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Lynn Edward Boland

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The Dissertation Committee for Lynn Edward Boland certifies that this is
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A Culture of Dissonance: Wassily Kandinsky,
Atonality, and Abstraction

Committee:

Linda D. Henderson, Supervisor

Elliott M. Antokoletz

John R. Clarke

Ann M. Reynolds

Richard A. Shiff

A Culture of Dissonance: Wassily Kandinsky,
Atonality, and Abstraction

by

Lynn Edward Boland, A.B.; M.A.

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To my wife, Katherine, and our sons, Lute and Atley.

A Culture of Dissonance: Wassily Kandinsky, Atonality, and Abstraction

by

Lynn Edward Boland, Ph.D.

Supervisor: Linda D. Henderson

Wassily Kandinsky's interest in music as a source for abstraction in painting has often been noted in the scholarship on his art. However, no studies have sufficiently explained how the artist employed musical strategies, especially as he was developing his abstract style in the first decade of the twentieth century. Kandinsky's looked primarily to Arnold Schoenberg's new musical idioms and theories, and he was deeply inspired by highly dissonant music, but his ideas were set within a much broader context that further suggested and encouraged the expressive and transformative power of dissonance.

By the late nineteenth century, extended passages of dissonance were common in musical compositions. At the same time, the concept of dissonance as a positive force was suggested in a wide range of late nineteenth-century literature, including the writings of Friedrich Nietzsche, occult authors, popular texts on physics and experimental psychology, as well as within music and art theory. Close readings of Kandinsky's theoretical texts and selected works of art provide insights into how he might have understood and employed these concepts in his formation of an abstract style. Kandinsky's paintings *Impression III (Concert)* of 1911 and *Composition VII* of 1913 are the primary artistic foci of this study, along with his book *Concerning the Spiritual in Art* and the anthology *Der Blaue Reiter*, which he co-edited.

This dissertation seeks to restore the concept of musical dissonance and its application in the visual arts to its historical context for Kandinsky. This facilitates more informed formal analyses of Schoenberg's music and Kandinsky's paintings, which, in turn, suggest strategies of atonal musical composition applied to abstract painting. Additionally, this dissertation establishes an artistic context of visual dissonance that goes beyond Kandinsky, including artistic movements in France and Russia, allowing additional comparisons and a consideration of the larger impact of these ideas.

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Chapter 1

Introduction

“‘Today’s’ dissonance in painting and music is merely the consonance of ‘tomorrow.’”

Wassily Kandinsky in a letter to Arnold Schoenberg, January 18, 1911¹

"Clashing discords, loss of equilibrium, 'principles' overthrown . . . opposites and contradictions—this is our harmony."

Kandinsky, *Concerning the Spiritual in Art*, published December, 1911²

Constructing Dissonance

With the emergence of the European avant-garde in the late nineteenth century, artists continually pushed the boundaries of what was acceptable, responding to a rapidly changing cultural climate with new ideas and approaches to art. Over the course of the twentieth century, those ideas have, sometimes slowly, come to be accepted. This is

¹ Jelena Hahl-Koch, ed., *Arnold Schoenberg—Wassily Kandinsky: Letters, Pictures and Documents*, trans. John C. Crawford (Boston: Faber and Faber, 1984), 21.

² Kandinsky, "On the Spiritual in Art," in *Complete Writings*, translated by Peter Vergo, edited by Vergo and Kenneth Lindsay (New York: Da Capo Press, 1994), 193. Vergo's text in complete writings offers the most literal English translation. However, Dover's reprint of Michael Sadler's 1914 translation will prove more accessible to most readers and is used except where it deviates significantly from Kandinsky (New York: 1977). In all cases, I have consulted Venteli-Verlag's edition of *Über das Geistige in der Kunst* (Bern, 1952), which was the last edition to use Kandinsky's original blocks for the illustrations.

largely what Wassily Kandinsky meant when he paraphrased Arnold Schoenberg in his introductory letter to the composer of January 18, 1911, quoted above.³

Kandinsky's letter to Schoenberg marked the start of an exchange of ideas that would prove essential in the artist's formulation of an abstract style during this period. As I shall demonstrate, he was already well primed to embrace Schoenberg's music, which he first encountered at a concert in Munich on January 2, 1911. Kandinsky's initial response to the concert was artistic; he painted *Impression III (Concert)* immediately afterwards (fig. 1.1). Scholars have attempted to establish connections between the concert and the painting in various ways. However, attempts to demonstrate direct links between Kandinsky's art and Schoenberg's music have been largely thwarted by misunderstandings of one or both artists' theories and goals. The recovery of a larger context for the concept of dissonance is necessary in order to understand Kandinsky's conception of dissonance as it was expressed in *Impression III* and later paintings.

