

HARMONY+DISSENT



Film and Avant-garde Art Movements in the Early Twentieth Century



R. BRUCE ELDER

Wilfrid Laurier University Press



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PREFACE

Let us begin with a potted taxonomy of vanguard movements in early twentieth-century art so extreme that it amounts to a parody. Some avant-garde movements seem coolly rational, committed to principles of harmony and to means of social reform that arise from those principles; others seem to proffer riotous dissent whose proposed manner of social reform would be far less integrative. Some avant-garde movements (De Stijl, European Constructivism, Minimalism, Orphism, and even, in some measure, Cubism) seem committed to rigorous Pythagorean principles of order, and other avant-garde movements (Futurist, Dada, and Surrealist) to attacking the received principles of good form (of form as order, coherence, and harmony). Thus, we commonly think of an Apollonian avant-garde and a Dionysian avant-garde.

Few would doubt that this taxonomy is all too simple. It is already well established that Neo-Plasticism and Dada, for example—on this too simple schema, movements that seem radically opposed—were in fact closely related (and certain individuals, including Piet Mondrian and Theo van Doesburg, participated in both simultaneously). And more generally, affinities among the various avant-garde movements of the early modernist era have been demonstrated. Moreover, that the avant-garde movements of the twentieth century were varying responses to common (and evolving) social factors is commonly understood. In this book I want to lay the groundwork for

proposing an additional reason for rejecting this too simple dichotomy—I want to open up an additional way of understanding ties that link various avant-garde movements together. I argue that the ideals of many of these vanguard movements, including seemingly opposed movements, were influenced by beliefs then current regarding the character of the cinema: the authors of the manifestos that announced in such lively ways the appearance of yet another artistic movement often proposed to reformulate the visual, literary, and performing arts so that they might take on attributes of the cinema. Indeed, I argue, the role of the cinema in helping shape the new artistic forms that emerged in the first decades of the twentieth century was more than that of one among many influences that cooperated to produce that remarkable flowering of the arts. The cinema, I argue, became, in the early decades of the twentieth century, a pivotal artistic force around which took shape a remarkable variety and number of aesthetic forms.

To get a sense of this claim, let us take a ready-to-hand way of thinking about how the cinema helped shape Constructivism's ideals. Like many of the vanguard movements of the twentieth century, European and Soviet Constructivists proposed to integrate art and life. They argued that to effect this integration, a new art would have to come forth—an art appropriate to the modern age, one that would make use of contemporary (i.e., industrial) materials and adopt contemporary methods of production. Thus, this new (visual, literary, and performing) art would possess some key features of film, for films are made using machines, and often in teams that reflect the industrial manner of organizing production. Moreover, Constructivists contended, to reflect reality, art would have to draw on the actual world; and in keeping with modern scientific principles (as they conceived them), the forms into which this real-world material would be wrought would have to be dialectical in character (for forms arising from dialectical principles reflect the basic underlying dynamic that gives reality its shape). But the cinema was understood as an art form that by its very nature draws on the actual world (its basic material, the filmmaker Sergei Eisenstein contended, are photo-fragments of reality), and these raw materials are organized into dialectical patterns (patterns of conflict). Thus, in these respects, too, the new art the Soviet and European Constructivists hoped to create would be an art that possessed key attributes of the cinema.

These are among the more ready-to-hand ways of thinking about the assertion that the cinema helped shaped the ideals of the Constructivist movement (and more generally, of vanguard movements in early twentieth-century art). The more interesting part of that story lies buried in my comment that the ideals of various avant-garde movements were shaped by then current understandings of the nature of cinema. For the cinema—partly owing to the enthusiasm its novelty engendered and partly owing to the lingering hold of

certain *fin de siècle* notions—was understood in the first decades of the twentieth century far, far differently than we, who live after the end of the machine age, understand it. (Establishing that there were such differences is a principal objective of this book.) To demonstrate this, I have had to begin with a wide-ranging discussion—I have begun by exploring some topics relating to the very broad topic of modernity’s cognitive (and perceptual) regime, with a view to establishing that a crisis within that regime engendered some peculiar (and highly questionable) epistemological beliefs and enthusiasms. The relations among the various topics I explore in this opening section of the book are joined by the claim that a crisis of cognition precipitated by modernity engendered, by way of reaction, a peculiar sort of “pneumatic epistemology.” Though I fear the meaning of that term may be too antique to be widely understood, that antique linguistic trope has its uses: modernity repudiated pneumatic concerns—and the void created by that repudiation led many early twentieth-century thinkers to conjecture that, if modernity had encountered a crisis, then considering what had been lost in modernity’s relentlessly progressive thrust might perhaps help produce a solution to the crisis.

There are many reasons why one might want to explore this pneumatic epistemology—and I wish I had space and time enough to consider more of its aspects than I have. Nonetheless, my reasons for examining the pneumatic epistemology justify limiting the scope of this exploration rather drastically, in that my goal is to explain how the media of film and photography—media that the crisis of cognition called into being (if only to answer to the central spiritual absence that haunts the modern paradigm)—came to be understood as pneumatic devices. These spiritual interests were largely of a peculiar, woolly character; despite that oddity, a belief that the cinema had pneumatic effects accounts in part for the appeal that film exerted in this era—that is, the cinema seemed to give technological (and so scientific) validity to the occult conceptions that formed the core of this pneumatic epistemology. And this phenomenon is even more remarkable: the pneumatic conception of the cinema accounts largely for the extraordinarily important role the cinema played when it came to establishing the ideals formulated by the participants in the various avant-garde movements in the first decades of the twentieth century.

To show how deeply this pneumatic epistemology affected the way art was understood in the first decades of the twentieth century, in the opening sections of this book I explore some broad notions about the nature of art that arose in those years and consider their association with ideas of harmony and purity that many other commentators have also treated. Unlike those art theorists/historians, however, I take up these notions and examine them closely in order to expose the stain that marks them. I try to track these ideas to their lair—for only after doing so can I pursue the more interesting parts of the story of cinema’s role in establishing the aesthetic ideals of movements

in visual, literary, and performing arts that arose in the first decades of the twentieth century. Having outlined this more common understanding regarding the nature and role of art, I will be well placed to demonstrate that these ideas were associated with then current beliefs about the nature of cinema. Many historians of art and film have pointed out that in the first decades of the century, visual artists often envied cinema's modern dynamism, and that some turned to film to convey their enthusiasm for modern life. Many scholars, too, have analyzed a particular film's relation to one or another modern art movement: certain films are said to be examples of Dada or of Surrealism, others to be examples of Impressionism, Cubism, Constructivism, or Expressionism. My ambition is grander: to show that the enthusiasm that thinkers of the first decades of the twentieth century felt for cinema led vanguard artists to take cinema as a model for the new art—to take it, then, as a model for recasting the other arts. The fact that cinema appeared (to some) to be a pneumatic influencing machine that answered to the crisis in cognition that modernity had brought on itself was a key part of cinema's appeal. And that appeal—which seems so strange to many of us today—is part of what makes the story so fascinating. This understanding of cinema played a central role in the efforts artists made to recast the arts they practised, as they strived to reformulate them on the model of the cinema (as they understood it).

Thus, I take two approaches to considering the relations between film and the other arts. First, I explore cinema's role as a model for several major twentieth-century art movements. This approach involves demonstrating that the film medium had a privileged status for most of the twentieth century's art movements, and that the participants in these art movements wanted to reformulate poetry, literature, and painting so that those forms might take on some of the virtues of the cinema. Second, I study how the advanced ideas about art and art making proposed by the actual participants in modern art movements, and the advanced artistic practices they developed, reciprocally influenced the cinema.

I focus on the effort to develop an abstract art rooted in a conception of pure visibility and on Constructivism partly because the histories of the two movements are so intertwined—indeed, as I point out, central figures in the movement for *gegenstandlose Kunst* in Germany, including some key figures in the Absolute Film, had close contact with Soviet Constructivists and even viewed themselves as European Constructivists. I focus on the efforts to develop an abstract art based on a conception of pure visibility and on the Constructivist movement for another reason as well: these movements are sites well suited for exposing the extraordinary influence that the pneumatic philosophy had on the arts in the first decades of the twentieth century. Discussions of the development of abstract art, and of Constructivism generally, have long asserted that materialist principles were at their core. This assertion

is not untrue—but its truth depends on how one understands the nature and aesthetic potential of material, and I believe that the notion of materiality that is usually said to be at the heart of this enterprise is woefully truncated. Approaching the concept of material as the pneumatic philosophy construed it results in a radically new understanding of the nature of the artistic movements I deal with in this book and in a new appreciation for the important association that the notion of materiality had with an idea of pneumatic influence (and with cinema as a pneumatic influencing machine). For example, it makes the Constructivists' formulation of their movement's ideals far less Apollonian that it is usually presented as being. In this way, I hope to demonstrate the need for a new history of early avant-garde art, one that acknowledges the role that cinema (understood as those who lived in the first rush of excitement about it might have understood it) played in establishing the aesthetic ideals of those movements.

These topics of pure vision and the relationship between spirit and matter, concept and medium, bring us inevitably to a theme that runs throughout this book—that of the Inter-Arts Comparison. The history of the debates around that topic is probably familiar to many readers. The prehistory of the notion of the Sister Arts is rich and enormously interesting (and, for many of us, its implications have helped us challenge the epistemological basis of modernity). Yet we also know that the eighteenth century saw key developments in the history of aesthetics: thinkers of that period fundamentally transformed the discussion of the arts—indeed, it is unlikely that the “fine arts” as an idea even existed before the eighteenth century. It is Paul Oskar Kristeller whom one cites on this matter, and his renowned two-part essay, “The Modern System of the Arts: A Study in the History of Aesthetics,” which begins with a summary of common claims about eighteenth-century aesthetic theory. In that summary he points out that the very term “aesthetics” was coined during the eighteenth century and that the “philosophy of art” was invented at that time. Only with reservations can we apply the term “philosophy of the arts” to discussions of earlier times. It was only in the eighteenth century, Kristeller points out, that the dominating concepts of modern aesthetics—concepts such as sentiment, genius, originality, creative imagination, and so on—assumed their modern meaning.

Especially germane to our study of the interactions among the arts is the following point, which Kristeller makes in his summary of received ideas: it was only in the eighteenth century that the various arts were compared and that common principles were discussed: “Up to that period treatises on poetics and rhetoric, on painting and architecture, and on music had represented quite distinct branches of writing and were primarily concerned with technical precepts rather than with general ideas.”¹

Kristeller's distinctive contribution to this discussion is to point out that the system of the five major arts—painting, sculpture, architecture, music, and

poetry (these are commonly thought to form the irreducible nucleus of the fine arts, though to them are sometimes added gardening, engraving, decorative arts, dance, theatre, opera, and prose literature)—is of comparatively recent origin. He explores the notion of a system of the arts and points out that an idea generally taken for granted—that these five arts are clearly separated from craft, science, religion, and practical activity—emerged only in the eighteenth century. The Greek term for art, τέχνη (*techne*), and the Latin *ars* were applied to other activities, including crafts and sciences: included under the term τέχνη were all activities that required skill and so could be taught. Even the Greek term for beauty, καλόν (*kalon*), and the Latin term, *pulchrum*, did not have the same meaning as our modern term beauty. The Greek καλόν and the Latin *pulchrum* included the moral good. καλόν can be translated as beautiful, honourable, noble, fine. Thus, in the *Symposium*, Plato argued that the beautiful is the good and that the good is the beautiful. For thinkers of the Classic era, the term “beautiful” referred above all to spiritual beauty, and by “spiritual beauty” they understood moral beauty. Cicero accordingly translated καλόν not as *pulchrum* but as *honestum*. St. Augustine took over Cicero’s understanding of καλόν, and so that view of beauty came to persist throughout the Middle Ages. In the Middle Ages too, the beautiful was understood also to refer paradigmatically to transcendental beauty as opposed to sensuous beauty.

In the *Phaedrus* 246d-e, Socrates offers a passing remark, τὸ δε θεῖον καλόν, σοφόν, ἀγαθόν, καὶ παν ὅτι τοιούτων (*to de theion kalon, sophon, agathon, kai pan hoti toiuton*; “the divine is beauty, wisdom, goodness, and all such things”). As Kristeller correctly points out, that comment was not meant to express the Medieval idea of the identity of the transcendentals, Beauty, Truth, and Goodness. However, the Stoics and Neoplatonists offered precisely that interpretation of the comment.² Augustine was influenced by his Neoplatonist masters to accept that interpretation, and to the Middle Ages he passed down Plato and the Neoplatonists’ belief in the identity of the Beautiful and the Good, with the Good being the ultimate transcendental being. Our discussion of the relations among the arts will show that modern artists reaffirmed this belief.

Kristeller identified ideas of the Classical, Medieval, and Renaissance eras that anticipated the eighteenth-century idea of the system of fine arts. Plato and Aristotle linked poetry, music, and the fine arts through the concept of mimesis: they considered poetry, music, dance, painting, and sculpture all to be imitation. (Note, though, that what the Greeks understood by fine arts comprised much more than we understand by that term.) Among the fine arts was μουσική [*mousiké*; “music”]. However, the term μουσική concerned all that had to do with the Muses and so included much more than what we refer to as music: it actually referred to the union of song, dance, and the word, a complex of instrumental music, poetry, and coordinated movement. As the

Greeks understood it, μουσική played a vital role in shaping communities, for it was central to shaping the ideals of behaviour that guide humans in their lives; the moral principles regulating communities; the practices of the polis; and even ideas about proper and desirable body types. Up to the age of thirty, males belonging to certain classes were provided with instruction in μουσική that required them to demonstrate proficiency in instrumental performance and dance as well as expertise in managing the voice. Later Classical thinkers in the ancient world developed the system of the liberal arts. Marianus Capella (flourished fifth century, after 410 CE) enumerated the seven liberal arts as follows: grammar, rhetoric, dialectic, arithmetic, geometry, astronomy, music. Ancient writers did not separate aesthetic quality from intellectual, moral, religious, and practical functions, and that same catholic understanding of the arts persisted into the Middle Ages.

Insofar as Classical and Medieval writers on rhetoric did consider the relations among the arts, they generally concerned themselves more with identifying which of the arts was superior to the others. Often, the relations among the arts arose in connection with ekphrastic art. The term ekphrastic is from the Greek words *ek* (“out”) and *phrazein* (“to tell, declare, pronounce”); originally, ekphrasis meant “telling in full.” It was first employed as a rhetorical term in the second century CE to denote simply a vivid description; by the third century the term designated a graphic (and often dramatic) verbal representation of a work of art. The term first appeared in English around 1715, when, according to the *OED*, it was used to signify “a plain declaration or interpretation of a thing”; more often it was used to refer to “the rhetorical description of a work of art” (*Oxford Classical Dictionary*). Often cited examples include the description, beginning at line 450 of Book 1 of Vergil’s *Aeneid*, of what Aeneas saw engraved on the doors of Carthage’s temple to Juno, and Homer’s lengthy description, in Book 18 of the *Iliad*, of how Hephaestus made the Shield of Achilles and of its completed shape. Another oft-cited example is in Book III of Spenser’s *The Faerie Queene*, where the poet treats the virtue of chastity. Britomart arrives at the house of the sorcerer Busyrane, where she sees tapestries depicting Jove’s amorous exploits; the tapestry provides a counter-example of the virtue being dealt with, so Spenser describes the tapestry at some length. Other, more recent examples of ekphrasis include Marvell’s “The Picture of Little T.C. in a Prospect of Flowers”; Keats’s “Ode on a Grecian Urn,” “On Seeing the Elgin Marbles,” and “To Haydon with a Sonnet Written on Seeing the Elgin Marbles”; Shelley’s “On the Medusa of Leonardo Da Vinci in the Florentine Gallery”; and Browning’s “My Last Duchess.”³ The practice of *ekphrasis* led many writers to consider which of the arts was superior, the visual art being described or the verbal art describing it.

The formula that is often used to start discussions of this topic hails from as far back as Horace (65–8 BCE), in his *Epistle to the Pisos* (commonly known

as *Ars poetica*). Horace wrote, “ut pictura poesis” (“as is painting so is poetry”). This remark has become one of the commonplaces of the history of aesthetics and a common launching point for what turned out to be the most divergent discussions of the character of poetry (and of even literature in general) and of poetry’s relationship to painting and the other arts. Horace did not intend the remark to make a sweeping theoretical point.⁴ In fact, his *Ars poetica* is anything but a systematic treatise: it is impressionistic, deliberately opinionated, seemingly casual, epistolary in form, often personal in content, and somewhat cryptic. But many who have adopted the term have used it to make a theoretical point, and some have even modified the phrase, to the prescriptive: “ut pictura poesis erit” (“let poetry be like a picture”). An early Medieval text offered a similar principle: “non erit dissimilis poetica ars picturae” (“a poem should not be dissimilar from the art of a picture”).

An opposing tradition declared that poetry’s scope and depth was greater than that of the visual arts. Dion of Prusa (Chrysostom), in his xiith Olympic Speech, written in 105 CE, extolled the superiority of poetry over painting: a poem can conjure up images of any thing that might come to mind, and can depict that which, like thought, cannot be represented visually (painting can represent thoughts only symbolically). Furthermore, the poetic medium offers the poem’s maker less resistance than does the medium of painting and so affords the creator more freedom. Poetry is also more successful in stimulating the imagination (which sometimes allows the poet to deceive the reader). Finally, a poem can produce effects through sound whereas a painting relies on sight alone.

The contest between poetry and painting lasted for centuries, and far more Classical and Medieval thinkers sided with Dion of Prusa than with Horace. Indeed, for centuries, most authors who described the superior powers of poetry did so in precisely the terms Dion had employed. In *Ioannis Evangelium*, Augustine offers as evidence of the greater value of text that it suffices merely to view a painting, but it is not enough simply to enjoy the ornamental aspect of letters—one must as well understand what they mean. Other Medieval writers stressed that writing is capable of encompassing spiritual matters (as Dion had proclaimed that poetry is capable of representing thought), and that it can deal with matters about which hearing, taste, smell, or touch report nothing.

As to the question of which art is superior, visual art or poetry, authors of the Classical and Medieval rhetorical traditions always resolved this question in favour of poetry: *verbum* held sway over *visio* for thousands of years. In the Italian Renaissance, this changed. Against the tradition that privileged *verbum* over *visio*, the first part of Leonardo’s *Trattato della pittura* (1651), his famous comparison between painting and poetry, or so-called Paragone, argued for the superiority of painting. The concept of imitation remained central to discus-

sions of art during the Renaissance, and Leonardo contended that poetry cannot imitate certain visible objects because it possesses no words for them. Furthermore, it is concerned not with nature (God's creation), but rather with the lowlier realm of human creation. Moreover, poetry relies on the ear, and the ear is much less perfect than the eye. Poetry uses letters, arbitrary forms that do not resemble the objects they represent. What is more, because we respond to the signs it offers sequentially, through time, any efforts on the poet's part to reproduce simultaneous events are bound to result in tedium. The concept of harmony, too, was central to Renaissance discussions of the arts (a feature attributable to the Pythagorean and Neoplatonic strains in Renaissance thought), and here, Leonardo argued that poetry cannot present harmonious beauty because "the parts of beauty, are divided by time, one from another. Forgetfulness intervenes and divides the proportion into its elements, but since the poet is unable to name it he cannot compose its harmonious proportion, which is derived from divine proportion. The poet cannot describe a beauty in words in the short time required to reflect on the beauty of painting." The poet, Leonardo concluded, can only present the discourse of people exchanging conversation (a statement that provides further evidence of the mimetic assumptions that were at the core of Renaissance art). But for that single virtue, in all matters the poet was surpassed by the painter.

But the visual arts' rivalry was not with poetry alone. A contrarian strain within this tradition dismissed poetry's claim to superiority; moreover, it began to stress the supremacy of one of the visual arts over all the others and to stress the supremacy of that *ottima arte* ("top art") over the arts of language. Intense artistic rivalry broke out within the camp ruled over by Muses; the idea that sibling bonds held in harmony the "Sister Arts" (so they were represented in the minds of poets and orators) was displaced, and the idea of an intense artistic rivalry between the culture of the Image and the culture of the Book took its place. In this attack on the Sister Arts tradition, painting and sculpture contended for the role of the *ottima arte*.

Leonardo's *Trattato della pittura* staked painting's claim. Benedetto Varchi's *Due lezioni* presented the case for sculpture being the *ottima arte*. Varchi's two lectures *Sopra la pittura e scultura* have an undeserved reputation for being dry, tedious, inflated, and overintellectual. In fact, Varchi's application of literary theory to the visual arts marked a real step forward in the development of art theory, and the work's arguments are presented compellingly. *Due lezioni*'s rhetoric form, an outgrowth of the tradition of the *disputatio* (which had been revived in the Cinquecento universities), typifies much that is strongest and most vital in Cinquecento's art theory, for it made possible a truly philosophical elaboration of issues of art theory as well as a demonstration of art's intellectual virtues. The case Varchi made was that art is a productive activity governed by the free will of the artist. He presented

his case by developing a theory of beauty that drew from treatises on the Art of Love.

The first lecture in *Due lezioni* concerns a sonnet by Michelangelo. Benedetto Varchi's analysis conforms to already established patterns in humanist poetic exegesis, though his emphasis on understanding the poetic process through the art of love is original and insightful. But it is the second lecture that is important for our purposes. In it, Varchi attempts to describe the character of the arts, to identify their different nobilities and then bring them together through their common principle of design. (We shall see that this anticipated Giorgio Vasari's identification of the *Arti del Disegno*.) The third dispute presented in this second lecture, *In che siano simili, ed in che differenti i Poeti ed i Pittori* ("In what are poetry and painting similar and in what are they different"), seems almost to conform to the convention of measuring painting and sculpture against poetry. That really is not Varchi's purpose. What he does is compare painting to sculpture for the purpose of establishing sculpture as the *ottima arte*. He notes that the arguments for painting—that it requires more artifice, is more difficult, and requires greater wit—can be turned *against* painting: he argues that painting requires the degree of artifice that it does because (and here Varchi takes a cue from Plato) a painting embodies an intentional deceit. Sculpture, by contrast, embodies truth.

Renaissance Florence also saw a revival of Neoplatonism, which had the effect of spreading further the conception of the identity of the "Transcendentals": Goodness, Beauty, and Truth. The Renaissance saw painting gaining in status until it approached the esteem that poetry had traditionally enjoyed. The sixteenth century saw the separation of poetry from the crafts reflected in Vasari's "Arti del disegno" (a preface to the much enlarged second [1568] edition of Vasari's *Le Vite delle più eccellenti pittori, scultori, ed architettori*). This was a seismic shift, as craftsmanship had been at the very core of Classical conceptions of τέχνη (*techne*) and *ars*. Moreover, Vasari declared that design is the father of three arts—architecture, painting, and sculpture; design is what these arts have in common and what they do not share with non-visual arts such as poetry and music. (In 1563, on Vasari's initiative, the Accademia del disegno was established in Florence with the aim of educating architects, painters, and sculptors; its founding reinforced the emerging belief in the kinship of these visual arts, but also their separateness from the sister arts of poetry and music.) We glimpse, then, an evolving tension between, on the one hand, the transcendental enthusiasms of Florentine Neoplatonism, which saw the arts as alike insofar as all lead the mind to an apprehension of the transcendental Form of the Good (identical with Beauty and Truth); and, on the other, a growing separation of the character of the different arts and notions about their differing competences.

twentieth-century art. What I hope to show is that, in fact, the dissent of cinema's elements from an easily achieved whole was precisely what made it seem an exemplary art form for so many early twentieth-century artists. (That is the dialectical truth I hope to establish in this book.)

Another implication of the view that a poem's essence lies in the fact that it exemplifies organic unity is that there is no contest among the arts—indeed, it is the web of interrelations, not the actual material itself, that allows a work of art to fulfill its transcendental mission. Sounds, daubs of paint, words, and bodily gestures can all be formed into wholes in which each individual element resonates with every other—and all are capable of elevating the mind to contemplate higher things.

But perhaps not equally capable. In this book I argue that many artists and thinkers active at the beginning of the twentieth century began to think that film possessed special powers to elevate the mind and to disclose something of the nature of the higher reality. Cinema had a status analogous to that of “Transcendental Poetry” in the work of Friedrich von Schlegel (who thought of himself as an artist with classicizing tendencies, and who, like the Classical artists, extolled poetry over the other arts):

Even poetry is no fourth art alongside of the other three [music, painting, architecture]. It does not stand on the same line with and form as it were the complement of their number. It is rather the universal symbolical art which comprises and combines in different mediums all those other exhibitiv arts of the beautiful. In its rhythm and other metrical aids it possesses all the charms of a music in words; in its figurative diction it maintains an endless succession of shifting pictures in the vivid colouring of diversified illustration; while in its entire structure (which must be neither purely historical, nor logical, or even rhetorical) it strives to attain, by a beautiful organic development and disposition of its parts, to an arrangement of the whole both architecturally great and correct.⁵

Yet at the same time, Schlegel's “Transcendental Poetry” proffers a ringing declaration of the unifying powers of Universal poetry, and poetry that can reconcile discord into harmony. So central is Schlegel's declaration to the project of this text that I shall quote it at length:

Die romantische Poesie ist eine progressive Universalpoesie. Ihre Bestimmung ist nicht bloß, alle getrennte Gattungen der Poesie wieder zu vereinigen, und die Poesie mit der Philosophie und Rhetorik in Berührung zu setzen. Sie will, und soll auch Poesie und Prosa, Genialität und Kritik, Kunstpoesie und Naturpoesie bald mischen, bald verschmelzen, die Poesie lebendig und gesellig, und das Leben und die Gesellschaft poetisch machen, den Witz poetisieren, und die Formen der Kunst mit gediegnem Bildungsstoff jeder Art anfüllen und sättigen, und durch die Schwingungen des Humors beseelen. Sie umfaßt alles, was nur

poetisch ist, vom größten wieder mehrere Systeme in sich enthaltenden Systeme der Kunst, bis zu dem Seufzer, dem Kuß, den die dichtende Kind aushaucht in kunstlosen Gesang.

