catastrophe that took place in the name of life and by means of technology. The first part of the chapter turns to the way in which Bazin's essays embed cinema within both a larger context of natural phenomena and the scientific investigation of such phenomena, by means of references and allusions that Bazin draws from fields such as biology and geology. Many of these references are to phenomena that capture, phenomenologically, change and force, and they point to a conception of vitality that runs through both the organic *and* the inorganic worlds. These ideas of nature, as I will show, present not only a discussion and modification of vitalist theories, but also parallel Merleau-Ponty's nature lectures from the same period, in which the latter turned to Bergsonian vitalism, behaviorism, and Uexküll's *Umwelt* theories. Bazin's nature references also resonate in surprising ways with Eisenstein's later texts on nature and history, in particular *Nonindifferent Nature* and *Notes for a General History of Cinema* (see Chapter 1).[3] Such a contextualization of Bazin's canonical texts allows us to understand how a vitalist notion of organic becoming shaped not only Bazin's ontology of cinema, but also his notion of realism, especially as he articulated his understanding of realism with respect to Vittorio De Sica's and Roberto Rossellini's films.

The second part of the chapter looks at Kracauer's *Theory of Film* and in particular the central notion of 'the flow of life' that Kracauer develops in

3 Antonio Somaini has pointed out some of the affinities between Bazin and Eisenstein, especially with respect to their shared references to cinema as mummification. See Somaini, 'Cinema as "Dynamic Mummification,"' 80-84.

this text. In order to understand the implications of the role that life—both the life of the film and the life of the spectator—play in this text, I turn to Kracauer's critical writings from the 1920s, especially his essays on vitalist biologist and philosopher Hans Driesch and the state of contemporary German philosophy, and his essay on 'Photography' and its augurial discussion of the role of photographic media for the future of the human being. Both Kracauer and Bazin, as well as Merleau-Ponty, are interested in the conditions for emergence of the new as a condition of life and in the interaction between organism and environment; they sought the emergence of new possibilities that break habitual molds and allow for new connections between humans, between humans and nature, and between humans and technology. This search entails an insistence on humanism, on meaning and value, while nevertheless abandoning anthropocentrism, organicity, and the human. And as in the case of the path described by the previous two chapters, this path, and hence this chapter, also progresses from animal to human.

The Axolotl and Cinema: Bazin, Bergson, and Evolution

> It was their quietness that made me lean toward them fascinated the first time I saw the axolotls. Obscurely I seemed to understand their secret will, to abolish space and time with an indifferent immobility. I knew better later; the gill contraction, the tentative reckoning of the delicate feet on the stones, the abrupt swimming (some of them swim with a simple undulation of the body) proved to me that they were capable of escaping that mineral lethargy in which they spent whole hours.

During one of his regular visits to the Jardin des Plantes in Paris, the young man in Julio Cortázar's short story from 1956, 'The Axolotl', becomes obsessed with the animal's peculiar features and charisma. He wonders why it would be that this strange amphibian, of all animals, appeared to hold a secret for him, to communicate to him across the abyss that separated it from man. Its body seemed to speak of a different time and space: capable of suspending time, stretching it infinitely by seemingly abandoning movement and giving no signs of life; then suddenly moving with a pace and efficiency that presented a complete rupture with the previous state. The bond that is forming between the visitor to the aquarium and the axolotl catapults the man beyond the boundaries of human perception and worldview and into a new, foreign being and vision.

> Above all else, their eyes obsessed me. In the standing tanks on either side of them, different fishes showed me the simple stupidity of their handsome eyes so similar to our own. The eyes of the axolotls spoke to me of the presence of a different life, of another way of seeing. Glueing my face to the glass (the guard would cough fussily once in a while), I tried to see better those diminutive golden points, that entrance to the infinitely slow and remote world of these rosy creatures. It was useless to tap with one finger on the glass directly in front of their faces; they never gave the least reaction. The golden eyes continued burning with their soft, terrible light; they continued looking at me from an unfathomable depth which made me dizzy.[4]

The encounter between man and axolotl in Cortázar's story certainly has cinematic qualities: the animal itself takes on the qualities not of a recording apparatus, but a projecting apparatus. The axolotl's movement and lack thereof, alternating between the stillness of death and rapid, isolated motion, is reminiscent of the projector's pull of photograms on a filmstrip past the aperture. Separated by the thick glass of the aquarium, the observer is drawn in by the 'soft, terrible light' of the axolotl's lidless eyes, which seem to devour him. Like a film image on a screen, the eyes do not seem to *see* him; yet the animal seems to *address* itself to him.

Cortázar's story ends, however, with a more existential exchange: the narrator finds himself in the aquarium in the axolotl's body, now possessing 'insider' knowledge of its human consciousness. This identity shift of the first-person narrator, however, also upsets our position as reader, and poses the question of what kind of interface this short story actually is; a short story the thinking axolotl hopes the man will some day write. The unsettling identity and the unsettled spatiotemporality of the axolotl now pervade our reading experience and turn our attention to the medium itself. What is it to be an axolotl, and what is it to read of someone's experience? What does it mean to look as a non-human being, and what is the image of a film to us? These questions of an encounter with animality and how it bears on mediality have been posed by John Berger and Jacques Derrida in texts that are central to the rapidly expanding field of animal studies.[5] However, pursuing the trace of the axolotl—itself an identity-shifting animal—across

4 Julio Cortazar, 'The Axolotl', 5-6.

5 John Berger, 'Why Look at Animals?'; and Jacques Derrida, *The Animal That Therefore I Am*. See also Akira Mizuta Lippit, *Electric Animal*.

media allows us to ask even more specific questions about life, mediation, aesthetics, and form.

Cortázar himself compared the metonymic quality of the short story to the photograph. The spatiotemporal cutout of photography is like 'an explosion which fully opens a much more ample reality, like a dynamic vision which spiritually transcends the space reached by the camera'.[6] The dynamic Cortázar attributes to photography and short story, namely an expansion outward, reflects the thoughts on film and photography expressed around the same time by film theorist André Bazin—who, not coincidentally, was also fascinated by animals, ranging from cats to birds to reptiles, and who, according to Dudley Andrew, spent hours with the family iguana, fascinated by a 'different life, another way of seeing' and the possibilities and limits of communication with a species so different—a sense that, as I have noted in the second chapter, both sustained Uexküll's research on animal *Umwelten* and constitutes the basis for the affinity between animals and cinema.[7] And in his essay on 'Theater and Cinema', which contains a reference to the axolotl, Bazin also conceives of the aesthetic of film as expanding from the center outward. He writes that, in contrast to the theater stage's centripetal force, which relates everything to the human figure at the center of the drama, 'the space of the [film] screen is centrifugal'.[8] For Bazin, this means not only an expansion beyond onscreen space and an opening to transcendence, as for Cortázar; it also implies that the essence of cinema lies not in the human being (as is the case for theater), but rather in the way cinema mediates the world to us.[9] This world is not 'ours'—it is alien to us, and work is required to establish it as our environment and tie it to our physical and moral existence. It is in this sense that I postulate a connection between the axolotl and cinema, between development, evolution, behavior, and aesthetics,

6 Cortazar himself says about literary formats: 'The novel and the short story can be compared analogically to the film and the photograph.' Julio Cortazar, 'Some Aspects of the Short Story', 246. He further suggests that this genre functions as a metonymy, a 'photography' that is a fragment of reality which opens an ampler one: 'an explosion which fully opens a much more ample reality, like a dynamic vision which spiritually transcends the space reached by the camera.' See also Nataly Tcherepashenets, 'Place and Displacement'.

7 Dudley Andrew, *André Bazin*, 8.

8 André Bazin, 'Theater and Cinema', 105.

9 This has a both metaphysical and historical dimension. The film image can put us in touch with the 'universe', and thus present, and eventually restore, a world to us, a restoration that includes the potential of restoring the human being. For Bazin, cinema is able to formulate a metaphysic of life that works against the political catastrophe that took place in the name of life and by means of technology.

between organism-environment interaction and technological mediation. The axolotl will provide me with a literal lifeline for understanding certain aspects of French film aesthetics in the 1950s that are closely connected to questions of evolution, development, and behavior.

Bazin's understanding of the arts in the context of dynamic vital processes and life-forms is part of a long tradition of French critical thought. Throughout the twentieth century, philosophy and cultural criticism in France have been deeply intertwined with the philosophy and history of life sciences, though this connection has not always been acknowledged or recognized, as Michel Foucault notes. Foucault argued that a central dividing line cuts through the various schools of the French intelligentsia of the post-war years:

> [i]t is the line that separates a philosophy of experience, of sense and of subject and a philosophy of knowledge, of rationality and of concept. On the one hand, one network is that of Sartre and Merleau-Ponty; and then another is that of Cavaillès, Bachelard and Canguilhem. In other words, we are dealing with two modalities according to which phenomenology was taken up in France.[10]

Bazin certainly belongs to the former camp in this model, and yet we find in his work a strong affinity to natural phenomena that points beyond a philosophy of the subject. In order to better grasp the peculiarities of Bazin's thought, I am proposing a slightly different line alongside which to think about Bazin's humanism, animalism, and materialism; namely, that of the divide caused by a Hegelianism (Alexandre Kojève, Jean Paul Sartre, etc.) that vehemently strove to distinguish itself from Bergsonism and neo-Kantianism. In *Modern French Philosophy,* Vincent Descombes presents Bergsonism as no more than an atavistic precursor to the neo-Hegelianism that was to dominate French philosophy from the 1930s onward; that is, Bergsonism was the 'unmodern' belief of an older generation that belonged more to the nineteenth century than to the twentieth century (until Gilles Deleuze and Félix Guattari raised the stakes once again in the 1970s).[11] Yet a closer look at Bazin's writing reveals that he cannot be clearly allocated to one side or the other of this split between Bergsonism and neo-Hegelianism—that is, the split between 'old' and 'modern' French

10 Michel Foucault, 'Introduction', 8.

11 See Descombes, *Modern French Philosophy*, 9-54. This otherwise very insightful history of philosophy is thus itself part of the tradition it describes.

philosophy—but rather sits, with an existential discomfort appropriate to the post-war situation, on the dividing line, with an undercurrent of life-philosophical thought sustaining and informing his thinking throughout his writing career and increasingly during his later years. Merleau-Ponty might be said to occupy a similar position, for not only was his inaugural lecture at the Collège de France in 1952 on Bergson, but he also turned to Bergson and nature-philosophy as he increasingly shifted his focus from phenomenology to ontology.[12]

Bazin's indebtedness to Bergson expresses itself in two realms, which more or less correspond to two of Bergson's major works. On the one hand, and most importantly, one can trace the influence on Bazin of Bergson's evolutionary theory, which the latter developed in *Creative Evolution*, and which emphasized notions of intellect, intuition, development, and sympathy. This work, corresponding to Bazin's own interest in biology and the animal world, was highly influential for Bazin's theory of the relationship between cinema and the other arts and his notion of an evolution of the cinematic image. On the other hand, Bazin was influenced by Bergson's thesis that time must be understood as duration, a claim Bergson first articulated in *Matter and Memory*, and then took up again in *Creative Evolution*, arguing there that duration must be understood as intrinsic to the organism as such. Bazin applied these theories to cinema, which he understood as an expression of continuous duration. However, in addition to the direct reception of Bergson by Bazin, there are many Bergsonian and other vitalist elements in Bazin's writings that might have been filtered through mediating figures such as Teilhard de Chardin, Proust, and Merleau-Ponty, as well as other French film theorists, such as Émile Vuillermoz.[13] I suggest that we understand Bazin's Bergsonism in the light of critical engagement with Bergson that grappled with the relationship of Bergson's work to history and historical temporality, most notably Max Horkheimer's critique of Bergson and Benjamin's engagement with Bergson.[14] This angle helps us

12 On Merleau-Ponty's inaugural lecture, see Taylor Carman and Mark Hansen, 'Introduction', 3. The importance of Bergson and figures such as J. W. Schelling and Jakob von Uexküll—both part of the German tradition of *Lebensphilosophie*—stands out in Merleau-Ponty's lectures on nature from 1956-58; see Merleau-Ponty, *Nature*. See also Renaud Barbaras, 'A Phenomenology of Life', 206-30.

13 Teilhard de Chardin was a Catholic priest, heavily influenced by Bergson, who not only formulated what came to be the Catholic Church's official stance on evolution, but was also an active paleontologist and geologist. Proust functions, for his part, as a reference point in Bazin's discussion of memory in a text such as Bazin, 'De Sica: Metteur en Scène'.

14 See Max Horkheimer, 'On Bergson's Metaphysics of Time'; Benjamin, 'On Some Motifs in Baudelaire'; Benjamin, *The Arcades Project*. On Benjamin and Bergson, see also Ilya Kliger, *The*

to understand the transformations of vitalist ideas in the wake of, and subsequent to, the experience of WWII and the holocaust.

The role of vitality for Bazin is most evident in his understanding of art forms as dynamic, quasi-living entities that are governed by laws that also apply to natural phenomena. Bazin believes in the fundamental vitality of cinema, painting, theater, and literature. He attributes to art forms an organic capacity for evolution, development, and interaction with other art forms—a medium's historical genesis is, in Bazin's writings, comparable to the phylogenetic development of a species. Throughout his essays on cinema, for example, Bazin imbues the medium with the capacity to evolve, adapt, react to other entities in certain habitats; remain in a 'larval' or 'embryonic' state; and so forth. The number, consistency, and biological accuracy of Bazin's attributions of life-like qualities to cinema make these more than mere metaphors; thinking of cinema as a living being guided Bazin's approach to the question of realism, for example, cinema's dependency on historical conditions, and its interaction with theater, painting, and literature. Additionally, Bazin's understanding of films themselves, as experiential, time-based artworks, has vital connotations—he compares their effect to natural, growing phenomena (in his 'Ontology' essay) and ascribes to them an organic, dynamic temporality, rather than a mechanical one.[15]

Readers of Bazin's essays are often struck by the wealth of allusions and references to realms that seem to have little or no connection to an aesthetic inquiry into the nature of cinema and the stylistic particularities of specific films. For the most part, these references come from studies and observations in the natural sciences or from observations of nature itself. Bazin does not employ these natural facts as metaphors for cinema or a particular film; rather, they are presented alongside or parallel to the characteristics of cinema or a particular film, such that in his prose, descriptions of films are juxtaposed to those of natural phenomena, mutually reinforming one

Narrative Shape of Truth. See also Andrew and Joubert-Laurencin, eds., *Opening Bazin*, 65n.

15 In his famous essay on the 'Ontology of the Photographic Image', Bazin writes of photography that, since it does not entirely spring from man, it 'affects us like a phenomenon in nature, like a flower or a snowflake whose vegetable or earthly origins are an inseparable part of their beauty.' Not only are the flower and the snowflake natural phenomena, but their appeal also comes from the fact that they are temporal; that is, subject to constant change. Moreover, their development is visible in their very form, both in the inorganic crystalline growth of the snowflake and the organic development of the flower from its bud. This understanding of evolutionary time, one that includes both organic and inorganic phenomena, underwrites not only Bazin's understanding of the temporality of film(s), but also that of cinema as an art form. See Bazin, 'The Ontology of the Photographic Image', 13.

another not on the basis of a causal or metaphorical connection, but solely on the basis of their 'proximity' in the text. Films and natural phenomena exist on the same plane in Bazin's texts, such that the essays on cinema *embed* their subject in a larger context of natural phenomena and the scientific investigation of natural phenomena. Most frequently, Bazin's references and allusions belong to biology, especially evolutionary biology, geology, or behavioral psychology. Thus, Dudley Andrew, who describes Bazin as 'organicist', is only partially right, since Bazin's references include not only organic phenomena such as bees, dogs, and salamanders, but also non-organic phenomena such as bacteria, rivers, stones, and viruses.[16] What unites all of these references is not organicism, but rather a phenomenological interest in change, expression or expressivity, and force—in short, a very broadly understood conception of vitality that encompasses both the organic and the inorganic.

Two texts express these two vitalist elements in Bazin most forcefully. The two-part essay on 'Theater and Cinema', published in 1951 in *Esprit*, provides an introduction to the relationship between Bergson's theories on evolutionary biology and Bazin's theory of the interrelationship of the arts. It also introduces the figure of the axolotl. Bazin's essay on cinema and painting—'The Picasso Mystery: A Bergsonian Film'—picks up ideas about adaptation that he earlier developed and focuses on the question of temporality by fusing Bergsonism with existential phenomenology. These two articles provide several key ideas that allow for a deeper analysis of the precise nature of Bazin's realism.