Kandinsky saw in Schoenberg's arguments for a new system of harmony similarities to his own advocacy of totally abstract art. Kandinsky had long looked to music as a model for his move to greater abstraction, and he recognized the impact Schoenberg's radically new theories could have in his own formulations. Tied to ideas of the expansion of artistic material and "freedom," he undertook a concerted study of the concept of musical dissonance in the years between 1911 and 1913, culminating in

³ Kandinsky put the phrase in quotation marks in his letter to Schoenberg, but he was summarizing a sentence from an excerpt of Schoenberg's writings. This will be addressed more fully below.

Composition VII, a seminal example of early abstraction. For Kandinsky, dissonance was positive and constructive, as it was for Schoenberg.

Kandinsky was not alone in applying the concept of dissonance in his artistic theories. Positive references to atonality and highly dissonant music may be traced at least to Paul Gauguin, who used analogies of musical dissonance in writings of the late 1880s and 1890s.⁴ In 1905 André Derain wrote that "deliberate disharmonies" of color were his preferred means of expression.⁵ In the years before World War I Fernand Léger asserted the significance of formal contrasts to his paintings, proclaiming that "Contrast = dissonance."⁶ The Italian Futurists were even more vocal in their advocacy of contrast, and through Luigi Russolo, specifically, incorporated "noise music" into their artistic program. Ezra Pound and the Vorticists embraced the dissonant music of George Antheil in the 1920s.⁷

Musical dissonance is sometimes addressed in the literature on specific artists or movements, but the larger theme within European and Russian modern art has rarely been considered.⁸ Examining such a wide range of artists in any depth is beyond the

⁴ See, for instance, Gauguin, "Notes Synthétiques" [1888] in *Paul Gauguin, A Sketchbook*, trans. Raymond Cogniat (New York: Hammer Galleries, 1962), 57–64.

⁵ Derain to Vlaminck, July, 1905. Quoted in Denys Sutton, *André Derain* (Garden City, NY: Phaidon, 1959), 16.

⁶ Léger, "Contemporary Achievements in Painting (1914)," in *Functions of Painting*, ed. Edward Fry, trans. Alexandra Anderson (New York: Viking Press, 1973), 16.

⁷ See, for instance, Pound, *Antheil and the Treatise on Harmony* (Chicago: Pascal Covici, 1927).

⁸ Recent studies by Julia Kursell have demonstrated significant links between theories concerning musical dissonance and Russian Futurist poetry. Kursell's *Schallkunst: Eine Literaturgeschichte der Musik in der frühen russischen Avantgarde* (Munich: Wiener Slawistischer Almanach, 2003). Kursell also draws important parallels between Helmholtz and Schoenberg in her essay "Experiments on Tone Color in Music and Acoustics: Helmholtz, Schoenberg, and *Klangfarbenmelodie*" in *Osiris: Music, Sound, and the Laboratory from 1750–1980*, ed. Alexandra Hui, Julia Kursell, and Myles W. Jackson, 28 (Kingston, Rhode Island: University of Rhode Island, 2013), 191–211.

current scope of this dissertation, but I intend to offer a broader view where possible. The primary focus of this dissertation is the concept of musical dissonance within Kandinsky's writings and paintings of the period between 1911 and 1913. Kandinsky is a useful focus for a number of reasons. He was arguably the most influential proponent of total abstraction in the period before World War I, and he wrote about musical dissonance in his publications throughout the 1910s, offering important insights into these issues. There is an abundance of existing literature concerning his theories and art, much of which suggests the importance of dissonant music to his formulation of an abstract style; yet little has been offered to explain this beyond the artist's own statements. Therefore, reexamining Kandinsky and his larger cultural milieu is a useful and necessary first step.