Schlegel declares that life will be made poetic—that life and art will be integrated. Neither Schlegel nor the avant-garde art movements of the early twentieth century understood the integration of art and life in the way that many commentators on the avant-garde (e.g., Peter Bürger) understood it.⁶ For Schlegel, and later for avant-garde artists, art and life would be integrated when life is lived with intensity, when the imagination is liberated, when ordinary objects are experienced imaginatively, as hieroglyphs of unknown forms, when the everyday is experienced as belonging to a greater mystery and natural forms as being the product, and in the embrace of, an immanent divine, when all we know evokes in us a feeling for the infinite.⁷

The text continues:

Sie kann sich so in das Dargestellte verlieren, daß man glauben möchte, poetische Individuen jeder Art zu charakterisieren, sei ihr Eins und Alles; und doch gibt es noch keine Form, die so dazu gemacht wäre, den Geist des Autors vollständig auszudrücken: so daß manche Künstler, die nur auch einen Roman schreiben wollten, von ungefähr sich selbst dargestellt haben. Nur sie kann gleich dem Epos ein Spiegel der ganzen umgebenden Welt, ein Bild des Zeitalters werden. Und doch kann auch sie am meisten zwischen dem Dargestellten und dem Darstellenden, frei von allem realen und idealen Interesse auf den Flügeln der poetischen Reflexion in der Mitte schweben, diese Reflexion immer wieder potenzieren und wie in einer endlose Reihe von Spiegeln vervielfachen. Sie ist der höchsten und der allseitigsten Bildung fähig; nicht bloß von innen heraus, sondern auch von außen hinein; indem sie jedem, was ein Ganzes in ihren Produkten sein soll, alle Teile ähnlich organisiert, wodurch ihr die Aussicht auf eine grenzenlos wachsende Klassizität eröffnet wird. Die romantische Poesie ist unter den Künsten was der Witz der Philosophie, und die Gesellschaft, Umgang, Freundschaft und Liebe im Leben ist. Andre Dichtarten sind fertig, und können nun vollständig zergliedert werden. Die romantische Dichtart ist noch im Werden; ja das ist ihr eigentliches Wesen, daß sie ewig nur werden, nie vollendet sein kann. Sie kann durch keine Theorie erschöpft werden, und nur eine divinatorische Kritik dürfte es wagen, ihr Ideal charakterisieren zu wollen. Sie allein ist unendlich, wie sie allein frei ist, und das als ihr erstes Gesetz anerkennt, daß die Willkür des Dichters kein Gesetz über sich leide. Die romantische Dichtart ist die einzige, die mehr als Art, und gleichsam die Dichtkunst selbst ist: denn in einem gewissen Sinn ist oder soll alle Poesie romantisch sein. (from “Athenäeum-Fragment” 116, 1798)⁸

According to Schlegel’s idea of a “progressive Universalpoesie,” a poem would be a whole entity “organized uniformly in all its parts” (in “alle Teile ähnlich organisiert”)—that is, it would be a form that makes evident the

mined by the religious seeker, the mystic, and the artist, but not by the typical modern. Intuitive, bodily knowledge, which remains largely preconscious and unconceptualized, informs us of the continuity of our being with that of other beings. Only a mode of experience that appreciates the performative dimension of awareness, a mode of experience that does not reduce experience to the activities of instrumental reason, can undo the reductive effects of modernity's advent—and the performative is the domain of religion and of art. The artists associated with a number of the avant-garde movements of the twentieth century felt the importance of these modes of experience, and they attempted to develop artistic forms that might revitalize those experiences so that they might assume an expanded role once a new paradigm of knowledge and a new understanding of reality had emerged. Indeed, the role of avant-garde movements was also understood as hastening this emergence.

The experiences of prayer, meditation, contemplation, trance, dream, and contemplation are not incorporated into modernity's model of normative cognition. The Enlightenment drove them out of the public realm; thus they have become organs, like the human appendix, that in losing their purpose have been reduced to an underdeveloped, vestigial form. That atrophy accounts for the peculiar, unhealthy, “new-agey” vulgarity that characterizes the way these experiences have been so often been discussed over the past 150 years—including among the often breathtakingly brilliant participants in the vanguard art movements that developed during the twentieth century. That it gives these experiences pride of place provides the avant-garde with its importance.

The demands entailed in efforts to reach the source of the ungainly notions that had so important an influence in shaping twentieth-century art have made it impossible to demonstrate their influence on more than two key moments in early twentieth-century art: the project to develop an abstract art based on a conception or pure visuality, and Constructivism. In later ventures, I hope to explore in greater depth some of the themes I open up here, and show that the same themes I open up in this book influenced many other artistic movements of the early part of the twentieth century. I hope, that is, to do much more to demonstrate that ungainly ideas about the character of cinema played a role in shaping the ideals of some of the more prominent artistic movements of the twentieth century.

NOTES

A note to readers: In the notes, the spellings of Russian names reflect the source materials. In the text, those names have been regularized.

- 1 Paul Oskar Kristeller, “The Modern System of the Arts: A Study in History of Aesthetics, Part 1,” *Journal of the History of Ideas* 12, no. 4 (October 1951): 497.
- 2 A Stoic text οὐκ ἂν τὸ καλὸν ἀγαθὸν (*monon to kalon agathon*) that suggests that interpretation. V.H. Von Armin, ed., *Stoicorum Veterum Fragmenta*, 111:9).

3 Ekphrasis became rather prominent in twentieth-century poetry (a fact we might take as evidence of the Inter-Arts Comparison in recent times). Well-known examples include these: Rilke's "Archaic Torso of Apollo"; Marianne Moore's "No Swan So Fine," on a china swan, and "Nine Peaches," on a representation on a piece of porcelain *chinoiserie*; Wallace Stevens' "Angel Surrounded Paysans," on Pierre Tal Coat's *Still Life* (ca. 1945–46); and "Man with Blue Guitar," on Pablo Picasso's *Old Guitarist*; most of the poems in William Carlos Williams's great poem sequence *Pictures from Breughel*, as well as his "Classic Scene," on Charles Sheeler's *Classic Landscape*; John Berryman's "Hunters in the Snow," on Pieter Brueghel's *Hunters in the Snow* (Walter de la Mare's "Breugel's Winter," Joseph Langland's "Hunters in the Snow: Breugel," and William Carlos Williams's "Hunters in the Snow" are other ekphrastic poems on this familiar painting); Paul Engle's "Venus and the Lute Player," on Titian's *Venus and the Lute-Player*; Randall Jarrell's "The Bronze of Donatello," on Donatello's *David*, "Knight, Death and the Devil," on Albrecht Dürer's eponymous *Meisterstiche*; W.H. Auden's "Musée des Beaux Arts," on Pieter Brueghel, *The Fall of Icarus*, and his allusive "The Shield of Achilles," a retelling of the passage in Book 18 of Homer's *Iliad*; Elizabeth Bishop's "Large Bad Picture," on a fictional painting, inspired by a pair of lines in "Rime of the Ancient Mariner," and her "Poem," on a tiny, unsigned painting the poet believed to be painted by her great-uncle ("Uncle George"); Edith Wharton's "Mona Lisa," on Leonardo's *Mona Lisa*; May Swenson's "The Tall Figures of Giacometti," on Alberto Giacometti's *City Square*; John Stone's "American Gothic—after the painting by Grant Wood, 1930," on Grant Wood's *American Gothic*, his "Three for the Mona Lisa," on Leonardo's *Mona Lisa*, and his "Early Sunday Morning," on Edward Hopper's *Early Sunday Morning*; Robert Foerster's "Brueghel's Harvesters," on Pieter Brueghel's *The Harvesters*; Derek Mahon's "St. Eustace," on Antonio Pisanello's *Saint Eustace*, and his "The Hunt by Night—Uccello, 1465," on Paolo Uccello's *A Hunt in the Forest*; Anne Sexton's "The Starry Night," on Vincent Van Gogh's *Starry Night*; Derek Mahon's "Courtyards in Delft—Pieter de Hooch, 1659," on Pieter de Hooch's *Courtyards in Delft*; John Stone's "The Forest Fire—Piero Di Cosimo, ca. 1505 Ashmolean Museum, Oxford," on Piero Di Cosimo, *The Forest Fire*; Edward Hirsch's "Edward Hopper and the House by the Railroad (1925)," on Edward Hopper's *House by the Railroad*; Lawrence Ferlinghetti's "Monet's Lilies Shuddering," on Claude Monet's *Nymphéas*, and his "The Wounded Wilderness of Morris Graves," on Morris Graves's *Bird in the Spirit*; Wislawa Szymborska's "Two Monkey's by Brueghel," on Pieter Brueghel's *Two Monkeys*; Cathy Song's "Girl Powdering Her Neck—from a ukiyo-e print by Utamaro," on Kitagawa Utamaro, *Girl Powdering Her Neck*; Stephen Dobyns's "The Street," on Balthus' *The Street*; Greg Delanty's "After Viewing *The Bowling Match at Castlemary, Cloyne* (1847)," on Daniel MacDonal'd's *The Bowling Match at Castlemary, Cloyne*; W.D. Snodgrass's "The Red Studio," on Henri Matisse's *The Red Studio*; Lisel Mueller's "Paul Delvaux: The Village of the Mermaids—Oil on canvas, 1942," on Paul Delvaux's *The Village of the Mermaids*; Mary Leader's "Girl at Sewing Machine (after a painting by Edward Hopper)," on Edward Hopper's *Girl at Sewing Machine*; Allen Ginsberg's "Cézanne's Ports," on Paul Cézanne's *L'Estaque* (1883–85); X.J. Kennedy's "Nude Descending a Staircase," on Marcel Duchamp's *Nude Descending a Staircase No. 2*; and (turning to examples that describe a photograph) Adrienne Rich's "Snapshots of a Daughter-in-Law" and Greg Williamson's "Double Exposures."

4 The context for the quotation is:

Ut pictura, poesis: erit quae, si propius stes,
 Te capiat magis; et quaedam, si longius abstes,
 Haec amat obscurum; volet haec sub luce videri,
 Iudicis argutum quae non formidat acumen:
 Haec placuit semel; haec decies repetita placebit.

—Q. Horatii Flacci, "Epistola Ad Pisones, De Arte Poetica," lines 361–65.

- A very rough translation: "A poem is like a painting: the closer you stand to this one the more it will impress you, whereas you have to stand a good distance from that one; this one loves a rather dark corner, but that one wants to be seen in a full light and will stand up to the keen judgment of the critic; this one pleased you only when you saw it for the first time, but that one goes on pleasing you as many times as you see it." Which seems to me to state that a poem is like a painting in that how it is seen affects the pleasure we have from it.
- 5 Friedrich von Schlegel, "Philosophy of Life," in *Philosophy of Life, and Philosophy of Language: In a Course of Lectures*, trans. A.J.W. Morrison (London: Bohn, 1847), pp. 265–66.
 - 6 Here is another German Romantic poet's proposal to integrate art and life: "Der Welt muss romantisiert werden. So findet man der ursprünglichen Sinn wieder. Romantisieren ist nichts als eine qualitative Potenzierung. Das niedre Selbst wird mit einem bessern Selbst in dieser Operation identifiziert. So wie wir selbst eine solche qualitative Potenzreihe sind. Diese Operation ist noch ganz unbekannt. Indem ich dem Gemeinen einen hohen Sinn, dem Gewöhnlichen eine geheimnisvolles Ansehn, dem Bekannten die Würde des Unbekannten, dem Endlichen einem unendliche Schein gebe, so romantisiere ich es." (The world must be romanticized. So its original meaning will again be found. To romanticize is nothing other than an exponential heightening. In this process, the lower self becomes identified with a better self. Just as we ourselves are part of an exponential sequence. This process is still wholly unknown. By investing the commonplace with a lofty significance, the ordinary with a mysterious aspect, the familiar with the prestige of the unfamiliar, the finite with the semblance of infinity, thereby I romanticize it.) Novalis, *Fragmente des Jahres 1798, Gesammelte Werke*, Vol. III, p. 38. The German and English texts appear in Lilian R. Furst, ed., *European Romanticism: Self-Definition: An Anthology* (London: Methuen, 1980), p. 3.
 - 7 Some of Schlegel's remarks on the immanent divine were extraordinary. Example: "The phenomenon of magnetism presents a remarkable manifestation of the universal life of the world, which eludes all mathematical calculations of magnitude, while the little piece of this wonderful iron balances by its living agency the whole globe itself" (Friedrich von Schlegel, *Philosophy of Life*, in *Philosophy of Life and Philosophy of Language: A Course of Lectures*, p. 80.
 - 8 "Romantic poetry is a progressive universal poetry. It is destined not merely to reunite the separate genres of poetry and to link poetry to philosophy and rhetoric. It would and should also mingle and fuse poetry and prose, genius and criticism, artistic poetry and natural poetry, make poetry lively and sociable, and life and society poetic, poetise wit, fill and saturate forms of art with worthy cultural matter of every kind, and animate them with a flow of humour. It embraces all that is poetic, from the greatest art system that enfolds further systems, down to the sigh, the kiss uttered in artless song by the child. It can so identify with what is being represented that one might well think its sole aim was to characterize poetic individuals of every sort; but there is as yet no form designed fully to express the author's mind: so that some artists, who want only to write a novel, have come to portray themselves. Romantic poetry alone can, like the epic, become a mirror to the whole surrounding world, an image of its age. At the same time, free of all real and ideal interests, it can float on the wings of poetic reflection midway between the work and the artist, constantly reinforcing this reflection and multiplying it as in an unending series of mirrors. It has the potential for the highest, most manifold evolution by expanding not only the outward but also the inward, for each thing destined to be a whole entity is organized uniformly in all its parts, so that the prospect is opened up of a boundlessly developing classicism. Among the arts, Romantic poetry is what wit is to philosophy, and what sociability, friendship and love are to life. Other types of poetry are complete and can now be wholly analysed. Romantic poetry is still in a process of becoming; this indeed is its very essence, that it is eternally evolving, never completed. It can-

not be exhausted by any theory, and only a divinatory criticism could dare try to characterize its ideal. It is alone infinite, just as it is alone to be free, recognizing as its prime law that the poet's caprice brooks no law. Romantic poetry is the only type of poetry that is more than merely a type of poetry; it is in fact the very art of poetry itself: for in a certain sense all poetry is or should be Romantic." The German and English texts appear in Furst, *European Romanticism*, pp. 4–6.



ACKNOWLEDGEMENTS

To say that the arts no longer occupy a central place in the North American mind is to state the obvious. Dreams fostered by commerce's romance with technology have long since supplanted the arts in North Americans' imaginations. Historical forces that arose in the Renaissance and acquired additional strength in the Enlightenment now have entered into an astonishingly unlikely association with novel authoritarian currents of our time, unleashed by another "awakening." Universities, by and large, have proven impotent in resisting these dire trends, and many of those who are charged with the responsibility of defending the life of the mind have shown themselves to be quislings. The limits of the social have been allowed to circumscribe understanding's reach. This is an age when academics for the most part don't read Plato, Virgil, Aquinas, Milton, or Spinoza (nor listen to J.S. Bach or Thomas Tallis)—and, what is worse, when academics condemn those among their colleagues who do, for being irrelevant.

The ironies of history are legion. I remind myself of the fact when melancholy brings me to ponder the appalling conditions under which I began work on this volume—conditions that persisted nearly until I had completed it. The less said about those conditions, the better. However, a heart full of gratitude compels me to acknowledge the solace many afforded. Michael Snow, Jonas Mekas, and Stan Brakhage have all taken an interest in my writing and in my filmmaking. I wish that Stan Brakhage were here to read

this work, which he so often inquired after and for which he ventured so many suggestions.

Jo Ann Mackie's, Prof. Don Snyder's, and Dr. Maurice Yeates's many kindnesses helped sustain me. Dr. Susan Cody stepped in several times to prevent a bad situation from becoming unbearable. I have been very fortunate that a remarkable group of young artist/filmmakers have been drawn to my classes and to working on my projects. Those who assisted in this project (in the order in which they joined) are: Jowita Kepa, Annie MacDonell, Samantha Rajasingham, and Luba Galvanek. All showed unflagging persistence in tracking down nigh impossible-to-find sources. I enjoyed discussions with them and, with them, poring over selections from my collection of art books.

As great a source of delight has been to find oneself joined in the belief in the human value of artmaking by a number of talented artist/scholars who are utterly committed to avant-garde cinema. Over the past few years, such a group have come to occupy an ever larger place in my thoughts, so that now I don't know how I could have survived a dreadful period without them. It has been such a great pleasure to see them at nearly all my screenings and public lectures and seminars. Their insistence on attending my classes (whether they were officially enrolled or not) gave me faith that, however harrowing my circumstances, I was reaching some with ears to hear. Alla Gadassik, Angela Joesse, Erika Loic, and Izabella Pruska-Oldenhof have enriched my life enormously, by making me believe that, somehow, the art of film will survive, just because it can attract the likes of them. Working with them has enlarged my heart.

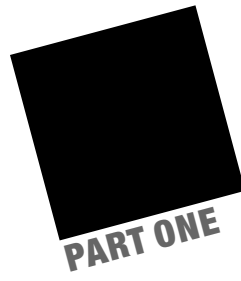
It is routine for academics' acknowledgement pages to discharge the obligation of recognizing any funding that supported their work. In mentioning that I received support for my work on this volume from the Social Sciences and Humanities Research Council of Canada, I do not want to be mistaken for doing just that. For I want to express my deepest thanks for the opportunities that SSHRC made possible. SSHRC's support (and the high ranking their assessment panel gave this project) did much to rally my faith that I would be able to endure the onslaught I faced when I embarked on this project. In addition, support that that agency, and the Canada Council for the Arts, provided for my filmmaking and my work in software engineering has meant more to me than I can ever say. Ryerson University, through the Office of Research Services and the Office of the Dean of the Faculty of Communication and Design, also provided generous financial assistance, in the form of project grants, stipends for student assistants, a publication grant, and a research chair that helped shelter me. The Canadian Federation for the Humanities and Social Sciences, through the Aid to Scholarly Publications Programme, using funds provided by SSHRC, provided a subvention for this publishing project. The ASPP plays a key role in fostering scholarship in Canada; I am delighted they have continued to support the dissemination of my writings.

The people at WLU Press have been remarkably steadfast in dealing with many issues in the course of producing this volume. Brian Henderson, Lisa Quinn, and Rob Kohlmeier have all been unfailingly encouraging and understanding. A problem that arose toward the end of the production of this volume (one that falls in the category of “dumb things that computers do”) meant that the process of proof checking was unusually fraught. Cheryl Lemmens went far, far beyond what one should expect of an indexer in the way of fact checking and prepared a detailed list of errata, for which I am extremely grateful.

Two readers whom the Press engaged did far more than offer endorsements of the manuscript. Both warmed my heart greatly with the enthusiastic tone of their (excessively generous) assessments. More than that, both offered constructive suggestions, which I incorporated—I hope to their satisfaction. Still, the usual statement that any remaining inadequacies are the fault of the author is more than usually true in my case: it is unlikely that even the most insightful reader and forceful commentator could prevent me from lapsing into the sort of folly that results from an excess of enthusiasm for vanguard art. I am far too stubborn.

None but a spouse could ever understand the financial and, more, the emotional costs involved in avant-garde filmmaking—especially when one tries to make a go of paying Caesar by working in an academic environment. My wife, Kathryn Elder, has stood by me though an appalling series of events, even while my health made doing so an absolute ordeal. What can I possibly say?

Oh quanto è corto il dire e come fioco
 al mio concetto! e questo, a quel ch’i’ vidi,
 è tanto, che non basta a dicer ‘poco’.



MODERNISM AND THE ABSOLUTE FILM
THE OVERCOMING OF REPRESENTATION

THE PHILOSOPHICAL AND OCCULT BACKGROUND TO THE ABSOLUTE FILM

PHOTOGRAPHY, MODERNITY, AND THE CRISIS OF VISION

The development of photography and film was a response to the crisis of vision that by the early nineteenth century had reached alarming intensity. The camera served as a prosthetic for vision: it allowed us to see, and therefore to understand, what the human eye cannot see unaided. It contributed to the effort of giving the real a rightful place in works of art. Henri Cartier-Bresson's "decisive moment" refers to the discovery of the eternal, perfect form in the contingencies of the flux of mundane, everyday life. "The decisive moment" captures precisely what Charles Baudelaire claimed would interest the painter of modern life: "By 'modernity' I mean the ephemeral, the fugitive, the contingent, the half of art whose other half is the eternal and the immutable... This transitory, fugitive element, whose metamorphoses are so rapid, must on no account be despised or dispensed with."¹ Likewise, the cinematic apparatus answered to the desire to reproduce movement so that the fugitive might be subjected to inquiry (modernity's model of knowledge). Edgar Allan Poe came close to describing the condition of the later modern spectator when he described passersby casting aimless glances off in all directions; but as Walter Benjamin points out, Poe's spectator is not the later modern spectator-cum-pedestrian who typifies the condition of modern existence: the modern pedestrian is overwhelmed with a barrage of sensory information that he or she has to keep up with, just to preserve

life and limb, to say nothing of perceptual integrity. Technology has retrained the human sensory apparatus so that it can process multiple inputs.

The new perceptual regime is intimately related to the cinema, for in the perceptual world of modernity as in the cinema, perception is conditioned by a series of engendering shocks, a relentless rhythmical pulse.

Moving through [the traffic of a big, modern city] involves the individual in a series of shocks and collisions. At dangerous intersections, nervous impulses flow through him in rapid succession, like the energy from a battery. Baudelaire speaks of a man who plunges into the crowd as into a reservoir of electric energy. Circumscribing the experience of the shock, he calls this man “a kaleidoscope equipped with consciousness.” Whereas Poe’s passers-by cast glances in all directions which still appeared to be aimless, today’s pedestrians are obliged to do so in order to keep abreast of traffic signals. Thus technology has subjected the human sensorium to a complex kind of training. There came a day when a new and urgent need for stimuli was met by the film. In a film, perception in the form of shocks was established as a formal principle. That which determines the rhythm of production on a conveyor belt is the basis of the rhythm of reception in the film . . .

Poe’s text makes us understand the true connection between wildness and discipline. His pedestrians act as if they had adapted themselves to the machines and could express themselves only automatically. Their behavior is a reaction to shocks. “If jostled, they bowed profusely to the jostlers.”²

These shocks destroyed the aura surrounding precious objects/creations, and that changed forever humans’ understanding of space and distance. Even Benjamin deemed the effect a mixed blessing.

The camera developed in response to a crisis of sensation, as a cognitive tool that served as a prosthetic for vision. Yet the modernists recognized that the camera’s eye—including that of the movie camera—posed significant aesthetic difficulties.³ For if the camera was invented as a cognitive tool for revealing reality rather than for transforming it into an autonomous form, then it is difficult to see how the photographic (or cinematographic) image can be of much use in carrying out the artist’s task—that is (according to the time’s reigning aesthetic principle), in constructing artistic forms. Indeed, it is even difficult to see how a camera image could possibly provoke an aesthetically valuable experience.

The Absolute Cinema answered these objections about the character of a camera image. The makers of Absolute Film proposed to avoid using the camera to reproduce the appearance of reality, and even to avoid reproducing movement. Instead they would create films from concrete forms, forms they would create by hand (using cut paper or cardboard, paints, and dyes)—forms that would lack any representational import; they would use the camera not to reproduce movement but to create a pure, artificial dynamic. Their films,

then, would consist of abstract forms whose movements would describe satisfying shapes that have intriguing relations one to another.

The Absolute Film movement was centred in Germany (and primarily in Berlin, which then rivalled Paris as capital of the art world). The principal figures associated with the Absolute Film were Viking Eggeling, Hans Richter, Walther Ruttmann (probably the movement's pioneering figure), and, somewhat later, Oskar Fischinger; other figures who had a briefer involvement with this type of filmmaking were Werner Graeff and László Moholy-Nagy.⁴

THE ANALOGY TO MUSIC

At the beginning of the twentieth century, many artists sought some means to escape “the tyranny of the object” and to create an art free from the constraints of the visible and tangible realm. Music provided a model for how a work constituted of pure, non-representational elements could be formed without falling into ornamentation, arbitrariness, or disorder. Contrapuntal music, in particular, showed artists how to resolve abstract elements. Thus, in 1922, Richter, with Werner Graeff's assistance, embarked on a project titled *Fuge in Rot und Grün* (Fugue in Red and Green). To be sure, this was not the first visual fugue to be predicated in the assumption that film and music were analogous. Around 1910, the Czech artist František Kupka, a Symbolist painter who was deeply involved with Theosophical ideas generally (he claimed to be a medium)—and in particular with their ideas on synaesthesia and on colour—became the first painter to arrive at the principle of sequential composition based on chromatic progressions. He described his goal thus: “By using a form in various dimensions and arranging it according to rhythmical considerations, I will achieve a ‘symphony’ which develops in space as a symphony does in time.” These ideas led to *Amorpha—Fugue in Two Colours* (1912).

That music is an art of time helps explain why visual artists regarded it as an ideal to which they might aspire. Music could achieve a constantly changing quality of tone space, and painters longed to find a means to achieve analogous effects in their medium. Karin von Maur explains:

The disintegration of the unified pictorial space, the fragmentation of the object, the autocratic employment of liberated motif elements, the autonomy of color, form, and line, and the increasing dynamism of all three—these developments, which took place between 1908 and 1914 in the guise of Cubism, Futurism, Orphism, Vorticism, or Synchronism—were basically directed towards opening visual art to the dimension of time. Never before in the numerous programs and manifestos of the avant-garde did there appear so many temporal concepts, such as rhythm, dynamics, speed, and simultaneity, or musical terms such as cadence, dissonance, polyphony, etc., proving the existence of a close link between the temporalization tendencies in art and the reception of musical phenomena.⁵

In his paintings from his Bauhaus years (1921–31), Paul Klee embarked on a program of discovering the dynamic properties of colour and form. He formalized his thoughts while teaching at the Bauhaus in the 1920s, where he wrote his *Pädagogisches Skizzenbuch* (Pedagogical Sketchbook), which presented a complete course on the dynamics of static form (see, for example, Pedagogical Sketchbook, Figure 2). Klee's paintings represent a movement toward dynamic form in abstract painting, and he connected this dynamism to music. Klee took up the problems of painting music in the monochrome *Fuge in Rot* (Fugue in Red, 1921). This work unfolds its visual themes in fugal form, as different shapes moving from right to left over a dark ground, leaving trails of afterimages behind, to produce effects similar to those produced by the repetitions of musical themes in a fugue. Like Kandinsky, Klee used the analogy with music when describing his work; indeed, some of Klee's later works developed directly out of musical structures. Thus, fugal form was the subject of *Ad Parnassum* (1932), which used a dappled grid of shifting colour within an architectonic framework to produce in a visual medium effects similar to those produced by the patterns of the repeated elements of a musical fugue.

The American Synchronists Morgan Russell and Stanton Macdonald-Wright also pursued the analogy between sound and colour. Writing at the time of their first solo exhibition, at Munich's Neuer Kunstsalon, they proposed that until then, music alone had been able to communicate the highest spiritual sensations. Now, they proclaimed, abstract painting's time had come: having overcome the obstacles that the effort to render material reality had placed in their path, painters could now direct their interests to the higher reality. Painting had developed to the point where it could now convey the mysterious reality hidden in ordinary reality. Several artists and theorists went so far as to argue that painting was closer to this supreme reality than music, because visual perception is more intimately linked than aural perception to the inner reality of nature.

Robert Delaunay, too, argued that painting is superior to music, though his reasoning was different. For him, painting's superiority turned on its capacity to apprehend several objects and events simultaneously. He unpacked the significance of this principle of simultaneity in Bergsonian terms: "The idea of the vital movement of the *world* and *its movement is simultaneity*... The auditory perception is not sufficient for our knowledge of the world... Its movement is *successive*, it is a sort of mechanism; its law is the *time of mechanical* clocks which, like them, has no relation with our perception of *visual movement in the Universe*" (italics in original).⁶ Delaunay used interacting complementary colours to generate a sense of optical motion. His interest in the interactions of colour led him to consider the importance of light: he wrote about light as an ordering force, a force whose nature is harmony and rhythm. Different

proportions in the mixture of colours led to different harmonies and different rhythms (different rates of vibration).