In Bazin's two-part essay on 'Theater and Cinema', included in the first volume of *What Is Cinema?,* the axolotl is used to illustrate the relation between the two art forms. The axolotl functions like a prism in the texts, focusing and concentrating ideas of development, evolution, and temporality by inscribing them onto an animal body and reflecting them back onto various films. In these essays, Bazin pursues two arguments. First, the comparison between cinema and theater allows him to distinguish the specificity of the cinematic image. In contrast to the theater, in which everything revolves around the dramatic presence of man and his fate, such that centripetally, everything serves to illustrate the human drama, film's aesthetic is centrifugal and spirals outward. This description of film seeks to capture certain qualities of the cinematic image, such as its openness, limitlessness, and the fact that it puts humans, animals, and environment on the same plane—everything in the image moves and is animated by

16 See Andrew, *André Bazin*.

the same technological spirit. This argument seems in agreement with a classical position in film theory, namely that of the autonomy of cinema as an art form in its own right, one that needs to be 'cleansed' of the influences of theater as an established, bourgeois art form.

Yet in a second step, this distinction between theater and cinema for Bazin becomes the prerequisite for a mutual *exchange* between cinema and theater. By looking more closely at comedy, slapstick, and 'filmed theater', that is, theater plays adapted for cinema, Bazin introduces the idea of a co-evolution of theater and cinema in order to undo the idea that cinema has been developing autonomously and along a linear line of progress toward self-realization. Informing this point is the conviction that cinema, like any other art form (and any other living being, for that matter) does not come into its own and make use of its potentials through a process of isolation and purification, but rather by engaging in an ongoing exchange with its environment and other dynamic, 'vital' entities, including other forms of art such as theater. In the case of comedies like those of Chaplin, cinema 'offers more than the theater but only by going beyond it, by relieving it of its imperfections'.[17] While both the acting style and dramatic structure of early slapstick films come from a theatrical tradition, cinema is not restricted by time and space in the same way that theater is.[18]

In order to explain the relationship between theater and cinema in films like slapstick or filmed theater, Bazin describes the state of dramatic situations in the theater as a 'larval stage' of dramatic possibilities in cinema: 'What makes it possible to believe that the cinema exists to discover or create a new set of dramatic facts is its capacity to transform theatrical situations that otherwise would never have reached their maturity.' In order to explain this developmental allusion, Bazin turns to the axolotl (though not by name):

> In Mexico there is a kind of salamander capable of reproduction at the larval stage and which develops no further. By injecting it with hormones, scientists have brought it to maturity. In like fashion we know that the

17 Bazin, 'Theater and Cinema', 79.

18 Two aspects of Bazin's theater essay are thus critically important: first, his break with 'myths' and convenient (often simplified historical) reasoning in order to define an ontology of cinema against theater and other arts; and second, a definition of 'realism' in cinema that subsumes technology and materiality under an aesthetic ontology. It is especially the second point—which, in some ways, is the consequence of the former—that sheds light on Bazin's notion of the difference between cinematic and theatrical realities. These realities have to be understood as the expression of the living beings he understands art forms to be.

> continuity of animal evolution presented us with incomprehensible gaps until biologists discovered the laws of *paidomorphosis* from which they learnt not only to place embryonic forms in the line of evolution of the species but also to recognize that certain individuals, seemingly adult, have been halted in their evolutionary development.[19]

I am not sure to what extent Bazin knew of the popular scientific experiments with the axolotls; whether he had heard Merleau-Ponty talk about the astonishing amphibian in his lectures, or had read Aldous Huxley's 1939 novel *After Many a Summer* (which was published in France in 1941), in which he recounts his brother Julian Huxley's experiments and applies them to a human maturing into an ape. In any case, though, Bazin was tapping into a scientific reference with numerous reverberations among other cultural critics, poets, and philosophers.[20]

The axolotl was first introduced to Europe when 34 specimens were brought from Mexico to Paris in 1863, and six of these ended up at the Jardin des Plantes. Under the hands of zoologist Auguste Duméril, they quickly spawned into the hundreds. The animal was initially believed to be a very large newt whose main characteristics were anthropomorphic hands with free digits and 'three large appendages on each side of the back of the head, fringed with filaments which, in their fullest development, remind one of black ostrich feathers' (Fig. 4.1).[21] Yet some axolotl of the third generation at the Jardin des Plantes developed into salamanders, thus revealing the axolotl to be in fact a larval stage of the salamander, albeit a larval stage in which it was nevertheless able to reproduce. The ability to mature sexually in the larval stage is an example of biological heterochrony; that is, a kind of 'untimeliness' in the temporal relationship of different developmental processes to one another. This larval maturity is called paedomorphosis, and is thought to occur in order to provide living beings with the evolutionary option of regression in order to adapt to certain circumstances. In the case of the axolotl, for example, the ample lakes around Mexico City allowed the axolotl to remain more comfortably in water over the course of its entire lifespan, rather than spending its adult life on land. As a consequence, it retained its larval body in adulthood; or, to put it the other way around, it

19 Bazin, 'Theater and Cinema', 79.

20 André Breton included the axolotl in surrealism's 'coat of arms.' Other allusions to the axolotl include, for example, a reference at the end of René Daumal, *A Night of Serious Drinking*; and Giorgio Agamben, 'The Idea of Infancy'.

21 Anon., 'Axolotl', 69.

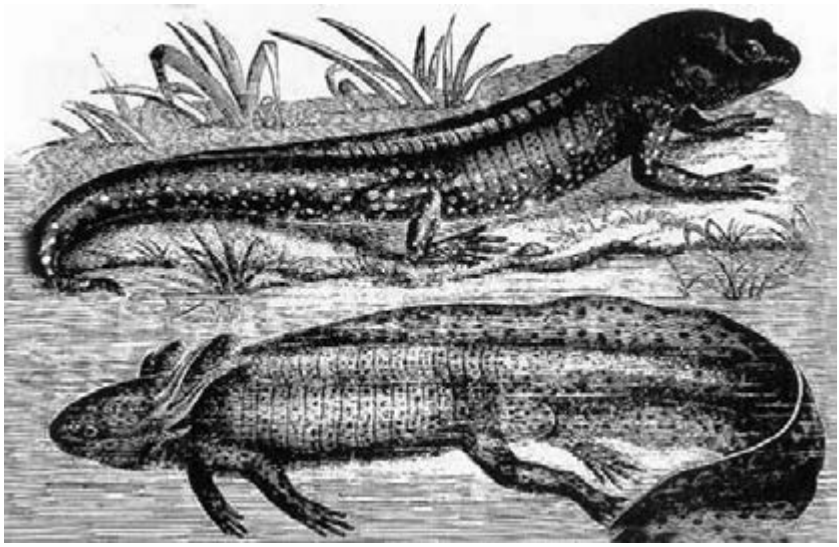


Fig. 4.1: The Axolotl (Ambystoma mexicanum) as depicted in Auguste Duméril, *Annales Des Sciences Naturelles-Zoologie et Biologie Animale 7* (1867).

acquired the capacity to reproduce prematurely. As Richard Dawkins points out, this heterochrony can be understood either as an acceleration of sexual maturity, or a slowing down of everything else relative to sexual maturity.[22] In 1913, Vilém Laufenberger in Germany injected an axolotl with a thyroid growth hormone and thus artificially induced the animal to develop into its 'adult' stage as a salamander. A few years later, Julian Huxley, Aldous Huxley's brother, repeated the experiment in England.

Bazin's reference to the axolotl emphasizes that theater and cinema developed along a path that was neither straightforward nor monochronological, nor was it a path that was 'natural' and predetermined. First, the example of the axolotl highlights cinema's potentiality: just as the axolotl possesses *in nuce* developmental potentials to evolve into different forms, so too are dramatic situations in cinema and in theater tied to one another as potentials. Second, it highlights the anti-determinist character of Bazin's notion of development: just as the axolotl's 'evolutionary leap' in the Jardin des Plantes was brought about by experimental intervention and interaction, so too is cinema's development of expressive possibilities brought about by means of its incorporation of theater. (However, Bazin foregoes

22 Richard Dawkins, 'The Axolotl's Tale', 316.

the opportunity to comment on the colonialist implications of the forceful 'progression' of a Mexican animal that was imported into France as a consequence of French military occupation and repression in Mexico).[23] And third, the animal reference highlights the necessity of seeing phenomena in context, as interconnected with other phenomena and reacting to a particular, changing environment. The organism in question is radically open: open to intervention, open in its potential, and open to environmental changes. Theater and cinema are, in this light, two expressions of the same animal Bazin calls 'dramatic situations.'[24]

The axolotl thus provides a model organism that enables us to understand better how the slapstick films Bazin initially cites, such as *Onésime Horloger* (Jean Durand and Louis Feuillade, France 1912), rely on the interaction of theater and cinema. This film begins with a theatrical *mise en scène* in which the main character (played by Ernest Bourbon) and his dilemma—an inheritance to which he will only gain access in twenty years—are introduced. Onésime addresses the audience first in hand-wringing despair and then, after reading a clock-making treatise, in resolute excitement: he will change the pneumatic regulating clock to make time faster. The central regulating clock office itself is a chaotic place full of apparatuses and criss-cross wiring. With a few crude mechanical manipulations using a big hammer, Onésime accomplishes his task and somersaults over the suspended wires in a last farewell of the theatrical body to technological power. As soon as he has exited the frame, time-lapse speeds up the fingers of the clock and the regime of 'fast time' begins—and thus, the cinematic regime of manipulated time that transfers the comic and uncanny from bodily performance to bodies subjected to technologically accelerated motion.

In this self-reflexive narrative, Onésime's pounding hammer visualizes the injection that brings about the hormonal leap to a new state and therefore not only makes use of cinema's exponentiation of the theater, but also makes it an integral part of the narrative, thus continuing in the tradition of George Méliès' films. The majority of the film is concerned with the attraction of time-lapse photography and repeats, in fact, the

23 Christian Reiß has outlined the ways in which the history of the axolotl as a scientific subject is intertwined with histories of colonialization, and has tied this latter history to shifts of scientific paradigms (from natural history to taxonomy to biology and genetics). See Christian Reiß, 'The Acclimatization of a Model Organism'.

24 Tom Conley also recently used the image of the axolotl to elucidate Bazin's understanding of evolution. However, he misunderstands the biological image of neoteny and interprets cinema to be the hormone that is injected into theater. See Tom Conley, 'Evolution and Event in *Qu'est-ce que le cinéma*?'.

very scenes that formed the subject of the most popular early films by the Lumière brothers, Edison and others: street scenes, the execution of justice, family life, and construction. The comic effect of sped-up motion either simply makes movement look funny, as in the street scenes, or is amplified by additional tricks, as in the case of the rapid transformation of a baby joyously shaken by his mother into a man in baby clothes bouncing up and down, still held by his mother's arms. *Onésime Horloger* conjoins the cinematic spectacle of time manipulation and surprising tricks with a meta-narrative that proclaims that real time is passing fast and movement is really faster—movement is determining time, but movement itself is determined by the cinematographic apparatus. The delight on the part of the spectator is doubled: it is not only pleasure in the spectacle, but also in the mind-bending reconciliation and disjuncture of fast movement and regular time. *Onésime Horloger* is not simply a film that thrives on the superior possibilities of film over theater and thus proves itself dominant; cinematic possibilities communicate with theatrical potential and expand the dramatic expression in the interaction.

Similarly, the representative 'filmed theater' films Bazin discusses in the main part of the essay—Laurence Olivier's *Henry V* (1944) and Jean Cocteau's *Les Parents terribles* (1948)—are not a 'cinematization' of theater, that is, they are not an adaptation, but instead constitute examples of films that enhance the theatrical intention with new cinematic means. Cinema does not occupy theatrical territory, but rather puts its potential with respect to time (*durée*), dramatic effect (words vs. camera), and *décor* (artificiality vs. realism) in the service of the dramatic situation expounded by the theatrical play.[25] The dramatic situation is the organism, the axolotl, which might change its phenotype from newt to salamander, theater to cinema; a change that might result in new potential, environments, movement, and behavior, but it will remain the same living entity.[26]

25 In science, model organisms (such as E. coli, mice, or fruit flies) are species that have become experimental defaults on the basis of their specific qualities, such as easy maintenance, quick generational turnover, hardiness, genetic makeup, or responsiveness to experimental treatments, and which often allow conclusions to be drawn about human biology. The axolotl has been a model organism since the early twentieth century and is especially interesting for researchers due to its regenerative capacities.

26 In that sense, Bazin's reference to the axolotl presents one step further (phenotypical, rather than genotypical differences) from his discussion of mixing of the arts as 'cross-breeding' in his essay 'In Defense of Mixed Cinema': 'There are fruitful cross-breedings which add to the qualities derived from the parents; there are attractive but barren hybrids and there are likewise hideous combinations that bring forth nothing but chimeras'. Bazin, 'In Defense of Mixed Cinema', 61.

This understanding of the relationship between theater and cinema casts aside both essentialist definitions of cinema and ontological predeterminations. Films like *Henry V*, *Les Parents terribles*, Alfred Hitchcock's *Rope* (1948), William Wyler's *The Little Foxes* (1941), Orson Welles *Macbeth* (1948), and Olivier's other productions such as *Hamlet* (1948) all highlight their theatrical origins and make use of cinematic means to push theater further, rather than push against theater. *Henry V* manages this balance by showing a theater performance of Henry V in Shakespeare's day. (Cinematic) realism and (theatrical) illusion enhance rather than oppose one another, since filmic indexicality and mediated performance function as an exponentiation of theatrical presence and performance. Jean Cocteau's *Les Parents terribles*, by comparison, uses camera and montage to increase the realism of the original stage melodrama by depicting cramped rooms and the fast rhythm of attention. Moreover, Cocteau translates the situation of the theatrical spectator into a cinematic equivalent by shooting from the perspective of an invisible observer—that is, employing a framing and focus dictated by spectatorial interest—and thus emphasizes the 'quasi-obscenity' of viewing. Cinema increases the theatricality by using its means in the service of theater. For Bazin, Cocteau's film represents a trend of moving away from adaptation and toward 'staging a play by means of cinema'.[27] '"Canned theater" [...] has certainly taken on a new lease of life' – like the axolotl who, thanks to a hormonal boost, leaves the water and crawls on land, moving just as elegantly in the air as it had in the water.

Cinema's Milieu

Scientific inquiries into the axolotl's capacities for transformation invariably reflected on the animal's adaptability to the conditions in its environment, namely the water level in the lakes of Xochimilco in Mexico City, the axolotl's natural habitat. While Xochimilco once provided so much water that the axolotl could comfortably remain in the water throughout its life cycle, the area had since been incorporated into the growing metropolis, its lakes had been drained to enable intensive agriculture, and artificial canals contained the last remains of the former water reservoir.[28] Bazin's example of artificial hormone injections to raise the thyroid hormones that regulate the axolotl's metamorphosis are indicative of the artificiality that surrounds

27 Bazin, 'Theater and Cinema', 92-93.

28 Reiß, Uwe Hoßfeld and Lennart Olsson, '150 Jahre Axolotl'.

Fig. 4.2: An axolotl in an aquarium.

its modern life conditions: critically endangered, wild axolotls have not been found for years—yet as lab animal and aquarium pet, they are ubiquitous and can be bought for a few dollars. Even the import of the axolotl to Europe had been in the name of the Société Zoologique d'Acclimatation in Paris, one of many international acclimatization societies dedicated to studying the successful transfer of plants, animals, and humans from one area to another, in particular from non-European (colonial) regions to Europe.[29]

Just as the axolotl's hybridity can serve to illustrate the dynamic conception of the interrelationship between the arts in Bazin's work, the question raised by the axolotl's organic development and behavioral patterns illuminates Bazin's understanding of the internal development of a particular art form. Similar to scientific studies that analyzed the dependence of the axolotl's development on its milieu, Bazin's 'The Evolution of the Language of Cinema' engaged in a parallel inquiry into the dependence of film style on the political and cultural milieu. As I have noted in earlier chapters, milieu theory had been an important aspect of both biology and cultural theory in France, especially in the work of Auguste Comte, Hyppolite Taine, Claude

29 Ibid., 189; see also Iris Borowy, 'Akklimatisierung'.

Bernard, and Émile Zola. During the 1940s and 1950s, Georges Canguilhem in particular—following Canguilhem, Merleau-Ponty, and others—turned to the concept of milieu and redefined it.[30] In keeping with his conception of the coevolution of theater and cinema, Bazin views the evolution of the language of cinema itself not as a unilinear path toward perfection, but as the formal and technical coevolution of different impulses or forces, which seek ever-new (and in this sense always temporary) 'well-balanced stage[s] of maturity'.[31] The form and expression of both art and animal depend on the conditions of the environment: social, biological, and historical. If water becomes scarce, or living conditions too overcrowded, the axolotl adapts by changing its form.