Kandinsky's interest in music has often been noted in the literature on him. However, most references have remained vague, merely suggesting that he was inspired by music and especially new atonal compositions like those by Schoenberg. Others have drawn more direct parallels without offering support, claiming he sought to paint Schoenberg's music, which does not seem to have been the artist's intent.⁹ As Kandinsky stated in 1914: "I do not want to paint music."¹⁰ However, he also argued that "the richest lessons are to be learned from music."¹¹

⁹ For instance, Eckhard Hollman, *The Blue Rider* (Munich: Prestel, 2011), 279–80, discussing Kandinsky's *Impression III* (Concert) of 1911: "The black shape still recalls a piano, but the picture is the translation of Schönberg's music into painting."

¹⁰ Kandinsky, *Complete Writings*, 400.

¹¹ *Ibid.*, 154.

The question, then, is how did atonal music serve as a source for Kandinsky's abstract art? This question quickly leads to a host of others. How did he understand the concepts of dissonance and atonality? What ideas were circulating at the time? What was he likely to have encountered? What was he likely to have understood?

Art historical literature concerning dissonant music as a possible source for Kandinsky can be described as two variations of a single approach. Some scholars have examined Schoenberg's writings and attempted to make connections with Kandinsky's art.¹² A more common tack has been to suggest connections between expressive effects of Schoenberg's music and those of Kandinsky's paintings. Both approaches focus exclusively on Schoenberg as a source for dissonance and atonality. Given the personal connection the two men established in 1911, and the artist's statements lauding the composer's innovations, this is a reasonable starting point. However, these approaches fall short in attempts to establish specific structural links between Schoenberg's music and Kandinsky's art.

To begin understanding Kandinsky's intent in his paintings or in his written theories, both elements must be considered in tandem. The same is true for Schoenberg's music and writings. Recognizing any links between Kandinsky's art and Schoenberg's music at least requires consideration of all of these elements; yet this approach has not been undertaken. Most often, scholars have either relied on general written characterizations of the music, or have focused on excerpts from Schoenberg's writings.

¹² Peter Vergo's writings on Kandinsky and music epitomize this approach. I will provide an overview of Vergo's studies below and I will address existing scholarship on this topic in greater detail in later chapters of this dissertation.

No scholarship on Kandinsky has included serious examination of Schoenberg's scores. While my argument is primarily concerned with Kandinsky's understanding of Schoenberg's ideas, more than the composer's intent, per se, I propose that focusing more deeply on Schoenberg's compositional methods and their underlying justifications should allow a much greater potential for identifying further points of contact between the two men's works and theories.

Most importantly, a broader cultural context informed Kandinsky's and Schoenberg's respective oeuvres. Recovering relevant aspects of this history is essential to understanding not only their respective sources and intents but also to how they contributed to this larger exchange of ideas. Additionally, Kandinsky's writings of these years quickly reveal that while Schoenberg was probably an important inspiration, he was by no means alone in advancing ideas about positive and constructive roles of dissonance. We must look beyond Schoenberg to understand Kandinsky's full engagement with the concept of musical dissonance.

In the late nineteenth and early twentieth century, notions of musical dissonance were important not only in music theory but also in acoustics. Moreover, the idea of dissonance also formed a significant aspect of the study of perception undertaken within the nascent field of experimental or Gestalt psychology. The concept of dissonance was simultaneously being defined artistically by musical theory, extrinsically by physics, and intrinsically by experimental psychology. Moreover, it already figured into a range of other writings, including philosophy and occult literature, much of which Kandinsky cited in his own books and essays or that was in his possession during these years.

In addition to textual and musical sources, there were also ample visual precedents for Kandinsky's ideas relating musical dissonance to notions of visual dissonance. Musical dissonance as an analogy for approaches to painting was not new to Kandinsky. For artists like Gauguin and Derain, dissonance in music suggested an expansion of available material and greater artistic freedom, which they viewed as parallel to their own respective stylistic developments. This was especially prominent in their writings about the formal elements of their compositions removed from representational functions, where they both associated musical dissonance with their abstracting tendencies. These ideas were constructive and liberating, and in this, Kandinsky was expanding aesthetic trends already in place.

Like Kandinsky's writings, my methodology for this study represents a synthesis. It involves close readings of the artist's published books and essays as well as letters and notes, focusing on expressions of the concept of dissonance as well as underlying and contributing ideas, such as harmony and vibration. At the same time, I will consider Kandinsky's statements within various contexts that he would have known, including other artists' writings, art theory, philosophy, and the general scientific worldview held at the time.