The dynamics of the modern world had raised the phenomenon of change to a new level of importance. Morgan Russell, Stanton Macdonald-Wright, Robert Delaunay, and their ilk were all seeking ways to invest a dynamic medium—a medium that could convey the flux of energy—with the privileges of sight. This is especially clear with Delaunay: though he advocated simultaneity, he used sequential development in such works as *Les Fenêtres sur la ville* (Windows on the Town, 1912), a work that uses a scroll form to unfold colour contrasts through time. In a diary entry from July 1917, Klee noted that “Delaunay has attempted to shift the accent in art to the temporal, based on the example of the fugue, by choosing a format so long it cannot be taken in at a glance.”⁷ Another medium had led the way—cinema. Like many artists, Delaunay, Russell, and Macdonald-Wright proposed to reformulate their medium to endow it with attributes of cinema. The similarities among Delaunay’s scroll painting *Les Fenêtres* (The Windows, 1912), Viking Eggeling’s scroll painting *Horizontal-Vertikal Orchester* (Horizontal-Vertical Orchestra, 1919–21), and Hans Richter’s scrolls, *Präludium* (Prelude, 1919), a series of drawings presenting a declension of forms on the theme of contrast, especially contrast between planes, and *Fuge* (Fugue, 1920)—and their similarity to cinema—suggest the influential role cinema played in twentieth-century visual arts history. The theoretical writing of Eggeling and Richter testifies to their interest in creating visual works whose elements could be experienced both as developing through time and as existing simultaneously.

The makers of Absolute Film proposed to reconfigure film so as to highlight its innermost dynamics, its essential animation. In doing so they would release cinematic form from representation. Light and time, they insisted, were cinema’s true materials—the artists engaged in the creation of the Absolute Film shared an interest in light and time with makers of light sculptures and *Lichtspielen*. These works were as immaterial as music—indeed, that something as immaterial as coloured light came to represent an ideal medium for artists in the nineteenth and twentieth centuries must be taken as evidence of the important role that music (and cinema) had assumed in thinking about the arts.⁸

Photography, perhaps more than film, seemed well suited to make a valuable contribution toward a non-objective art. In *Iz knigi o bespredmetnosti* (From the Book on Non-Objectivity), Kazimir Malevich outlined how photography could contribute to *bespredmetnosti* art: as a form of post-abstract art (art lacking a subject), *bespredmetnosti* art (art lacking a tangible medium) could use the techniques of the photogram and superimposition to highlight the photographic image’s immateriality.

The Absolute Film proposed to emphasize film’s immateriality, its gaseousness, and in doing so release cinematic form from representation. Light and time,

the makers of Absolute Film insisted, were cinema's true sources. Clearly, the artists engaged in the creation of the Absolute Film shared an interest in light and time with makers of light sculptures and *Lichtspielen*.

ABSOLUTE FILM AND VISIBILITY

THE THEORIES OF CONRAD FIEDLER

The conception of light embodied in the film forms offered by the makers of Absolute Film hark back to premodern ideas. To understand the appeal of those ideas, recall the crisis of perception that haunted the nineteenth century, the very crisis that had given birth to photography and film. The crisis arose from the recognition that perception does not provide us with an image of external reality—that a percept is only a sign of the external factor that causes it, and not an accurate image of it (to use Helmholtz's formulation). Johannes Müller proposed the doctrine of "specific nerve energies"; his research provided the basis of Helmholtz's famous *Optics*, a book that dominated the theory of vision in the second half of the nineteenth century and that almost certainly influenced Fiedler. Jonathan Crary outlines the theory.

The theory was based on the discovery that the nerves of the different senses were physiologically distinct. It asserted quite simply—and this is what marks its epistemological scandal—that a uniform cause (e.g., electricity) would generate utterly different sensations from one kind of nerve to another. Electricity applied to the optic nerve produces the experience of light, applied to the skin the sensation of touch. Conversely, Müller shows that a variety of different causes will produce the same sensation in a given sensory nerve; in other words, he describes a fundamentally arbitrary relation between the stimulus and the sensation. It is a description of a body with an innate capacity, one might even say a transcendental faculty, to misperceive, of an eye that renders differences equivalent.

His most exhaustive demonstration concerns the sense of sight, and he concludes that the observer's experience of light has no necessary connection with any actual light. Müller enumerates the agencies capable of producing the sensation of light. "The sensations of light and colour are produced wherever parts of the retina are excited 1) by mechanical influences, such as pressure, a blow or concussion 2) by electricity 3) by chemical agents, such as narcotics, digitalis 4) by the stimulus of the blood in a state of congestion." Then last on his list, almost begrudgingly, he adds that luminous images can also be produced by "the undulations and emanation which by their action on the eye are called light."⁹

Hermann von Helmholtz, one of the nineteenth century's most eminent scientists, made the same point in his famous (and still much read) treatise on psychoacoustics:

Nerves have been often and not unsuitably compared to telegraph wires. Such a wire conducts one kind of electric current and no other; it may be stronger, it may be weaker, it may move in either direction; it has no other qualitative differences. Nevertheless, according to the different kinds of apparatus with which we provide its terminations, we can send telegraphic despatches, ring bells, explode mines, decompose nerves. The condition of excitement which can be produced in them, and is conducted by them, is ... everywhere the same.¹⁰

To suggest the prevalence of these ideas in the early part of the twentieth century, I point out that the early French filmmaker, Jean Epstein, adopted Müller's ideas.

The senses, of course, present us only with symbols of reality: uniform, proportionate, elective metaphors. And symbols not of matter, which therefore does not exist, but of energy: that is, of something which in itself seems not to be, except in its effects as they affect us. We say "red," "soprano," "sweet," "cypress" when there are only velocities, movements, vibrations. But we also say "nothing" when the tuning-fork, diaphragm and reagent all record evidence of existence.

Epstein goes on to argue that the cinematic apparatus embodies, and so serves as confirmation of, Müller's ideas.

Here the machine aesthetic—which modified music by introducing freedom of modulation, painting by introducing descriptive geometry, and all the art forms, as well as all of life, by introducing velocity, another light, other intellects, has created its masterpiece. The click of a shutter produces a photogénie which was previously unknown ...

This is why the cinema is psychic. It offers a quintessence, a product twice distilled. My eye presents me with an idea of a form; the film stock also contains an idea of a form, an idea established independently of my awareness, an idea without awareness, a latent, secret but marvellous idea; and from the screen I get an idea of an idea, my eye's idea extracted from the camera's; in other words, so flexible is this algebra, an idea that is the square root of an idea.

The Bell and Howell [then far and away the most popular film camera] is a metal brain, standardised, manufactured, marketed in thousands of copies which transforms the world outside it into art. The Bell and Howell is an artist, and only behind it are there other artists: director and cameraman. A sensibility can at last be bought, available commercially and subject to import duties like coffee or Oriental carpets.¹¹

Wilhelm Wundt's (1832–1920) response to Helmholtz's psychological/epistemological propositions foreshadow the enormous impact that Helmholtz's philosophy would have on the world view of denizens of the late nineteenth and early twentieth centuries.¹² Wundt was one of the founders of experimental psychology; in 1875 he founded the Institut für Experimentelle Psychologie (Institute for Experimental Psychology) in Leipzig, the world's first

experimental laboratory in psychology. His earliest studies, from 1858 to 1862, were of sensory perception, and an interest in perception animated most of his later research.¹³ Wundt's research methods combined experiment with introspection (for he believed that experimentation established the ideal conditions for introspection); however, introspection played the larger role. The important role that Wundt accorded introspection gave his psychology a phenomenological cast. Wundt claimed to be investigating experience as it is actually given to the subject; to this end, he strived to capture the content of experience in its immediate nature, unmodified by abstraction or reflection.

It is Wundt's early studies of perception that concern us here. Wundt claimed that the process of forming a perception has several stages. The first stage, or "the first psychic act," he called "sensation" to distinguish it from "perception." Sensation, the way he used the term, precedes perception proper; it is an elemental stage that cannot be broken down into component parts. At this elemental stage, the self and the world meet, for the physical material from the outside world is transformed into psychic material.¹⁴

Many nineteenth-century thinkers suggested that there exists an elemental stratum that precedes conscious, formulated experience. Indeed, the commonplace claim that art strips away the spiritual dust and grime that sully the perceptual faculties, in this way restoring experience to us, has its roots in a related (if less radical) notion of sensation. In a purer form, and closer to Wundt's original formulation, this idea provides the basis for Dennis Lee's poetics and for Stan Brakhage's filmmaking—one would not be far off the mark to assert that Brakhage's filmmaking, at least from the mid-1960s, is a quest for a means to convey his ever deepening experience of the precursors of conscious perception—to uncover the phenomenon that Wundt called "sensation." We must consider the appeal of the claim that there is a primal stage of experience that precedes consciousness, that does not know the distinction between the self and the world, for that claim is what carries us to the very core of one of the drives that led to the Absolute Film.

Notions about elemental perception contributed to the development of the theories of "pure visuality" that played such an important part in late nineteenth-century art theory.¹⁵ Among the most important of late nineteenth-century theorists whose names we associate with an interest in pure visuality are Conrad Fiedler (1841–1895) and Alois Riegl (1858–1905). Here, we focus on Fiedler.

Fiedler's interest in the topic grew out of his thinking about the role that language plays in perception. The commonsense conception of language holds that nouns are the key terms of language and that nouns name pre-existing objects. Fiedler rejected the idea that language is a notational system that denotes objects that lie outside language. He rejected that conception of language on the grounds that language played an evolutionary role. He maintained

The more freely abstract the form becomes, the purer, and also the more primitive it sounds. Therefore, in a composition in which corporeal elements are more or less superfluous, they can be more or less omitted and replaced by purely abstract forms, or by corporeal forms that have been completely abstracted. In every instance of this kind of transposition, or composition using purely abstract forms, the only judge, guide and arbitrator should be one's feelings. Moreover, the more the artist utilizes these abstracted or abstract forms, the more at home he becomes in this sphere, and the deeper he is able to penetrate it. The spectator too, guided by the artist, likewise increases his knowledge of this abstract language and finally masters it.²⁷

Sometimes occultists understood the unifying reality as being not energy but form: everything that exists is subsumed in one great, overarching, all-embracing form, the constructive patterns of which repeat throughout the cosmos.²⁸ This tells us why many occult practitioners turned to geometry for principles to explain those patterns which hold reality together in a primal unity. Out of this emerged a discipline called "sacred geometry." That discipline elevated pattern almost to the status of *nous*—to being an "ideal being" akin to the fundamental reality. And the informing principles of that reality could be grasped by an intellectual act higher than the idolous (in the sense that derives from *eidolon*) distortions of sense perception (thus higher than the cognitive acts that Plato refers to as *eikasia*); higher than knowing through practical principles whose underlying justifications we do not understand (and thus higher than the cognitive acts that Plato referred to as *pistis*); higher even than knowing through reasoning from first principles (and thus higher even than the cognitive acts that Plato referred to as *dianoia*). Higher than all of these is intuition (akin to Plato's *noesis* or *episteme*), through which we grasp the ideal order of reality.²⁹ A popular account of the idea of sacred geometry by a committed practitioner opens with this statement:

Both our organs of perception and the phenomenal world we perceive seem to be best understood as systems of pure pattern, or as geometric structures of form and proportion. Therefore, when many ancient cultures chose to examine reality through the metaphors of geometry and music (music being the study of the proportional laws of sound frequency), they were already very close to the position of our most contemporary science.

Professor Amstutz of the Mineralogical Institute of the University of Heidelberg recently said:

Matter's latticed waves are spaced at intervals corresponding to the frets on a harp or guitar with analogous sequences of overtones arising from each fundamental. The science of musical harmony is in these terms practically identical with the science of symmetry in crystals.

The point of view of modern force-field theory and wave mechanics corresponds to the ancient geometric-harmonic vision of universal order as being an

created, there was a formless, changeless, eternal, and undifferentiated whole. Though hidden by the ten thousand things it has brought forth, that originary primal source, that divine ground of being, is still around us, engaged in an endless dance of yin and yang, male and female, darkness and light, earth and heaven, fullness and emptiness. This ground of being seeks to effect a harmony of opposites, to create at every moment a fleeting balance. Humans find their place in the fleeting order by discovering a resonance in the vital force behind the dance. This occurs in just the same way as a lute begins to vibrate when the note *kung* is struck on another lute some distance away. What is more, there is another sort of music, a mysterious and subtle music, a sound that can set not just one of the lute's strings vibrating, but all twenty of the (Chinese) lute's strings. This is the supreme harmony: the man who drifts into the midst of this sweet contentment experiences the Great Merging—becomes as one who has not emerged from his or her origin. This soul enters into sympathetic vibration with everything.⁴⁶

Chladni published the results of his experiments in *Entdeckungen über die Theorie des Klanges* (Discoveries Concerning the Theory of Music), which was widely read and helped found the science of acoustics. Chladni shapes became influential in the early part of the twentieth century and are still much studied by musical instrument makers, for many percussion and string instruments rely on sound produced from vibrating plates. (Chladni himself was an amateur musician whose avocation impelled him into his studies of acoustics.) Chladni shapes also influenced those who maintained that reality is fundamentally vibratory. For this reason they are illustrated in Besant and Leadbeater's *Thought Forms*. The well-known Dutch painter Georges Van tongerloo painted them, as did the less well-known French occultist and painter Albert de Rochas d'Aiglun.

For Besant and Leadbeater, Chladni's experiments showed that mental activities are vibrations that produce thought forms in etheric matter and that vibrations that take place in humans' bodies produce higher matter (thought) in just the same way that vibrations that take place elsewhere produce physical matter.

Both Goethe and Kandinsky followed an intuitive feeling that there is a basic similarity among the kinds of information we can receive from the various senses. Empirical researchers took an interest in the subject as well. Lawrence E. Marks's *The Unity of the Senses—Interrelations Among the Modalities* reported experimental evidence supporting that intuition; for example, he reported on experiments in which people tried to identify the direction of a light source with and without the presence of sounds. Marks showed that sound influences a person's perception of direction. This sort of evidence was taken as proving that light and sound impulses meet each other and interact within the brain. In fact, many writers and artists, including Goethe and Kandinsky, have described a

correspondence between music and light (though Goethe, having first accepted the correspondence, later rejected it). Colour and sound are simply different vibrations of the same all-pervading reality; it follows that colours are just a different form of sound and sounds just a different form of colour. This constitutes the basis of synaesthetic experience.⁴⁷ Kandinsky proposed correlations between colours and tones:

- Yellow* This color, “which is strongly inclined to lighter tones can be given a power and intensity that is intolerable to the eye and feelings. Intensified in this way, it sounds like an ever louder trumpet blast or a fanfare elevated to a high pitch.”
- Orange* “This color sounds like a church bell of medium pitch ringing the angelus, or like a rich contralto voice, or a viola playing largo.”
- Red* “Musically it recalls the sonority of fanfares with contributions from the tuba—a persistent, intrusive, powerful tone . . .”
- Vermilion* “Sounds like the tuba and parallels can be drawn with powerful drumbeats.”
- Purple* “Cold red, if it is light . . . sounds like youthful, unalloyed joy, like a fresh, young figure of a girl, pure and unsullied. This image can be easily given musical expression by the high, clear, singing tones of the violin. Pure, joyous often successive tones of little bells (including horse bells) are called ‘raspberry-colored sounds’ in Russian.”
- Violet* “It resembles in sound the cor anglais or shawm, and in its depths the deep tones of the woodwind instruments (for example, bassoon).”
- Blue* “In musical terms light blue is like a flute, dark blue the cello, and going deeper, the wonderful sonority of the contrabass; in its deep solemn form, the sound of blue is comparable to the bass organ.”
- Green* “I would characterize green best by comparing it to the quiet, drawn-out, meditative tones of the violin.”⁴⁸

Leadbeater and Besant maintained that thoughts and emotions could be transmitted between people through the appropriate colours and forms—indeed, that communication through colour is the ideal form of communication. Their claim would exert considerable influence on the Absolute Film. They also found an immediate application for their ideas: they developed a form of spiritual therapy that involved sending helpful thoughts and noble emotions to those in need of them by embodying those thoughts and emotions in abstract drawings. These convictions led them to produce some remarkable abstract drawings.

VIBRATORY MODERNISM

RUDOLF STEINER, ANTHROPOLOGY, AND SYNAESTHESIA

The occultists' belief that reality is essentially a single, all-pervading spiritual substance was the foundation for teachings about synaesthesia. Besant and Leadbeater offered ideas on this topic, but the ideas of a third member of Mme Blavatsky's inner circle were especially influential. That person was Rudolf Steiner (1861–1925). Steiner's relations with Theosophy's inner circle were conflicted. "Archbishop" Leadbeater had convinced Besant of the holy provenance of a fourteen-year-old boy, Jiddu Krishnamurti. Krishnamurti, he insisted, was the reincarnation of the Lord Maitreya, the same World Teacher who in earlier eras had appeared on earth as Krishna and Jesus. Krishnamurti remained associated with the Theosophical Movement for three-quarters of a century, and on Besant's death in 1933 he became its leader. From that time until his death in 1986, he continued to teach a version of Theosophy, altered somewhat to accord with his individual convictions.

Steiner could not abide Besant and Leadbeater's belief that Krishnamurti was Jesus reincarnate or their unchecked proclivity for according him privileges and honours to conform with that belief—there was a deeply Christian streak in Steiner's thinking (he was born in what is now Croatia) that could not tolerate such blasphemy. Besant and Leadbeater's support for Krishnamurti led Steiner to defect from the Theosophical Movement and establish his own organization, the Anthroposophical Society. Anthroposophy has something of the character of a Christianized Theosophy, for it depicts the Incarnation as a central event in the evolution of the cosmos.

Steiner's writings exhibit that amalgam of science and religion that was typical of many great thinkers of his era. Recognizing his intellectual talents, his father had enrolled him in the *Realschule* in Wiener Neustadt and later in the Technical University in Vienna, hoping he would pursue his mathematical gifts. At the Technical University, Steiner studied biology, chemistry, optics, and mathematics, but he also attended classes on literature and philosophy. Steiner claimed that from a young age, he was aware of the problem of knowledge, and that his thinking and studying returned always to that subject: he was aware that in experiencing oneself as an ego, one is in the world of the spirit. He needed "to find an answer to the question: How far is it possible to prove that, in human thinking, real spirit is the agent?" Steiner studied the works of Kant, but even there did not find a system that took its start from a direct experience of the spiritual nature of thinking.

The closest he found were the writings of Goethe, which he studied with Julius Schröder, a great Goethe scholar. As a result of reading Goethe, Steiner's principal goal became the Goethean one of reconciling science and religion with philosophy. His relationship with his great German predecessor was

profound—and as an eventual result of Goethe's impact on Steiner, the former would inspire many efforts by late nineteenth- and early twentieth-century thinkers to develop a philosophy of integration, one that sees all reality as part of a single organic process.

Steiner, who was recognized as a prodigy by the time he was twenty-two, had worked on a project editing Goethe's scientific writings, and that involved editing and composing the introductions to several volumes of Goethe's scientific writings (1883–97). Steiner carried out this work in Weimar, which at various times had been the home of J.S. Bach, Schiller, Herder, Wieland, Richard Strauss, Franz Liszt, Henrik Ibsen, and Gustav Mahler and was at the time one of the world's great intellectual and artistic capitals.⁴⁹ In 1886, he published an introduction to Goethe's science titled *The Theory of Knowledge Tacit in Goethe's World-Conception*. A close study of his writings had led him to recognize in Goethe someone who had been able to perceive the spiritual in nature. Goethe's writings on optics and colour strengthened his conviction that the materialist concepts of the natural sciences of his time could explain only dead matter, not life. Goethe, he believed, had been unable to push his spiritual insights far enough to achieve a direct perception of the spirit. Steiner set himself the task of completing (as he saw it) Goethe's thinking by providing a statement of its spiritual/epistemological foundations.

While editing Goethe's scientific writings, Steiner wrestled with the problem of how to present his ideas about knowledge to the world. The problem, as he understood it, was this: How can one reconcile scientific and mystical insights with reality? For both the scientist and the mystic have important truths to tell. Steiner believed that he had worked out a method for applying scientific strategies to induce spiritual visions, which would allow people to validate empirically the contents of spiritual experience. He claimed to have developed exact, scientific methods for studying—for *observing*—the spiritual side of existence. He understood, however, that his experience of the reality of ideas was akin to the mystic's experience: he appreciated that mysticism presents the intensity of immediate knowledge with conviction. The shortcoming of mysticism is that it deals only with subjective impressions and fails to deal with the reality that lies outside human subjectivity. Science, by contrast, proposes ideas about the world beyond the subject, but the ideas it proposes are, for the most part, materialistic.

Steiner proposed to reconcile science and mysticism by taking the spiritual nature of thinking as his starting point. This would allow him to work out ideas that apply to the spiritual realm in the same manner that the ideas of natural science bear on the physical realm. That is, he proposed to conduct introspective observations following the methods of natural science. He presented an outline of this method in his doctoral dissertation, *Wahrheit und Wissenschaft*. His first major work appeared in 1892: *Vorspiel einer "Philosophie der Freiheit"* (Pre-

lude to a “Philosophy of Freedom.”) *Die Philosophie der Freiheit* (The Philosophy of Freedom) itself appeared in 1894. Both works attempt to apply the method of exact observation that is characteristic of the natural sciences to the study of external nature *and* the inner world. *Wie erlangt man Erkenntnisse der höheren Welten?* (How Does One Acquire the Knowledge of Higher Worlds? 1905) shows the practical leaning of Steiner’s Theosophical studies. Books he published after he broke with the Theosophical Movement in 1907 include *Lucifer-Gnosis: Grundlegende Aufsätze* (Lucifer-Gnosis: Basic Studies; 1908), a book that Kandinsky mentions in a note in *Über das Geistige in der Kunst* (On the Spiritual in Art); and, from the same year, *Theosophie: Einführung in die übersinnlich Welterkenntnis un Menschenbestimmung* (Theosophy: An Introduction to the Supersensual Knowledge of the World and the Destination of Man).

Anthroposophy proposes that there is a spiritual world, which is structured in complex forms at various levels. According to Anthroposophy, physical substance is a condensation of the spiritual, non-physical substance, one of the states of spiritual being. In that sense, Anthroposophy offers a monistic view of reality’s constitution. What distinguishes physical matter is its greater degree of concentration. Human beings have a higher level of spiritual, non-physical “substance” than plants and animals do. Besides plants, animals, and humans, there also exist purely spiritual beings, who do not have physical expression. Even so, we can observe them with as much clarity as we view the physical world with our eyes. To do this, an individual must develop organs of perception, which exist in a latent state in every human being—that is, we must develop what we commonly call “intuition.” Steiner and his Anthroposophist followers considered intuition a form of spiritual perception—and Steiner developed meditation exercises to stimulate those organs.

Steiner’s anthropology proposed that humans are tripartite (composed of body, soul, and spirit) and that they live in three worlds (the physical, the psychological, and the spiritual). Humans know the physical world through their bodies, that is, through their senses, which they share with other beings. The soul of each person, on the other hand, is unique; and through his or her soul, each person creates a unique world, an individuated world set alongside human reality. The opposition between the body and the soul is the opposition between the objective and the subjective. The spirit has features of the body as well as features of the soul: it is like the soul in being immaterial, but unlike the soul it is not “subjective” (i.e., it does not create its own individuated world). What the spirit knows is “objective” (i.e., independent of the self), just as the objects the senses acquaint us with are, though unlike the objects with which the senses acquaint us, they are suprasensible and non-material. Unlike the realities with which the soul is familiar, the realities the spirit knows are not changed by being apprehended by the spirit. The world of the spirit, though suprasensible, possesses a firm structure.

NOTES

- 1 Charles Baudelaire, "The Painter of Modern Life." Originally published in *Figaro* (November 26 and 28 and December 3, 1863); an English version, translated by J. Mayne, appears in Francis Frascina and Charles Harrison, eds., *Modern Art and Modernism: A Critical Anthology* (London: Open University, 1982), p. 23.
- 2 Walter Benjamin, "On Some Motifs in Baudelaire," *Illuminations*, ed. and intro. H. Arendt (New York: Schocken, 1969), pp. 175–76.
- 3 Many classical film theorists argued that the primary value of cinema arose from the contribution it could make to overcoming skepticism (and in this it was allied to photography)—the cinema could eliminate the subjective element and allow the world to make a mechanical image of itself that would dispel the bias of the subject and overcome some of the limitations of the senses. The film theories of Dziga Vertov, László Moholy-Nagy, Béla Balázs (especially in the *Der sichtbare Mensch* (The Visible Man, 1924), Jean Epstein, and Siegfried Kracauer all testify to the cinema's capacity to reveal a reality that the unaided human eye cannot perceive. Epstein even relates cinema's contribution to overcoming skepticism to the philosophical notion of secondary qualities and to (the nineteenth century's particular version of that idea) the doctrine of specific nerve energy. That doctrine had been proposed by Johannes Müller, the most important researcher in the science of vision in the first half of the nineteenth century; Müller's research provided the basis of Helmholtz's famous *Optics*, a book that dominated the theory of vision in the second half of the nineteenth century. Epstein wrote in 1921: "The senses, of course, present us only with symbols of reality: uniform, proportionate, elective metaphors. And symbols not of matter, which therefore does not exist, but of energy; that is, of something which in itself seems not to be, except in its effects as they affect us. We say 'red,' 'soprano,' 'sweet,' 'cypress,' when there are only velocities, movements, vibrations." Jean Epstein, "The Senses I (b)" (1921), in *French Film Theory and Criticism: A History/Anthology*, vol. 1, 1907–1929, ed. Richard Abel (Princeton: Princeton University Press, 1988), p. 244. I comment further on Müller's extraordinary influence on early twentieth-century art theory below, when I discuss the idea of pure visibility.
- 4 The claim for Ruttmann's priority is contested: most scholars attribute priority to Hans Richter. Richter himself claimed to have been the first to make an Absolute Film and to be the movement's principal theoretician. The forcefulness of Richter's writings, along with Richter's presence on the New York art scene after the war (by which time Ruttmann was dead) resulted in his claim's gaining widespread acceptance. As important, perhaps, in derogating Ruttmann's achievement is the fact that Richter had gone into exile when the National Socialists took power in Germany, while Walther Ruttmann stayed behind and assumed a cozy place in the Nazi film industry; his unfortunate decision did not sit well with expatriate film scholars such as Siegfried Kracauer and Lotte Eisner when they reckoned the relative importance of the various artists. Their influence, and their distaste for Ruttmann's decisions about the course he would pursue when confronted with the reality of the Nazi takeover, diminished his reputation considerably.

However, an unpublished manuscript in the German Film Museum, dating from 1913—in which Ruttmann described a cinema that did not yet exist and that would have to come forth, a cinema that a few years later would be the Absolute Film—casts considerable doubt on Richter's story. (For arguments in favour of Ruttmann's priority, against the views of most commentaries on the history of avant-garde film, see the introductory essay in Walter Schobert, *The German Avant-Garde Film of the 1920s/Der deutsche Avant-Garde Film der 20er Jahre*, an exhibition catalogue published by the Goethe-Institut München to accompany a travelling exhibition.)