For Bazin, the evolution of film style is dependent upon the interaction and interdependence of film's milieu and film's internal development. This development happens within a field defined by two poles, one of which may take precedence over the other in certain conditions: on the one hand, the impulse to privilege the image and, on the other, the impulse to privilege reality. The terms seem confusing—is cinema not made up of images? Yet Bazin restricts his notion of image to 'everything that the representation on the screen adds to the object there represented', namely 'plasticity'—that is, arrangement, framing, performance, cinematography—and montage.[32] Cinema, for him, is thus image plus reality; or, rather, cinema is a kind of image that is real, as in Bergson's definition of objects as image in *Matter and Memory*.[33] Interestingly, Bazin argues that the advent of sound did not constitute a major event that upset the equilibrium of forces. Rather, it was the introduction of a new 'subject matter' that brought about a change in style between 1940 and 1950. Bazin describes this subject matter as 'self-effacement before reality', which we might call, more precisely, a new attitude toward matter—one that allows form to free itself from its subservience to the film's content or subject.[34] The image Bazin uses to describe this dynamic development is the equilibrium-profile of a river.

30 Canguilhem's seminal essay 'The Living and Its Milieu', for example, was based on his lectures from 1946-7 and was published in French in 1952. See Canguilhem, 'The Living and Its Milieu'.

31 Bazin, 'The Evolution of the Language of Cinema', 29.

32 Ibid., 24.

33 See Bergson, *Matter and Memory*, 10-11: '[B]y "image" we mean a certain existence which is more than that which the idealist calls a *representation*, and less than that which the realist calls a *thing*. . . . the object exists in itself, and, on the other hand, the object is, in itself, pictorial, as we perceive it: image it is, but a self-existing image.'

34 Bazin, 'The Evolution of the Language of Cinema', 29. On form and content, see Bazin, 'In Defense of Mixed Cinema', 74.

The forces of the water and the resistance of the geological strata struggle against one another, thereby literally in-forming one another, until the river flows in a settled bed. Any changes in waterflow or geology will cause a change in the riverbed, until a new equilibrium is reached.

While Bazin equates cinema's new subject matter with a 'vast stirring of the geological bed of cinema', he never hints at what caused the stirring.[35] It seems beyond question that this stir was created by the war and its political, social, physical, and psychological toll. It is, however, important to note that Bazin avoids direct ascriptions of cause and effect. In an essay on danger, suffering, and death entitled 'Cinema and Exploration', Bazin says of a film that 'the camera is there like the veil of Veronica pressed to the face of human suffering'.[36] According to the medieval legend of St Veronica, she wiped the blood and sweat off Jesus' face on the Via Dolorosa and her veil retained the image of Jesus' face—an *acheiropoieton* (an image not made by human hands), like the photographic image. Similarly, the evolution of film style functions like a veil, or screen, pressed to the face of reality. This is the double function of the veil and the screen: simultaneously to reveal and to conceal. Stanley Cavell has described the screen's function thus: it 'screens me from the world it holds—that is, makes me invisible. And it screens that world from me—that is, screens its existence from me. That the projected world does not exist (now) is its only difference from reality'.[37] For Cavell, the screen introduces a separation between subject and world. Bazin, by contrast, emphasizes mediated *contact*. The form of a film mediates reality—reality can only become visible through mediation, and this is how film can bring us into contact with the world. Developing, living creatures are not isolated from the world, as in a skeptical worldview, but have the world inscribed into their bodies in the form of their development.

When Bazin returns to the image of the riverbed in 'In Defense of Mixed Cinema', he focuses on the complex (and contradictory) ways in which cinema interacts with its environment, namely other arts:

> Like those rivers which have finally hollowed out their beds and have only the strength left to carry their waters to the sea, without adding one single grain of sand to their banks, the cinema approaches its equilibrium-profile. The days are gone when it was enough to 'make cinema' in order to deserve well of the seventh art. While we wait until color or

35 Bazin, 'The Evolution of the Language of Cinema', 37.
36 Bazin, 'Cinema and Exploration', 163.
37 Cavell, *The World Viewed*, 24.

> stereoscopy provisionally return its primacy to form and create a new cycle of aesthetic erosion, on the surface cinema has no longer anything to conquer. There remains for it only to irrigate its banks, to insinuate itself between the arts among which it has so swiftly carved out its valleys, subtly to invest them, to infiltrate the subsoil, in order to excavate invisible galleries. The time of resurgence of a cinema newly independent of novel and theater will return. But it may then be because novels will be written directly onto film. As it awaits the dialectic of the history of art which will restore to it this desirable and hypothetical autonomy, the cinema draws into itself the formidable resources of elaborated subjects amassed around it by neighboring arts during the course of the centuries. It will make them its own because it has need of them and we experience the desire to rediscover them by way of the cinema.[38]

Film theorists and historians often focus on 'new cycle[s] of erosion', that is, times in which the form of film draws attention to itself due to new advances in technology. But while nothing seems to happen on the surface during times of formal-technological stability, underground infiltration, and excavation continue the play of forces, changing the river's structure almost imperceptibly. The river incorporates and makes use of the matter of other arts. The force of its water uncovers hidden structures in the geographical layers, and like a negative imprint, the water fills hollows it has carved out. Like the flow of the river, the axolotl's development will respond to changes in its environment. The axolotl highlights what is slightly more diffuse in the image of the riverbed: that bodily expression, or form, or style, is a result of the interaction between the conditions of the environment and the potential, or potential futures, inherent in the present organism. The body in its manifest expression, as a phenotype, reflects, like the negative imprint on St Veronica's veil, the environment. 'Imprinting', however, is not a determinist process that privileges nurture over nature; rather, the environment interacts with the organism, such that the latter takes certain paths and not others, privileging certain elements, strands, and futures. Similarly, in Bazin's essay, there are a number of films such as *Citizen Kane* (Orson Welles, 1941) or Rossellini's *Paisà* (1946) that seize upon one of cinema's innate potentials, namely its quality of 'revealing' reality. This potential had been there *in nuce*—and had appeared in the earlier work of F.W. Murnau, Erich Stroheim and Jean Renoir—but only now, in the new dynamic set in play between the

38 Bazin, 'In Defense of Mixed Cinema', 74-75

geopolitical stirrings of the war and cinematic style, does this realist tendency come to full expression. This development finds perfect expression in the axolotl, which reaches maturation as larval stage in sufficiently wet conditions, in a movement that is simultaneously regression and evolution, and thus the coming into being of something new by means of a 'folding'.[39]

Sergei Eisenstein, who was highly interested in regression, also picked up on the axolotl's heterochrony. Eisenstein detects a 'dialectic polarity' between 'regression' and 'progress' in every work of art, linking artworks to both 'the deepest layer of emotional thinking' and 'the highest peaks of consciousness.' In the essays written for *Metod,* this 'deepest layer' encompasses for Eisenstein not only thinking-feeling, but extends to those organic, psychological and social states more generally that are characterized by a 'synthethic, unified, undifferentiated state,' including androgyny, prelogical thinking, protoplasmaticity, and archaic communism.[40] Throughout the history of the arts, traces of these 'deepest layers' can be detected. It is in this context that he references the axolotl in his *Notes for a General History of Cinema.* In a section guided by the heading '"The Dynamic Panoptikum [German for 'wax museum' or 'cabinet of curiosities', I.P.]]"—connection with Dionysia and Mystery plays,' Eisenstein discusses the Oberammergau Passion Play, which strikes him as an original form of 'the tradition of the guild plays of antiquity,' in this case 'still surviving in a (relatively) untouched form (like axolotl ambystoma – a phenomenon that lived into our own time, having preserved in one creature's biography the transformation from the stage of branchia to the stage of lungs, i.e. to [the era] of its emergence from water).'[41] Similar to Bazin's reference to the axolotl, Eisenstein views the animal as an embodiment of certain characteristics of artworks—in this case, not only the achronistic retainment of an ancient form into the current time, but also the

39 In his essay on Bazin's understanding of evolution, Conley convincingly links this understanding to Gilles Deleuze's conception of the event in Deleuze, *The Fold.* Deleuze explains the event with the image of Napoleon's soldiers being confronted with a pyramid in the Egyptian desert. As soon as they see the pyramid, with a shudder they realize that it has been there for a long time, and a different temporality cuts across their being, uprooting and questioning their endeavor. Likewise, for Bazin, through film, and facilitated by film's long takes and deep focus, 'one can move into the world and let the world enter the geography of one's body: a feeling of space and being is grasped, and so also an intimation of an open-ended totality of things'. Both geological and aesthetic evolution 'belong to a greater "life of forms" that includes those of the earth's crust, the living organism, and also the seven arts'. See Conley, 'Evolution and Event in *Qu'est-ce que le cinéma*?', 39.

40 See Somaini, 'Cinema as "Dynamic Mummification,"' 44.

41 Eisenstein, 'Dynamic Mummification,' 175.

preservation in an individual body of a transformation that recapitulates species development. Eisenstein's reference to the axolotl thus highlights his interest in the idea of ontogeny recapitulating phylogeny; a popular idea in the late nineteenth century, thanks to Engels' *Dialectics of Nature* and Ernst Haeckel's *The Riddle of the Universe*, and which, as Antonio Somaini explains, had already been transferred to art history by Alois Riegl and Heinrich Wölfflin.[42]

While Eisenstein's reference to the axolotl focuses less on environmental conditions and more on the embodiment of phylogenetic qualities, he nevertheless shares with Bazin an emphasis, *qua* axolotl, on cinema's unfixed form and its interrelation with other arts, across time and space. Somaini's summary of Eisenstein's understanding of cinema as 'synthesis of the arts' resounds Bazin in many ways:

> Eisenstein never considered cinema a medium that had reached a final and definitive form. Rather, cinema was for him a constantly evolving set of elements and techniques, each one of which opened up new 'possibilities' that needed to be explored in order to produce art forms increasingly capable of exerting a powerful influence on their spectators.[43]

In order to highlight the interesting confluence of the axolotl as organic emblem for a constantly evolving cinema for both Bazin and Eisenstein, the specificity of Bazin's approach can further be usefully distinguished from Giorgio Agamben's more recent use of the figure of the axolotl. Whereas for Bazin, the emergence of new expressions of an animal's body or of an art form is historically and culturally specific, Giorgio Agamben has looked to the axolotl for universal ontological conditions of relating to the world. Bazin insists that one needs to tie the emergence of new organic expressions—that is, the emergence of meaning—to the organic and environmental circumstances in the animal's case, and, in the case of cinema, to social, historical, and technological conditions, and to cinema's interaction with other art forms. Agamben, by contrast, uses the axolotl in a short essay in *Ideas of Prose* to think about what distinguishes the human being from other living beings. Like Bazin, Agamben makes use of the axolotl's paedomorphosis to think about time and development. Yet

42 Somaini, 'Cinema as "Dynamic Mummification," 37-38.

43 Ibid., 50.

Agamben takes the axolotl's eternal state of infancy as a starting point to imagine an infant that

> does not merely keep to its larval environment and retain its own immature form, but is, as it were, so completely abandoned to its own state of infancy, and so little specialized and so totipotent that it rejects any specific destiny and any determined environment in order to hold on to its immaturity and helplessness.[44]

While other animals are attuned to a specific environment and are bound to the 'Law'—that is, to what has been written in their genetic code—this axolotlian infant is able to remain *open*; rather than being cast into a specific environment, he is cast into a world.[45] Agamben links the open potential of the axolotl to language, to the capacity for naming things, which precedes values and concepts. This potential and active engagement with the world seems to bear a close relationship to Bazin's—and, as we will see, to Merleau-Ponty's—reference to the axolotl's active developmental response to environmental conditions. However, as will become clear from my reading of Bazin through Merleau-Ponty below, the openness of the axolotl's body is exactly what makes it deviate not only from an anthropological machine—a mechanism that introduces the split between human and animal—that characterizes Agamben's essay, but also simplistic distinctions between natural and unnatural, organic and inorganic. In fact, what the axolotl opens for Bazin and Merleau-Ponty is a separation between the organism and the unitary whole, a separation we can think of in two ways: either by saying that the axolotlian organism encompasses inorganic environmental influences and thus transcends traditional understandings of organicity, or by seeing the axolotlian organism as part of an assemblage that includes environmental factors. It is this latter sense that connects the thought figure (*Denkfigur*) of the axolotl not only to Uexküll's *Umwelt* theory, but also to a *Stimmung* aesthetic that aspires to an open image—open to the off-screen, open to the spectator, and open to letting reality shimmer through the texture of the screen.

44 Agamben, 'The Idea of Infancy', 96.

45 This essay is, in many ways, a precursor to Agamben's *The Open: Man and Animal*, which was published seven years later. 'The Idea of Infancy' already draws upon the ideas that are foundational for Agamben's discussion of the anthropological machine he develops in the later text, especially Heidegger's distinction of *Welt* and *Umwelt*, which he in turn got from Uexküll. See Agamben, *The Open: Man and Animal*.

Life and the Temporalities of Film and Painting

So far, I have used the axolotl as an instantiation of Bazin's notion of cinema and art forms more generally. The axolotl's body and its bodily potential have served as a screen that makes visible how Bazin correlates the development of art with organic development. In what follows, I would like to pursue this constellation one step further. The axolotl's development and behavior also illuminate the properties of film in Bazin's work, and aspects of cinematic temporality in particular. How to map the animal onto art, and onto film in particular, becomes clearer in Merleau-Ponty's 'Nature' lectures from 1956-58, which were to comprise the final part of *The Visible and the Invisible*. In order to grasp the temporal implications of Bergson's philosophy of nature and Uexküll's understanding of environment as part of life, Merleau-Ponty turns to studies of the successive evolution of the axolotl and the impact of this evolution on the step-by-step process of the animal's learning how to swim. Bazin had referenced the axolotl to support his claim that 'cinema exists to discover or create a new set of dramatic facts'; for Merleau-Ponty, the axolotl's behavioral development proves exactly this, the discovery of the new 'out of itself', as a quality inherent to the animal.

Merleau-Ponty is interested in the axolotl because the embryonic development of its organism seems to anticipate how it needs to behave in order to function in a changing environment. The development of nervous and sensuous tissue—that is, its innervation, to use a term central to Walter Benjamin's theory of cinema—as well as the development of muscular tissue appear to happen in accord with the organism's need for certain types of movement in the water and on land.[46] In the beginning, for example, the axolotl's legs can only move in accord with the trunk, which results in an S-shaped movement necessary for swimming; only then do the legs begin to move independently, enabling efficient movement on land – as though the organism as a whole foresaw the change in its milieu: 'the maturation of the organism and the emergence of behavior are one and the same thing. For the axolotl, to exist from head to tail and to swim are the same thing'.[47] There is thus a dynamic relationship between organic development, behavior, and environment that can be explained neither by the preformationist idea that all potential of the organism is already present in the embryo *in nuce*, nor by positivist, teleological interpretations that

46 On Walter Benjamin and innervation, see Hansen, 'Benjamin and Cinema'.

47 Merleau-Ponty, *Nature*, 144.

see everything that happens in, with, and to the body as a consequence of goal-oriented behavior.