Kandinsky's writings, especially *Concerning the Spiritual in Art*, also provide other clues to sources that might have informed his thinking. I examine books by authors discussed or cited by Kandinsky as well as those he owned at the time. Here I focus specifically on notions of musical dissonance as a tool or as a metaphor, seeking to understand their intent and how it might have been incorporated into Kandinsky's

thinking on the issue and his incorporation of these ideas into his art. These sources include composers as well as authors writing in various genres, especially occult and Theosophical literature. These authors also drew on scientific models, such as vibratory transfer, and Kandinsky's interest in them helps explain how he might have related physical concepts developed by science to the spiritual concerns he expressed in his writings.

Once the immediate intellectual history and primary contexts of dissonance are recovered in chapters four and five, I undertake an analysis of Kandinsky 1911 painting *Impression III* in chapter six. An examination of his interest in musical dissonance in 1912 follows in chapter seven, focusing on expressions of musical dissonance and atonal theory in the *Blaue Reiter* almanac of 1912. My study culminates in chapter eight with a new reading of Kandinsky's seminal example of abstraction before the war, *Composition VII* of 1913, along with considerations of related works of that year, in which I demonstrate ways in which atonal musical theory served as a critical source in Kandinsky's formation of a totally abstract style of painting.

Dissonance in Music

Twentieth-century sociologist, philosopher, musicologist, and composer Theodor Adorno observed that “dissonance has had a momentous and far-ranging impact on modern art since Baudelaire and Wagner's *Tristan*,” and that “it has almost become a

kind of constant in modernism.”¹³ For Adorno, “Dissonance (and its counterparts in visual arts)” was “the trademark, as it were, of modernism.”¹⁴ Before examining ideas about dissonance in other disciplines it will be useful to define the central concept at hand, which is first and foremost a musical term.

Dissonance is a purely relative notion that depends on the relationship of at least two elements. It also assumes a preexisting system of harmony. The term can be used generally to describe anything that breaks from an established pattern, but its origins and its primary meaning are grounded in music. *The New Grove Dictionary of Music and Musicians* defines dissonance as the antonym to consonance, and defines consonance in psychoacoustic and Pythagorean terms.¹⁵ From the Latin *dissonant*—“not agreeing in sound”—it can be defined psychoacoustically, where it is the physical effect of “beats” on the eardrum, the thumping sound created by the mutual interference in the vibrations produced, for instance, by two tones of nearly identical pitch.¹⁶ In their Western, Pythagorean musical context, dissonant features can be rigorously defined by musical theory based on the analysis of musical intervals, the relationship of notes. However, the exact dividing point between consonant and dissonant intervals has always been the subject of debate among theorists.

Musicological scholarship often uses the term ambiguously. With the advent of atonality, dissonance became an ambiguous term if it is not specifically contextualized. It

¹³Adorno, T. W., *Aesthetic Theory* [1970], trans. C. Lenhardt, (Boston: Routledge & Kegan Paul, 1984), 20–21.

¹⁴ *Ibid.*

¹⁵ *The New Grove Dictionary of Music and Musicians*, s.v. "consonance" (Washington, D.C.: Grove Dictionaries of Music, 1980), 380ff.

¹⁶ *Oxford English Dictionary*, s.v. “Dissonance,” dictionary.oed.com (accessed June 3, 2008).

can be used vaguely to simply describe an unspecified “roughness” or “coarseness,” or more specifically to refer to specific formal tensions within a structural framework. Usually, it is employed to suggest both of these conditions.

Even with psychoacoustical considerations set aside, dissonance can describe a musical feature in at least two distinct ways. Musicologist Elliott Antokoletz has applied grammatical terminology to make this distinction, where a "reflexive" entity, such as a collection of notes that may be deemed consonant or dissonant, "is a construct that does not have meaning independently from the composition itself."¹⁷ Like a reflexive pronoun that refers back to the subject of the clause that contains it, a reflexive dissonance only refers back to the specific composition in which it appears. In Antokoletz's definition, it is "determined by the immediate musical context."¹⁸ A reflexive dissonance is a disruption within in specific context; individual elements of a work can be considered reflexively dissonant to the whole. A "non-reflexive dissonance," on the other hand, is defined by its relation to a preexisting framework of musical harmony. It describes elements of the work's relationship to a traditional canon or to a set of governing rules.