- 5 Karin von Maur, *The Sound of Painting: Music in Modern Art*, trans. John W. Gabriel (New York: Prestel, 1999), p. 44.
- 6 Robert Delaunay, "Light, 1912," in H.B. Chipp, ed., *Theories Of Modern Art*, p. 319. Emphases in original.
- 7 "Diary entry, July 1917," *Tagebücher von Paul Klee 1898–1918*, ed. F. Klee, p. 380; cited in Maur, *The Sound of Painting*, pp. 54–56.
- 8 This is so despite early film stocks being black and white. Even in Méliès's time, films were often tinted or coloured by hand (as *Ballet Mécanique* was). Early artists who gravitated toward film first conceived of colour projects and only later, and by dint of necessity, realized them in black and white. As the title suggests, Richter's *Fuge in Rot und Grün* was to be a colour film; since no colour stocks existed at the time, Richter was prepared to colour each frame red or green by hand. He hoped that the unevenness of hand colouring would not be noticeable against the black ground. Graeff convinced Richter that the project was not feasible, that every coloured stroke would be visible; so the film remained in black and white. Even so, colour was among Richter's central concerns at this time; the importance he accorded colour is evident in the fact that the same year he made the film, Richter produced *Orchestration der Farbe* (Orchestration of Colour), an "orchestration of color in complementary, contrasting, and analogue colors, as a Magna Carta for colors," and another work, *Farbenordnung* (Colour Order), a work that was included in the notorious *Entartete Kunst* exhibition and probably destroyed thereafter. (See Hans Richter, *Hans Richter, Monographie*, p. 37, quoted in Justin Hoffmann, "Hans Richter: Constructivist Filmmaker," in Stephen C. Foster, ed., *Hans Richter: Activism, Modernism, and the Avant-garde*, p. 83.) Moreover, as Oskar Fischinger's involvement with Gasparcolor makes clear, the makers of Absolute films used colour as soon and as much as they could.
- 9 Jonathan Crary, "Modernizing Vision" in Hal Foster, ed., *Vision and Visuality* (Seattle: Bay, 1988), p. 39. Crary's quotation from Müller is from Johannes Müller, *Elements of Physiology*, trans. W. Baly (London: Taylor and Walton, 1848), p. 1064.
- 10 Hermann von Helmholtz, *On the Sensations of Tone as a Physiological Basis for the Theory of Music*, 2nd English ed., trans. A.J. Ellis (New York: Dover, 1954), p. 149.
- 11 Epstein, "Les Sens I bis." What Epstein says reminds one of the sections in Brakhage's *Metaphors on Vision* titled "The Camera Eye" and "My Eye." Their similarity lies in a shared acceptance of Müller's ideas. The difference lies in the value each attached to the impersonality of the camera vision: Epstein celebrates it, Brakhage does not.
- 12 Wundt served as a *Privatdozent* at Helmholtz's Psychological Institute in Heidelberg from 1858 to 1862. But it is doubtful that Wundt formulated his ideas as a response to Helmholtz. In fact, the genesis of his ideas involved more dramatic events: in 1856 he fell so ill that his doctors gave up on him. In the several weeks while he lay near death, he struck upon the ideas about the mental phenomena that he was to elaborate and expound over the remainder of his life.
- 13 For Wundt, as for most thinkers of his time (consider William James), psychology and philosophy were not distinct subjects—in fact, Wundt considered psychology to be the science directly preparatory to philosophy. Wundt wrote extensively on philosophy—on logic, ethics, and social thought. However, his philosophical work is eclectic and unoriginal; his contributions to psychology, on the other hand, are original.
- 14 Wundt's junior contemporary, Sigmund Freud, also asserted that this is an early stage of experience in which the self has not yet separated out from the world.
- 15 Though, it is important to stress, the important place of issues associated with the idea of pure visuality reflects how pressing concerns arising from the crisis in vision had become.

MODERNISM AND THE ABSOLUTE FILM

THE ABSOLUTE FILM PRECURSORS AND PARALLELS

There is a long prehistory to the Absolute Film. We might note the following influences on it: light sculpture; scroll painting; various devices for producing colours to accompany musical pieces (“coloured-light organs” being the best known); various forms for fixing movement on a static surface; and kinetic devices for incorporating dynamic, non-objective forms into stage presentations.¹

PRECURSORS OF THE ABSOLUTE CINEMA

LIGHT SCULPTURE

Composers and filmmakers of the early part of the twentieth century invented the elements of, and experimented with, an art that fused sound, colour, and dynamism. Several of these developments took place at the Bauhaus, where Wassily Kandinsky and Paul Klee speculated on similarities between music and painting and László Moholy-Nagy built kinetic sculptures to explore light in motion. Moholy-Nagy believed it was possible to handle light constructively, with the same sort of definiteness of means as colour in painting. Earlier, he had explored the “photogram”: his aim for the photogram, as for photomontage (which he called Fotoplastik or photo-sculpture), was to create a

constructive representation in two dimensions of objects that occupy three-dimensional space.² The desire to build forms in light led him to extend the chiaroscuro effects of the photogram into real space by inventing the *Lichtrequisit einer elektrischen Bühne* (commonly referred to as the Light-Space Modulator, though the literal translation would be Requisite Light for an Electric Stage) of 1922–30. *Lichtrequisit* is a kinetic sculpture comprising perforated, rotating metal parts whose multiple light effects and shadows rearticulate the actual object. Such “light machine” sculptures incorporate the transmitted and the reflected—the sculpture is a fusion of metal, light, and shadows, all of which move. The interplay of pierced metal and other areas, which are visible through opaque areas in the work, create a paradoxical intermingling of depth and surface. Moholy-Nagy’s efforts to build light-forms led him to make a film based on *Lichtrequisit*. This film, *Lichtspiel: schwarz-weiss-grau* (Light-play: Black–White–Grey) is a quasi-abstract work from 1930 that concerns itself with the parallels between film and light-sculptures. The way that Moholy-Nagy filmed the machine brought its abstract implications to the fore—nonetheless, we can at times make out what is being photographed, thus the film serves both as documentation and as an abstract *Lichtspiel*.

The drive to vivify colour surfaces and to incorporate actual change into works in heretofore static media focused especially on sculpture. Sometimes the resulting works involved projecting light onto a screen, with the light reflected from a mobile and often modulated by a filter.³ Other works used means for enhancing the reflective effects of surfaces. Such effects had long been an attribute of sculpture, but hitherto they had been underplayed, with the reflections left to chance. An early example (probably the first) to purposely bring reflections into a work is Naum Gabo’s *The Rotating Rod*. A striking feature of sculptures that animate light is the capacity of light and movement to “dematerialize” the sculpture. That feature, too, has parallels in film, for similarly, the material of film—choreographed light—is seemingly insubstantial, gaseous, and indefinite.

PRECURSORS OF THE ABSOLUTE FILM

THE SCROLL

Another artistic practice whose concerns parallel those of the Absolute Film is the scroll (not as the starting point for an abstract film, but as an art form in itself). Hans Richter, Viking Eggeling, Werner Graeff, Robert Delaunay, Sonia Delaunay, and Duncan Grant all made scrolls. Similarly, there were the abstract series paintings as made by Duncan Grant (in 1914) and Josef Albers (from 1922 to the 1960s). For Richter, the scroll represented a fundamental change in the arts: the human capacity for optical conception had long rested on static spatial forms; the time had now come to develop the ability to think

in optical series. The scroll required a new way of composing, for it imposed the problem of arranging individual forms in such a manner that the scroll unwound in a well-ordered progression. Problems of continuity and rhythm presented themselves in a new way. Thus, the scroll represented a further means of creating dynamic form. Herzegenrath points out another attribute of scroll and series paintings that made them attractive to artists committed to modernist ideals: they were non-hierarchical. They could and often did display a series of variant solutions to a single pictorial problem, without according some solutions greater value than others.⁴

It was Robert Delaunay who wrote the most lucid and cogent *défense et illustration* of the scroll and its aesthetic implications. In his argument, he evoked the traditional theme of the Inter-Arts Comparison by arguing that painting is the “*ottima arte*” (or, at least, is greater than music). Painting is the superior art to music, Delaunay argued, because our perception of all the elements in a painting is potentially simultaneous—we can take in a painting “all at once”:

Simultaneity in light is *harmony, the rhythm of colors* which creates the *Vision of Man*. Human vision is endowed with the greatest Reality, since it comes to us directly from the contemplation of the Universe. The *eye* is the most refined of our senses, the one which communicates most directly with our mind, our consciousness ...

The auditory perception is not sufficient for our knowledge of the world; it does not have vastness.

Its movement is *successive*, it is a sort of mechanism; its law is the time of *mechanical* clocks which, like them, has no relation with our perception of *visual movement in the Universe*.⁵

Robert Delaunay’s theory of simultaneous contrast (which was later expanded by his wife, Sonia) was based on Michel-Eugène Chevreul’s ideas about colour perception: Chevreul had asserted that colour values are determined by contrasts of juxtaposed tones. The Delaunays transformed Chevreul’s theory into a technique of “*simultanéité*”—that is, the technique (as Blaise Cendrars explained) of assigning one entity its identity through its contrast with another. A radical aspect of Delaunay’s theory of *simultanéité* was that it reinterpreted pictorial depth (“*profondeur*”) as an illusion produced by surface planes of colour rather than by vanishing-point perspective. The art historian John Golding explains:

Delaunay conceived of a type of painting in which the colours used to produce a sensation of light would not blend but would retain their separate identities; by their interaction these colours could furthermore be made to produce a sensation of depth and movement. Since movement implies duration, time was also an element of this new art. Using the terminology of Chevreul, Delaunay called these colour contrasts “*simultaneous*” to distinguish them from the colour

contrasts used by the Impressionists and their successors, which were "binary" and tended to fuse together when seen at a distance.⁶

In this interest in light and time we glimpse how the cinema influenced the artistic theory of Simultaneism.

As did Fernand Léger, Delaunay based his theory on the idea of contrasts: he proposed that an artist strives for a proportionality in colour contrasts. He believed that the importance of colour contrasts in art testified to the centrality of light in human life. Light, he posited, is an ordering force in life as well as a basis for harmony and rhythm. "Simultaneity in light is *harmony, the rhythm of colors* which creates the *Vision of Man*," he declared. In stressing light's importance, Delaunay was restaking claims that had been asserted by another major artist of the first years of the twentieth century, Kazimir Severinovich Malevich, who argued that, for Suprematists, a painting consists of light, form, and colour. Thus, works of art are distillations of form organized according to hidden (occult) laws, which are accessible only to artists (and even then only through the unconscious). The idea of a form whose material is light and that develops over time was conceived under the impact of the advent of cinema—indeed, Malevich hoped to pursue his artistic goals in cinema.⁷ The cinema, we shall see, did much to shape the artistic ideals of those painters, sculptors, writers, and choreographers who were active in the first decades of the twentieth century.

Delaunay's theory of contrasts, and of the simultaneous presentation of several contrasts, reverberated through the artistic communities of the early twentieth century. His ideas on simultaneity would influence the German artists associated with the Blaue Reiter as well as the American artists associated with the Synchronism of Morgan Russell and Stanton Macdonald-Wright. They would also influence Blaise Cendrars, who would interpret them in a Bergsonian fashion—for Cendrars, contrast became a principle of vitality: "The movement is in depth [le mouvement est dans la profondeur]. Life is the most immediate expression of this movement and this depth. Life is the form of this depth (sensuality), the formula of this movement (abstraction). Animism. Nothing is stable. Everything is movement in depth. Passion."⁸

The decorative objects that Sonia Delaunay created while her husband was expounding his principle of simultaneous contrast were an equally important influence on the development of Cendrars's literary practice. During the First World War, driven by financial exigencies, Sonia Delaunay began to transfer Robert's modernist iconography onto decorative objects: curtains, upholstery, lampshades, book bindings, scarves, and dresses. In doing so, she expanded the theory of *simultanéité* until it became a basis for cultural production. For example, her *robe simultanée* (simultaneous dress, first created in 1913) both drew from and extended Robert's theories of simultaneous contrast, but it was also applying the theory to a utilitarian production. Her purpose was not

body. As the audience sitting in the darkened auditorium was bathed in the illumination of the constantly-changing lights and pictorial [*sic*] effects of the screen many and various emotions were produced in the sympathetic reactions of the human consciousness, setting up what may eventually be found to be a third or psychic form of receptivity to the vibrations of the Cosmic keyboard. At least this is the contention of the Rosicrucians, and one which they seek to demonstrate through the association of scientific and fine art principles.¹⁶

This occult idea that colour and sound are simply different forms of vibration had a stunningly pervasive influence on late nineteenth- and early twentieth-century art. The idea can be traced back to Aristotle, who had proposed that colours may mutually relate to one another rather as the tones in musical concords do, inasmuch as for their most pleasant arrangements the different vibratory frequencies represented in those concords must be mutually proportionate. The music theorist Gioseffe Zarline drew parallels between the Pythagorean system underlying Renaissance harmonics and the visual beauty of colours. In *Le Institutioni harmoniche* of 1558 he proposed that the reaction of the ear to the combination of sounds is analogous to the reaction of the eye to the combination of colours. The task of accounting for such parallels by developing a more precise colour theory was carried out by the extraordinary Milanese painter Giuseppe Arcimboldo (1527–1593). During his years as court artist and general maestro of visual effects for the Habsburg emperors in Prague (1562–87), Arcimboldo discovered that all musical tones are consonant with colours and that the ratios involved in their mutual harmony are precisely equivalent to the harmonic proportions discovered by Pythagoras. A table of precise equivalences for notes and colours was constructed by Athanasius Kircher in 1650:

octave	green
seventh	blue-violet
major sixth	fire red
minor sixth	red-violet
augmented fifth	dark brown
fifth	gold
diminished fifth	blue
fourth	brown-yellow
major third	bright red
minor third	gold
major wholetone	black
major wholetone	black
minor second	white
minor wholetone	grey

ensemble so that we might consider the complex to be a monistic whole. The relation is created only through conditioning (i.e., through repeated association). Kandinsky here connects the externality of the relations between the different modalities to the materialism of the society in which he lives. He is arguing that if artists were to apprehend the spiritual truth contained in the inner natures, they would create relations in which there was true integration of these diverse elements:

All of the above-mentioned forms, which I call substantive forms [*Substanzformen*] (drama—words; opera—sounds; ballet—movement), and likewise the combinations of the individual means, which I call affective means [*Wirkungsmittel*], are composed into an external unity. Because all these forms arise out of the principle of external necessity.

Out of this springs as a logical result the limitation, the one-sidedness (= impoverishment) of forms and means. They gradually become orthodox, and every minute change appears revolutionary.

* *

*

Viewing the question from the standpoint of the internal, the whole matter becomes fundamentally different.

1. Suddenly, the external appearance of each element vanishes. And its inner value takes on its full sound.
2. It becomes clear that, if one is using the inner sound, the external action can be not only incidental, but also, because it obscures our view, dangerous.
3. The worth of the external unity appears in its correct light, i.e., as unnecessarily limiting, weakening the inner effect.
4. There arises of its own accord one's feeling for the necessity of the inner unity, which is supported and even constituted by the external lack of unity.
5. The possibility is revealed for each of the elements to retain its own external life, which externally contradicts the external life of another element.⁹⁴

Kandinsky goes on to list the possible means of overcoming each of the deficiencies he has enumerated. All of his remedies depend on the creator's grasping the spiritual (vibratory) potentials within the various *Wirkungsmittel*:

Further, if we go beyond these abstract discoveries to practical creation, we see that it is possible

re (1) to take only the inner sound of an element as one's means;

re (2) to eliminate the external procedure (= the action);

re (3) by means of which the external connection between the parts collapses of its own accord;

likewise,

re (4) the external unity, and

re (5) the inner unity place in our hands an innumerable series of means, which could not previously have existed.

Here, the only source thus becomes that of internal necessity.⁹⁵

ABSTRACT FILM AND ITS EARLIER OCCULT PREDECESSORS

We noted earlier that Castel's *clavecin oculaire* (described ca. 1740) was a precursor to the Absolute Film; now we must consider its occult sources. The idea of the Colour Organ issued from a climate of esoteric speculation that linked Pythagorism with Hermeticism and that manifested itself in Illuminism, as one version of eighteenth-century Gnosticism called itself. We easily forget what Isaiah Berlin once pointed out—that the Enlightenment had an underside, that in the shadow cast by reason's glare, figures such as the Count de Saint-Germain (1701–1784) and Joseph Balsamo (a.k.a. Cagliostro, 1743–1795, the founder of the Egyptian Rite within the Masonic movement) flourished, and that there was a great taste for apparitions and manifestations of every occult variety. This occult speculation produced many Neopythagorean writings—for example, Sylvain Maréchal's *Les Voyages de Pythagore en Egypte* (1799), which expounded the proposition (likely true) that Pythagoras based his teachings on secret Egyptian doctrines (on doctrines to which groups of more recent times such as the Order of the Golden Dawn and Ordo Templi Orientis have also claimed to be privy).

The enthusiasm for synaesthetic experience and for the mystical effects of colour as manifested in the Colour Organ met with another interest: in apparitions and manifestations. Athanasius Kircher was interested in the Colour Organ for spiritual reasons: he believed that the whole universe could be allegorically understood as a great organ on which the Creator played. But Spiritualist interests are also evident in Kircher's writings, especially in his studies of electricity and magnetism. He wrote the most comprehensive work on magnetism of the seventeenth century, *Magnes sive de arte magnetica opus tripartium* (Magnets or the Art of Magnetism: a Work in Three Parts; 1643), the third book of which depicts magnetism as an elemental force of nature.⁹⁶ (Mme Blavatsky would later quote extensively from this book.) Kircher's work presents magnetism as one of nature's elemental forces, indeed, as the force that holds the world together. He insisted that an inner bond of unity (*nexum unionemque*) holds together all the things in the universe; that through that bond they become radiant; and their cooperation and mutual attraction can be explained only as a species of magnetic power. Kircher linked this interpretation of the universe's essential cohesion to more ancient teachings about the mysterious fundamental force in nature, exemplified by Plato's "unspeakable power" (*arrhetos dynamis*). Soul, spirit, and physical phenomena all belong in magnetism's sphere, Kircher maintained.

His work laid the foundations for a virtual “theosophic theology of electricity magnetism.” A century later, during the Enlightenment, that theology would come to fruition in the work of Friedrich Christoph Oetinger (1702–1782), a leading Swabian pietist, whose work embraced the Theosophy of Jacob Boehme, the Kabbalah, and the visionary revelations of Emanuel Swedenborg. It would also contribute immensely to a theology of electricity in mid-eighteenth century Germany, among Protestant pietist theologians and scientists. This theology of electricity was cast as an esoteric doctrine, one that drew on ideas from cosmology, anthropology, and scriptural exegesis. Besides Oetinger, its leading figures were Johann Ludwig Fricker (1729–1766); Benjamin Franklin, the American Enlightenment Freemason; Prokop Divisch (1696–1765), who knew of lightning before Franklin’s writings were published in French (v. his *Theoretischer Tractät oder die längst verlangte Theorie von der meteorologische Electricität* [Theoretical Treatise or the Long Required Theory of Meteorological Electricity]); and the renowned Swabian doctor Franz Anton Mesmer (1734–1815), whose findings so intrigued the poet Shelley.⁹⁷

We do well to remember that the earliest producers of two-dimensional moving images were magicians and that their uncanny practices shaped the development of the moving picture. Indeed, the first two-dimensional projected illusions were visions summoned up by sorcerer-priests and were aimed at presenting phenomena beyond the grasp of the human mind. Such conjuring displays predate the Middle Ages. In *Movement in Two Dimensions*, Olive Cook points out,

Iamblichus informs us that it was the priests, who were also magicians, who were responsible for these appearances, and that they were always accompanied by smoke and vapours; he describes one occasion in particular when a conjuror named Maximus produced a monstrous figure of Hecate who made an overwhelming impression on an audience already trembling with fear by laughing aloud with heaving shoulders and diabolical grimaces.⁹⁸

These proto-cinematic illusions were likely created using mirrors.

In the Middle Ages, wandering entertainers known as tregetours produced spectacles by manipulating mirrors; Chaucer described their tricks in “The Frankeleyn’s Tale.” Among them were the appearance, in the interior of a hall, of water and a barge, a lion, flowers, a vine, and a castle of lime and stone—all of which vanished as mysteriously as they had appeared:

For ofte at festes have I wel herd seye,
That tregetours, withinne an halle large,
Have maad come in a water and a barge,
And in the halle rowen up and down.
Sometyme hath semed come a grim leoun;

And somtyme floures springe as in a mede;
 Somtyme a vyne, and grapes whyte and rede;
 Somtyme a castle, al of lyme and stoon;
 And whan hem lyked, voyded it anoon.
 Thus semed it to every mannes sighte.⁹⁹

He also tells us how there appeared wild deer. Some were seen being slain by arrows and some being killed by hounds. Falconers were seen on the bank of a river, where birds pursued herons and slew them. Knights jousted on a plain. The amazed spectator saw himself dancing with his lady:

Doun of his hors Aurelius lighte anon, And forth with this magicien is he gon
 Hoom to his hous, and made hem wel at ese. Hem lakked no vitaille that mighte
 hem plesse; So wel arrayed hous as ther was oon Aurelius in his lyf saugh never
 noon. He shewed him, er he wente to sopeer, Forestes, parkes ful of wilde deer;
 Ther saugh he hertes with hir hornes hye, The gretteste that ever were seyn with
 yē. He saugh of hem an hondred slayn with houndes. And somme with arwes
 blede of bittre woundes. He saugh, whan voided were these wilde deer, These fau-
 coners upon a fair river, That with hir haukes han the heron slayn. Tho saugh
 he knightes justing in a playn; And after this, he dide him swich plesaunce, That
 he him shewed his lady on a daunce, On which him-self he daunced, as him
 thoughte. And whan this maister, that this magik wroughte, Saugh it was tyme,
 he clapped his handes two, And farewell! al our revel was ago. And yet remoeved
 they never out of the hous, Why! they saugh al this sighte merveillous.¹⁰⁰

Benvenuto Cellini recounted in his memoirs an encounter with a Sicilian priest, “a man of very elevated genius and well instructed in both Latin and Greek letters,” who presented, in the dead of night, in the Coliseum, a spectacle of apparitions.¹⁰¹ The priest held a pentacle, there were many noxious vapours and so on, and spirits appeared one by one over the entire edifice.

Renaissance artists sometimes created and directed public spectacles: fantastic triumphal parades that often required the construction of elaborate temporary architecture; and allegorical events utilizing multimedia illusions that bordered on total realism. (Earlier, Dante, whose *Commedia* includes everything, alluded to these spectacles in the “Il Paradiso terrestre” canti of *Purgatorio*.) In 1589, Polidoro da Caravaggio staged a mock naval battle in the specially flooded courtyard of the Pitti Palace in Florence; Leonardo da Vinci dressed his performers as planets and had them recite verses about the Golden Age in a pageant titled *Paradiso* (1490; doubtless alluding to Dante’s *Paradiso*). The great Baroque sculptor Bernini (1598–1680) was among those most committed to exploring total realism: He staged spectacles for which he wrote scripts, designed scenes and costumes, and built architectural elements. He created a theatre piece in which a curtain fell to reveal an onstage audience

sensual–moral effects of particular hues is at variance with those of Rudolf Steiner and the Theosophists, who, for example, considered blue the most spiritual colour.

Goethe's interest in the "subjective," sensual–moral effect of colour seems to clash with his desire to create a science of colour (indeed, for most readers, this aspect of Goethe's colour theory probably seems more like poetry than science), in that we usually consider subjective associations to be individual and idiosyncratic and, therefore, unreliable as indicators of the real character of physical processes. Yet these sensual–moral effects of colour were a primary concern of Goethe's colour theory, and many people believe that studying the effects of individual colours "on the sense of the eye ... and the eye's imparting on the mind" was *the* main purpose of Goethe's study of colour. His analysis of the sensual–moral properties of colour was an attempt to bring order to colour's more chaotic, aesthetic aspects (in the same way, Eggeling and Richter attempted to bring order to the chaotic, aesthetic aspects of visual form). Colour could be powerful or gentle or radiant; if yellow, yellow-red, and purple predominate, one will experience a sensation of power; if blue or its neighbours predominate, the experience will be of something gentle; while if all colours are in equilibrium, a harmonious coloration will arise that can produce radiance and pleasantness. Wittgenstein maintained in *Bemerkungen über die Farben* (Remarks on the Colours) that "[er zweifelte] daß Goethes Bemerkungen über die Charaktere der Farben für einen Maler nützlich sein können. Kaum für einen Dekorateur." (One doubts that Goethe's comments on the nature of colours can be of any use to a painter. Scarcely even for a decorator.) Yet Goethe did offer artists advice about using colour combinations (either characteristic combinations, harmonic combinations, or complementary colours). For example, he recommended that set designers use complementary colours to separate costumes from scenery.²⁴⁶ The practical thrust of Goethe's colour theory was probably an inspiring example for Eggeling and Richter in their efforts to develop a scientific theory of visual form.

Kandinsky's theory of colours was modelled on Goethe's momentous *Zur Farbenlehre*. Kandinsky's approach was similarly methodical—he asserted that when one concentrates on colour in isolation, and allows oneself to be affected by single colours, one is able to couch questions about colour in the simplest possible terms.

The two great divisions, which at once become obvious, are:

1. warmth or coldness of a color.
2. lightness or darkness of a color.

In this way, for every color there are four main sounds [*vier Hauptklänge*]:
 (1) warm, and either (1) light, or (2) dark; or (II) cold, and either (1) light, or (2) dark ...

In the most general terms, the warmth or coldness of a color is due to its inclination toward yellow or toward blue. This is a distinction that occurs, so to speak, within the same plane, whereby the color retains its basic tonality, but this tonality becomes more material or more immaterial. It is a horizontal movement, the warm colors moving in this horizontal plane in the direction of the spectator, striving toward him; the cold, away from him ...

The second great contrast is the difference between white and black, i.e., those colors that produce the other opposing pair, which together make up the four main possibilities of tone: the inclination of the color toward light or dark. These also have the same movement toward or away from the spectator, although not in dynamic, but in static, rigid form.²⁴⁷

Kandinsky had set out (just as Eggeling and Richter had) to develop a grammar for visual art that cast syntax as the arbiter of meaning. In Kandinsky's formal syntax, the concept of opposition plays the key role, similar to the role played by *Kontrast-Analogie* in Eggeling and Richter's *Universelle Sprache*. For Kandinsky, the fundamental polarity is between the circle and the triangle: their interaction creates a mysterious pulsation. In this opposition, the triangle plays the role of an active or aggressive element, while the circle plays a role that suggests interiority and spiritual depth. Mediating between the triangle and the circle is a third elemental form, the square, which evokes feelings of peace and calm. The circle brings together opposing characteristics—for example, the concentric and the eccentric—in a dynamic equilibrium. When this union of opposites goes to its furthest extreme and the opposites are brought together in an absolute identity, the circle becomes a point, the *Indifferenzpunkt* (point of indifference) of Schelling's philosophy of identity, where the invisible becomes visible. "In geometry, the point is an invisible entity. It must, therefore, be defined as a nonmaterial being. Thought of in material terms, the point resembles a nought ... Thus, the geometrical point is, in our imagination, the ultimate and most singular combination of silence and speech."²⁴⁸ Speech, too, Kandinsky understood as form, and silence as formless; in asserting that the point marks the identity of speech and silence, he was suggesting that art emerges at the point where (artistic) form passes over into, or fuses with, formlessness; at the point where it becomes possible for an artistic form to articulate what lies beyond form; at the point where vibrations become still.