It is this open field constituted by the interaction between body and environment, at every step of the axolotl's development, that for Merleau-Ponty has the quality of a kind of interrogative being. Merleau-Ponty speaks of the 'problems' that the axolotl solves: it '"transfers" the solution from the problem posited by its displacement in water to the problem posited by its displacement on land'.[48] This dynamic understanding of organism and behavior allows Merleau-Ponty to apply a Bergsonian notion of time to the axolotl. According to Bergson, the organism—that is, the medium of life—is capable of bringing something new into being, since it does not just passively react to changing conditions, but rather carries within itself a 'reference to the future'; in other words, it exists to produce the new. Likewise, Merleau-Ponty says about the axolotl that 'there is the future in every present, because its present is in a state of imbalance'.[49] There is an openness, or a negativity, that is part of organic life: in the present, there is an absence of meaning that is only yet to come. This meaning to come is the result of the organism's temporality and evolution in the interaction with its environment. Any living being capable of complex reactions that go beyond a mere stimulus-response schema creates *meaning* by reacting to its *Umwelt*. Life, for Merleau-Ponty, is expression, that is why to live and to swim is the same thing for the axolotl.

With an instructive reference to the telephone, Merleau-Ponty transfers the axolotl's behavior and developments to technology: 'The organism is not just a telephone switchboard. In order to understand it, we must include in it the inventor or operator of the telephone: we could say that the axolotl is a telephone which invents and maneuvers itself.'[50] An animal might be subject to mechanical, physico-chemical laws, but these are not sufficient to account for the dynamic whole. The axolotl thus provides us with a model for technological media according to which media have such mobility and self-direction that their content will always be subject to the medium's own transformation—a transformation embedded in its historical and cultural environment.

From his discussion of the axolotl's development, Merleau-Ponty draws conclusions for life in general and proposes an understanding of life as interrogative, negative force. In living beings,

48 Ibid., 144.
49 Ibid., 155.
50 Ibid., 145.

> [t]he directing principle is neither before nor behind; it's a phantom, it is the axolotl, all the organs of which would be the trace; it's the hollowed-out design of a certain style of action, which would be that of maturation; the arising of a need would be there before that which will fill it. It is not a positive being, but an interrogative being which defines life. . . From the moment when the animal swims, there will be life, a theater, on the condition that nothing interrupts this adhesion of the multiple. It is a dimension that will give meaning to its surroundings.[51]

Life creates needs, like hollows, which are then (ful-)filled by developmental exchange with the environment. Every need, every hollow, creates an opening that in turn adds a new possibility or reality to whatever is given in a behavior—or in an image.[52] An organism (or a film) does not predetermine the function of the parts, as a teleological principle, but rather has to be understood as a project that outlines possible futures.

An understanding of the activity of life as outlining possible futures returns us not only to Bergson's notion of duration, but also to Bazin's discussion of film and Bergson. In Bazin's 1956 essay on Henri-Georges Clouzot's *The Mystery of Picasso* (a film that, incidentally, Merleau-Ponty also references in his lectures on the axolotl, Bergson, and time), Bazin links the evolution of cinema and painting to an ontology that encompasses both media, focusing on their inherent temporalities.[53] *The Mystery of Picasso* is a film, Bazin writes, that does not 'explain' Picasso, but rather 'shows' him, in a description or exhibition that benefits from the translation of one medium, painting, onto another, film. Clouzot filmed Picasso in the process of painting; however, rather than depicting Picasso painting, the film screen is, with the exception of a few black-and-white interludes of conversation with Picasso, coincident with the canvas. This canvas, however, is transparent and filmed from behind, so that what we see are the lines and dots produced by Picasso's pen or brush touching the canvas, without seeing the utensil or Picasso's hand themselves. As a consequence of this visual strategy, what emerges from the film is not only the 'creative evolution' of a painting, but creative evolution as the temporal condition not only of painting and cinema, but life in general. For Bazin, this film thus brings

51 Ibid., 155-56.

52 Ibid., 151.

53 See ibid., 154: 'Let's take as an example the film on Picasso, or the one on Matisse. In the first case, we do not see the hand of the artist, so the effect of the miracle is quite superfluous because even without it, there is a miraculous character: there is a double impression, the impression of the unforeseeability of touch and an impression of logic.'

out one of cinema's basic properties: to express duration as an ontological condition of life.

The temporal character of painting had already served Bergson as a model for the temporality of life:

> The finished portrait is explained by the features of the model, by the nature of the artist, by the colors spread out on the palette; but, even with the knowledge of what explains it, no one, not even the artist, could have foreseen exactly what the portrait would be, for to predict it would have been to produce it before it was produced—an absurd hypothesis which is its own refutation. Even so with regard to the moments of our life, of which we are the artisans. Each of them is a kind of creation. And just as the talent of the painter is formed or deformed—in any case, is modified—under the very influence of the work he produces, so each of our states, at the moment of its issue, modifies our personality, being indeed the new form that we are just assuming.[54]

The finished artwork can be explained by its constitutive elements *a posteriori*; however, we have grasped nothing of its creation if we do not include the process of the painting's becoming. Likewise, Bazin takes the 'unpredictability' of the next stroke due to Clouzot's *mise en scène* (and to Picasso's mode of painting)—that is, the 'suspense' of the film—as an index for two things. First, this unpredictability unites painting, film, and spectator in a temporality in which nothing is pre-determined, since every new brushstroke grows out of a whole which is in a constant state of becoming; '[e]ach of Picasso's strokes is a creation that leads to further creation, not as a cause leads to an effect, but as one living thing engenders another [...] What Clouzot at last reveals is the painting itself, i.e., a work that exists in time, that has its own duration, its own life.'[55] As in Merleau-Ponty's description of the axolotl—and Bazin's own image of the riverbed—each brushstroke appearing on the screen is a question with several possible answers, the formation of a problem to which there are a number of solutions, the definition of a hollow that can be filled in various ways.

Out of this open path of the painting's creation, there follows a second point. Bazin also explains that this unpredictability 'implies the inexplicability of the compound—in this case the composition—by the simple

54 Bergson, *Creative Evolution*, 6-7.

55 Bazin, 'A Bergsonian Film', 212.

isolation of its elements'.[56] He emphasizes the organic nature of the work, for which mechanical explanations of cause and effect are not sufficient and in which the whole is always of a different nature than the sum of its parts. By adding a stroke, the whole is changed and a new set of possible futures opens up. In 'Indirect Language and the Voices of Silence', Merleau-Ponty takes up this point around the same time in a reference to François Campaux's film *Henri Matisse* from 1946:

> There are two sides to the act of painting: the spot or line of color put on a point of the canvas, and its effect on the whole, which is incommensurable with it, since it is almost nothing yet suffices to change a portrait or a landscape [...] [Matisse] did not have in his mind's eye all the gestures possible, and in making his choice he did not have to eliminate all but one. It is slow motion which enumerates the possibilities. Matisse, set within a man's time and vision, looked at the still open whole of his work in progress and brought his brush toward the line which called for it in order that the painting might finally be that which it was in the process of becoming.[57]

The film's slow motion made visible the possibilities, the freedom of choice, that preceded the actual stroke—the brush is seen in 'a solemn and expanding time—the imminence of a world's time'—as it tries 'ten possible movements, dance[s] in front of the canvas, brush[es] it lightly several times, and crash[es] down finally like a lightning stroke upon the one line necessary'.

While Merleau-Ponty also uses a film about painting-as-process to think about the relationship between part and whole in duration (in order to improve our understanding of it with respect to expressive speech), he of course pays less attention to the consequences of his observations for the medium of cinema. Ultimately, Merleau-Ponty is interested in what it is the film reveals about the interaction between Matisse, 'set within a man's time and vision' and equipped with human 'perception and gesture', and the painting. He does not conceive of film as having an intrinsic affinity to duration. Yet implicit in his argument is the idea—which he might have derived from an earlier essay by Bazin himself—that in cinematic slow-motion new possibilities appear, new choices become visible, broadening the spectrum of choices humans can see before them. This new wealth of

56 Ibid., 211.

57 Merleau-Ponty, 'Indirect Language and the Voices of Silence', 46-47.

choices, however, does not exceed the choices that are actually available to the human being (Matisse is not able to produce other strokes or paintings in slow-motion), but it brings these choices, which were previously invisible and imperceptible (even though executed by the body), into visibility and consciousness.[58]

For Bazin, by contrast, film is necessary to link the durational nature of painting to the duration of the spectator, and 'only film could make us see duration itself'—duration as the creative temporality of becoming, which in *Matisse* became visible in the hand's half-begun movements and hesitation, and in *The Picasso Mystery* in the suspense of the appearance of lines.[59] By means of a co-evolutionary movement similar to that of theater and cinema in the theater essay, film becomes 'pure'; that is, it comes into its own by means of submitting itself to another art form. *The Picasso Mystery* is (almost entirely) reduced to the temporality of creation, and receives its 'dramatic' impulses only from the uncertainty of what the next stroke will bring. The suspense of the next brushstroke, in other words, replaces any dramatic suspense and reduces it to the 'pure waiting and uncertainty' that is creation.[60] Yet what this combination of painting with film reveals is that artistic creation is, in turn, essentially cinematic in its temporal nature; the spectacle of creation consists in 'the appearance of free forms in a nascent state' and thus places this film in a line with the animations of Émile Cohl and Norman McLaren.[61]

This contingency of free forms in a nascent state, where one form brings the next form into being along an undetermined path—that is, neither a teleological, nor a mechanist, but an organic-evolutionary conception that defies holism by emphasizing an openness to external impulses—also lies at the base of Bazin's love of Italian neorealism. Indeed, love is a term he frequently uses to describe the treatment of people, things, and events in neorealist films, especially those of De Sica. 'Love' for Bazin is not a disavowal of analytic treatment, but itself a kind of critical category that describes an attitude that pervades most of Bazin's concepts discussed in

58 In a recent essay, Dudley Andrew also connects Bazin's texts on cinema and painting to Merleau-Ponty, as well as to André Malraux, and discusses the intellectual and biographical connection between their writings. Bazin wrote about *Matisse* in a 1948 essay in *Esprit* entitled 'An Aesthetic of Reality: Cinematic Realism and the Italian School of the Liberation' (translated in Bazin, 'An Aesthetic of Reality: Cinematic Realism and the Italian School of the Liberation'). See Andrew, 'Malraux, Bazin, and the Gesture of Picasso', especially 159-65.

59 Bazin, 'A Bergsonian Film', 213.

60 Ibid., 214.

61 Ibid., 214.

this chapter. In 'Umberto D: A Great Work', Bazin writes: 'De Sica is one of those directors [...] whose entire talent derives from the love they have for their subject, from their ultimate understanding of it. The *mise-en-scène* seems to take shape after the fashion of a natural form in living matter.'[62] De Sica's love for his subject, according to Bazin, allows him to create according to organic laws rather than logical laws that operate external to matter. Love, then, is the comprehensive sense of potential of a creature. As a general attitude, it constitutes the ethical impetus that follows from the aesthetic and scientific understandings of organic development outlined in this chapter.

The organic-environmental principles which for Bazin parallel the development of the narrative in a film such as *Umberto D.* connect his film theory to philosophers and theorists of biology of the time, yet in a way that emphasizes their indebtedness to Bergson. In *Creative Evolution*, Bergson presented an image that illustrates the narrative development of *Umberto D.* as much as the axolotl's 'interrogative being'. For Bergson, organization 'works from the centre to the periphery', whereas in manufacturing, '[t]he parts are arranged, so to speak, around the action as an ideal centre', working from the periphery to the center.[63] We can infer the working of organization only negatively, a fact Bergson seeks to illustrate with the image of an invisible hand passing through iron filings:

> [T]here has been merely one indivisible act, that of the hand passing through the filings: the inexhaustible detail of movement of the grains, as well as the order of their final arrangement, expresses negatively, in a way, this undivided movement, being the unitary form of a resistance, and not a synthesis of positive elementary actions.[64]

Similarly, the 'order of the final arrangement' of the gestures, incidents, and single objects in *Umberto D.* produces a unity without losing the contingent character of the individual parts, an idea for which Bazin also mobilizes the analogy of iron filings: 'If [these elements] are set in order with an undeniable clarity on the spectrum of social tragedy, it is after the manner of the particles of iron filings on the spectrum of a magnet—that is to say, individually; but the result of this art in which nothing is necessary, where nothing has lost the fortuitous character of chance, is in effect to be doubly

62 Bazin, 'De Sica: Metteur en Scène', 63.
63 Bergson, *Creative Evolution*, 92.
64 Ibid., 94.

convincing and conclusive.'[65] Just as we cannot see the hand that produces a certain arrangement of filings in Bergson's image, social tragedy is not depicted directly in *Umberto D.* by a chain of dramatic actions whose direct cause is social misery.

'Organic' does not mean that Bazin understands the film as a closed-off, holistic organism composed of different organs. *Umberto D.* is by no means composed like a traditional organism—it is not a closed dramatic narrative, entitled 'social tragedy', that consists of a chain of dramatic actions which can be explained by, for example, the inequities of post-war society. Rather, the film consists of little units, contingent events such as Umberto's cold, the ants in the kitchen, and the maid's pregnancy. Every element is independent, or accidental, and at the same time partakes of a whole that cannot subsume the parts. The 'natural form in living matter', the phrase Bazin uses to describe *Umberto D.,* is thus like Merleau-Ponty's axolotl, which develops the neck, leg and tail movements that constitute its behavior, yet this behavior is not determined by the organism's development. Rather, the successive acquisition of swimming movements is concomitant with the rhythm of its maturation.

A better understanding of the Bergsonian discourse on organic evolution that informed Bazin's view of cinema thus also helps us understand what, for him, it is that makes *Umberto D.* a realist film, an example of 'a truly realist cinema of time [...] a cinema of "duration"'.[66] In both essays on *Umberto D.*, Bazin emphasizes the contrast between the natural genesis of the events depicted in the film and the subordination of filmed material to abstract, logical principles that one finds in conventional dramatic films. Following Bergson's division between an (intellectual) intuition that is able to grasp duration, and a purely intellectual approach that proceeds logically and can only cut out states in matter, Bazin ascribes to De Sica a method of filming that lets duration and organic, contingent evolution emerge from what is seen. 'De Sica and Zavattini attempt to divide the event up into still smaller events and these into events smaller still, to the extreme limits of our capacity to perceive them in time', rather than reconstructing 'the event according to an artificial and abstract duration: dramatic duration'.[67] Where others deal with events as basic dramatic units and isolated happenstances, De Sica breaks up the action into a stream of small activities that are played out in 'real time', which transforms them from events to lived experiences.

65 Bazin, 'De Sica: Metteur en Scène', 68.
66 Ibid., 76.
67 Ibid., 81, 65.

Of course, these experiential units are carefully arranged—that is why Bazin changes Bergson's image of randomly displaced iron filings into a graphic arrangement that indicates the force field of the magnet. But it is the iron filings we see, from which the tragedy can be inferred negatively. In this consists the 'marvelous aesthetic paradox of this film': 'that it has the relentless quality of tragedy while nothing happens in it except by chance.'[68]

Post-Apocalyptic Life: Kracauer's *Theory of Film*

Like Bazin's work, Kracauer's *Theory of Film* provides an example of a theory that correlates film and life to explicate film's aesthetic potential (and it even hints at possible redefinitions of life). Yet while Bazin was firmly situated within the leftist Parisian cultural intelligentsia, which, for the most part, shared with him the broader concept of a film culture that could do its part to facilitate a post-war reconstruction of human, social and cultural values, Kracauer's background is much more disparate, vagrant and eclectic. His most famous writings fall into a period—the late 1920s—in which he was a central figure in Weimar culture, as a journalist for the important *Frankfurter Zeitung*. By contrast, the belated *Theory of Film*, which was published in 1960 but which Kracauer began to outline during the 1940s in Marseille, has the personal and historical experience of war atrocities, mass annihilation, and life-threatening exile in France and eventual emigration to the US written into it.

A highly-differentiated conception of life is central to both Bazin's and Kracauer's theories of film; both base cinema's affinity for vitalist notions of life in its medium-specific combination of autonomous movement and an indexical image. This is true for *Theory of Film* to an even greater degree than for Bazin's essays, not least because the former presents a more or less comprehensive and coherent theory that adopts 'the flow of life' as one of the medium's basic elements. Yet for Kracauer, this emphasis on life came after decades of writing about film in a mode in which such notions of life, if they came up at all, were viewed extremely critically. In this section, I begin by discussing briefly the conception of life as it occurs in *Theory of Film*. I then turn to Kracauer's early work, especially his essay on photography, to be able to get a better understanding of Kracauer's intellectual and theoretical development: whence did this notion of life come; did it take the place of another critical constellation; and what do

68 Ibid., 68.

the differences between his early work and *Theory of Film* tell us about the latter's 'disposition' and situatedness in a particular historical moment? As I will note in that part of the chapter, Kracauer's earliest writings were not about film, but about (among other topics) vitalism and life-philosophy, and he turned to the analysis of film as part of a project begun there. Though some commentators have sought to separate off these early writings from Kracauer's corpus, his late text *Theory of Film* establishes the continuity of key concepts, including life, throughout his work.