The directions in which artist and Bauhaus teacher Johannes Itten took Goethe's colour theory tell us much about what the early abstract filmmakers (and, generally, avant-garde artists of the early twentieth century) must have found in the great writer's scientific work. Itten developed a twelve-part colour wheel that, because it was practicable and rational, won wide acceptance among both teachers and practising artists. Itten hoped to find a way to harness the richness of the rainbow, with its inestimably broad range of colours—to use

it to extend the restricted and more controlled palette of traditional pigments. He explored colour mixtures as well as some of the optical effects that had intrigued Goethe. Itten's colour system also served as a colour-music code whose character reflected his Mazdaznan beliefs. (The Mazdaznans are a religious group that draws on Christian and Zoroastrian elements, along with vegetarianism and yogic breathing to cultivate good health.) Instead of using Newton's spectral progression of ROYGBIV, Itten used the painter's standard colour wheel: the primaries (red, yellow, and blue) and the secondaries (orange, green, and purple, or violet) were supplemented by six intermediate hues to form a system of twelve colours—one for each of the semitone notes of the musical scale. Like so many other vanguard artists of the time, Itten believed that different colours have different spiritual values.²⁴⁹ Accordingly, he offered moral equations for colour mixtures: thus, the mix of red and blue that gave violet was equivalent to the combination of love and faith needed for piety.

Itten's teaching steered other artists toward visual music. The pioneer of twelve-tone music, Josef Matthias Hauer (1883–1959) lectured on music's relation to colour in Vienna between 1918 and 1920, drawing on ideas from Goethe's teachings on colour, from the Christian existentialist philosopher Ferdinand Ebner (1882–1931), and from Itten. Ebner had been a fellow student with Hauer at the Teacher's College in Wiener Neustadt and had worked with the composer on the text *Über die Klangfarbe* (On Tone-Colours, 1918). Ebner's philosophico-theological work *Das Wort und die geistigen Realitäten* (The Word and Spiritual/Mental Realities) affected Hauer deeply—Hauer claimed that it did much to inspire his discovery of the "twelve-tone law" in August 1919. Ebner had argued that art falls short as revelation, for an artwork really reflects the artist himself: it embodies an I–I relationship (the artist's relationship to him/herself) rather than a true I–Thou relationship (a relationship of the self to the Ultimate Other). Hauer accepted Ebner's view that music in the European art-music tradition was the personal expression of the composer's feelings. Unlike Ebner, though, he thought of music as a means of spiritual contemplation. He believed that when he discovered the principle of twelve-tone composition (i.e., the principle of constantly and systematically circulating all twelve notes), he had discovered the means by which music could transcend the personal realm and attain a transpersonal spiritual reality. Thus, though Schönberg held Hauer's ideas in high regard in the early and mid-1920s, and though Hauer's music was performed in Schönberg's Verein für musikalische Privataufführungen (Club for Private Musical Performances), Hauer's conception of the ideal composer differed sharply from that of Schönberg and his followers. Schönberg, Berg, and Webern continued to embrace the traditional idea of the composer as expressive artist. Hauer, to the contrary, argued that the ideal composer would suppress any will to personal expression in music and work only at conveying the pneumatic truth inherent in the

twelve notes themselves. (He eventually went so far as to reject the title of composer, thinking of himself, rather, as an “interpreter of the twelve tones.”) The parallels with Eggeling and Richter’s *Universelle Sprache* are striking.

Behind Hauer’s interests in music form and colour was Goethe, the same thinker who was exerting such a massive influence on Eggeling. Time and again in his writings, Hauer grounds his technical discussions in his belief in the spiritual strength of atonal music (partly on the basis that perfected forms in twelve-tone music employ all twelve notes in equal proportion), and justifies those claims by appealing to the authority of Goethe’s colour theory—and to the spiritual traditions embodied in Eastern philosophy. He often alludes to Chinese philosophy; in that regard, it is worth noting that his duodecapronic technique relied on the use of paired hexachords, conceived as stacks of pitches rather than as linear progressions of melody, probably by analogy to the *I Ching*’s hexagrams. Hauer’s son, Bruno, tells us that the *I Ching* was the only book that Hauer kept when he dispersed his library (so as not to be influenced by traditional conceptions of art and music). Like the *I Ching*’s hexagrams, Hauer’s hexachords, which he called *Konstellationen*, were aggregate symbols whose elements could be internally reconfigured; and those reconfigurations invited a variety of interpretations (indeed, the composer divined truths by reconfiguring his *Konstellationen*). There were forty-four of these *Konstellationen*, or tropes (by way of comparison with the much more elegant sixty-four hexagrams of the *I Ching*). Sets of twelve notes were grouped into two hexachords, that is, collections of six notes. The tones of each half of these tropes could appear horizontally or vertically, in any order, so long as each remained in its half of the upper or lower part. (One could think of the composition as being generated from a set of twelve distinct objects, representing notes. These objects are placed on a board, which is divided in half vertically. The analogy to a game board is not inappropriate, as Hauer referred to his compositions as *Zwölftonspielen* [games with twelve tones], or, later, *Zwölftonspielen* [twelve-tone games]. The composition is produced by reorganizing the objects on the top half of the board, and the objects on the bottom half; one cannot, however, move an object from the top half of the board to the bottom.) Clearly, one can draw an analogy between the hexachords of the *Konstellationen* and the trigrams of the *I Ching*’s hexagrams—and can draw comparisons to various traditional conceptions of the upper and lower realms.

Hauer’s *Vom Wesen des Musikalischen* (Concerning the Essence of Musicality, 1920) is a revised version of his 1918 theoretical study *Über die Klangfarbe*. The revisions largely reflect the influence of his Mazdaznan friend, Johannes Itten, whom he got to know in Vienna in 1919. *Vom Wesen des Musikalischen* argues for music’s superiority over language as a mode of arriving at pneumatic truth. Hauer’s affinity with Itten can be explained by the fact that both believed that colour perception and picture division, like music, are derived from

proportions, that is, from the relations among numbers. Itten interpreted the divisions of Goethe's colour circle as a mathematical allocation scheme for music and painting (cf. Richter's interest in the divisions of the frame/canvas).

Itten's interest in divisibility and proportion impelled Hauer to revise his understanding of pitch and its relation to colour. In the earlier version Hauer posited that musical intervals can elicit particular colours; in the revised version he placed increasing emphasis on harmonic spans. Also, in the revised version he begins by assuming that the relation between black and white is equivalent to the acoustic proportion of one octave. His interest in tone colour (and its analogy to colour) is reflected as well in such pieces as *Studies of Sound Colour, for piano, Op. 16*.

Hauer's writings refer time and again to Goethe's scientific theories (likely by way of alluding to Steiner's interpretations of those doctrines). He maintains that the twelve equal-tempered notes do not arise naturally in nature (following Goethe's argument that the entire colour spectrum does not exist in nature); the twelve equal-tempered tones are, rather, the result of a "spiritualization" of what nature provides—a means of transcending the given realm of coarse matter and attaining the perfect realm of the spiritual. Twelve-tone music elicits "intuitive hearing," by which one can apprehend the spiritual realm. Yet again, one can detect here the influence of Schopenhauer's musical aesthetics, read through Steiner's esoteric interpretation of Goethean science.

While Hauer avoided the fixed sequence of pitches that was the basis of Schönberg's system, he did sometimes employ a *Reihe* (tone row). However, he used it as a sort of *cantus firmus*: this row was repeated, unchanged, throughout the composition, embedded in the individual phrases of a composition. Like the *cantus firmus*, this provided a harmonic foundation and structural framework for the composition. The continual repetition of a complete overtone series (*Obertonreihe*), which provided the basis for the *Reihen* he used, symbolized the constancy and totality of the cosmos (that is, of the *Kontinuum*).

In a manifesto housed in the Hauer archive, the composer wrote:

From all eternity God has created absolute music once for all, in all perfection. We human beings are trying within one aeon to learn this divine language of the Father.

The twelve-note system regulates the psycho-physical pre-conditions for pure intuition which alone enables us to hear the unchangeable, absolute music as a revelation of world order.

Absolute, cosmic music permits the deepest insight into universal order. The tones with their overtones are suns with their planets. The sun systems "temper" each other, their tensions inevitably create all spheric harmony. Twelve-note pieces contain functions of the Milky Way, systems which are motoric formation centres of organic processes. The twelve-note "play" is at the same time

an oracle “play” as it is recorded in the ancient Chinese book of wisdom, the *Iking*.²⁵⁰

Another document in the same archive from 1937, reads:

Twelve-note music is supreme art, purest music.

Twelve-note music is supreme science, purest mathematics.

Twelve-note music is the most sacred, most spiritual, most precious gift on earth.

Twelve-note music is the revelation of world order, religion in its truest sense, the only one there is and the only one there can be.

Twelve-note music offers the deepest insight into cosmic order.

Twelve-note music cannot deceive, cannot lie.

Twelve-note music is the unchangeable sacred scripture, the eternal language of the universe.

Twelve-note music is the spiritual reality.

Twelve-note music is the starting-point of the twelve-note culture which will extend all over the earth and will regulate man’s basic necessities of life.

We are back on Bach’s terrain, the ground of Eggeling and Richter’s *Generalbaß der Malerei*.

KANDINSKY, EGGELING, AND RICHTER COLOUR AS FEELING, RHYTHM AS FORM

Eggeling and Richter’s ideas about colour and form were influenced by Blavatsky, Steiner, Leadbeater, and, above all, Kandinsky (especially by Kandinsky’s version of Goethe’s colour theory). Indeed, Richter embarked on the project of understanding, and developing, Goethean ideas about colour before embarking on his final rhythm film, *Rhythmus 25*. Like Goethe, he understood colour as the product of interacting opposites and maintained that only a single pair of primary colours exists: red and green: “The scientifically denominated elementary colors, blue, red and yellow, do not have, esthetically speaking, an absolute distance from each other. Red and yellow are nearer (warm); blue is the opposite of yellow as well as of red, whereas green and red are incomparably unequal to each other. And if you want to use technical measure, green and red are together, black. All other colors I consider more or less variations.”²⁵¹

Rhythm in painting was often understood as a temporal form—Richter himself did not propose that view, but some of his contemporaries did. They also linked rhythm to colour. The American Synchronist Morgan Russell (1886–1953) remarked: “In order to solve the problem of a new painterly structure, we have considered light as tightly linked chromatic waves and devoted closer study to the harmonic combinations among the colors. These ‘color

rhythms' lend a painting a temporal dimension; they create the illusion of the painting developing over a period of time, like a piece of music."²⁵²

Around 1925 (i.e., just a short time after Richter began working on scrolls), Karl Bűchheister (1890–1964), one of Richter's Constructivist/Dada colleagues, was producing elongated, almost scroll-like paintings whose titles identify both music and visual art (e.g., *Konstruktive Komposition mit Dreiklang Gelb-Rot-Blau* [Constructive Composition with Three Sounds Yellow-Red-Blue]). A few years later, in 1929, Bűchheister offered this observation: "Rhythm is the essence of abstract artworks . . . A good abstract image is born out of inner necessity [note the echo of Kandinsky], the rhythmic structure of a good abstract image is in harmony with the rhythmic events of nature. It is a layperson's task gradually to make itself familiar with the inner necessity of abstract images sensed through the exercise of the rhythmic feelings."²⁵³ Rhythm, then, experienced through *exakte Phantasie* (exact imagination, to use Goethe's term for the sort of sensory/imaginative participation in the inner life of the object apprehended), allows us to apprehend the unifying force of inner necessity, a force that pervades the artwork and the cosmos alike. Kupka maintained a similar view—so he created a "two-part composition," one part in red, the other in blue, whose parts converge and diverge (i.e., they develop through time) as the parts of a fugue do. The effect Kupka desired was to present the dance of cosmic rhythms.

By the beginning of the twentieth century the relations among painting, music, and time had become a key issue for artists. Richter's interest in rhythm can be associated with similar ideas about vibration. Standish D. Lawder, following up Richter's remarks, commented as follows on *Rhythmus 21*:

Richter's first film, *Rhythm 21*, was a kinetic composition of rectangular forms of black, grey, and white. Perhaps more than in any other avant-garde film, it uses the movie screen as a direct substitute for the painter's canvas, as a framed rectangular surface on which a kinetic organization of purely plastic forms was composed. For, normally, the movie screen is perceived as a kind of window, more or less arbitrarily circumscribed, and behind which an illusion of space appears; in *Rhythm 21*, by contrast, it is a planar surface activated by the forms upon it. Thus, its forms, like those of an abstract painting seem to have no physical extension except on the screen, nor do we sense their lateral extension beyond the limits of the screen as is usually the case in images created by camera vision. The film is a totally self-contained kinetic composition of pure plastic forms.²⁵⁴

In the final two sentences of this passage, Lawder is interpreting the significance of Richter's recasting the role of the screen surface in an orthodoxly modernist fashion (hence the allusion to De Stijl with the use of the phrase "pure plastic forms"). He is not wrong in staking this claim: some years after making *Rhythmus 21*, Richter made a similar point:

The simple [square] of the movie screen could easily be divided and orchestrated by using the rectangle of the cinema-canvas as my field of pictorial vision. Parts of the screen could then be moved against each other. [This of course is the contrapuntal principle.] Thus it became possible on this cinema-canvas to relate (by both contrast and analogy) the various movements to each other. So I made my paper rectangles and squares grow and disappear, jump and slide in well-articulated time-spaces and planned rhythms.²⁵⁵

But there is more to Richter's recasting of the role that the screen surface plays than either Richter or Lawder allows: the screen is treated as it is because Richter conceived of it as a surface that could be set into dynamic motion—that could be made to pulsate and vibrate.

RHYTHMUS 21 AND THE GENERALBAß DER MALEREI

The *Generalbaß* provided Richter with a schema for understanding the relations between music and painting. His first film, *Rhythmus 21*, involved expanding and contracting forms on a black or white background in a contrapuntal interplay. Much of the tension of the film results from the way that background forms develop into foreground figures and that foreground elements turn into background (much as the lines in a polyphonic composition do). Richter, following Eggeling, used the term *Kontrast-Analogie* to explain this ambiguity of the spatial illusion. Using both negative and positive footage heightens that ambiguity: in the negative footage a dark shadow form—a form that suggests that one figure is raised above the other—sometimes marks the edges of figures. As in the other *Rhythmus* films, in this work Richter created a distinctive abstract genre: as Richter and Lawder noted, in these films the cinema screen is treated like a painter's canvas that is activated by the white, black, and grey geometric shapes projected on it. As are the other *Rhythmus* films, this work is an autotelic kinetic composition of pure plastic forms. Lines turn into oblong shapes that collide with squares that grow out of darkness, and curves become circles. Individual forms wax and wane, expand and shrink. Their movements create a sense of spacial ambiguity.

The film's fundamental structural principle is the counterpointing of contrasting pairs. Wipes from black to white are answered by wipes from white to black, and similar forms move in contrasting vertical or horizontal or diagonal direction according to regulated rhythm, a rhythm that is less that of regular succession in time than of the coordinated movement of parts. For Richter, artistic form reflects the fact that the universe manifests itself in harmonic configurations and rhythmically organized compositions. The fluidity of the movements and their precise coordination create a remarkable harmony.

Richter embraced the fundamental tenets of *Universelle Sprache*. Yet his conviction that principles relating to contrasting elements hold in all visual media

(including painting and film), and his experience in filmmaking, led him to conclude that additional laws—laws not applicable to painting—also play a role in filmmaking. The differences between the two media, he determined, result from the regulated, physically precise determination of the time over which the events in a film unfold; whereas with painting, movement and rhythm are the result of the spectators' attention moving from point to point, and those shifts of attention occur in a less regulated time and in an order that is not invariant from one spectator to another. Furthermore, in film, single forms have hardly any importance: all that matters is the relation of one form to another in time. Time has a different character in film, and it is time, Richter realized, that must govern the forms of film.²⁵⁶

THE END OF THE ABSOLUTE FILM

These ideas produced a body of work of remarkable resonance, works that continue to command fascination and delight. The first major public screening of Absolute Film was held at Berlin's UFA-Palast, during a matinée, on May 3, 1925, under the title "Der absolute Film." The films were presented by the Novembergruppe, which the Berlin Expressionists had founded in 1919 as their response to the Great War, the humiliations of the Treaty of Versailles, and the October Revolution in Russia.²⁵⁷ It was spearheaded by such artists as Max Pechstein and Rudolf Belling, who wanted to link art to the Revolution. Artists who joined the cause included the painter Emil Nolde, the playwright Bertolt Brecht, the composers Paul Hindemith and Kurt Weill, the architects Walter Gropius and Erich Mendelson, and an art dealer Alfred Flecheim. The Novembergruppe's purpose was to unite all revolutionaries of the spirit—Expressionists, Cubists, and Futurists—to rally them at a crucial moment when the gravity of the hour and the future of art required their collective effort. One of the wildest and most destructive eras in human history would find expression in their work; they would work with bitterness and intensity and out of their efforts would come a new unity of art and life. They would bring forth a new utopian art.²⁵⁸

The following films were shown at the matinée that afternoon: *Dreiteilige Farbensonatine* (Three-Part Colour Sonatine) by Hirschfeld-Mack (likely a *Lichtspiel* created with the apparatus he had developed); *Film ist Rhythmus* (Film is Rhythm), which is part of the middle section of the (misleadingly titled) *Rhythmus 23*; *Symphonie Diagonale* (the publicity flyer used the French title) by Eggeling; *Opus 2, 3 und 4* by Ruttmann; *Images mobiles* (Mobile Images; an earlier version of the film that its makers came to call *Un Ballet Mécanique*) by Fernand Léger and Dudley Murphy; and *Entr'acte* (for which the credits, even on the German-language flyer, were "Scénario de Francis Picabia, adapté et réalisé par René Clair"). Meant to celebrate the Absolute Film, this

screening actually marked the end of the movement. Neither Ruttmann nor Richter made another abstract film after this screening. Only Fischinger, whose first abstract film, *R1 Ein Formspiel*—a three-screen work of extraordinary intricacy and staggering beauty—was made around 1927, would carry the torch for German avant-garde film. When Fischinger and his wife Elfriede moved to the United States in 1936, the abstract film moved with them, and became known in artistic circles through the support of Hilla Rebay.²⁵⁹ The next major Absolute Films would be made in the United States, by Dwinell Grant, Mary Ellen Bute, James and John Whitney, and Jim Davis.

What caused the rapid decline of the Absolute Film? A few factors: *Un Ballet Mécanique* and *Entr'acte*, the two French films included in the Absolute Film matinée, used photographic imagery to do some of the same things the Germans had done with animation, and that likely opened German filmmakers to possibilities for a non-narrative cinema quite different from the abstract cinema they had been creating. Also, shortly after the matinée, a film appeared that would drastically alter the face of cinema: Eisenstein's *Bronenosets Potyomkin* (Battleship Potemkin, 1925). That film, along with *Images Mobiles* (*Ballet Mécanique*) and *Entr'acte*, must have convinced German avant-garde filmmakers that they had overlooked one formidable potential of the medium: montage. Thus, Richter's next film would continue the goals of abstract film but with photographed images and montage. That project was *Filmstudie* (1926), which, though based partly on the "universal language of forms" (the basis of his work in the Absolute Film), referred to natural objects: a woman's face, birds, eyeballs, a man hammering, and so on. *Filmstudie* is based partly on abstract rectangles and disks and partly on shots of real objects, photographed to highlight their geometric shapes.²⁶⁰ The affinity that *Filmstudie* has to the cinematic works of the French avant-garde is evident especially in the use of surrealist motifs such as glass eyes, birds, and mask-like faces. The work straddles the boundary between the earlier, pure, abstract film and the second-wave of German experimental film, which is based on the montage of referential forms. Partly a photographed "montage film," partly an abstract animation, *Filmstudie* investigates the thresholds between the two artistic modes, highlighting some of the features that separate the two and minimizing others. Richter employs devices (e.g., multiple exposures and negative images) that draw attention to the technical specificity of photography; he then fuses these with graphic elements.

The deeper issue concerns the role of the object in the new art. Regarding the universal language of forms that Eggeling and Richter worked out between 1918 and 1920 and Richter's brush drawings titled *Dada-Köpfe* that were the first result of their study of the principles of counterpoint, Richter wrote: "What I tried to find was not chaos but its opposite, an order in which the human mind had its place but in which it could flow freely ... It allowed me also to

discard objects (subject matter) altogether and articulate free abstract parts on a given plane against and with each other. It came to be a kind of musical as well as visual articulation.”²⁶¹

Discarding objects, freeing visual form from any correspondence to the natural object, changed painting, as it allowed painted forms to become pure plastic elements that the artist could freely shape.²⁶² It also offered filmmakers real advantages: it allowed them to develop pure plastic relations among the visual elements of an Absolute Film, to treat visual elements as forms interacting in contrapuntal relations. *Images Mobiles/Ballet Mécanique* exposed the limits to the Germans’ approach. That film is based on a different conception of the relationship between the artwork and the natural object. In “A New Realism—the Object” (1926), written not long after he and Murphy had finished their film (*Images Mobiles/Ballet Mécanique* was made in 1923–24), and seemingly a deliberation on what he had learned from his involvement with film, Léger stated:

Every effort in the line of spectacle or moving-picture, should be concentrated on bringing out the values of the object—even at the expense of the subject and of every other so-called photographic element of interpretation, whatever it may be.

All current cinema is romantic, literary, historical expressionist, etc.

Let us forget all this and consider, if you please:

A pipe—a chair—a hand—an eye—a typewriter—a hat—a foot, etc., etc.

Let us consider these things for what they can contribute to the screen just as they are—in isolation—their value enhanced by every known means . . .

The technique emphasized is to isolate the object or the fragment of an object and to present it on the screen in close-ups of the largest possible scale. Enormous enlargement of an object or a fragment gives it a personality it never had before and in this way it can become a vehicle of entirely new lyric and plastic power.

I maintain that before the invention of the moving-picture no one knew before the possibilities latent in a foot—a hand—a hat.

These objects were, of course, known to be useful—they were seen, but never looked at. On the screen they can be looked at—they can be discovered—and they are found to possess plastic and dramatic beauty when properly presented . . .

I propose to apply this formula to the screen and to study the plastic possibilities latent in the enlarged fragment, projected (close up) on the screen, specialized, seen and studied from every point of view both in movement and immobile . . .

I repeat—for the whole point of this article is in this: the powerful—the spectacular effect of the object is entirely ignored at present.²⁶³

Léger’s film gave the object central place: in its own way so did *Entr’acte*. The matinée screening at UFA-Palast must have impressed on the German

filmmakers various potentials of the medium that they had overlooked. It must have convinced Ruttmann and Richter that film was not destined to be a non-objective art (*gegenstandlose Kunst*). Rather, film's special virtue was to lead us to discover the plastic possibilities inherent in natural objects when they were presented in isolation or from unusual vantage points. Richter's *Filmstudie*, as we have noted, turns toward presenting figurative elements in a nearly Surrealistic fashion. This was a surprising turn in direction, since throughout his years as a Dadaist painter, he had laboured to expel the natural object from his paintings (his breakthrough on this front had occurred between 1918 and 1920 when, with Eggeling, he had developed his ideas about *Universelle Sprache* and *Generalbaß der Malerei*). Perhaps surprisingly, Richter now continued in this direction: by 1928, he had embarked on such projects as *Rennsymphonie* (Race Symphony, 1928) and *Zweigroschenzauber* (Tuppence Magic, 1929), which incorporated photographic imagery. By 1929, he and Werner Graeff had reformulated the theoretical basis of filmmaking. In "Filmgegner von Heute—Filmfreude von Morgen" (Film's Enemies of Today—Film's Friends of Tomorrow), a text prepared for the famous Internationale Ausstellung des Deutschen Werkbundes "Film und Foto" (International Film and Photo Exhibition of the German Werkbund) in Stuttgart, Richter commented on the potentials of the natural object in cinema. He would repeat those comments later, in "Easel-Scroll-Film": "The scope of the experimental film has grown. The principles which we followed with our first abstract film are not limited to the articulation of lines or squares alone. The rhythm of a swing or a clock, the orchestration of hats or legs, the dance of kitchenware or a collar—could become expressions of a new sensation. The experimental film has at last come into its own."²⁶⁴ Richter was arguing, then, that it is possible to create an art that respects the principles of abstract *Bewegungskunst* but that does not eschew the object (and that furthermore, such an art would be more true to the nature of cinema).

The shift in artistic approach that the UFA-Palast showing encouraged among abstract filmmakers was part of a broader change taking place among German artists. The mid-1920s saw a shift in how photography was generally understood. That medium had played almost no role during the Bauhaus's Weimar years (1919–25) and was generally in disrepute among artists—dismissed as a means of mechanical reproduction. Then in 1921, Paul Citroen produced a Cubist-inspired photomontage of urban elements, to convey something of the new urban experience. That same year, Georg Munche produced some abstract photo-compositions. Around the same time, Moholy-Nagy explored radical means of presenting the natural object in photography. He rejected the view that photography is reproduction: in *Malerei, Fotografie, Film* (Painting, Photography, Film) he pointed out that Constructivist principles could be extended to photography as well—that they could be applied in ar-

ticulating rhythm, form, and movement, and, above all, that distortions resulting from extreme vantage points also had applications (examples: from above, assuming the bird's-eye; or from below, assuming the frog's vision; or diagonally from the side). Such distortions were capable of separating the forms in a photograph from the appearances of the everyday world. The camera did not and need not copy the eye's way of seeing—rather, it represented a *new* way of seeing (“Neues Sehen” [New Vision]).

These observations helped launch a revolution in photography: the romanticized Impressionism of the Pictorialists could now give way to a cool objectivity. An exhibition titled *Kipho*, mounted by the German film industry in 1925, exemplified this shift in attitude, which was also reflected in German avant-garde film's rejection of the Absolute Film. Guido Seeber, a camera operator in the film industry with a reputation for special-effects cinematography and for ingenious approaches to photography, was contracted to make a short film to advertise the event. The result (inspired by *Un Ballet Mécanique*) was a considerable success. The terms in which commentators couched their praise tell us much about the emerging conception of the art of film: “It is not a film in the Absolute Film vernacular, but one concerned with a concrete subject—the nature of cinema and photography. And done in an entertaining manner as well.”²⁶⁵

NOTES

- 1 Wulf Herzogenrath, “Light-play and Kinetic Theatre as Parallels to Absolute Film,” in Phillip Drummond, ed., exhibition catalogue: *Film as Film: Formal Experiment in Film, 1910–1975* (London: Arts Council of Great Britain/Hayward Gallery, 1979), pp. 22–26.
- 2 Moholy-Nagy had no interest in Man Ray's automatist practices (the heuristic value that Ray praises when he tells us that he stumbled onto the technique of the Rayogram by accident).
- 3 In gauging the importance of this sort of work, consider its analogies with Alexander Calder's mobiles. Clearly, the drive to create kinetic forms was strong.
- 4 Herzogenrath, “Light-Play and Kinetic Theatre,” p. 24.
- 5 Robert Delaunay, “Light, 1912”; reprinted in Herschel B. Chipp, ed., *Theories of Modern Art: A Source Book by Artists and Critics* (Berkeley: University of California Press, 1968), p. 319. Italics in Chipp's printing of the document.
- 6 John Golding, *Cubism: A History and An Analysis, 1907–1914* (Cambridge, MA: Belknap Press of Harvard University Press, 1988), p. 185. The reference Golding makes is to Michel-Eugène Chevreul (1786–1889), a chemist who studied colour and who published, in 1839, a book titled *On the Law of the Simultaneous Contrast of Colours*.
- 7 So it shouldn't be surprising that Malevich attempted to create films—the films he proposed to make would have resembled German Absolute films (and were conceived partly in response to visiting Germany). Kazimir Malevich first met German filmmakers in 1927. He had been the director of the Institut khudozhestvennoi kul'tury (Institute for Artistic Culture, or INKhUK) in Leningrad since 1923. In 1927 the institute was closed down; only then was he given permission to travel outside the Soviet Union. At that

point he went to Germany, hoping to start a new career there. He set off from Leningrad in early March, with several enormous crates containing about seventy paintings, works on paper, and architectonics, as well as his teaching materials. He also took with him manuscripts, which he hoped to have published in Germany. He stopped in Warsaw on his way to Berlin; there he was met by two former pupils of the Smolensk branch of UNOVIS, Katarzyna Kobro and Wladislaw Strzeminsky, along with other members of the Polish avant-garde attached to the art magazine *Praesens*. They organized an exhibition of his work at the Hotel Polonia (the exhibition hung from March 18 to 28, 1927). In Warsaw he befriended Tadeuz Peiper, the young editor of the magazine *Zwrotnica*; Peiper decided to join Malevich on his Berlin adventure.

Peiper and Malevich arrived in Berlin on March 29. Malevich stayed with the family of the engineer Gustav von Riesen, whom he knew from prerevolutionary days in St. Petersburg. With El Lissitzky's help, he made contact with the Novembergruppe, an association of progressive artists, who arranged for his participation at the Grosse Berliner Kunstausstellung. Malevich was offered a personal retrospective (which lasted from May 7 to September 30) and was allocated a separate gallery space.

The show garnered an extremely favourable response among Berlin's critics, artists, and gallerygoers. Malevich began to feel that Suprematism had won a major victory over other modernist movements such as Constructivism. The art writers Paul Westheim, Wilhelm Hausenstein, Artur Holitscher, and Adolf Behne were especially enthusiastic about Malevich's Suprematist work. Malevich also became close to the architect Hugo Häring, a proponent of organic architecture. (Häring would later play a key role in saving the artist's work from the Nazis, by hiding many of Malevich's paintings and writings in his home in Biberich.)

Peiper served as Malevich's translator when the Suprematist visited the Dessau Bauhaus in early April. There he met Walter Gropius. The meeting was a disappointment for the Suprematist master, for nothing came of his hope that he would be asked to join the faculty. However, he did meet László Moholy-Nagy, who one year later would publish *Die ungegenständliche Welt* (The Non-Objective World) in a series of the Bauhaus books. (The book was translated into German by Alexander von Riesen in consultation with Malevich.) Moholy-Nagy wrote a preface in which he carefully distanced himself from key Suprematist theses and advanced his own theory of Functionalism (then the prevailing view at the Bauhaus). Moholy-Nagy did not acknowledge the affinities of their views.

Of all the people he met in Berlin, he grew closest to the artist and filmmaker Hans Richter, a man ten years his junior but already well established in international avant-garde circles. Richter was extremely well connected: with the leading European Constructivists; with El Lissitzky and Moholy-Nagy; and especially with Theo van Doesburg, the leader of De Stijl. Between 1923 and 1926, Richter had published a magazine promoting German Constructivism, *G—Zeitschrift für elementare Gestaltung*, which had included several articles by Malevich. Richter introduced Malevich to the current trends in German experimental film production by showing him German abstract films.

This experience must have strengthened Malevich's resolve to relate Suprematism to film. He composed the script for an "artistic-scientific film" that marked "the emergence of new plastic system of architecture." (The script can be found in Malevich, "Art and Problems of Architecture: The Emergence of New Plastic System of Architecture. Script for a Artistic-Scientific Film," in *The White Rectangle: Writings on Film*, ed. O. Bulgakowa [Berlin and San Francisco: Potemkin, 2002], pp. 51–58.) Several factors influenced Malevich's interest in the cinema: He was well aware that his *oeuvre* progressed according to

an evolutionary logic—he recognized that his paintings belonged to an evolving series depicting the stages of his development (and the development of Mind) toward the fulfillment of the Suprematist system. Hence, photographs of the Last Futurist Exhibition, 0, 10, held in St. Petersburg in 1915/16, reveal that Malevich hung them in a manner that suggests they belong to linear progression, a continuous series: like some later shows, this show started with a point in the black square, the prototype of the Suprematist elements, and extended it into sequences and clusters. The sequence of works Malevich's UNOVIS publication of 1920, *Suprematism: 34 Drawings*, implies time and movement, a succession of elements, at first simple, that aims at their absorption and transfiguration in complex compositions. Malevich's essay "From Cubism and Futurism to Suprematism" (1915), proposed that in working toward Suprematism, he had gained an insight into the universal law underlying the evolution of art: depicting quotidian matter was an affair of the past—the New Art would concern a spiritual reality that belonged to the artist's mind. Suprematist forms, "constructed out of nothing," are the product of the intuitive reason of the artist, who gave them the right to individual existence, independent of extrapictorial reality. The elements would be composed not on the basis of interrelation of form and colour, but on the basis of weight, speed, and the direction of movement. Malevich developed these kinetic notions even further in "Suprematism, the Supremacy of Pure Non-Objective Art with Ideal Material and Imagery, the Phases of its Development," in 1923, and these ideas led to the 1927 film outline. In 1925, in "And Visages Are Victorious on the Screen" Malevich argued against Eisenstein and Vertov's idea of film (though he later acknowledged that Eisenstein at least understood the law of contrasts), propounding the view that film must reject all traditional representation (he contended that the cinema of his time was enslaved by the traditions of figurative painting, studio photography, and the pathos of theatre); to counter that hidebound idea of cinema, Malevich declared that cinema must find its specific form and content through "non-objectivity." He even argued against the idea of "the object," which became so important in avant-garde art at this time. In his 1926 article "The Artist and Film," Malevich lamented the technical limitations and conventional thinking, which stood in the way of the revolutionary "dynamic" artist: new kinds of subject matter, innovative camera positions, and electric light would eventually transform, even pulverize, the object. He recognized that in the West, important artist-painters were beginning to work with purely abstract elements, and that the entry of the contemporary painter into cinema would give artists a new means for showing the masses their new life. In the 1926 article he imagined transforming the cinema into a non-objective kinetic event in which the Suprematist elements would move weightlessly in a colourless space, according to a timing and rhythm determined exclusively by the artist. He envisioned a new kind of artist, the film painter of dynamic pictures, the creator of a spiritually oriented cinematography.

The script itself relies on the dynamic power of the particular Suprematist elements set in what Malevich conceived as a space-time continuum. The genesis and transformation of these elements was the film's theme. The film was to be in three parts, but only the first, "Development of Suprematist Elements," was fully developed. Its basic element was the black square, and all other visual forms would evolve from this basic element by transmutation: the revolving square would turn into a circle; the division of the square would produce a cruciform element. The second section, "Architectonisation as Problem," offered a series of spatial developments of the cruciform element, which would attract, as satellites, a variety of Suprematist elements. The third section, "Architecture in Life," would show how two-dimensional Suprematist elements on the plane can form the

basis for a three-dimensional architectural system. This section would likely have contained documentary components.

The analogies with Malevich's Suprematist paintings/compositions are obvious: Malevich intended to treat the cinema screen rather as he treated the bare white space that always formed the ground of Suprematist compositions. The volume of the space surrounding the forms would have been as elusive and ambiguous as in his paintings (for the white ground/cinema screen seems both to recede from and advance toward the viewer)—as a result, as in his paintings, seemingly immaterial geometric elements would have hovered in a colourless and weightless cosmic space.

Malevich probably recognized that while Walther Ruttmann employed rounded organic shapes, Richter, in his films *Rhythmus 21* and *Rhythmus 23*, worked strictly with black and white squares—that is, with those basic forms that Malevich saw as the expression of Intuitive Reason. (Richter constructed his films as sets of rhythmic expansions and compressions of a square, and unlike Ruttmann, he only manipulated cut-out squares of different sizes on a black plane and did not draw any forms, as Ruttmann did. Richter, in fact, worked with space as well as a form of dynamism that creates a tension between surface and space. So Malevich hoped that Richter would help him realize the script. Richter's lack of interest in abstract film at this time almost certainly contributed to Malevich's film's never being completed. Richter's new-found interest in incorporating referential images must not have sat well with Malevich: in 1925, the painter had published an article in *Kinozhurnal ARK 10* (as a contribution to the discussion of a polemic between Dziga Vertov and Sergei Eisenstein) that decried filmmakers' inability to allow film to fulfill its destiny. The polemic proposed that modern art is based on dynamism and abstraction and that film could continue these means but had not really been allowed to do so. In particular, Malevich criticized Eisenstein for practising the traditional aesthetic of the realist itinerant painters. So it must have disturbed him to see Richter moving in that direction. (Malevich's article can be found in translation in "And Visages Are Victorious on the Screen," in Bulgakowa, *The White Rectangle*, pp. 37–44.)

The original Russian title for "And Visages Are Victorious on the Screen" is wonderfully sly. Malevich glossed the title with this remark: "Likuyut' [translated here as "victorious"] should be understood: making, writing." So the title, read according to his recommendation, would be "And Visages on Screens [and Malevich, despite the translation, did use the plural] Are Making [i.e., active]." But *likuyut* is much more commonly used to mean "triumphant," not "making," so a Russian reader would first read the title as "And Visages on Screens are Triumphant"; only later, on reading Malevich's recommendation, would they accept the alternative reading. Malevich's note is omitted from the English translation.

- 8 Blaise Cendrars, *Inédits secrets* (Paris: Denoël, 1969), p. 385.
- 9 From a letter of Georg Schmidt, probably to Werner Graeff, and cited in Herzogenrath, "Light-play and Kinetic Theatre," p. 24.
- 10 An example of a film that works with this peculiar temporal constitution is Michael Snow's *Wavelength*; regarding the temporal attributes of that film, see my *Image & Identity: Reflections on Canadian Film and Culture* (Waterloo: Wilfrid Laurier University Press, 1989). But the best exfoliation of the aesthetic implications of film's paradoxical temporal constitution is in Paul Sharits, "Words Per Page," *Film Culture* 65/66 (1978): 29–42.
- 11 Hans Richter, *Monographie*, ed. M. Joray (Neuchâtel: Editions du Griffon, 1965), p. 29. Quoted in Bernd Finkeldey, "Richter and the Constructivist International," in *Hans Richter: Activism, Modernism, and the Avant-garde*, ed. S.C. Foster (Cambridge, MA: MIT Press), p. 96.

- 12 Hans Richter, *Köpfe und Hinterköpfe* (Zurich: Arche, 1967), p. 117. Cited in Finkeldey, "Richter and the Constructivist International," p. 96.
- 13 The Grand Secretary, "The Relationship of Color to Sound: AMORC Achieves a Marvelous Scientific Victory in Its New Color Organ," *Rosicrucian Digest* (February 1933): 7.
- 14 *Ibid.*, p. 9.
- 15 "Unusual Demonstration of Color Organ," news release from the headquarters of the Rosicrucian Order of North America, San Jose, December 31, 1932, pp. 1–2.
- 16 *Ibid.*, pp. 2–3.
- 17 Goethe's later view of the matter:

Before we proceed to the moral associations of colour, and the aesthetic influences arising from them, we have here to say a few words on its relation to melody. That a certain relation exists between the two, has been always felt; this is proved by the frequent comparisons we meet with, sometimes as passing allusions, sometimes as circumstantial parallels. The error which writers have fallen into in trying to establish this analogy we would thus define:

Colour and sound do not admit of being directly compared together in any way, but both are referable to a higher formula, both are derivable, although each for itself, from the higher law. They are like two rivers which have their source in one and the same mountain, but subsequently pursue their way under totally different conditions in two totally different regions, so that throughout the whole course of both no two points can be compared. Both are general, elementary effects acting according to the general law of separation and tendency to union, of undulation and oscillation, yet acting thus in wholly different provinces, in different modes, on different elementary mediums, for different senses (*Theory of Colours*, trans. Charles Locke Eastlake [London: John Murray, 1840], pp. 298–99nn748–49).

- 18 Newton's thoughts on colour and sound represented a revival of Aristotle's theories of the resemblances between light and sound, though Newton's efforts were far more elaborate and mathematical. Newton divided the visible light spectrum into seven colors (in a fashion that, though admirably mathematical, was nonetheless rather arbitrary). Then, noticing that the mathematical relationships of these seven colors were similar to those of the musical scale, he created his table of correspondences.
- 19 A chronology of composers and art theorists who have proposed correspondences between pitches and colours would include the following: George Field (1816, v. Klein, *Colour-Music: The Art of Light* [London: Crosby Lockwood and Son, 1930], p. 69); D.D. Jameson (1844, v. *Colour Music* [London, 1844], p. 12); Hermann von Helmholtz (1867, v. *Treatise on Physiological Optics*, vol. 2, 1962, p. 117); Bambridge Bishop (1877, v. *A Souvenir of the Colour Organ*, 1893); Theodore Seemann (1881, v. Klein, *Colour-Music: The Art Light*, 1927, p. 86); A. Wallace Rimington (1892, v. Rimington, *Colour-Music: The Art of Mobile Colour* [New York: Frederick A. Stokes, 1911]); Alexander Scriabin (1911, v. Thom Douglas Jones, *The Art of Light & Color* [New York: Van Nostrand Reinhold, 1972]); Adrian Bernard Klein (1920, v. *Colour-Music: The Art of Light* [London: Crosby Lockwood and Son, 1927]); August Aeppli (1940, v. Karl Gerstner, *The Forms of Color: The Interaction of Visual Elements* [Cambridge, MA: MIT Press, 1986], p. 169); Ira Jean Belmont (1944, v. Belmont, *The Modern Dilemma in Art: The Reflections of a Color-Music Painter* [New York: Bernard Ackerman, 1944], p. 226); and Steve Zieverink (2004, v. *Twelve + Twelve* [Cincinnati: UnMuseum, Contemporary Arts Center, 2004]).

A chronology of other theorists who have written on the correspondence of pitch and colour would include the following: David Ramsay Hay, *Laws of harmonious colouring, adapted to interior decorations, with observations On the practice of house painting*

- (Edinburgh, London: W. Blackwood & Sons, first ed. 1828, sixth ed. 1847; M.W. Drobisch, *Über musikalische Ton-Bestimmung* (Berlin, 1852); C.A. Huth, *Farbige Noten* (Hamburg, 1883); F.J. Hughes (grand-niece of Charles Darwin), *Harmonies of Tone and Colours, Developed by Evolution* (London: M. Ward & Co., 1883); M.L. Favre, *La musique des couleurs et les musiques de l'avenir* (Paris, Schleicher frères, 1868); Bainbridge Bishop, *A Souvenir of the Colour Organ, with some Suggestions in Regard to the Soul of the Rainbow and the Harmony of Light* (New Russia: Devinne Press, 1893); E.G. Lind, *The Music of Colour* (Baltimore: unpublished manuscript, 1894); A. Cozanet (pseudonym, Jean d'Udine), *L'orchestration des couleurs, analyse, classification et synthèse mathématiques des sensations colorée. Correlation des son et des couleurs* (first ed., 1897) (Paris: A. Joanin, 1910); H. Schrodez, *Ton und Farbe* (Berlin, 1906); F.E. Hughey, *Color Music for Children* (New York, 1912); H.B. Brand, *Der Akkord und Quintenzirkel in Farben und Tönen* (Munchen, 1914); Edward Maryon, *Marcotone: The Science of the Tone-color* (first ed., 1919) (Boston: C.C. Birchard & Co., 1924); S.H. Sinnott, *Tone Bow: Application of Color to Music* (New York, 1939); D.D. Lune, *Color Music Book for Children* (New York: Musette, 1942); Mary Hallock Greenewalt, *Nourathar: The Fine Art of Light Color Playing* (Philadelphia: West-Brook Publishing, 1946); R. Hunt, *The Seven Keys to Colour Healing: A Complete Outline of the Practice* (first ed., 1948; eighth ed., Ashington: C.W. Daniel Co.; new ed., Saffron Waldon: C.W. Daniel Co., 1968); idem, *Fragrant and Radiant Symphony: An Enquiry into the Wondrous Correlation of the Healing Virtues of Colour, Sound and Perfume, and a Consideration of their Influence and Purpose* (London: C.W. Daniel Co., 1937); J.L. Kellogg, *Color; the Analog between Color and Music. The Kellogg System* (Palo Alto: J.L. Kellogg, 1949); Danton Adams, *Musical Colour: A New and Revolutionary Method of Creating Colour Schemes for the Artist* (London: Douglass & Gilson, 1962); Corinne Dunklee Heline, *Healing and Regeneration through Color* (Santa Barbara: H. Huber, 1944); idem, *Color and Music in the New Age* (Los Angeles, 1964); Forian I. Yuriev, *Music of Light* (Kiev, 1971 [in Russian]); idem, *On Colour, Music of Colour, and Colour Music of Word* (Moscow: Diafilm, 1980 [in Russian]); and K. Loef, *Farbe-Musik-Form* (Goettigen, 1974).
- 20 *A nomenclature of colours applicable to the arts and natural sciences to manufactures and other purposes of general utility*, second ed., improved (Edinburgh and London: William Blackwood & Sons, 1846). Hay was interested in wedding colour and geometry—this is reflected in his *The principles of beauty in colouring systematized* (Edinburgh and London: William Blackwood & Sons, 1845).
- 21 George Field (1777?–1825, *Chromatics; or, an Essay on the analogy and harmony of colours* (London: Newman, 1817); idem, *Chromatography, or, A treatise on colours and pigments, and of their powers in painting* (London, 1835); idem, *Rudiments of the Painter's Art, or A Grammar of Colouring*, London, 1850).
- 22 Sir David Brewster was the author of *A Treatise on optics* (London: Longmans, &c., 1831). This was an extremely important contribution to the literature of colour theory, for it influenced J.W. Turner. Brewster's importance for Turner was that he provided the artist with a fully scientific argument for the three primaries (which he did from the standpoint of admiration for Newton); Brewster's *Optics*, however, offered a sustained, measured, and precise challenge to the Newtonian conception of colour.
- Georges-Louis-Leclerc de Buffon (1707–1788) was a physicist whose mediocre abilities did not prevent him from garnering considerable influence. He is perhaps best remembered as the man who challenged Newton's idea of molecular attraction.
- 23 Sir John Herschel considered the whole compass of the scale of visible colours to correspond only to the interval that musicians call a minor sixth. In the case of a minor sixth there is only one harmonic ratio—thus, though a given note in music may harmonize

- with many others (the third above and below it, the fifth above and below it, the octave above or below it, the twelfth above or below it, etc.), a given colour in the spectrum can only have one harmonic, viz., that vibration which in music would be called the third. Accordingly, between the vibrations of two colours that harmonize, there is always the same ratio as between the two nearest musical vibrations that harmonize (i.e., the ratio of the frequencies of their vibrations is 4:5). Thus, a Pythagorean relation is established, but only a single relation.
- 24 In *Concerning Sounds and Colours*, Blanc-Gatti says that Walt Disney came to an exhibition of his paintings in Paris during the early 1930s, and that he spoke to Disney about his ambition to make a feature-length musical animation film. When *Fantasia* was finally released in Europe after the war, Blanc-Gatti became outraged and attempted to sue Disney for stealing his idea. (Oskar Fischinger, who was an old friend of Leopold Stokowski, with whom he had discussed plans for an animated musical feature in 1934, thought of doing the same.)
 - 25 Kandinsky, "Rückblicke," *Der Sturm* (Berlin: Sturm Verlag, 1913); English translation: "Reminiscences," in K.C. Lindsay and P. Vergo, eds., *Kandinsky: Complete Writings on Art* (New York: Da Capo, 1994), p. 364.
 - 26 In Herzogenrath, "Light-play and Kinetic Theatre," p. 22. Herzogenrath does not cite the source of his quote, though it is likely from Alexander Lázló's *Coloured Light Music* (Leipzig, 1925).
 - 27 In fact, the influence was mutual: Castel, in reviewing Rameau's *Traité de l'harmonie réduite à son principe naturel* (1722), alerted the composer to the existence of higher overtones emitted by vibrating strings (a phenomenon that would eventually undermine the Pythagorean understanding of harmony that had been so widely accepted for so very long); as a result, Rameau's *Nouveau système de musique théorique* (1726) took into account Sauveur's acoustical discoveries and asserted even more forcefully than the original *Traité* that all musical form is derived from the natural actions of a vibrating body and its first overtones (which establish the intervals of the octave, the third, and the fifth).
 - 28 An excerpt from *Mémoires, ou, Essais surs la musique* can be found, translated, in Sam Morgenstern, ed., *Composers on Music: An Anthology of Composers' Writings from Palestrina to Copland* (New York: Pantheon, 1956), pp. 74–75.
 - 29 Of course, Rameau's criticisms of Rousseau's ideas about music were reflected in the controversy.
 - 30 For a description of Bainbridge Bishop's work on Colour Organs, see his memoir, *A Souvenir of the Color Organ, with Some Suggestions in Regard to the Soul of the Rainbow and the Harmony of Light with Marginal Notes and Illuminations by the Author* (New Russia: De Vinne, 1893).
 - 31 Rimington's description of his device, and its aesthetic implications, are laid out in a paper read at St. James's Hall on June 6, 1895, which was published in pamphlet form by Messrs. Spottiswoode & Co., New St. Square, June 13, 1895; the paper is reprinted in A.B. Klein, *Colour Music: the Art of Light* (London: Lockwood, 1930), pp. 256–61. Among the points that Rimington made in this presentation was that prior to the colour organ, there had not been an art that dealt with colour alone; and that mutability of colour introduced problems concerning Time, Rhythm, and Instantaneous Combination—and the fact that those are key problems of the new art justifies calling the new art Colour Music.
 - 32 Interest in the estoeric realm of cosmic reality is often associated with a fondness for the Medieval world, and so it was in Rimington: he claimed that Britons had lost that fine

sense of colour they possessed in Medieval times. Moreover, people's daily affairs had rendered most of them so inartistic as to prohibit the true appreciation of colour. Rimington proposed Colour Music as a possible remedy for this condition, as it could act as a bridge between the quotidian world and the higher realm. As Annie Besant would later, he proposed that psychological medicine might avail itself of insights derived from Colour Music.

- 33 There appear to have been problems with the performance. Possibly this was because Scriabin did not clearly map his beliefs about the correspondence of pitch and colour (he seemed to have believed that C-sharp corresponded to purple, F-sharp to bright-blue or violet, B to blue, E to sky-blue, A to green, D to yellow, G to orange, C to red, F to deep red, B-flat to rose or steel, E-flat to flesh, A-flat to violet, D-flat to purple (same as C-sharp), and G-flat to bright blue or violet (same as F-sharp); lacking this information, the performance relied on Rimington's conception of the colour scale (deep red, crimson, orange crimson, orange, yellow, yellow-green, green, bluish green, blue green, indigo, deep blue, and violet). Moreover, Modest Altschuler treated Preston S. Millar's "chromolo" (a version of Rimington's device, specially constructed for performances of Scriabin's work) as just one more instrument in the orchestra, playing just one instrumental line, rather than responding to the combined effects of the massed instrumental and choral voices, as Scriabin had intended. In any event, the show seem to amount to not much more than a "pretty poppy show," as one critic described it. Moreover Scriabin held that for every mode there was a corresponding shade of colour, and for each modulation, a nuance of this shade. Changes from the major into the minor should be underlined by strong visual and chromatic contrast. Scriabin's imagination had been fired by his readings in Theosophical literature, and he dreamed of illuminating the entire concert hall with the colours corresponding to the music being played. In practice the performances of *Prometheé* did not live up to these ambitions: colours were projected onto a small screen placed behind the orchestra, and they made very little impression on the audience.

An earlier, private presentation of *Promethée*, with Chromolo, was apparently more successful. This presentation took place "about February 10th" (according to the *New York Times Magazine*) at the Century Theater and was attended by Isadora Duncan, Anna Pavlova, and Mischa Elman. That presentation utilized the entire stage for its colour effects, for Millar draped panels of gauze from the proscenium back to the rear wall of the theatre, and the loose gauze was kept moving gently by fans placed at a considerable distance.

- 34 This machine is described in Adrian Bernard Klein (Adrian Cornwell-Clyne), *Coloured Light: An Art Medium* (London: Technical Press, 1937).
- 35 In this early period Wilfred's pieces often had Bragdonian titles, for example, *Multi-dimensional Sequences in Space*. Later he seems to have taken a more entrepreneurial tack: he went on to develop a "home clavilux," a cabinet-mounted device whose purpose was to allow people to light performances in their home.
- 36 In Kenneth Peacock, "Instruments to Perform Color-Music: Two Centuries of Technological Experimentation," *Leonardo* 21 (1988): 397–406 at 405.
- 37 In Peacock, "Instruments to Perform Color-Music, 405.
- 38 Thomas Wilfred produced two important theoretical statements concerning his interest in Light Music. One of them, "Light and the Artist," appeared in *Journal of Aesthetics and Art Criticism* 5 (June 1947): 247–55. In this piece Wilfred offered a potted history of the emergence of a new art of light, then set out the features that the lumianist worked with: light, he proposed, possesses the attributes of form and colour. The features of form the lumianists are concerned with are location, volume, shape, and character. The

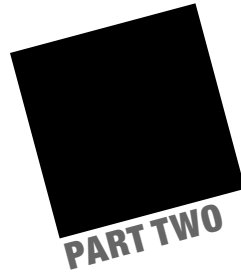
features of colour the lumianists are concerned with are hue, chroma, value, and intensity. Coloured forms must be set in motion—and the features of colour motion can be described in terms of orbit, tempo, rhythm, and field. Wilfred was waiting for the first Johann Sebastian Bach of lumia to appear. On the whole, the article was characterized by an infectious optimism.

In the *Journal of Aesthetics and Art Criticism* 5, no. 4 (June 1947), Wilfred published “Light and the Artist” (pp. 247–55). His second statement, “Composing in the Art of Lumia,” appeared in *Journal of Aesthetics and Art Criticism* 7 (December 1948): 79–93. In that piece he set out several principles that he believed should guide lumia compositions. One principle he referred to as “visual anchorage”: when all of the elements move in one direction, they should not (except perhaps momentarily) exceed a critical velocity, unless a relatively stable visual anchor be provided. He also distinguished between composing for and performing on the lumia, and composing and performing music. The two arts were so different, he insisted, that efforts to construct lumia instruments in imitation of musical ones would prove utterly futile, as would attempts to write lumia compositions following the rules laid down for music. Wilfred also argued that the design principles governing static composition and colour harmony do not apply to form and colour in motion: as I have argued so often regarding the composition of film images, Wilfred pointed out that if a lumia composition were to be arrested at any point, the static form might well seem unbalanced from the painter’s point of view. Thus, he suggested, the lumianist must abandon the old ways and blaze new trails.