The writings of early commentators on the film experience that I cited in the introduction had already illustrated the use of the concept of life to account for the affective impact of a moving image. Kracauer's *Theory of Film* provides a much more comprehensive elaboration of the relationship between film and life as an aesthetic concept. He ascribes to both photography and film an affinity for unstaged reality, for the fortuitous, for endlessness, and for the indeterminate. Additionally, film, as a consequence of its capacity for movement and temporality, has an affinity for 'the flow of life'—the latter, in fact, is constitutive of the medium. Life, for Kracauer, 'suggests itself as alternate expression' for physical reality or nature.[69] He describes the medium-specific affinity for life as flow:

> [C]inematic films evoke a reality more inclusive than the one they actually picture. They point beyond the physical world to the extent that the shots or combinations of shots from which they are built carry multiple meanings. Due to the continuous influx of the psychophysical correspondences thus aroused, they suggest a reality which may fittingly be called 'life.' This term as used here denotes a kind of life which is still intimately connected, as if by an umbilical cord, with the material phenomena from which its emotional and intellectual contents emerge.[70]

According to Kracauer, 'life' in film is the result of the open character of the cinematic image (as a result of movement, off-screen space, and montage). This open character creates a peculiar relationship between the physical, emotional, and intellectual contents of a film and the material by means of which they were achieved—whether this material base is a human, an animal, a landscape, or an inanimate object. Film images are capable of stirring up matter that has settled both temporally and spatially around that which they depict. On the basis of this capacity, cinema can make expressive

69 Kracauer, *Theory of Film*, 18, 28-29.
70 Ibid., 71.

use of the 'psychophysical correspondences' of material objects (as well as of psychological events, as he explains later in the same section), that is, of the 'fringe of meanings' that surrounds them.[71] These correspondences run through the body of the spectator, so that not only cinematic image and material phenomena are connected 'as if by an umbilical cord', but the spectator is also part of this connection.

In Kracauer's adaptation of vitalist ideas to the modern, technical medium of cinema, the notion of life comes to stand in for at once an embodied connection with and an estrangement from the world on the screen, an uncanny combination of familiarity and unfamiliarity. What becomes visible and capable of being experienced in cinema is (a) life that is not our own, that is not even human, and that is also not necessarily organic or holistic. Yet we feel ourselves responding 'with skin and hair'; that is, existentially. Kracauer's text thus provides an example of a film theory that defines film's aesthetic potential by means of a vitalist notion of life, yet binds this notion to the properties of the revealing technological apparatus rather than locating it in nature.

In her introduction to *Theory of Film*—which introduces the historical genesis of the book, the historical and cultural context, and Kracauer's theoretical concerns across the span of his work—Miriam Hansen successfully defends *Theory of Film* against the charge of being simply a belated case of a somewhat naïve realism. Instead, she chisels out its qualities as 'a theory of a particular type of film experience, and of cinema as the aesthetic matrix of a particular historical experience'. She traces the historical dimensions of *Theory of Film* by linking its structure and main claims to both Kracauer's first drafts, sketched in exile in Marseille in 1940/41, and his Weimar writings, and she correlates the main shift from Kracauer's earlier to his later writings with the historical context of each. As a consequence, she explains, the view of history in *Theory of Film* 'no longer ticks to the countdown of a self-destructing modernity but keeps time with an "open-ended limitless world," the proverbial "flow of life."'[72] However, Hansen's qualifier 'proverbial' also seems to signal a certain discomfort with Kracauer's suspiciously vitalist and holistic vocabulary. While my reading of Kracauer is deeply indebted to Hansen's work, I take Kracauer's references head-on as more or less covert indications of his affiliation with life-philosophical thought. Kracauer's early work echoes his training with the philosopher of life and sociologist Georg Simmel, and his familiarity

71 Ibid., 68.

72 Hansen, 'Introduction', x, xiii.

with Nietzsche, Bergson, and Dilthey. *Theory of Film*, I argue, revisits this philosophy of life, which has become much less of an enemy now that the political stakes of the debate have changed, and refines the definition of life, duration, and organic development.

For a number of key concepts and discussions in *Theory of Film,* vitalist ideas of life, of organicity and time (memory and history) are quite important, and they also take center stage in many of Kracauer's essays from the early 1920s on life-philosophy, as well as in his philosophically and sociologically inflected essays from that time that seek to contribute to a political, social, and existential image of the present. These essays, which predate, but also establish the conditions for, Kracauer's interest in the analysis of film, spell out Kracauer's concern about the relationship between 'Realität' and 'Wirklichkeit': that is, between what we may translate as 'existential reality'—that which appears to us, surrounds us and determines our social, political existence—and 'essential reality', that which lies behind appearances, which itself is unattainable, yet should be striven for.[73] These essays address his account of the first decades of the twentieth century and the role of the first world war: 'vital' tendencies to break up the ossified structures of nineteenth-century monarchical and patriarchal bourgeois culture, a welcome uprising, turned, following the war, into constructive attempts to create new forms of social existence to counter the reality of rationalism and capitalism. Yet they also reveal how, as Kracauer discusses vitalism with his characteristic dialectical stylistics of literal turns of phrase, a deep concern with what constitutes life—a concern he pursues mostly via Simmel's work (and Bergson's via Simmel's)—informs his arguments.

Kracauer seems to have been deeply impressed by Simmel's analysis of the basic conflict of life, which Kracauer paraphrases as follows: 'Life is after all always more than life, it wrenches itself free of itself and encounters itself as a sharply defined form. It is simultaneously the stream and the firm shore; it yields to the creations that have come from its own womb, and in turn liberates itself from their power.'[74] These expressive forms that are created by life and as forms, oppose it, are the material we

73 While *Realität* and *Wirklichkeit* are often used synonymously, some philosophers have employed the terms to capture different aspects of reality. Edmund Husserl, in *Ideas*, refers to empirical reality as 'Realität', while 'Wirklichkeit' seems to be more general and inclusive (the reality of everything in the universe, whether empirically verifiable/perceptible or not), such that he also speaks of 'realen und idealen Wirklichkeiten' (§ 135). See Index, 'Reality', n.p., in Husserl, *Ideas*.

74 Kracauer, 'Georg Simmel', 239-40.

can read and interpret to attain a sense of the ground, the essential reality. Kracauer, however, criticizes Simmel and Bergson for confusing the flow of life with the absolute, with what for Kracauer himself is an unattainable *Wirklichkeit*. He does so in numerous essays, from 'Those Who Wait' to 'Georg Simmel' to 'Philosophy of the Work'. In his essay 'Those Who Wait' from 1921, for example, Kracauer had criticized vitalist philosophy for its indifference:

> '[L]ife' as the last absolute—life, which releases from its womb ideas and forms that subjugate life for a length of time but that are only to be in turn themselves devoured by life. But this doctrine recognized life-transcending norms and values only for the time being, so to speak, and destroyed the absolute in the very act of making the ebb and flow that is indifferent to value—in other words, the process of life—into an absolute.[75]

Kracauer, then, diagnoses an open, unresolved contradiction that differs from that which Simmel defines in his life-philosophy. For Simmel, life as flow and the forms (*Gestalten*) life creates (artistic, social, cultural, political) are in irresolvable conflict, since the latter are simultaneously based in life and oppose life, but to be true—*wirklich*—need to resolve back into life. For Kracauer, by contrast, an alienation from life has already taken place, such that the forms themselves do not refer back to an essentially real life, but rather to an unreal—*unwirklich*—reality. 'As unreal (*unwirklich*) as today's realities (*Realitäten*) may be, they exist nevertheless and continue to grow rampant.' After the 'beautiful' early twentieth-century phase of a 'naïve-vital resistance' against ossified forms that understood the flow of life as 'Wirklichkeit', the post-war phase of a 'will toward formation' (*Wille zur Gestaltung*), by aiming at the deeper sense, order and coherence *Wirklichkeit* promises, foregoes the 'chaotic phenomena' of current realities and neglects to grapple with them.[76]

Kracauer thus continues to subscribe to Simmel's and Bergson's philosophy of the essential movement and formative force of life, but cautions against absolutizing the flow of life and turning it into a final cause. Kracauer's vitalism is intimately tied up with meaning and history, much like the work of Wilhelm Dilthey. In 'Philosophy of the Work', he issues another timely warning about Bergsonian vitalism: 'Bergson's panvitalism has quite

75 Kracauer, 'Those Who Wait', 131.

76 Kracauer, 'Gestalt und Zerfall', 284-87 (translation mine).

a bit in common with the indifference to values and the glorification of an aimlessly flowing energy on the part of the spirit of high capitalism.'[77] The Kracauerian subject needs to sustain the tension between life-as-flow and a commitment to form, historical time, and value, without lapsing into either meaningless flow or premature form.

It is against the background of this modified vitalist position that we can better understand the surprising praise Kracauer has for vitalist biologist and philosopher Hans Driesch.[78] In several reviews from 1925, Kracauer explains Driesch's comprehensive philosophical works that were published a few years previously, namely *Philosophy of the Organic* (*Philosophie des Organischen,* 1921), *Theory of Order* (*Ordnungslehre, 1923*), and *Theory of Reality* (*Wirklichkeitslehre,* 1922). These reviews followed earlier positive references to Driesch that Kracauer included in other essays from the 1920s. Hans Driesch was a reputable biologist in the early 1900s, the student of Ernst Haeckel and August Weismann, and became famous for his experiments on sea urchin and polyp embryos at the Zoological Station in Naples. The organisms developed into complete animals even if part of the embryo was removed, a result that led Driesch to deduct the existence of a causality different from mechanic causality, namely, a unifying causality specific to life, which Driesch termed, following Aristotle, entelechy. Entelechy suspends the endless possible ways in which a given organism could develop, and then, by relaxing its suspension in a certain way, transforms these possibilities of homogenous matter into specific realities in heterogeneous matter.[79] His talks and publications made Driesch the most prominent proponent of a 'neo-vitalism' and won him a chair in natural theology at the University of Aberdeen in 1906. Yet the relatively meager experimental foundation upon which Driesch founded his theory also illustrated—and Driesch admitted as much—that vitalists can only show that there is something that exceeds mechanical causality, but they cannot directly prove what, precisely, it is that distinguishes life from non-living matter. Following these experiments and his turn to vitalism, Driesch changed academic faculties and became professor of philosophy, first in Cologne and subsequently in Leipzig. His lifelong outspoken commitment to pacifism, democracy, and universal human rights explains his premature retirement enforced by the National Socialist party in 1933.

77 Kracauer, 'Philosophie des Werks', 92 (translation mine).
78 See also the discussion of Driesch in the Introduction.
79 See Driesch, *The History and Theory of Vitalism*, 203.

When Kracauer published his texts on Driesch in the early 1920s, Driesch had already been largely discredited as a biologist, and his main scientific ideas, such as the concept of entelechy, seemed ridiculous in the light of more recent discoveries in embryology and morphology. Driesch's philosophical framework was met with skepticism from many contemporaries, and Driesch's dabbling in parapsychology did not help the matter, either. Hence it is surprising and daring that Kracauer published a long review of Driesch's work, especially one written in the context of the philosophical congress about which Kracauer had little positive to say. Kracauer emphasizes Driesch's difference from other philosophers, arguing that Driesch is basically an extraterritorial philosopher located outside of any school; he is a biologist turning to philosophy, a position that affords Driesch 'unbiasedness and intellectual integrity'. This positionality allowed Driesch to think beyond the spiritual situation of the present and incorporate significant aspects of the essential reality of human existence. Driesch's philosophy did so, Kracauer says, by developing a system which 'stretches from zoology to theology, from the sea urchin to god'. He contends that

> [i]n his endeavors to explain the concept of life, which he raised into independence, with flawless logic, Driesch easily could have followed in the footsteps of Bergson or Simmel and sunk life itself into the foundation of being. He is prevented from this revealing mistake—a mistake, however, which also opens up for the latter two thinkers some issues disregarded by Driesch—not so much because of his logical scrupulousness but rather because of the concreteness (*Gegenständlichkeit*) of his gaze and his belief in an overarching order and wholeness which enfolds both the living and the non-living.[80]

In Driesch, Kracauer finds the biological equivalent of his own vitalism, which likewise seeks to connect a vitalist understanding of life to something larger that, even though it maybe unreachable, nevertheless turns life into a part of a whole, rather than the foundation of being and the source of meaning.

Kracauer argues that, in contrast to the irrational position of life-philosophy (Simmel and Bergson), Driesch did not understand reason to be a product of a self-sufficient life. Instead, according to Kracauer, he insisted on the postulation of a wholeness in which life has its place, though human reason is not able to decipher the archetypal configuration of a 'spiritual

80 Kracauer, 'Hans Driesch: Zu seiner Philosophie', 255 (translation mine).

reality which enters into matter and then frees itself from it again'.[81] For Kracauer, inherent in Driesch's philosophy is an existential openness to the independent character and inherent essence of objects that is an antidote to philosophical idealism and moves Driesch closer to phenomenologists such as Husserl and Max Scheler. Yet, in contrast to the latter, Driesch insists on the inaccessibility for humans of the final truth; instead of truth claims, he posits final questions.

There is no doubt that Kracauer was in a sense ventriloquizing Driesch to formulate his own philosophy. The same arguments returned when, shortly after this essay, in a review of the German Congress of Philosophy in 1925, Kracauer specified his critique of phenomenology, which he nevertheless saw as the only worthwhile philosophical endeavor, especially when counterposed to the then-prominent Idealist and neo-Kantian movements. Kracauer's primary critique of Husserl's phenomenology is that it failed truly to allow concrete phenomena to speak for themselves; that is, to constitute a reality [*Wirklichkeit*] or an essence [*Wesen*] on their own accord, in their own right, beyond human capacities for comprehension or understanding. While Kracauer shares with Husserlian phenomenology the belief that one needs to proceed from the bottom upward, that is, from concrete phenomena to higher truths, he is also convinced of the existence of a higher truth outside ourselves, beyond human grasp, one we may participate in, without complete understanding or willful influence upon it. This belief of Kracauer's lies at the base of his earlier writings, such as his treatise on the detective novel. This is the cultural-social, even moral dimension one often finds in Kracauer's writings: there is a virtue to abandoning oneself to the concrete phenomena, in particular those on the outskirts and in the midst of popular culture. Doing so is not only a commitment to everyday life and to reality, but it is also a spiritual, a philosophical exercise, namely the only chance to glimpse a few pieces here and there of a larger truth, and to feel meaning—to feel human, even—in the tension toward these strewn-about pieces (*Versprengsel*).

In the early- to mid-1920s, Kracauer discovered cinema as a privileged place in which to engage with the concrete phenomena of reality, in the hopes of glancing the *Wirklichkeit* behind it. Kracauer hailed film, as Hansen put it, 'as the perfect medium for a fallen world, an at once sensory and reflexive discourse uniquely suited to capturing the experience of a disintegrating world, a "life deprived of substance."'[82] There is a direct

81 Ibid., 259.

82 Hansen, *Cinema and Experience*, 5.

relation between the psycho-physical correspondences of which Kracauer speaks in *Theory of Film,* and the tension of 'Those Who Wait', or the tension (different from suspense) of the attentive reader of detective novels in *The Detective Novel.* In his 'Photography' essay from 1927, Kracauer applied his critical perspective on modernity most thoroughly to visual media, from illustrated magazines to photographs to film. For Hansen, the essay entwines a 'lapsarian critique of modernity; phenomenological description of quotidian and ephemeral phenomena impelled by a gnostic-modernist materialism; avant-garde iconoclasm; and critique of ideology that resonates with the more immanent political approach his writings take from the mid-1920s on'.[83] Her analysis attempts to chisel out the unique nexus of these strands in this text and with respect to Kracauer's theoretical stance and methodology more generally. In doing so, she also has a vested interest in marking the difference between Kracauer and life-philosophy/vitalism. My understanding of the essay has a slightly different emphasis, since I read the essay as a hinge between the philosophical positions I outlined above and Kracauer's theory of film, and I seek to restore a complexity and valuation to Kracauer's life-philosophical roots that expands upon the 'lapsarian layer of his earlier writings' that Hansen describes, and that will also help us understand some of his positions in *Theory of Film*.[84]

Though Kracauer's essay 'Photography', in which he defines the relationship between photography, memory and history (and thus also the relationship between organic temporality and photographic spatiality), is not ostensibly about 'life', it nevertheless introduces the main aspects of his theory of the spatiotemporality of the photographic—and, by extension, cinematic—image and its relationship to organic, lived time, space, and meaning-making. The development of Kracauer's thought from 'Photography' to *Theory of Film* especially elucidates the extent to which the latter text is indebted to both an earlier life-philosophical tradition and a more contemporary post-war discourse on life. Kracauer's essay on photography partakes in the ideology-critical work of his more programmatic essays, such as 'Cult of Distraction', 'The Little Shopgirls Go to the Movies', or 'The Mass Ornament', but it simultaneously hints at the redemptive potential inherent in mass media that might enable a reformulation of the relationship between humans and technology.