- 39 Scriabin was not alone among Russian composers in proposing correspondences between sound and light: his older contemporary, Nicolai Rimsky-Korsakov, a precursor of Symbolism (1844–1908), proposed a table correlating pitches and colours:

B major	gloomy, dark blue with steel shine
B-flat	darkish
A major	clear, pink
A-flat major	greyish-violet
G major	brownish-gold, light
F-sharp major	green, clear (colour of greenery)
F major	green, clear (colour of greenery)
E major	blue, sapphire, bright
E-flat major	dark, gloomy, grey-bluish
D major	daylight, yellowish, royal
D-flat major	darkish, warm
C major	white

- 40 Moser’s Colour Organ consisted of a keyboard-controlled implement, a “tastiera per luce” (according to the published score), with coloured light bulbs mounted on a wooden base.
- 41 Leonid Sabaneiev, “Scriabin’s *Prometheus*,” in Kandinsky and Franz Marc, eds., *The Blaue Reiter Almanac*, documentary edition, ed. and intro. K. Lankheit, trans. H. Falkenstein with M. Terzian and G. Hinderlie (Boston: MFA, 2005), pp. 130–31. The article appeared in *Der Blaue Reiter* in 1912. Sabaneiev was very close to Scriabin and could almost be considered his amanuensis.
- 42 *Ibid.*, p. 131.
- 43 Arthur Schopenhauer, *The World as Will and Idea*, trans. R.B. Haldane and J. Kemp, 4th ed. (London, 1896), vol. 1, pp. 339–40. References to this work are abbreviated.
- 44 Of course, eighteenth-century theorists of art and music acknowledged the role of discord. For example, Charles Burney (1726–1814), in *The Present State of Music in France*



MODERNISM AND REVOLUTION

CONSTRUCTIVISM BETWEEN MARXISM AND THEOLOGY

SPIRITUAL INTERESTS IN LATE NINETEENTH-CENTURY AND EARLY TWENTIETH-CENTURY RUSSIA

SYMBOLISM, THEOLOGY, AND OCCULTISM

Russia at the beginning of the twentieth century was a cauldron of political and artistic causes. Ferment had been developing on all fronts since the middle of the previous century. Aileen Kelly, introducing Sir Isaiah Berlin's exemplary writings on the Russian political philosophy of the nineteenth and twentieth centuries, provides the ideal opening onto the scene: Bertrand Russell's attempt to explain the Russian Revolution to Lady Ottoline Morel. Russell pointed out to her that, however appalling Bolshevik despotism might be (and from the time he visited the Soviet Union in the 1920s, Russell had been a trenchant critic of the Bolshevik polity generally and of Lenin's character in particular), nonetheless it was probably the sort of regime the Russians required: "If you ask yourself how Dostoevsky's characters should be governed, you will understand," he said.¹ His remark exposes an uncomfortable truth.

Dostoevsky had glimpsed the emptiness of the secular world, a world presided over by science but devoid of human truths, and had spent the 1870s endeavouring to open new paths to religious faith. For his part, Tolstoy strived to find God in the world of the Russian peasants. Russian thinkers occupied themselves with pondering how to escape the dehumanizing effects of the Industrial Revolution—and, especially, with contemplating the soteriological/

eschatological question whether salvation was possible in a world ruled by technology.

Kelly further states: “In the degree of their alienation from their society and of their impact on it, the Russian intelligentsia of the nineteenth century were a phenomenon almost *sui generis*. Their ideological leaders were a small group with the cohesiveness and sense of mission of a religious sect. In their fervent moral opposition to the existing order, their single-minded preoccupation with ideas, and their faith in reason and science, they paved the way for the Russian [Bolshevik] revolution, and thereby achieved major historical significance.”² Their drive was intense, so much so that the years 1900 to 1914 brought forth an extraordinary number of fervent poetic voices offering daring poetic visions—so many that this age has become known as Russia’s Silver Age. The artists of the Silver Age, children of “Russia’s terrible years” (so they described themselves), felt that they could not find the key to the future in the past, either the past of their nation or the past of the West. Accordingly, they proclaimed that it was necessary to create a new art based on new aesthetic, moral, and religious values. The great philosopher of Russia’s Silver Age, Nikolai Berdyaev, maintained that “the end of the old age seemed to coincide with a new era which would bring about a complete transformation of life.”³

The religiosity so fundamental to the Russian tradition not only heightened the zeal that ferment aroused, but also added to it a special Russian flavour. Major thinkers of the era preceding the birth of the Constructivist movement had renewed the religiosity of traditional Russian culture. Pre-eminent in this regard was Vladimir Sergeyevich Solovyov (1853–1900), the most original, far-reaching, and influential Russian philosopher of the nineteenth century and the first Russian to develop a comprehensive philosophical system. Solovyov explored systematically the implications of a series of his religious experiences; consequently he became a key thinker for the earliest Russian avant-garde, the Russian Symbolists.

The first of these experiences occurred during a service in the chapel of Moscow University: Solovyov had a vision of a beautiful woman he came to call Sophia.⁴ Sophia appears in the Bible—hers is the voice of feminine wisdom in *Proverbs*.

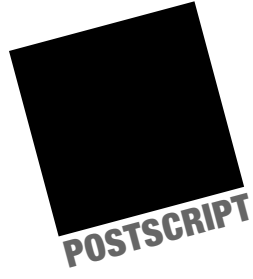
The LORD possessed me in the beginning of his way, before his works of old. I was set up from everlasting, from the beginning, or ever the earth was. When there were no depths, I was brought forth; when there were no fountains abounding with water. Before the mountains were settled, before the hills was I brought forth: While as yet he had not made the earth, nor the fields, nor the highest part of the dust of the world. When he prepared the heavens, I was there: when he set a compass upon the face of the depth: When he established the clouds above: when he strengthened the fountains of the deep: When he gave to the sea his decree, that the waters should not pass his commandment: when he appointed

movement shared with Eisenstein a training in the sciences: G.V. Florovsky was a physicist and mathematician; S.A. Askoldov (S.A. Alekseev) was a chemist as well as a philosopher; and A.A. Ukhtomsky trained first as a theologian and then became a physiologist.

NOTES

- 1 Aileen Kelly, "Introduction: A Complex Vision," in Isaiah Berlin, *Russian Thinkers*, ed. H. Hardy and A. Kelly, intro. A. Kelly (London: Penguin, 1979), p. xiii.
- 2 Kelly, *Toward Another Shore: Russian Thinkers Between Necessity and Chance* (New Haven: Yale University Press, 1998), p. 15.
- 3 Nicolai Berdyaev, *Dream and Reality: An Essay in Autobiography*, trans. Katherine Lampert (New York: Macmillan, 1950), p. 141.
- 4 Under the influence, no doubt, of Boehme, for whose work there was much enthusiasm in Orthodox seminaries, and Schelling, whose Romanticism had been avidly taken up by many nineteenth-century Russian intellectuals, both of whom exalted Sophia.
- 5 And in this he anticipated the views of the Russian Symbolists. Andrei Bely (1880–1934) wrote: "To consider a woman as creature, deprived of creativity, is deplorable. A woman creates a man not only by the very fact of physical birth, but by the act of nurturing spirituality in him as well. A woman fertilizes the creative works of a genius—remember woman's influence upon Goethe, Byron, Dante. What would have become of Dante without Beatrice?!" From Bely, "Weininger about sex and character."
- 6 The influence of Spiritualism should not be overlooked—both Vladimir and his brother Vsevolod (1849–1903) were interested in Spiritualism and in the Russian Spiritualist journal *Rebus*. After 1850, following its spread in Anglo-Saxon countries, Spiritualism spread rapidly in the Czar's Empire. At first it was restricted to tiny groups, but it soon spread to the salons of Count Kushelev-Bezborodko, a personal friend of the medium Daniel Dunglas Home (1833–1886), who married a god-daughter of the Czar (with Alexandre Dumas as best man in a wedding that set St. Petersburg talking). Spiritualism also interested the brothers Tolstoy.
- 7 Likely Solovyov intended to follow up the ethical investigations he presented there with treatises on epistemology and aesthetics; however, he died after completing only three brief chapters of the epistemological treatise.
- 8 The ideas that reason is pure form and empty of content (and so has need of an object to give it content), and that experience in itself is amorphous content and needs reason to give it form, highlight the influence that Kant's philosophy exerted on Solovyov. Of course, in claiming that the Absolute can be an object of knowledge for reason, and that the form of experience derives from the Absolute, and not from the mind itself, Solovyov disagreed with Kant's conclusions; we might see these disagreements, however, as indicating the extent of his engagement with Kant's philosophy.
- 9 Vladimir Solovyov, "Lectures on Godmanhood," trans. G.L. Kline, in J.M. Edie, J.P. Scanlan, and M.-B. Zeldin, eds., with the collaboration of G.L. Kline, *Russian Philosophy. Vol. 111: Pre-Revolutionary Philosophy and Theology; Philosophers in Exile; Marxists and Communists* (Knoxville: University of Tennessee Press, 1976), p. 62. The interpolated text is included in this edition. Note that both the philosophical content (including the idea that the Spirit alienates itself in matter, so that it might come to fuller self-understanding) and the lexical aspects of the passage confirm that Hegel exerted enormous influence on Solovyov.

- 10 This threefold process reflects the Kantian conception of the antinomies and, even more markedly, the Hegelian conception of the dialectic.
- 11 Vladimir Solovyov, "Lectures on Godmanhood," in Edie et al., p. 63.
- 12 Ibid., pp. 63–64. The self thus exhibits the same triadic structure as the Godhead: a singular form (whose being constitutes the *first* moment of this triadic dialectic), whose actuality contains other forms that exist only in potentiality, and that through its own actuality actualizes the potentials of those, and in doing so produces a multiplicity (whose being constitutes the *second* moment of this dialectical process); and then (as the *third* moment in this dialectical process) discovers the unity that unifies the seemingly disparate particulars realized in the dialectic's second moment.
- 13 Solovyov, "Lectures on Godmanhood," p. 62.
- 14 Ibid., p. 67.
- 15 S.L. Frank, the son of a Russian Jewish doctor, was driven out of Berlin in 1937 during Hitler's persecution of the Jews. He moved to Paris; then, after the Second World War, he moved again to London, where he died in 1950.
- 16 From Frank, *Reality and Man* (New York: Taplinger, 1965), trans. N. Duddington, in Edie et al., pp. 289–90.
- 17 Frank, from *Reality and Man*, in Edie et al., pp. 298–300.
- 18 Ibid., p. 300.
- 19 Ibid., pp. 300–1.
- 20 Berdyaev, "Objectification," in Edie et al., pp. 196–97.
- 21 Ibid., p. 193.
- 22 Berdyaev, "Existentialism" (from *Solitude and Society*), in *ibid.*, p. 182.





**CONCLUDING
UNSCIENTIFIC
POSTSCRIPT**

The impetus so evident in the first decades of the twentieth century, to bring forth a new art that would eschew representation, and to do without any depicted objects, has been widely understood as a movement of purification: any element or any formal device that was not rooted in the nature of material would be eliminated from the new art, and its artistic forms would be solidly grounded in the material in which it was realized. Artistic forms profit from being true to the materials in which they are realized—so it was said—as they are then grounded in the real stuff of which they are made. In this way artworks escape from dissembling imitation, the result of their having a derivative existence dependent on their models, and become full-fledged objects with the same sort of material existence that rocks and tables and curling stones have. Another way of bringing the form of an artwork into alignment with the materials in which it is realized is to free it from the corrupting influence of forms imported from other media: painting becomes true to the nature of its material when it understands that it is not drawing (and so dispenses with outlining contours and colouring them in) and not sculpture (and so dispenses with the illusion of three-dimensional forms). Painting becomes painting when it understands that it is produced by smearing coloured goo on a two-dimensional surface (and that, despite the simplicity of the description, offers plenty to be getting on with). Similarly, cinema becomes cinema when it does away with the influence of

literature or theatre and takes as its reality that it is articulated light, light given spatio-temporal form in being projected by a machine that runs at a fixed, nearly unvarying, speed.

One strength of these descriptions is that they placed artistic form at the centre of discussions about the arts. This view taught that artworks do not communicate discursively, through the propositions they impart to us. Artworks communicate differently—they are perlocutional (i.e., their meaning lies in what they *do* to us). Thus, these descriptions established the basis for the more recent development of corporeal aesthetics.

That strength I acknowledge. However, in this book I have tried to propose a new history of the development of early modernist ideals. I have retained the view that early modernism's strength was to acknowledge that the propositional content of artworks has only slight (if any) aesthetic relevance, that their real meaning derives from what they *do* to us. By examining two exemplary moments in early modernist art, I have tried to show that this view of the nature of artworks and their effects, far from being a contemporary discovery, was a well-elaborated, well-defended position in the first decades of the last century. But I argue that notions of how artworks affect us were far different from what they are generally understood to be. In the first decades of the twentieth century it was widely accepted that artworks affect us pneumatically. Once this is understood, I contend, a host of new understandings about the aesthetics of early modernism follow. One of these concerns the importance of cinema for early modernist art. Historians of early modernist art have dealt with the topic of how early modernist artists proposed to recast cinema. They have claimed that its dynamism was attractive to the city-dwelling, automobile-driving denizens of the modern era—but they have also noted that advanced artists of the time believed that cinema could realize its dynamic virtues only by escaping the burden of representation and the pernicious influences of literature and theatre. I have taken a different tack than that of most art historians who write about art and cinema in the early decades of the twentieth century. Instead of focusing first on how Surrealist or Dada or Cubist ideals influenced the form of certain “avant-garde” films made during that period, I have begun by considering the influence that cinema had on modernist ideals (more exactly, the actual programs for aesthetic revision propagated by the artists involved in two exemplary early modernist movements). I have argued that in the early years of the twentieth century, a new “Paragone” of the arts erupted, with many artists and art theorists contending that cinema was the “ottima arte.” For them, cinema was a paradigmatic pneumatic influencing machine, one that provided a model of how the other arts should be reformulated. I have attempted to show generally that early modernist artworks whose radical nature still enchants us grew out of a far different climate of ideas than they are generally thought to have had. By examining the intellectual/spiritual

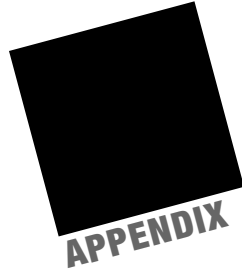
climate in Germany and Russia in the first decades of the twentieth century, I have tried to show that cinema was understood far differently than we, who live after the age of the machine, understand it. Much of this book has focused on examining documents from the period in order to establish how widespread the notion was that the specific virtue of artistic communication is that it operates pneumatically, and that cinema was part of a complex of apparatuses (which included telegraphy, the radio, X-rays, and later electrical devices) that were also understood as confirming the principles of pneumatic philosophy.

I believe that this new history helps us understand aspects of early modernism that traditional accounts cannot explain. Synaesthetic notions challenge beliefs in the rigorous separation of the arts—and so this new history helps explain why, throughout a period that was purportedly dominated by beliefs about the autonomy of each artistic medium, ideas of a synthesis of the arts flourished. The conception of the artwork as a pneumatic influencing machine (or rather a “corporo-pneumatic” influencing machine, for the spiritual movements that we have considered generally considered that spirit can be affected by matter as both arise from a common field of be-ing) helps explain the persistence of the synaesthetic ideal in a way that the more common understanding of early modernist aesthetics cannot. What is more, the assertion that the participants in the various vanguard art movements that arose in the first decades of the twentieth century bring the mediumistic autonomy thesis into question: Just how committed to that ideal could artists be who, having concluded that cinema was the “top art,” wanted to reformulate poetry, literature, painting, and performance so that these other arts would take on the virtues of cinema?

I have also explored in some depth some of the benefits of the approach I have taken. For example, I have tried to show that there is a remarkable logic to the development of Eisenstein’s theory and practice—that we need neither overemphasize the division of work into sharply demarcated periods, nor ignore the enormous differences between early Eisenstein and late Eisenstein. His work underwent significant transformation, I argue, precisely for the reason that the latent pneumatic ideals he harboured demanded to be more fully acknowledged—he could not have retained his intellectual integrity had he ignored them. I believe that understanding the role this pneumatic philosophy played in Russia in the first decades of the twentieth century allows one to develop a more complete, more integral, view of his oeuvre. And, as I show in the first chapter, this new history also allows us to understand how Constructivism was interpreted when it was exported to Germany.

I stated at the outset that I believe the new history I have proposed can clarify the relations among various twentieth-century vanguard art movements in a way that other approaches have not been able to do. I have shown

that seemingly Apollian avant-garde movements developed out of a far more contestational, anti-Enlightenment spirit than has generally been recognized. To outline the close relation between the seemingly Apollian avant-garde and the more evidently Dionysian avant-garde, by expounding the anti-Enlightenment projects that animated both, is the task for another book.





VIKING EGDELING'S *DIAGONAL-SYMPHONIE*
AN ANALYSIS

Viking Eggeling's first film, which likely was never exhibited publicly (and possibly was not finished), was *Horizontal-vertikal Orchester* (1923); it was organized, as the title suggests, along vertical and horizontal vectors. His next film was organized on diagonal vectors.¹ P. Adam Sitney explained:

In his film *Symphonie Diagonale* figures move along alternative diagonal lines crossing the screen from upper left to lower right and from upper right to lower left. At the same time they seem to move in depth from the surface of the screen to an imaginary receding point at its center, as Richter's squares had, and back again. Finally, Eggeling's shapes evolve in straight and elaborately curved lines while they pursue their diagonal and emerging-receding movements. The musicality of *Symphonie Diagonale* comes from its exhaustive use of reciprocal movements. An elaboration along one diagonal axis is mirrored ... by its disunion at another end; a movement into the screen precedes one out of it.²

This description is wonderfully precise and careful (as Sitney's writing always is). Nonetheless, I would question whether his description of Eggeling's use of emerging-receding movement is entirely accurate. What is described simply as recession can be experienced in a more ambiguous manner: as much as a shrinking of a form on a two-dimensional surface as the recession of a form

through the third dimension. I shall sometimes use the terms “recession” and “recede,” and their contraries, but it should be understood that the language is an inaccurate shorthand, for phenomena that could perhaps be described as shrinking (or expanding) that suggest advancing or receding in depth, are not actually experienced as processive or recessive movements.

Standish D. Lawder remarked that Eggeling’s *Diagonal-Symphonie* “must be regarded as much a demonstration of a theory of art as a work of art in itself.”³ The statement is easy to contest, and therefore must be contested. Even so, one must acknowledge that there is an analytical character to Eggeling’s work. A spectacularly focused effort—as dedicated and single-minded as Mondrian’s in the period 1912 to 1919—led Eggeling to simplify natural forms to calligraphic notations. Having reached these basic, simple, highly schematized elements, he was able to combine these notations freely, to combine them and to vary them, showing them developing and then receding.

Eggeling referred to the principle that preoccupied him while he worked on *Diagonal-Symphonie* as “Eidodynamik” (visual dynamism). This principle maintained that the basic element of cinema was projected light and that it was that element which should be the basis of a film’s form. In this regard the film that struck him as the truest was Fernand Léger and Dudley Murphy’s *Ballet Mécanique*. The importance of the light’s being projected was twofold: it lent light a particular quality; and it gave a temporal shape to changes in light. In unpublished notes from the period of *Diagonal-Symphonie*, Eggeling recorded the following:

Film. *Passage of time* characterises the invention and creation of forms, an unbroken advance of the absolutely new. Sinking—rising ... *Theory of development*: true and striking interpretation. Natural classification to gather the organisms together and to divide the groups into subordinate sections where similarities appear to be still greater and so on. The characters of a group always appear as a common theme which each subordinate section varies in its special way. Relation between the originator and what he creates: a relationship of ideal kinship. The logical, deductive relationship of the forms + chronological continuities of the species ... The old *geometry* operated with static figures, the new explores the different variations of a function, which is to say, the continuity of the movement through which an image is produced.⁴

The idea of the different variation of a function no doubt refers to ideas from that branch of mathematics known as analysis, a key topic of which is that of continuous functions. Eggeling understood this field as the mathematics of motion: while artists previously had talked about basic geometrical elements—circles and triangles and squares—he thought in terms of motion paths, of *a* moving from point one to point two while *b* moves from point two to point three, whatever *a* and *b* are (a square, a circle, a rod, a cone, a shape with no

name). *Diagonal-Symphonie* is consistent with this: the basic visual forms it uses are shapes for which we have no names, though they do seem to flow and so have a dynamism.

László Moholy-Nagy confirmed the importance of time in Viking Eggeling's theories. In *Malerei, Photographie, Film*, he wrote that Eggeling was

the first after the Futurists to do so—further developed the importance of the time problem, which revolutionised the whole existing aesthetic and formulated a scientifically precise set of problems ... His experiments at first borrowed from the complexities of musical composition, its division of time, regulation of tempo and its whole structure. But he gradually began to discover the vision-time element and thus his first work to be constructed as a drama of forms became an ABC of motion phenomena in chiaroscuro and variation of direction.⁵

The film shows the basic elements depicted above, the themes of the film, undergoing evolution from one phrase to the next in a strictly regulated time. These elements serve as instruments the film is played on (Eggeling and Richter formulated this analogy while they were working with scrolls—indeed, these “instruments” are the same elements that Eggeling used in his scroll paintings). In the film, these basic instrumental themes interact with one another through time. Eggeling gave each of these different “instruments” a particular motion.

The *Diagonal-Symphonie* uses many devices derived from cinema's temporal component. Polyphony is one such form of construction: the differential evolution of different visual lines is a key example. Polyphonic development would be impossible in Johann Sebastian Bach's music if music were not an art of time: each of the contrapuntally developing lines (to take that example) would be represented simply as a chord. The concept of polyphony holds no meaning for artworks that do not exist in time, for only through time is it possible to make such a distinction between voices as counterpoint requires.

Furthermore, time allowed symmetry to be handled differently, that is, contrapuntally. Eggeling was interested in *Kontrast-Analogie*, and a symmetrical image has an element of contrast and an element of analogy built into it: half the figure resembles the other half (they are “analogous”) but is also the reverse—the opposite of (or a contrast with) the other. In a time-based medium, this *Kontrast-Analogie* can be even more boldly stated by presenting first one half of the image, then the other half—by presenting first one form and then a second that is related to the first by *Kontrast-Analogie*. The mental synthesis of the two forms then represents a synthesis of opposites-in-unity. The possibility of effecting such a synthesis made the serial presentation of symmetrically related forms appealing to Eggeling.

Time also allows morphological evolution to be presented: the components of a drawing do not have to be shown at once. With film, the viewer can observe the actual growth of form (that topic which so intrigued Goethe). Figures are added in succession until the image is complete. The removal of figures need not be done in one step either. At times, Eggeling erased a figure by tracing it, line by line, until it was gone; he also used different shades of grey in time to create the effect of images fading in and out.

An inevitable result of introducing time was the impulse toward rhythm—the thrust to create rhythmic forms: Eggeling had to be concerned not only with the organization of figures in space but also with the organization of figures in time. The duration for which figures remain on the screen, the speed with which they appear and disappear, and the separation between different figures in time all contribute to the rhythm of the piece.

The film has a five-part structure. In the first part, the various themes appear independently or in combination only with a small number of other themes. In the second part of the film (a short section, near the middle in the film's running time), all the themes are combined. In the third part, theme 8 is explored at greater length. In the fourth part, themes 1 and 2 are briefly restated. All the themes reappear for the fifth, concluding part. Eggeling creates varieties of texture by layering different “instruments” in different sections of the piece, creating effects analogous to orchestration in music.

The formal drama of *Diagonal-Symphonie* differs significantly from those of Ruttmann's works. In contrast to the stark architecture that characterizes Ruttmann's best work, the figures in Eggeling's film are filigree-like, small, white shapes on a black background; these filigree forms undergo playful variations. Though the film is based on an elaborately worked-out set of principles, the evolution of the variations does not seem forced: the lines appear to draw themselves and to dissolve so that their animation has something magical about it. Ruttmann's *Lichtspiel Opus Nr. 1* is dynamic, colourful, exuberant; Eggeling's *Diagonal-Symphonie* is rigorous and complex. Ruttmann's film, as we noted earlier, uses elaborate choreographies with many entrances, exits, and collisions, and there is much contrapuntal movement; Eggeling's film treats the screen as an autonomous visual field: forms undergo development or variation within this self-contained space but do not enter or exit from it. Ruttmann's film, with its expansive gestures, exhilarates us; Eggeling's film rewards contemplation of subtle differences. Ruttmann's film follows the traditional dramatic arc and continues to introduce novel forms, novel configurations, and novel patterns of development right to its end; Eggeling begins his film by introducing a complex form—a master shape with many intricate details (many curves, sharp angles, a series of parallel forms that can be seen as coexisting variations, similar to the variations that develop through time)—which essentially represents a synthesis

of the available resources, and then parses this complex form, displaying variants of its various constituents, in patterns that unfold according to principles of contrast and analogy. Thus the master shape serves the film rather as a dominant form; subsequent parts of the film isolate, extract, and develop elements of this whole, rather as some Baroque chamber compositions first present a complex ensemble form and then have solo instruments develop individual parts of this complex. In *Diagonal-Symphonie*, as in a Baroque composition, parts move to the foreground or to the background and forms grow larger and smaller. As in a Baroque composition, sometimes pairs of forms interact with each other, usually antithetically (contrapuntally): one form contracts while the other expands, one form moves in one direction while the other moves in the opposite direction. Finally, as voices in a Baroque composition appear and then disappear, forms in *Diagonal-Symphonie* fade in and fade out.

Richter's *Rhythmus* films, too, are very different from Eggeling's *Diagonal-Symphonie* and from Walther Ruttmann's abstract works. Richter's *Rhythmus 21* is a dynamic composition of grey, white, and black rectangular forms (cf. the paintings of Piet Mondrian). This is unlike Walther Ruttmann's abstract works, which often use curving, improvisational forms. The screen is treated as a planar surface, and the forms move across its surface, not into or out of it. Richter uses many boundary-echoing devices to contain all the forms within the limits of the frame, and he does not allow forms to bleed over the frame's limits. *Rhythmus 23* resembles Eggeling's *Diagonal-Symphonie*. *Rhythmus 25*, no longer extant, was based on the 1923 scroll *Orchestration der Farbe* and concerned light and colour.

The theme-and-variations structure of *Diagonal-Symphonie* reflects the seven or eight years that Eggeling spent working out his *Generalbaß der Malerei*; the ideas he developed during that period also determined how he introduced dynamism into the film—to “animate” the forms. He created about one hundred variants of a master shape, usually on scrolls containing ten to twenty images. Erna Niemeyer then traced these variations onto tinfoil, cut them out, and animated them by slicing a small portion away and taking a frame.

The film produces hardly any effect of depth; the tension it elicits results exclusively from the relationships of the shapes on the surface and their diagonal development. It thus has the form of a composition that presents a series of variations on a suite of diagonal master themes.

The following analysis presents the film's basic themes and charts the variations they undergo.

SHOT DESCRIPTION/ANALYSIS

Themes from the *Diagonal-Symphonie*

1	2	3	4	5	6	7	8	9	10

Shape 11 is simply an arc of a large circle.

Shape 12 is a variant of shape 7, but flipped, the lines straightened, so that it becomes like a "V" with a long arm, to which is added another line that, together with part of the long arm of the large "V," forms a smaller, inverted "V."

[Times begin with the first image.]

SEQUENCE ONE: 00:00:00–00:00:27

[NB: Shape 1 refers to the triangular shape represented in box one of the legend. Though the form remains basically the same throughout the sequence, it does undergo slight shifts. Differences in the density and number of diagonal lines making up the shape are slight but significant. All shapes represented in the legend should only be considered a point of reference for the shapes that appear on screen.]