The essay on 'Photography' proposes that there are three ways of archiving, retaining, and collecting the past, each with its own tendencies for

83 Ibid., 27.
84 Ibid., 4.

investing their archives with meaning. These are photography, historicism, and memory—a technological invention, an intellectual endeavor, and a biological-physiological means. In contrast to historicism and photography, personal memory (and, along with it, an 'organic' history dependent upon memory-images) retains what is given only insofar as it has a larger meaning for the individual. Memory thus provides a counter-procedure to the other two means, photography and historicism, which are oriented toward an exhaustive temporal and spatial completeness; while photography and historicism '[grasp] what is given as a spatial (or temporal) continuum', memory images 'retain what is given only insofar as it has significance'.[85] In contrast to the meaningful coherence of memory-images, which condense into a history of a life, the photograph presents the trash of history, the incoherent residues of meaning, in an arbitrary spatial configuration that threatens the integrity of the human individual. However, historicist and photographic archives also bear—precisely because of the arbitrariness, fragmentation, and disconnectedness of their elements—an unprecedented possibility for a confrontation with reality: 'the images of the stock of nature disintegrated into its elements are offered up to consciousness to deal with as it pleases'. Photography and film therefore enable an active, playful engagement with historical configurations that have lost their natural givenness, so that in experimental, dream-like, and necessarily provisional new rearrangements, we might catch a glimpse of 'the right order of the inventory of nature'.[86]

Kracauer's argument is organized by what he describes as a conflicted relationship between photography and memory, a conflict illustrated by two very different photographs. The first photograph shows a young film diva and is printed on the cover of an illustrated magazine. All of the details, including her fashionable hallmark hairstyle and even her individual eyelashes, 'are in their proper place—a flawless appearance'.[87] The second photograph shows another 24-year-old girl, but in this case, it is a sixty-year-old photograph; the woman in the photograph has since died, and those who now behold the photograph are her grandchildren. Kracauer claims that two elements come into play when one beholds a portrait photograph, namely, recognition on the basis of memory and the

85 Kracauer, 'Photography', 50.

86 Ibid., 62.

87 A more precise translation would be: all details 'have their right place in space, an appearance without gaps'. See Kracauer, 'Die Photographie', 21. Kracauer's terms *Raum* ('space') and *Lückenlosigkeit* ('gaplessness') emphasize that photography establishes a spatial continuum that makes everything equal.

actual visual impression. In the case of the diva's cover picture, these two elements reinform one another seamlessly. However, Kracauer suggests that when the grandchildren of the second woman behold her portrait as a young woman, these two elements fall apart into seeming contradiction. While the grandchildren are told that the photograph shows the grandmother, they cannot *identify* her and reconcile the image with their own sparse memories of her. The photograph thus has an arbitrary aspect to it, and it cannot establish a continuum with either the real grandmother or the presence of the grandchildren. As a consequence of the disjunction between memory-image and photographic image, the grandchildren can only react to the portrait with uncomfortable laughter, since what they are witnessing at the breaking-point of memory, in the photograph whose meaning they cannot encompass, is a temporality located outside of them as well; in other words, a relentless, objective temporality that is not embodied, and that does not result in the accumulation of meaning.

The photograph of the grandmother thus presents an instance of a non-human technology that exceeds human capacities to retain, recollect, and invest with meaning; as such, it makes visible (or rather: palpable, with a 'shudder') an order of non-organic temporality that invests our perception with the fact of death. (For Kracauer, such an investment of our perception with death is only possible from the standpoint of a time external to human temporality, a point to which I will return with respect to *Theory of Film*).[88] The photograph does not incorporate time into its representation, but rather only space. However, it is itself a (non-human) 'representation of time' that subjects to its spatial continuum whatever it captures, without distinguishing between humans, landscapes, or things:

> A shudder runs through the viewer of old photographs. For they make visible not the knowledge of the original but the spatial configuration of a moment; what appears in the photograph is not the person but the sum of what can be subtracted from him or her. The photograph annihilates the person by portraying him or her, and were the person and portrayal to converge, the person would cease to exist.[89]

88 The reading of the photograph of the diva, by contrast—a picture recently taken—is still reinformed by, and reinforming, our memory of her (on the film screen), and it is in this dialectical relationship between these two orders of (re)cognition that the photography reveals the diva's life.

89 Kracauer, 'Photography', 56-57.

So long as a living memory can cling to the photographed person, this memory can provide a historical context that reestablishes a human order and lifts the person who has been photographed from the picture's contingent spatial arrangement.[90] Yet as soon as no living memory remains to invest the photograph in this way, the arbitrary elements of the photograph take over and begin their surrealist '*danse macabre*'.[91] Photography becomes quite literally a medium in which residue, trash, is able to take on life in fantastic configurations: the crinoline of the grandmother becomes, in Kracauer's description, a dancing zombie. A film that serves most wonderfully as an illustration of Kracauer's claim that film is affiliated with magic, trash, and death is Ladislas Starevich's *The Mascot* (1933), a puppet animation created on the precipice of fascism, in which animated stuffed animals, dolls, and toy soldiers die in the gutters of the (real-life) streets of Paris, while at night, a devil's ball reanimates the dead to engage in a murderous *danse macabre*, including figures composed of trash paper and fish skeletons that emerge from trash cans and magically recompose themselves.

In Kracauer's essay, memory thus takes on the role of the natural, anthropocentric temporal organization of meaning. The images created by memory are organized centripetally around the individual, and the arrangement of remembered scenes is determined by the meaning they have for the person remembering. They are retained '[i]m Hinblick auf das für ihn Gemeinte': that is, with respect to that which is meant for the person, or with regard to the person.[92] Even though we are at the center of meaning, the ordering principle of memory-images is inaccessible to us: the moment the principles of memory-selection became transparent to us, we would completely grasp ourselves. Just as photography finds its temporal equivalent in historicism—that is, the attempt at a complete account of history—memory finds its temporal equivalent in a human being's personal history. Kracauer contends that the more a society is

90 Where Kracauer employs an ideological reading of photography's contingent spatial continuum, Benjamin jumps directly to the complicated temporal implications of photography's 'representation of time'. Kracauer emphasized the uncanny aspect of the photographed person being devoured—'annihilated'—by the environment of a moment past; an '*unredeemed*', 'ghost-like reality'. For Benjamin, by contrast, inanimate objects never take on such a threatening visage (and he never recedes as deeply into the shade of things as Kracauer). Rather, throughout his discussion of photographs, Benjamin undertakes detective work in order to unearth the relationship between the person and his or her environment. Benjamin, 'The Work of Art', 117.

91 In his Marseille notebooks, *Danse Macabre* was one possible title Kracauer gave to his planned last chapter on Eisenstein's *Death Day* and some 'ultimate conclusions' of the book as a whole. See Hansen, 'Introduction', xxiv.

92 Kracauer, 'Die Photographie', 25.

governed by reason and liberated from the constraints of nature, the more memory-images reveal a higher truth. Complete transparency, however, is only possible in a gnostic 'last image'. This last image is composed of memories with a truth content, which an individual was able to achieve as insights (*Erkenntnisse*) that liberated this individual from natural compulsions and the life of the drives. This last image constitutes a person's actual history, which Kracauer compares to a monogram that contains only fragments of a person's physical and psychological existence, namely those fragments that truly matter. However, as Kracauer had already established in his earlier writings, such as his treatise on the detective novel or his essay 'Those Who Wait', in which he claimed that contemporary man lives in a superficial, atomized, and in this sense, photographic space, he believed that modern human beings were currently quite far from a society in which the state of nature and reason would allow memory-images and artworks to stitch an organic ornament that would reflect human values. The idea of organic and holistic unity, community, and meaningfulness in the Weimar Republic was utopian, and the desire for it was dangerous, since it would only cover over the rational, atomized conditions of modernity.

Yet the photographic and historiographic principle of contingent inventorying also allowed for a different, albeit risky, possibility for cognition, or what Kracauer termed the 'go-for-broke game of history'. He traces the history of images, from symbols to allegories, as one of an increasing separation of consciousness and nature: '[t]he more decisively consciousness frees itself from imprisonment in nature [*Naturbefangenheit*] in the course of the historical process, the more purely does its natural foundation present itself to consciousness.'[93] With the advent of photography, 'mere nature', completely disconnected from human consciousness, finally becomes visible—the same nature that 'flourishes in the reality of the society produced by this capitalist mode of production'.[94] The severed tie between nature and consciousness provides both a danger and an opportunity, and this is the 'go-for-broke game' of history as it plays out in photography and film: either nature will overcome consciousness or consciousness will overcome nature, depending on whether society decides to

93 Ibid., 36 (translation mine). *Naturbefangenheit* ('capture by nature') is an important concept that Kracauer derives from Hegel's aesthetics; it is also central to Adorno and Horkheimer. See, for example, Hegel, *Vorlesungen über die Ästhetik I*, 75: '[B]y dissolving this unity [with nature] for man, art lifts him with gentle hands out of and above imprisonment in nature.'

94 Kracauer, 'Photography', 60-61.

confront the contingency, alienation, and deathliness in photographic images head-on, playing with them as real possibilities, or whether it decides to hide itself in its own 'photographability', becoming a photograph itself in order to try to evade temporality, consciousness, memory, and death.

The new constellation of human being, technology, nature, and social reality that film provided led Kracauer (as well as Benjamin) to a particular redefinition of reality. Kracauer had already argued that, in order to grasp our material base, our natural foundation, we need to evacuate the anthropocentric order from our images, so that the 'warehousing of nature' enabled by a technology such as photography and cinema could promote the confrontation of consciousness with nature (nature, as Hansen points out, 'has a ferociously pejorative valence' in this essay and is the 'allegorical name for any reality that posits itself as given and immutable').[95] Thus, writes Kracauer, '[j]ust as consciousness finds itself confronting the unabashedly displayed mechanics of industrial society, it also faces, thanks to photographic technology, the reflection of reality that has slipped away from it'.[96] Paralleling Kracauer's argument that reality can become visible again only through the ability of photographic technology to reveal the profound separation of consciousness from nature, Benjamin, too, sees film's total—what he calls 'surgical'—penetration with technology as the prerequisite for making visible the 'equipment-free aspect of reality':

> In the film studio the apparatus has penetrated so deeply into reality that a pure view of that reality, free of the foreign body of equipment, is the result of a special procedure—namely, the shooting by the specially adjusted photographic device and the assembly of that shot with others of the same kind.[97]

For both Benjamin and Kracauer, reality is not immediately visible, but made visible, as sociopolitical reality with truth-content, in the inscription and disfiguration of the world by means of photographic imagery.

Theory of Film picks up several of the thoughts initially outlined in Kracauer's 'Photography' essay, such as the revelatory function of photography (a function that is also important in Bazin's understanding of photography's and cinema's relationship to reality), the importance of the inanimate world, and the affinity of film to the ephemeral and contingent. However,

95 Hansen, *Cinema and Experience*, 35.
96 Kracauer, 'Photography', 62.
97 Benjamin, 'The Work of Art', 115.

in contrast to Kracauer's early texts—and in even greater contrast to his critical-interventionist writings of the late 1920s—politicized notions of reality are subdued in *Theory of Film*. As a consequence, the book seems in many ways to be a tragic text. Yet rather than reading *Theory of Film* as a scholarly de-politicization of his earlier claims, I suggest we read it as a post-apocalyptic text, written after the go-for-broke game has been lost. *Theory of Film* is, in other words, the consequence of a complete severance: the nature that consciousness has failed to penetrate has sat down at the very table that consciousness abandoned.

The cinematic cosmos into which Kracauer is retreating in *Theory of Film* is a kind of mirror of the *Lebenswelt* that has been irretrievably lost for those who have survived the war; the extraterritorial status of these survivors, including Kracauer's own, is absolute. Melancholy has become an ideal photographic disposition: 'it favors self-estrangement, which on its part entails identification with all kinds of objects'.[98] In contrast to classical phenomenology, for which intentionality provides the only means of access to the external world, Kracauer seeks to confront 'intention with being' in order to undercut an anthropocentric, let alone humanist, viewpoint that would impose upon phenomena human measures of action and projection.[99] Kracauer aims at more or less the contrary: it is the material, non-human world in film which is supposed, in turn, to reinform the spectator and disintegrate her, her bodily senses, from the bottom up, engaging her 'physiologically before [s]he is in a position to respond intellectually'.[100] Film's final redemptive potential, and the only chance we have of regaining access to the *Lebenswelt*, consists in this initial physiological overruling of consciousness by film's address to the body. Continuing the line of thought begun in the photography essay, even involuntary memories—the individual-historical aspect of perception—are excluded from Kracauer's rendering of the spectator; she is reduced to a physical being in a dream-like or hypnotic state that opens her up to new experiences. For this reason, the 'formalist tendency' of filmmakers needs to be kept in check by the 'realistic tendency': creative efforts must 'benefit, in some way or other, the medium's substantive concern with our visible world'.[101]

If there is a thesis that remains unchanged from the early essay on photography to *Theory of Film*, it is that of photography's revelatory function,

98 Kracauer, *Theory of Film*, 17.

99 Hansen quoting from Marseille Notebooks, in Hansen, 'Introduction', xvii.

100 Kracauer, *Theory of Film*, 158.

101 Ibid., 39.

or what Benjamin termed the 'optical unconscious': an 'other' nature that reveals itself in photography.[102] The optical unconscious persists with or without aura, prior to and following the catastrophe. The link the optical maintains with the human being, however, is reduced to a de-politicized, vitalist notion of 'life' in *Theory of Film*. The 'absolute', which was so central to Kracauer's early thought, seems to have lost valence and meaning after the experience of technological warfare and mass annihilation. *Theory of Film* renounces any interest in 'life-transcending values' in favor of a notion of life that encompasses the reality of the material world in its 'multiple meanings'. This reality, which is understood as equivalent to 'life', is 'still intimately connected, as if by an umbilical cord, with the material phenomena from which its emotional and intellectual contents emerge'.[103] Yet it is, like Bergson's notion of duration, characterized by endlessness—a temporality we might understand not only as trans-individual, but also as post-apocalyptical.

In contrast to the essay on photography, what emerges from *Theory of Film*'s conception of life and the cinematic image is first, a shift of weight from consciousness, as a critical, rational, subjective, and human force, to a spectator's 'natural foundation'; second, the emergence of the idea that cinematic images provide the glasses through which the post-apocalyptic spectator—whose consciousness has proven itself, via the war, to be a

102 Benjamin, 'Little History of Photography', 511. In Benjamin's essay on photography, the optical unconscious designates, as *optical* unconscious, an image-content that is not human, and as optical *unconscious*, an image-content that can only be brought to consciousness by 'a tiny spark of contingency, of the here and now, with which reality has (so to speak) seared the subject' (510). The procedure by means of which we as spectators can grasp the optical unconscious is thus similar to the way in which we access what Proust, in reformulating Bergson, calls 'involuntary memory'—i.e., a memory that is unconscious until it is conjured up by chance through a material object. Benjamin describes the change in the structure of experience as a consequence of urban modernity and a 'perception conditioned by shock' (Benjamin, 'On Some Motifs in Baudelaire', 328). Even though this latter essay features a rather pessimist outlook (it was written in 1939) and does not itself mention the optical unconscious, it can furnish us with a clue about the general role of the concept. If involuntary or pure memory consists of instances that are stored in memory (*Gedächtnis* rather than *Erinnerung*) and constitute lived experience (*Erfahrung* rather than *Erlebnis*), the optical unconscious could be said to provide a similar archive of experience—yet this would be a non-human experience. In 'Paris, Capital of the Nineteenth Century', Benjamin develops the notion of the collective conscious and unconscious; film, as collectively perceived medium, can link the two and provide a collective memory device. This is what Benjamin hints at when, in the Artwork essay, he says that 'thanks to the camera, therefore, the individual perception of the psychotic or the dreamer can be appropriated by collective perception'. Benjamin, 'The Work of Art', 118.