Shape 1 appears in the centre of the screen, the straight edge of its base angled toward the top right corner. The shape decreases in size as it traces a diagonal path from the centre to the upper right of the screen, creating the illusion of receding into the artificial depth of the screen, before disappearing.

Shape 1 appears in the centre of the screen with its base angled toward the top left. The shape appears to recede from the centre to the upper left of the screen, then disappears.

Shape 1 appears with its base angled toward the top right of the screen and recedes from the centre to the upper right of the screen. As the original shape recedes it is replaced by a smaller Shape 1 that grows as the original shrinks. As the second shape attains its full size the first shape is at its smallest. Both shapes disappear.

Shape 1 appears, base angled toward the top left of the screen, and recedes toward the lower right of the screen, as an identical shape grows to replace it. Both shapes disappear.

Shape 1 appears, base angled toward the top right of the screen, and recedes toward the top right corner of the screen, as an identical shape grows to replace it. Both shapes disappear.

Shape 1 appears, base angled toward the top left of the screen, and recedes toward the upper right corner of the screen as an identical shape grows to replace it. Both shapes disappear.

Shape 1 appears, base angled toward the top right of the screen, and recedes toward the upper right corner of the screen. An identical shape grows to replace it. Both shapes disappear.

Shape 1 appears, base angled toward the top left of the screen, and recedes toward the upper left corner of the screen. An identical shape grows to replace it. Both shapes disappear.

Shape 1 appears, base toward the top right of the screen, and recedes from the centre toward the upper right corner of the screen. As it shrinks it is replaced by an identical but smaller Shape 1 that has been flipped on its vertical and horizontal axes, its base angled toward the bottom left of the screen. As the second shape attains its full size, the first shape (its mirror image) is at its smallest. Both shapes disappear.

Shape 1 appears, base angled toward the top left of the screen, and recedes from the centre toward the upper left corner of the screen. As it shrinks it is replaced by a second Shape 1 that has been flipped on its horizontal and vertical axes. Both shapes disappear.

Shape 1 appears, base angled toward the top right of the screen, the triangle lengthening in a diagonal from the screen's upper right to lower left. Shape 1 disappears.

Shape 1 appears, base angled toward the top left of the screen, and grows, the triangle lengthening along the diagonal from the screen's upper left to lower right. Shape 1 disappears.

Shape 1 appears, base toward the top right of the screen, and recedes from the centre toward the lower left corner of the screen. An identical shape grows to replace it. Both shapes disappear.

Shape 1 appears, base angled toward the top left of the screen, and recedes from the centre toward the top left corner of the screen. An identical shape grows to replace it. Both shapes disappear.

Shape 1 appears, base angled toward the bottom right corner of the screen, and recedes from the centre to the upper left corner of the screen. An identical shape grows to replace it. Both shapes disappear.

Shape 1 appears, base toward the bottom left of the screen and grows, the triangle lengthening along the diagonal from the screen's lower left to upper right. Shape 1 disappears.

Shape 1 appears, base toward the bottom right of screen, and grows, the triangle lengthening along the diagonal from the screen's lower right to upper left. Shape 1 disappears.

SEQUENCE TWO: 00:00:28–00:00:39

Shape 2 appears at the top centre of the screen. It forms a 45 degree diagonal slash from the upper right to centre left of the screen. Remaining in the same angle and position, Shape 2 undergoes 19 minor variations on its basic form. These variations consist of the disappearing and reappearing of the small lines and angles that constitute the form. The variations occur at a very regular rhythm.

SEQUENCE THREE: 00:00:40–00:01:06

A compound shape appears at the centre of the screen, bisecting the screen from the top right to the bottom left corner at an angle of approximately 45 degrees. The initial cluster consists of the following component shapes (listed from the bottom of the screen to the top): Shape 3, Shape 4, Shape 2.

The compound shape begins to vary, its component shapes appear and disappear (at the same regular rhythm as Shape 2 underwent its own permutations in the second sequence of the film.) The variations are as follows:

Shapes 9 and 10 are added to the cluster.

Shape 2 disappears briefly.

Shape 5 begins to “undraw” itself.

Shape 2 reappears and begins to undergo the same transformations as described in sequence two.

Shapes 3 and 4 begin to undraw and redraw themselves, undergoing permutations of their basic forms.

Shape 10 disappears completely.

Shape 9 disappears completely.

Shapes 3, 4, and 2 continue to undergo transformations at a regular rhythm.

The compound shape disappears and reappears flipped on its horizontal axis, bisecting the screen from the top left corner to the bottom right corner.

Permutations of component Shapes 3, 4, and 2 continue at a regular rhythm.

The compound shape disappears and reappears back in its original orientation.

Permutations of Shapes 3, 4, and 2 continue at a regular rhythm.

The pattern of flipping the cluster of shapes back and forth along its horizontal axis continues. Each time the cluster disappears and reappears (11 times in total), it is held on screen for varying lengths of time (1 to 6 seconds). Shapes 3, 4, and 2 continue their variation in a regular and simultaneous rhythm. Occasionally Shapes 5, 7, and 10 also appear on screen briefly.

SEQUENCE FOUR: 00:01:07–00:01:10

Shapes 6 and 3 appear on screen simultaneously. Shape 3 has its flat base angled toward the top left of the screen and its spine curving down toward the bottom right. Shape 6 has its flat edge at the centre of the screen at a 45 degree angle. Shape 3 is much larger than Shape 6.

Both shapes disappear and reappear, Shape 3 growing progressively smaller in three stages as Shape 6 grows progressively larger.

Shape 3 disappears. Shape 6 disappears.

SEQUENCE FIVE: 00:01:11–00:01:14

A compound shape appears at the centre of the screen. It is composed of Shape 3 (base toward the left of the screen) and Shape 12 (angling off from the base of Shape 3 toward the top centre of the screen) and a larger version of Shape 12 (tracing the contours of the two other shapes).

Shape 3 undraws and redraws itself (from its shortest vertical line, at the right of the screen, to its longest, at the left side of the screen) three times over.

Shape 3 and both versions of Shape 12 undraw themselves line by line, emptying the screen gradually.

SEQUENCE SIX: 00:01:14–00:01:24

A compound shape appears at the centre of the screen. It is drawn in line by line then begins to undergo transformations.

The lower left corner of the screen is occupied by Shape 6, which appears and then quickly undraws itself, line by line, from bottom to top.

The upper centre of the screen is occupied by a compound shape made up of Shape 4 and Shape 12.

Shape 4 undraws itself and disappears.

Arrow-like Shape 10 emerges attached to Shape 12. The head of the arrow is positioned at the centre of the screen while the arching base of the arrow stretches toward the centre left of the screen.

Shape 12 disappears progressively from the top toward the centre of the screen.

Shape 6 reappears at the bottom left of the screen as Shape 10 is disappearing from its head to its tip.

Shape 6 undraws itself, line by line, from top to bottom.

SEQUENCE SEVEN: 00:01:25–00:01:29

A new compound shape appears. It is composed of Shape 5 at the upper left of the cluster and Shape 3 at the lower right of the cluster (at the screen's centre). The two shapes are joined by Shape 12.

Shape 5 undraws itself.

Shape 3 undraws itself.

Shape 10 draws itself in at the lower right of the cluster (at the screen's centre, with the arrow's head exactly at the centre of the screen and its base arching off to the right of the screen), opposite to where Shape 3 had been.

Shape 12 disappears progressively toward the centre of the screen, where Shape 10 remains.

Shape 10 disappears from head to tip (centre to lower right of the screen).

SEQUENCE EIGHT: 00:01:30–00:01:35

A variation on the compound shape from the previous sequence appears in the upper left corner of the screen. It is constituted of a number of shapes drawn in progressively in the following order: Shape 5 at the right side of the cluster, a variation on Shape 12 positioned at a 45 degree angle from the upper left to lower right of the screen, Shape 3 at the lower left of the cluster.

As soon as Shape 3 is completed, Shape 5 begins to erase itself from top to bottom.

Shape 3 undraws from left to right.

Shape 12 undraws itself from bottom to top as Shape 10 draws itself in at the far left of the cluster with its head facing the centre of the screen and its base arching off to the left.

Shape 10 undraws itself from head to tip.

SEQUENCE NINE: 00:01:36–00:01:44

A compound shape appears progressively. It is nearly identical to the cluster in sequence six.

The lower left corner of the screen is occupied by Shape 6.

Shape 6 undraws itself, line by line, from bottom to top.

The upper centre of the screen is occupied by Shape 3, which is drawn in progressively.

A variation on Shape 12 is drawn in around Shape 3.

Shape 3 undraws itself and disappears as Shape 10 emerges as part of the structure formed by Shape 12. The head of the arrow is exactly at the screen's centre, while the arching base of the arrow stretches toward the centre left of the screen.

The lines of Shape 12 disappear progressively from the screen.

Shape 6 reappears at the bottom left of the screen.

Shape 10 undraws itself from head to tip.

Shape 6 undraws itself, line by line, from top to bottom.

SEQUENCE TEN: 00:01:45–00:01:53

The previous sequence plays itself out over again with all shapes flipped on the vertical axis (which places Shape 6 at the bottom right of the screen and the cluster of shapes at the top left).

SEQUENCE ELEVEN: 00:01:54–00:02:00

Shape 6 appears at the centre left of the screen. It draws and undraws itself several times as a cluster of shapes emerges directly above it in the top left corner of the screen.

This compound shape appears progressively from its top to its bottom. It is made up of the following component shapes: Shape 3 is at the uppermost left of the screen. Its appearance is followed by the appearance of Shape 12, which joins Shape 3 to Shape 5 (positioned close to the top centre of the screen.)

Shape 10 appears at the left centre of the quickly disappearing cluster with its head pointing toward the centre of the screen and its tail arching to the left.

Shape 10 undraws itself from head to tail.

SEQUENCE TWELVE: 00:01:58–00:02:16

A compound shape appears in the centre of the screen. It is a combination of Shape 5 and Shape 1. Shape 5 is positioned vertically at the centre of the screen. Shape 1 is on a 45 degree angle (from left to right, with its flat base at the bottom of the screen) at the base (bottom centre of the screen) of Shape 5.

Shape 5 begins to disappear from top to bottom. Shape 1 disappears from beneath it.

The same compound shape appears (flipped on its vertical axis) and undraws itself in the same pattern.

The compound shape appears (in its original orientation) with the exception of the Shape 1 component, which has been flipped on its horizontal axis leaving its flat base pointing toward the top of the screen. The compound shape undraws itself in the same pattern as previously.

The same compound shape appears (flipped on its vertical axis) and undraws itself in the same pattern.

The original shape appears (in its original orientation with the Shape 1 component in its original position) and undraws itself in the same pattern.

A similar compound shape appears, the only differences being that it is slightly reduced in size and that Shape 5 is made up of two, rather than three, “S” lines. Also, the Shape 1 component is again positioned with its base toward the top of the screen. The compound shape undraws itself in the same pattern.

A similar compound shape appears, the only variations being that it remains slightly reduced in size, Shape 5 is made up of one, rather than two or three, “S” lines, and the Shape 1 component is in its original orientation. It undraws itself in the same fashion as in the previous sequence.

A similar compound shape appears. It is reduced once again in size. The Shape 5 is made up of two “S” lines. The base is flipped on its horizontal axis. It undraws itself in the same pattern.

A similar compound shape appears. Shape 5 is made up of three “S” lines, while the Shape 1 component is in its original position. It undraws itself in the same pattern.

SEQUENCE THIRTEEN: 00:02:17–00:02:22

A compound shape appears to the left of the screen. It is made up of Shape 8 at the bottom centre of the screen, and Shape 1 with its base at the bottom centre of the screen and its lines dissecting the screen at a 45 degree angle. A combination of Shape 5 and Shape 10 is to the upper right of Shape 1. The compound shape undraws itself from the top left corner to bottom centre of the screen.

The compound shape appears again, this time flipped on its vertical axis. It undraws itself from top right to bottom left.

SEQUENCE FOURTEEN: 00:02:23–00:02:26

A compound shape appears progressively from the top left corner of the screen to the bottom centre. It comprises the following shapes, in order of appearance: Shape 5 at the upper left side of the cluster, Shape 11 connecting Shape 5 to Shape 3 (flipped horizontally and vertically), Shape 10 at the right side of the cluster (with its head pointing left and its tail arching right), and Shape 12, which is not directly connected to the cluster but tracks its periphery at the left side of the screen.

The compound shape begins to undraw itself before Shape 12 has finished appearing. Shape 10 at the right of the cluster is the last to disappear.

The same compound shape reappears, flipped on its vertical axis, and the same sequence of events occurs over again.

SEQUENCE FIFTEEN: 00:02:27–00:02:49

A very complex compound shape appears at the left of the screen. It is a variation on the compound shape in sequence 13, though more elaborate. It includes Shape 3, Shape 5, Shape 6, Shape 8, Shape 10, Shape 11, and Shape 12. But Shape 1 is the most prominent component shape. It is oriented at an angle of 45 degrees.

The compound shape appears slightly to the left of centre screen.

Its various component shapes begin to disappear, reappear, and reposition themselves within the cluster, creating a quick and complex rhythm.

The compound shape disappears and reappears flipped on its vertical axis.

The play of disappearing and reappearing begins again.

The compound shape progressively undraws itself, leaving Shape 6 as the last component shape onscreen.

The compound shape reappears in its original orientation. Again the rhythm of disappearing and reappearing plays itself out. The compound shape then undraws itself, leaving Shape 6 the last component shape onscreen.

SEQUENCE SIXTEEN: 00:02:50–00:02:56

Two versions of Shape 6 appear on screen together, one at the very bottom left of the screen, the other higher up and further right. Their identical straight edges are facing each other, their rounded edges outward. They are separated by a gap at least equal in width to the shapes themselves.

The two shapes disappear and reappear with their flat edges almost touching, thus forming a circle split by a slight diagonal gap.

The shapes disappear and reappear briefly at opposite ends of the screen. One semicircle is in the upper left corner of the screen, while the other is in the bottom left. The former is nearly four times bigger than the latter.

The two shapes reappear near the centre of the screen, their flat edges nearly touching. The larger of the two is positioned closer to the top right corner, the smaller is lower down near the bottom left corner. As the larger of the two starts sliding downward toward the bottom left corner of the frame it begins to shrink in size. As the smaller Shape 6 begins sliding upward, toward the upper right corner, it begins to increase in size. Both shapes disappear.

The two shapes reappear briefly at opposite ends of the screen once again. The shape in the upper left corner of the screen is now the smaller, while the shape in the bottom left is nearly 4 times bigger.

The shapes reappear in the centre of the screen with their flat edges nearly touching. The smaller shape is positioned close to the bottom right corner

of the screen, the larger is higher up, near the top left corner of the screen. The smaller shape slides upward, increasing in size at it does, while the larger shape shrinks as it is sliding downward toward the bottom right corner. Both shapes disappear.

The two shapes reappear briefly at opposite ends of the screen once again.

The shape in the bottom left corner of the screen is the larger, while the shape in the upper right is the smaller.

The two shapes reappear near the centre of the screen with their two flat edges nearly touching. As the larger of the two starts sliding downward toward the bottom left corner of the frame it begins to shrink in size. As the smaller Shape 6 begins sliding upward, toward the upper right corner, it begins to increase in size. Both shapes disappear.

SEQUENCE SEVENTEEN: 00:02:57–00:03:12

Shape 1 appears with its base angled toward the bottom right corner of the screen. It recedes into the false depth of the screen as it did in the first sequence, sliding toward the bottom right corner as it does so.

Shape 1 appears with its base angled toward the bottom left of the screen. As it recedes toward the top right corner of the screen, an identical shape grows to fill its place.

Shape 1 appears, its base angled toward the top left of the screen. As it shrinks it slides toward the upper left corner of the screen. It is replaced by an identical Shape 1 that has been flipped on its horizontal axis (base facing down), which grows upward, toward the upper left corner. As the second shape attains its full size the first shape is at its smallest. Both shapes disappear.

Shape 1 appears, base angled toward the top right of the screen. As it shrinks and slides toward the upper right corner of the screen it is replaced by an identical Shape 1 that has been flipped on its horizontal axis (base facing down) which grows upward toward the upper right corner. As the second shape attains its full size the first shape is at its smallest. Both shapes disappear.

Shape 1 appears, its base angled toward the bottom right of the screen. As it recedes toward the top left corner of the screen, an identical shape grows to fill its place.

Shape 1 appears, its base angled toward the bottom left of the screen. As it recedes toward the top right corner of the screen, an identical shape grows to fill its place.

Shape 1 appears, its base angled toward the bottom right of the screen. As it recedes toward the upper left corner of the screen, it is replaced by an iden-

tical shape, which grows from the bottom right of the screen. Both shapes disappear.

Shape 1 appears with its base angled toward the bottom left of the screen. It grows diagonally toward the top right corner of the screen.

A small version of Shape 1 appears with its base toward the bottom right of the screen. It grows diagonally toward the top left of the screen.

SEQUENCE EIGHTEEN: 00:03:13–00:04:50

A compound shape appears at the centre of the screen. It is made up of Shape 1, Shape 8, and Shape 12. The multiple lines that make up Shape 1 begin to disappear and reappear in a polyphonic movement that serves to emphasize the diagonal positioning of the cluster of shapes. In the upper left corner a smaller version of Shape 1 (flipped on its vertical axis) is joined to the larger shape by Shape 12. Other small elements appear and disappear rhythmically.

The compound shape flips on its vertical axis and its various components continue to appear and disappear, each with its own rhythm.

The compound shape flips back to its original position and its various components continue to appear and disappear each with its own rhythm.

A new compound shape appears. Shape 1 is the dominant component of the compound shape. But added on to this are a number of small shapes that appear and disappear in and around the main shape. Shape 1, Shape 3, Shape 4, Shape 5, Shape 8, and Shape 12 are present as are other non-identifiable straight lines and curved lines. Each of the many components of this compound shape appear and disappear at their own rhythm, creating a regular polyphonic texture.

The compound shape is flipped on its vertical axis and continues its pattern of movement.

The compound shape reappears in its original position and continues its pattern of movement.

The compound shape is flipped on its vertical axis and continues its pattern of movement.

The compound shape reappears in its original position and continues its pattern of movement.

The compound shape is flipped on its vertical axis and continues its pattern of movement.

The compound shape reappears in its original position and continues its pattern of movement.

The compound shape is flipped on its vertical axis and continues its pattern of movement.

The compound shape reappears in its original position and continues its pattern of movement.

At this point the compound shape becomes progressively more simple. Shape 1 still forms the dominant element of the cluster of shapes. Shapes 10 and 6 are added to the cluster. The shape's rhythm, though it remains polyphonic, as before, becomes slower and simpler.

The compound shape flips on its vertical axis and continues its pattern of movement.

The compound shape reappears in its original position and continues its pattern of movement.

The compound shape flips on its vertical axis and continues its pattern of movement.

The compound shape reappears in its original position and continues its pattern of movement.

The compound shape flips on its vertical axis and continues its pattern of movement.

The compound shape reappears in its original position and continues its pattern of movement.

The compound shape flips on its vertical axis and continues its pattern of movement.

The compound shape reappears in its original position and continues its pattern of movement.

The compound shape flips on its vertical axis and continues its pattern of movement.

The compound shape reappears in its original position and continues its pattern of movement.

As the shape continues its flipping pattern it begins to shrink, thus seeming to recede into the centre of the screen (it flips back and forth an additional seven times).

SEQUENCE NINETEEN: 00:05:00–00:05:22

Shape 1 (flipped on its vertical axis with its base toward the bottom of the screen) appears and recedes from the bottom right to upper left. As it shrinks it is replaced by an identical shape that has been flipped on its vertical axis. As the second shape attains its full size the first shape is at its smallest.

The original Shape 1 begins to grow again, as the second Shape 1 recedes along the same diagonal path on which it grew.

Shape 1 appears at the centre of the screen with its base at the bottom left of the screen, its tip angled toward the top right. It shrinks in size and slides toward the bottom left as an identical shape grows to take its place, sliding from the top right toward the bottom left. Once the second Shape 1 is at full size it begins to shrink back toward the top right as the original Shape 1 grows back, from the bottom left, to retake its original position.

Shape 1 appears with its base near the bottom right of the screen and its tip toward the top left. As it shrinks it is replaced by an identical shape that has been flipped on its vertical axis. As the second shape attains its full size the first shape is at its smallest.

Shape 1 appears with its base near the bottom left of the screen and its tip toward the top right. As it shrinks it is replaced by an identical shape that has been flipped on its vertical axis. As the second shape attains its full size the first shape is at its smallest.

Shape 1 appears with its base near the top left of the screen and its tip toward the bottom right. As it shrinks it is replaced by an identical shape that has been flipped on its vertical axis. As the second shape attains its full size the first shape is at its smallest.

Shape 1 appears with its base toward the bottom left of the screen, its tip toward the upper right. It shrinks and slides toward the upper right. As it shrinks it is replaced by an identical Shape 1 which grows from the bottom left toward the upper right. As the second shape attains its full size the first shape is at its smallest.

Shape 1 appears with its base toward the bottom right of the screen and its tip toward the upper left. It shrinks and slides toward the upper left. As it shrinks it is replaced by an identical Shape 1, which grows from the bottom right toward the upper left. As the second shape attains its full size the first shape is at its smallest.

Shape 1 appears with its base near the bottom left of the screen and its tip toward the top right. As it shrinks it is replaced by an identical shape that has been flipped on its vertical axis. As the second shape attains its full size the first shape is at its smallest.

Shape 1 appears with its base near the bottom right of the screen and its tip toward the top left. As it shrinks it is replaced by an identical shape that has been flipped on its vertical axis. As the second shape attains its full size the first shape is at its smallest.

Shape 1 appears with its base at the bottom left of the screen and its tip toward the top right. As it shrinks and slides toward the bottom left, it is replaced by an identical shape which grows as it slides down from the upper right.

Shape 1 appears with its base at the bottom right of the screen and its tip toward the top left. As it shrinks and slides toward the upper left, it is replaced by an identical shape, which grows as it slides upward from the lower right.

SEQUENCE TWENTY: 00:05:23–00:05:28

Shape 2 appears at the bottom centre of the screen. It forms a diagonal angle from the lower left toward the upper right of the screen at an angle of 45 degrees. Remaining in the same angle and position, Shape 2 undergoes many slight variations on its basic form. These variations consist of lines and angles appearing and disappearing at regular intervals.

SEQUENCE TWENTY-ONE: 00:05:29–00:05:39

Shape 1 appears with its base at the top left of the screen and its tip toward the bottom right. As it shrinks and slides toward the bottom right, it is replaced by an identical shape, which grows as it slides down from the upper left.

Shape 1 appears with its base at the top right of the screen and its tip toward the bottom left. As it shrinks and slides toward the bottom left, it is replaced by an identical shape, which grows as it slides down from the upper right.

Shape 1 appears with its base at the upper left of the screen. The shape lengthens as it grows, its tip sliding toward the bottom right.

Shape 1 appears with its base at the upper right of the screen. The shape lengthens as it grows, its tip sliding toward the bottom left.

Shape 1 appears with its base at the top left of the screen and its tip toward the bottom right. As it shrinks and slides toward the top left, it is replaced by an identical shape, flipped on its horizontal axis, which grows as it slides up from the bottom left.

Shape 1 appears with its base at the bottom left of the screen and its tip toward the top right. As it shrinks and slides toward the bottom left, it is replaced by an identical shape, flipped on its horizontal axis, which grows as it slides down from the top right.

SEQUENCE TWENTY-TWO : 00:05:40–00:05:48

Two versions of Shape 6 appear on the screen in opposite corners. At the top left corner is a small version of the shape, at a 45 degree angle, with its flat edge facing left. Near the bottom right corner of the screen is the second shape, also angled at 45 degrees, its flat edge facing the right side of the screen, this version is approximately four times larger than its partner.

The two shapes begin sliding toward each other in a diagonal path. The larger version shrinks as it slides toward the upper left corner while the smaller version grows and lengthens as it slides toward the bottom right. When each of the shapes reaches the original position of the other they both disappear.

Two versions of Shape 6 appear on the screen. The smaller is in the upper right corner while the larger is in the bottom left. The two slide toward each other on a diagonal path. As the smaller shape slides downward toward the lower left corner, it grows and lengthens. As the larger shape slides upward toward the upper right, it shrinks. When each of the shapes reaches the original position of the other they both disappear.

Two versions of Shape 6 appear on the screen in opposite corners. The smaller shape is in the upper left, while the larger is in the lower right. The two shapes begin sliding toward each other in a diagonal path. The larger version shrinks as it slides toward the upper left corner while the smaller version grows and lengthens as it slides toward the bottom right. When each of the shapes reaches the original position of the other they both disappear.

Two perfectly identical images appear at the centre left of the screen. One is a mirror image of the other, and they are positioned with their flat edges facing inwards at a 45 degree angle, thus creating a circle from two semi-circles.

The two halves separate, repositioning themselves with a gap between them.

SEQUENCE TWENTY-THREE: 00:05:49–00:06:20

A small compound shape appears on the screen. It is a hybrid of Shapes 12 and 6. The base of Shape 12 is positioned at an angle toward the top left corner of the screen. Shape 6 is grafted onto the larger Shape 12.

The compound shape disappears and reappears slightly larger and flipped on its vertical axis.

The compound shape disappears and reappears slightly larger and in its original position.

The compound shape disappears and reappears slightly larger and flipped on its vertical axis.

The compound shape disappears and reappears slightly larger and in its original position.

The compound shape disappears and reappears slightly larger and flipped on its vertical axis.

The compound shape disappears and reappears slightly larger and in its original position. Additional component shapes begin to draw themselves in to the right of the compound shape. Shape 3 is identifiable among them.

The compound shape disappears and reappears flipped on its horizontal axis.

The same additional component shapes begin to draw themselves in to the right of the compound shape.

The compound shape disappears and reappears flipped on its vertical axis.

Additional component shapes begin to draw themselves in contingent to the original shape. Shape 12 becomes Shape 8, with various other component shapes positioned around it, such as Shape 3, Shape 5, Shape 6, and Shape 11. All the components begin to undraw and redraw themselves at various speeds, creating the same polyphonic rhythm we saw in sequence eighteen.

The compound shape appears briefly flipped on its vertical axis. It disappears and reappears in its original position. The rhythmic movements of the various components continue.

NOTES

- 1 Erna (Ré) Niemeyer-Soupault declared that the print of the *Diagonal-Symphonie* that commonly circulates is not the original that she and Viking Eggeling worked on: “cette version est un faux.” She maintains that the original is not as heavy and that there is more linear subordination of form and line. She suspects that the film was the result of Richter’s reworking Eggeling’s material.
- 2 P. Adams Sitney, *Visionary Film: The American Avant-Garde* (Oxford: Oxford University Press, 1979), p. 229.
- 3 Standish D. Lawder, *The Cubist Cinema* (New York: NYU Press), p. 54.
- 4 In Louise O’Konor, “The Film Experiments of Viking Eggeling,” *Cinema Studies* 2, no. 2 (1966): 29.
- 5 Lázló Moholy-Nagy, *Painting, Photography, Film*, trans. J. Seligman (London: Lund Humphries, 1969), pp. 20–21.



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