103 Kracauer, *Theory of Film*, 71.

(self-)destructive lens—can access the world; and third, a translation of cinematic time into 'the flow of life', which is characterized by endlessness and openness. These changes can be attributed to the crisis of life that separates the two texts. Ultimately, it is not so much Kracauer's conception of the image that has changed, but rather his conception of the historical-political conditions surrounding the reception of these images. The changes thus run through the spectator, and it is not coincidental that his chapter on 'The Spectator' contains those claims in *Theory of Film* that contrast most with Kracauer's earlier texts. Kracauer cites Michel Dard's 1928 description of young moviegoers, a description that is itself cinematic in its evocative language: '"passive, personal, as little humanistic or humanitarian as possible; diffuse, unorganized, and self-unconscious like an amoeba; deprived of an object or rather, attached to all [of them] like a fog, [and] penetrant like rain."'[104] This description of passionate film 'addicts'—which is hardly a description of an 'other', but a description that Kracauer tacitly accepts for himself as well—highlights that spectatorship, for Kracauer, is a passive affair, but that it is an 'active passivity', as he puts it in *History: Last Images Before the Last:* an activity of surrendering to the power of film images.[105] Film addicts crave 'for once to be released from the grip of consciousness, lose their identity in the dark, and let sink in, with their senses ready to absorb them, the images as they happen to follow each other'.[106] This spectator relinquishes control of the self and opens all of his bodily senses to the moving images on the screen. In this surrender, 'subconscious and unconscious experiences, apprehensions and hopes tend to come out and take over'.[107] The impact and lure of cinematic experience is thus a combination of a surrender on the part of the spectator, and a particular sensual, quasi-'biological' power inherent in the cinematic image, which 'engag[es] [the spectator] physiologically before he is in a position to respond intellectually'.[108] This power is grounded in film's capacity to record physical reality and confront the spectator with raw material nature—its

104 Ibid., 165.

105 In *History: Last Images Before the Last,* Kracauer describes the attitude of the spectator thus: 'Anybody looking at a picture, Schopenhauer claims, should behave as if he were in the presence of a prince and respectfully wait for what the picture may or may not wish to tell him; for were he to talk first he would only be listening to himself. Waiting in this sense amounts to a sort of active passivity on the historian's part.' Kracauer, *History,* 84.

106 Kracauer, *Theory of Film*, 159-60.

107 Ibid., 165.

108 This capacity of film to overcome perceptual barriers established by consciousness provides an interesting transformation of the concept of the 'choc', which was so important to Benjamin's and Kracauer's earlier media theory.

motion—that produces kinesthetic responses, as well as the flow of the images, which induce us to flow along with the film in order not to miss anything.

In this combination of the specific properties of the cinematic image and a particular attitude and capacity to respond on her part, the spectator gains an access to the material world that is not limited to that human (or even humanist) approach to the world that is characterized by a combination of rational, use- and market-value-oriented interests and habit. Rather than the human being grasping hold of the world, the world 'reveals' itself and stretches out its many tentacles in the direction of the spectator. She is able to experience aspects of the world—a side of things—she wasn't able to see, hear, think and feel before, including things that are too small, big, fast, or slow for human perception, objects or body parts that in the isolation and magnification of the screen reveal new aspects and vistas that the screen releases from the blindness produced by familiarity. However, this list also includes 'phenomena overwhelming consciousness': in the combination of the spectator's physical-unconscious opening to the screen and cinematic presentation of reality, we are able to behold things, such as war atrocities, that we had not been able to see and understand because of censors, or guards, that consciousness had put up to protect us from them.

In many ways, the ideas that Kracauer puts forward in *Theory of Film* resemble the film theories of the 1920s, in particular those writings of Jean Epstein, Louis Delluc, and Germaine Dulac that concerned film as a new form of vision. There is, however, something different at stake for Kracauer. For him, what is important is not a new vision of the world that is expressive of the new possibilities facing the human being in the light of modernity and technology, but rather the chance that film provides to forego human consciousness, values, and dispositions altogether in order to find reality, history, and meaning as they have settled in matter. As a photographic medium, Kracauer wrote, film has an affinity with unstaged reality, with the fortuitous and the random, with endlessness or infinity, and with the indeterminate, diffuse, unorganized, or unshaped.[109] Its capacity for movement and temporality, however, enables film to reveal the world (not 'our' world, but rather the transitory world in which we live), which for him becomes equivalent to revealing life itself. For the post-apocalyptic spectator of *Theory of Film*, film becomes a means to construct, and reconstruct, past, present, and future. Film grants access to the past, since it reveals the history stored in the material world, especially in its neglected aspects and

109 Kracauer, *Theory of Film*, 18-20.

its refuse. A teapot with a sealed crack can powerfully evoke the dramatic event that caused it to break; images of concentration camps, Kracauer believed, allowed spectators to behold a reality that their bodies and minds had previously refused.[110] Film also grants access to the present, since the moviegoer, as Kracauer describes him, has an acute sense of isolation and alienation from the world and from life, and this alienation from life drives him to the movie theater; the movie spectator is a 'being out of touch with the breathing world about him, that stream of things and events which, were it flowing through him, would render his existence more exciting and significant. He misses "life."'[111] And film grants access to the future, since it is able to point out new directions, or, to use a term that Kracauer employs repeatedly, film '[expands] the external world . . . in all directions'.[112]

110 On correspondences between mental life and physical life in the traces in objects, see Ibid., 68: 'Natural objects, then, are surrounded with a fringe of meanings liable to touch off various moods, emotions, runs of inarticulate thoughts; in other words, they have a theoretically unlimited number of psychological and mental correspondences. Some such correspondences may have a real foundation in the traces which the life of the mind often leaves in material phenomena; human faces are molded by inner experiences, and the patina of old houses is a residue of what happened in them.' Kracauer's most beautiful texts from the 1920s—a time when he was still roaming real streets and not just movie theaters—were similar tracings of the mental condition of society in neglected material objects. See, for example, Kracauer, 'Farewell to the Linden Arcade'; 'Two Planes'; 'Spuk im Vergnügungslokal'.

111 Kracauer, *Theory of Film*, 169. Interestingly, this is a point for which Kracauer derives much evidence from a 1940 German audience survey. While he never discusses the fact that these data represent moviegoers at a time of war (and in fact seems to de-historicize this material by applying it to contemporary international audiences), the fact that he *does* mention the study's origin in Germany in 1940 seems to imply that he defines the isolated post-war attitude as a continuation of the condition of shell-shocked war audiences.

112 Kracauer, *Theory of Film*, 41.

Conclusion

Vital Media

By way of a conclusion, I would like to trace briefly the journey traveled in this book and indicate how the vital nexus between spectator, film form, and the philosophical and biological discourses on life outlined here connects to contemporary discussions in film theory and theory at large. These discussions concern the relationship between nature and culture and, by extension, the sciences and the humanities; the question of the body as an organism and its relationship to the (technologically mediated) environment; the nature of matter, organic and inorganic, and of affection as that which connects, disconnects, moves, and changes matter; and the materiality of media in particular and their relationship to the environment at large.

Though, as I noted in the last chapter, Bazin used terms such as 'organic' and 'the whole' in his description of cinema, in the 1950s these terms no longer had the same connotations that they possessed for turn-of-the-century vitalist discourse. Hence, the axolotl's development could illustrate for Bazin, as well as for Merleau-Ponty, the fact that both aesthetic and biological existence have a quality of openness: an open interaction between organism and environment; a temporality that every moment opens new possible futures; and a 'centrifugal', infinite spatiality that can turn everyday objects as well as a human being into the center of the universe into which they radiate. This correlation of aesthetics and biology was, as I have suggested, by no means a naturalization of aesthetics. Rather, it suggested a notion of life that does not separate 'crude existence' and 'art', but understands life to *be* aesthetic.[1] If life is located in aesthetic *and* material existence, thinking about the laws of living matter, that is, biology, also yields knowledge about the nature of aesthetics, while thinking about aesthetic experience finds a correlation in the capacities of living matter.

This understanding of life as aesthetic and material, and thus of art as *vital* in a profound sense, posits itself against a classical understanding of aesthetics that seeks to separate these realms. This kind of separation was exemplified by, for example, G.W.F. Hegel's approach to aesthetics:

1 The aesthetic vitalism I am tracing here could thus be configured to go back to Nietzsche's claims about the inseparability of life and aesthetics in *Birth of Tragedy*.

> The mitigation of the power of passions therefore has its universal ground in the fact that man is released from his immediate imprisonment in a feeling and becomes conscious of it as something external to him, to which he must now relate himself in an ideal way. Art by means of its representations, while remaining within the sensuous sphere, liberates man at the same time from the power of sensuousness. Of course we may often hear favourite phraseology about man's duty to remain in immediate unity with nature; but such unity, in its abstraction, is purely and simply rudeness and ferocity, and by dissolving this unity for man, art lifts him with gentle hands out of and above imprisonment in nature. For man's preoccupation with artistic objects remains purely contemplative, and thereby it educates, even if at first only an attention to artistic portrayals in general, later on an attention to their meaning and to a comparison with other subjects, and it opens the mind to a general consideration of them and the points of view therein involved.[2]

For Hegel, art is sensuous, but this sensuous relationship is subdued and contemplative, in contrast to the power of passions and the sense of natural existence. Art lifts the spirit out of its imprisonment in feeling and nature.

All of the authors and filmmakers I have considered in this book contest this basic approach to life and art. As I noted in Chapter 1, the contrast between Hans Richter's understanding of film reception as a sensual bond with film's rhythmic temporality and Wilhelm Worringer's definition of abstraction and empathy with respect to painting illustrated that as a temporal and 'physical' art form, film broke with a contemplative attitude and aligned itself with the spectator's temporal being, her life. In Chapter 2, I demonstrate how Uexküll's *Umwelt* theory became inspirational for artists and theorists because it provided a way to conceive of life as creative engagement with the environment, an engagement they then sought to give shape to in art. The turn-of-the-century discussion of *Stimmung* as transient, embodied resonance with external impressions likewise sought to grasp art's imbrication in the fabric of sensuous experience (Chapter 3). Bazin and Kracauer, each in his own way, go even further and ascribe to film a vital aesthetic that does not lift the human being out of her imprisonment in nature, but seeks to allow her to grapple with nature on a new plane, by acknowledging her material existence (Chapter 4). As Kracauer put it, film 'undermines idealist and anthropocentric positions on the level of reception, in the

2 Hegel, *Aesthetics*, 49.

ways it engages the materiality of the spectator—the human being "with skin and hair".[3]

When we relate Kracauer's and Bazin's film aesthetics to the philosophy of nature and science in Merleau-Ponty's writings, we effectively flatten both the categorical difference between natural expression (phenotype) and aesthetic expression. Already in Bergson's work, we find the implicit idea of a profound interconnection of nature and culture—that is, the historical determination and variability of cognitive processes, nervous tissues, bodily formation and comportment in conjunction with cultural techniques. Bergson's ideas reappear in the texts of Walter Benjamin in the 1920s and 1930s on the innervation of mass media and modern machines. The imbrication of nature and culture is also central to French anthropology in the 1950s and 1960s, in particular André Leroi-Gourhan's *Gesture and Speech* from 1964.[4] In his account of primordial evolution, Leroi-Gourhan asserts that certain mechanical conditions (the freeing of the hands and the visibility of the face in particular) guaranteed a certain liberation from the environment and the development of what we now call human. Also in the 1950s and 1960s, Canguilhem, Raymond Ruyer, and Gilbert Simondon, like Merleau-Ponty, reintroduced vitalism into the debates in the history and philosophy of science. We should understand their notion of vitalism as a kind of post-vitalism, that is, a vitalism independent from the scientific divide between vitalism and mechanism. Rather than a dogmatic stance, vitalism for these thinkers afforded a certain freedom and independence from narrow, determinist scientific frameworks, a position that emphasizes interrelation, connection, creativity, affection, and temporality in its approach to problems, questions, and tasks, whether these latter are intellectual, emotional, or physical in nature. Just as 'life' in this post-war lineage is increasingly understood as something relational, rather than as an individuating property, vitalism, in this sense also becomes a kind of medium, namely one in which, or by means of which, a critical, problem-oriented and unrestricted approach to the life sciences becomes possible.

As an example of the natural aesthetics, or aesthetics of nature, outlined above, let me briefly turn to Kracauer's discussion of the organizing principle of certain films he champions. Like Bazin, Kracauer finds in certain narrative films an arrangement or mode of expression that corresponds to film's affinity for life, namely, films featuring 'found stories'

3 Hansen, 'Introduction', xvii.

4 Though certainly, Claude Lévi-Strauss was an important influence and corollary, too. See Lévi-Strauss, *The Raw and the Cooked.*

or 'episodes', such as the neorealist films of de Sica, Fellini, or Rossellini. What characterizes these narrative forms is a material (biological) structure that, like the axolotl or any other living being, comes into being as a result of the interaction between internal development and external forces. For Kracauer, both found story and episode well up out of the flow of life as suggested by the film, and disappear back into it. The found story consists of environmental material that temporarily congeals into a narrative—Robert Flaherty's *Nanook of the North* (1922) is one of Kracauer's examples—while the episode can contain events and situations that are not merely derived from the environment and may be contrived; examples of the latter are *Mr. Hulot's Holiday* (Jacques Tati, 1953), *Umberto D.,* or *L'Atalante* (Jean Vigo, 1934). Neither found story nor episode ever 'develop into a self-contained whole'. The found story always remains 'part and parcel of the raw material in which it lies dormant'; it is a momentary crystallization of environmental forces and forms, as such, a 'pattern' in the water 'produced by some eddy or a breeze', which constantly seems to 'dissolve into the environment from which it is being distilled'.[5] The episode is like 'a monad or cell' that might combine to form a greater story 'like the cells of an organism'. Yet this story remains open-ended and thus maintains its relationship with the flow of life, rather than closing itself off. Each episode, as well as the film as a whole, remains 'porous', 'permeable to the flow of life' out of which it rises; as a consequence, the film 'is full of gaps into which environmental life may stream'.[6] Kracauer champions these types of film because they capture and grasp life not only on the basis of the qualities of the medium of film, but also on the basis of their organization. The quality of an organic film, in other words, depends not on a closed-off whole that is greater than the sum of its parts, but rather on an open 'aggregate' that differs from the sum of its parts.

The notion of organicity to which both Kracauer and Bazin make recourse differs vastly from a traditional understanding of organicism. Their conception of organicity has more in common with Deleuze's (and Guattari's) definition of non-organic life, of the 'Body without Organs', than classical notions of organicity. One can see a 'line of flight' from Kracauer and Bazin to Deleuze and Guattari's claim that '[t]he organism is not at all the body, the BwO [body without organs]; rather, it is a stratum on the BwO, in other words, a phenomenon of accumulation, coagulation, and sedimentation that, in order to extract useful labor from the BwO, imposes

5 Kracauer, *Theory of Film*, 245-46, 49.
6 Ibid., 252-56.

upon it forms, functions, bonds, dominant and hierarchized organizations, organized transcendences'.[7] The question remains, though, to what extent Deleuze and Guattari's neologism of the 'body without organs' reveals and to what extent it conceals. Their new term helps us to highlight a difference in thinking about the vital organism, but it also conceals the longer, nuanced history of which their radical 'break' is a part. It seems hardly coincidental that Kracauer, in talking about the found story, takes up the same image that Bazin used in 'De Sica'—and which Bazin drew from Bergson—to describe the interaction between organism (story) and environment, where the story 'involved the environment instead of being part of it; like a magnet, the film's fictional core attracts its repertorial elements which group themselves accordingly'.[8] This open concept of organization operates by means of forces that organize matter both inside and outside bodies. What counts is the pattern or assemblage this force of affection produces, rather than any pre-constituted body.

This emphasis on a pattern of affection governing both film image and narrative organization that I distill from Bazin's and Kracauer's film aesthetics resonates with recent theories of materiality in the humanities that expand upon the 'bodily turn's' focus on the finite body. These theories, in some ways, continue the cine-vitalist strands of thought and practice traced in this book. After years of neglect of the body and materiality in deconstructivist and poststructuralist theory, in the 1990s scholars turned their attention to the role of the body in engaging with both media and the immediate environment. In film studies, feminist scholarship has played an important part for this turn, shifting its attention from psychoanalysis—which had enabled it 'to reclaim the body from the realms of immanence and biology in order to see it as a psycho-social product'—to matters of embodiment.[9] Linda Williams has emphasized that we should understand key film genres—melodrama, porn, horror—as 'body genres' that make sense of, and with, visceral reactions.[10] In Vivian Sobchack's work, Merleau-Ponty's embodied phenomenology became an important touchstone to understand how the spectator's body and the film body engage one another.[11] Laura Marks and Jennifer Barker have stressed the corporeal engagement of the spectator

7 Deleuze and Guattari, *A Thousand Plateaus*, 159.

8 Kracauer, *Theory of Film*, 250.

9 Elizabeth Grosz, 'Psychoanalysis and the Body', 270. See also Grosz, *Volatile Bodies*.

10 Linda Williams, 'Film Bodies'.

11 Vivian Sobchack, *The Address of the Eye* and *Carnal Thoughts*.

with the film, in particular the role of the sense of touch.[12] How can one acknowledge the specificity of bodies and incorporate it into theory without falling back into naturalization and essentialization of the female body in particular? Additionally, scholars such as Donna Haraway, Stacey Alaimo, Anne Balsamo, and others addressed the fact that the natural and cultural determination and potential of specific bodies significantly includes technology as well as bioengineering.[13] Work on the posthuman condition has also traced the dissolution of the (human) subject and the finite body by interrogating questions of subjectivity, of the relationship between humans and animals, the organic and the non-organic, and technology and nature.[14]

In recent years, building on this work, attention has focused on describing and carving out new definitions of both matter and affect. As the position of the subject and the body have become unstable, so has the account of our perception and interaction, including feelings or affects. This shift from a 'bodily turn' to an 'affective turn' thus entails a shift of focus from 'being' to 'doing', a flattening of differences between individuals, species and finite machines, and an interest in the specifics of materialities, their interactive properties and their dynamics. Vitality and technology have become complementary terms, and rather than insist on a specificity of life, theorists including Patricia Clough, Brian Massumi, Mark Hansen, and Luciana Parisi have argued for vital qualities governing material dynamics—or affections—more generally, a tendency Marie-Luise Angerer has described as 'an enlargement of the purview of what is called life: growth, change, development, adaptation, sentience, and suffering, these have become (virtually) universal traits . . . What would have been dismissed out of hand as pure anthropomorphism not too long ago is now in vogue as a critical objection to conceptual anthropocentrism."[15]

One way of reading this book, then, is as a historical account of what has recently gone by the name of 'vital materialism.' By joining theory and historical context, however, I have sought to stress the co-evolution

12 Laura U. Marks, *The Skin of the Film*; Jennifer Barker, *The Tactile Eye*.

13 Donna Haraway, *Modest_Witness* and *When Species Meet*; Stacy Alaimo, *Bodily Natures*; Anne Balsamo, *Technologies of the Gendered Body*.

14 For a forceful account of the posthuman that engages with animality, see Cary Wolfe, *What Is Posthumanism?*

15 Marie-Luise Angerer, *Ecology of Affect*, 21. See Brian Massumi, *Parables for the Virtual*; Patricia Clough, 'The Affective Turn'; Mark Hansen,'Feelings without Feelers'; and Luciana Parisi, *Abstract Sex*.

of media, science, and theories of life (and, by extension, the human)—an evolution that places new media in a long line of media.[16] Film is not just an object that authors such as Epstein, Kracauer, Balázs, or Benjamin think about; they recognize its agency in the world, its actions that change and reorder our bodies and environments. Technological media—and here I concur with new materialism—*constitute* reality and are not merely tool or prosthesis. Karen Barad has captured the idea that 'distinct agencies do not precede, but rather emerge from', their entanglement and co-constitute one another with the neologism 'intra-action'.[17] As much as digital technologies and new media have ushered in this thought, I believe that a focus on what technologies do, rather than what they are—that is, a shift from ontology to agency and relationality—enables a historical account of media to be specific while nevertheless avoiding essentializing differences between old and new media. A conceptual shift away from agents, finite bodies, and technological media as entities also allows us to be more open to the idea that (human) life and our environment have been profoundly altered in the technological age—historical changes the terms 'posthuman' and 'Anthropocene' seek to capture, respectively.[18]

My invocation of a cinematic vitalism is, in many ways, an attempt to carve out how cinema and human beings—spectators, makers, thinkers—have intra-acted, and how 'life' describes that in which both partake, the force field that continues to reorder the properties, abilities and interactions of both. The aesthetics of the moving image, its flow, its evolving, contrapuntal forms, their 'growth, change, development, adaptation', the 'sentience and suffering' the images produce—these qualities, to return to Angerer's description of the 'purview of life' in recent theory, highlight the fact that film aesthetics, as I have historicized it here, describes and structures material processes that new materialists and affect theorists have more recently sought to grasp as well. With their focus on material affection in mind, we can understand better how the vitality of the moving image perceived, described, and put to work by film theorists, philosophers, and filmmakers is less a matter of ontology and more of an activity: this vitality outlines a change in perception and possibilities for new (intra-)actions. The use of the term 'life' by early film theorists signaled the deep disturbance

16 The term 'vital materialism' was coined by Jane Bennett. See Bennett, *Vibrant Matter.*

17 Karen Barad, *Meeting the Universe Halfway,* 33.

18 On posthuman, see Wolfe, *What Is Posthumanism?* For a compelling account of what was at stake when proclaiming the Anthropocene, see Joanna Zylinska, *Minimal Ethics for the Anthropocene.*

created by the encounter with cinema: even more forcefully than other technical media before it, it upset the division between individual, living autonomy and technical phenomenon.[19] By granting the experience of 'life outside itself', the cinema created both a new environment for human bodies and ushered in a new phenomenal body. Rather than tracing this affection or intra-action on a purely conceptual and theoretical level, I have sought to focus on several protagonists who framed it in sophisticated and innovative ways: Richter, by attempting to orchestrate the affection of temporal regimes; Painlevé, by combining film technology, animals, scientific explanation, and a queer anthropomorphism; Balázs, by thinking about the role of film form for the atmospheric entanglement of film and spectator; Bazin, by identifying cinematic realism as the mediation between our existence and the film world; Kracauer, by further exploring the physical connection between spectator and moving image; and so on.

This book thus stresses the extent to which technological media are life media, that is, specific milieux that enable (and disable) visceral, emotional, and intellectual engagements with the world. In the wake of the dominance of digital technologies and virtual realities, scholars have returned to the question of the materiality of media, and the terms 'media ecologies' as well as 'environmental media' have become important touchstones to capture how the understanding of an agential, affective materiality applies to our understanding of media technologies. The notion of media ecologies focuses on, in Matthew Fuller's words, a 'dynamic system in which any one part is always multiply connected, acting by virtue of those connections, and always variable, such that it can be regarded as a pattern rather than simply as an object'.[20] These emergent patterns are by no means simply computational, however, but rather should be understood in the sense of the vital patterns that Bergson, Bazin, and Deleuze describe in their image of a magnetic movement organizing iron filings. This vitalist understanding of media ecologies reaches into Fuller's language as well, when he seeks to analyze 'how elements of complex medial systems 'cooperate' to produce something more than the sum of their parts' or how 'the capacities and behaviors of media objects, systems, and dynamics are changed, potentiated, and mobilized when brought into abnormal or inappropriately preformatted relations to one another'.[21] The idea of media as environmental, by contrast,

19 Friedrich Kittler's *Gramophone, Film, Typewriter* is a forceful account of this history of interfaces.

20 Matthew Fuller, *Media Ecologies*, 4.

21 Ibd., 6, 9.

considers the way in which the materiality of media is bound up with the environment at large. Bazin's and Kracauer's emphasis on the material connections between spectator and film—for Bazin, via the light reflected off objects, impacting the silver nitrate on the plate, and projected onto the screen; and for Kracauer, the notion of a spectator who has '"sensuous and immediate" contact with "life"' in the cinema, experiencing by incorporating film images in the manner of 'blood transfusions' rather than a superficial encounter—are picked up in the notion of a material medium as a 'living medium' or 'mode of being' and 'mediation' as 'the primal connectivity shared by human and nonhuman worlds', by scholars such as Sean Cubitt and John Durham Peters.[22] Cubitt, Peters, and others, by privileging mediation over communication, are infinitely expanding our canon of what constitutes media, including animals, light, clouds, nitrate, coal, and water.[23] This focus on mediation also highlights how we partake in, and depend upon, a multitude of mediations at any given moment, all of which come with their own, vastly different temporal and spatial scales, from the nanoseconds of computer processes to the melting of glaciers.

If meaning arises from material interactions of all kinds, rather than residing as a property in objects, then the domains of the natural sciences and the humanities, mathematics and aesthetics, themselves intra-act. Important work in the history of science has recently demonstrated the malleability of scientific questioning and reasoning, the creativity and imagination involved in scientific theories and worldviews, and thus science's direct partaking in domains usually reserved for the humanities (though often it requires the reading of theoretical scientific texts by humanities scholars to detect this).[24] Scientists such as Jean-Henri Fabre, Hans Driesch, Claude Bernard, and Jakob von Uexküll, who reflect on the philosophical implications of their scientific work and who are aware of the way scientific experimentation intra-acts with worldviews, are therefore a crucial component of the probing of life by the images and people in this book. Many more cross-connections between science, film and philosophy than the ones outlined here exist, creating a dense, co-evolving network. The musical principle of counterpoint that became so central as formal expression of vitality for Richter and Eggeling, for example, is also picked up

22 See Bazin, 'Ontology of the Photographic Image'; Kracauer, *Theory of Film*, 170, 297; Sean Cubitt, *Finite Media,* 2, 4; John Durham Peters, *The Marvelous Clouds*, 17.

23 So-called German media theory, following in the footsteps of Friedrich Kittler, has been an important theoretical foundation for this expansion of the notion of media.

24 Great recent examples include Barad, *Meeting the Universe Halfway*, and Jimena Canales, *The Physicist and the Philosopher.*

by Uexküll, who detected in counterpoint the central 'motif/motive of form development' and the central formula of how structures in nature relate to one another: 'Were the flower not beelike/ And were the bee not flowerlike/ The consonance could never work.'[25] Meaning arises from the counterpoint between an object and a subject, rather than distinct properties. Another example of the vital network between disciplines sketched in this book is Ludwik Fleck's theory of the genesis and development of scientific facts published in 1935. Fleck highlighted how moods (*Stimmungen*), in particular the dominant *Stimmung* within a given thought collective (i.e., a group of researchers agreeing in their goals and methods and thus, ultimately, their 'truths'), determine scientific questions, experimental setups, explanations, and theses: 'Cognition [*Das Erkennen*] modifies the knower [*den Erkennenden*] so as to adapt him harmoniously to his acquired knowledge [*das Erkannte*]. This situation ensures the harmony within the dominant view about the origin of knowledge.'[26] Fleck recognized that scientific facts are the results of dominant, variable moods, and thus not independent, timeless entities, but rather social, historical phenomena.

As a final example of the arc spanning from this book to contemporary theory, and from aesthetics to science, I want to return to Bazin's and Kracauer's notion of organization. Their opening of the organism to the environment currently finds affirmation in the sciences. A branch of biology known as ecological developmental biology, for which the axolotl is an important model organism, investigates the interactions between genetics and environment on an animal's phenotype and has found many examples of variability that seem to confirm Merleau-Ponty's hunches.[27] For Merleau-Ponty, the axolotl's organic openness served as an example of the post-war dissolution of the contrast between 'materialism' and vitalism. Along with this dissolution, Merleau-Ponty found a 'mutation of biological concepts' such as 'that of behavior, then that of information and communication. Introduced at the beginning in order to renew the conception of the animal-machine (Watson's psychology without a soul, the nervous system as an electronic machine), these notions are [now] charged with a meaning which

25 Uexküll, *A Theory of Meaning,* 190.

26 Ludwik Fleck, *Genesis and Development of a Scientific Fact,* 86-87; *Über die Entstehung einer wissenschaftlichen Tatsache*, 114. The German original, by using permutations of the word 'erkennen', expresses the dynamic of 'cognizing', 'cognizer' and 'cognized' much more beautifully and poignantly.

27 See, for example, Ehab Abouheif and Gregory A. Wray, 'Evolution of Development'; and Scott F. Gilbert, 'Ecological Developmental Biology'.

is no longer mechanical."[28] While I have foregrounded the ambivalence of the notion of behavior (which eventually brings Merleau-Ponty to Uexküll in his lectures), Merleau-Ponty's mention of 'information and communication' also hints at a trajectory that leads, via cybernetics, to a certain neo-vitalism in new media and computational discourses, especially around the issue of artificial life and affective computing.[29]

Cinema and other screen arts have, in recent years, been privileged reflective media (or, to use Benjamin's term, 'second technologies') to capture the material intra-action of organisms, technologies, and objects. At first glance, it might seem as though contemporary global art cinema, and the so-called 'Slow Cinema' in particular, have simply developed an aesthetic of slowness to celebrate cinema as a formal antidote to the fast switches of TV programs, computer windows, and cell phone interfaces. This would be a story of cinema finding its uniqueness as medium within a fast-paced, distracted, media-saturated society.[30] Against this somewhat nostalgic image I argue that much of recent art cinema is in fact investigating the manifoldness of media flows and their adherent temporal and spatial orders, not least by disrupting our habitual engagement with the world. Films such as Lisandro Alonso's *Liverpool* (2008), Nuri Bilge Ceylan's *Once Upon a Time in Anatolia* (2011), or Cristi Puiu's *The Death of Mr. Lazarescu* (2006) eschew driven plot lines, dramatic acting and affecting close-ups in favor of long shots and long takes, which allow us to observe the behavior of characters in very specific milieux as though we are watching an axolotl learning to swim. The way in which these films affect us, then, is not based on identification with a specific protagonist; rather, it comes from much further away, and relates to the affections that attach to the interactions in the films: emptied of direct utility and purpose, gestures and actions refer us back to the dormant possibilities inherent in all interactions and open up 'our receptivity toward the intensities, atmospheric values, and resonances of the moment', as Lutz Koepnick has put it.[31] This unfolding of

28 Merleau-Ponty, *Nature*, 139-40.

29 See, for example, Stefan Helmreich, *Silicon Second Nature*; Richard Doyle also discusses Alife in Doyle, *Wetwares*. On affective computing, see Rosalind Picard, *Affective Computing*, and Luciana Parisi and Erich Hörl, 'Was heißt Medienästhetik?'.

30 An example of an analysis of slow cinema based on an opposition to contemplation and distraction can be found in Ira Jaffe, *Slow Movies*. Throughout this book, and with the help of 1920s thinkers such as Kracauer, Richter, and Benjamin, I have sought to argue against the opposition of contemplation and distraction. Many would argue that slow movies in fact foster a distracted reception.

31 Lutz Koepnick, *On Slowness*, 4.

possibilities allows cinematic mediation to return to us a quality Kracauer sought to grasp with the term 'experience':

> We literally redeem this world from its dormant state, its state of virtual nonexistence, by endeavoring to experience it through the camera. And we are free to experience it because we are fragmentized. The cinema can be defined as a medium particularly equipped to promote the redemption of physical reality. Its imagery permits us, for the first time, to take away with us the objects and occurrences that comprise the flow of material life.[32]

Experience, if we read Kracauer against the background of contemporary media theory, need not depend upon a coherent subject and an authentic, unmediated encounter; rather, we might grasp the nexus of experience and mediation better, especially in our present time, if we understand it as instances of understanding, sensing, the vital media flows of which we are a part.

32 Kracauer, *Theory of Life,* 300.

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