In the Western musical tradition, the Pythagoreans are credited with establishing the principles of consonance and dissonance through the discovery of musical harmony.¹⁹ According to the account commonly given, Pythagoras noticed the differences in the

¹⁷ Antokoletz and Paolo Susanni, *Music and Twentieth-century Tonality: Harmonic Progression Based on Modality* (New York: Routledge, 2012), 129–30.

¹⁸ *Ibid.*

¹⁹ *Music in the Western World: A History in Documents*, eds. Piero Weiss and Richard Taruskin (New York: Simon & Schuster Macmillan, 1984), 3–12.

pitch produced by anvils being struck by different sized hammers.²⁰ Subsequent investigation revealed that if two strings are drawn tightly at equal tension and one is halved in length, it produces a tone one octave above that of the other when plucked (2:1 ratio). He is also credited with discovering the other fundamental proportions of Western harmony. If the lengths of two strings are in relation to each other in the proportion 3:2, the two pitches are a fifth apart. 3:1 is an octave-plus-fifth, 4:3 a fourth, and 4:1 a double octave.²¹

This series of proportions, expressed mathematically as 1:2:3:4, represents the traditional harmonic progression of one, four, and five—for instance, C, F and G, in the key of C (fig. 1.1). As noted above, the specific intervallic division between consonance and dissonance was frequently the subject of debate. Most musical theorists of the thirteenth century included intervals of major and minor thirds as consonant intervals. For instance, in the key of C, E is the major third and E-flat is the minor (fig. 1.2).

Walter Odington's *Summa de speculatione musicae* of the fourteenth century even defined major and minor thirds as consonances in Pythagorean terms with the ratios 5:4 (major third) and 6:5 (minor third).²² Despite these and other changes in the categorical definition of dissonance in Western musical theory, there have been some constants. Major and minor seconds, the tritone or augmented fourth/diminished fifth, and the major

²⁰ Ibid., 3.

²¹ Claude V. Palisca and Brian C. J. Moore, s.v. "Consonance" and "Dissonance," in *Grove*, 325–28 and 380.

²² Ibid., 325.

and minor sixth and seventh have always been considered dissonant.²³ For instance, in the key of C, the following notes form dissonant intervals when played with the root, C: C-sharp/D-flat, D, F-sharp/G-flat, G-sharp/A-flat, A, A-sharp/B-flat, and B (fig. 1.3). Consonant intervals with C are D-sharp/E-flat, E, F, G, and the octave (fig. 1.4).

In pre-Romantic music, dissonances are typically used to “move” the music along. In the simplest terms, a dissonant interval will “resolve” to its nearest consonant. For instance, a C–F-sharp (the tritone) will resolve to a C–G (a perfect fifth), while a C–C-sharp (minor second) or a C–B-flat (major seventh) will move to the octave. Dissonance can create a tension that leads to an expected resolution and provides a sense of logical progression. Such a use can be described as a “prepared” and “resolved” dissonance. This tension is also used expressively, a property Romantic composers such as Wagner and Strauss made central to their work. So-called “passing notes,” or brief instances of localized dissonance can be used to provide tonal “color.”

Taken to the extreme of Wagner, this use of passing dissonant notes became known as “ultrachromaticism,” an ultimate tonal color in which all twelve notes of the musical scale are employed for lengthy portions of his compositions. This was in contrast to earlier musical forms, which relied more strongly on the diatonic scale, or those seven of the twelve tones proper to the prevailing key signature. Such a departure was the shocking dissonance observed by Adorno in Wagner’s *Tristan*, as quoted above.

²³ Ibid., 325–27. At certain points, especially during the Renaissance, the perfect fourth was also considered dissonant. Musical theory of the Middle Ages, Renaissance, and after often also makes distinctions between “perfect” and “imperfect” consonances and dissonances, suggesting the relative consonance or dissonance of a particular interval.

Ultrachromaticism also encouraged the development of even greater tonal expansion through microtonality, or the use of more than twelve divisions between octaves.

The history of Western art music of the late nineteenth and early twentieth centuries may be largely traced by the ever increasing use of dissonant passages for expressive effect. The work of modern composers such the so-called Impressionists Claude Debussy and Maurice Ravel also contain lengthy passages that fall beyond the bounds of a recognizable key signature. However, as in the Romantic works of Wagner and Strauss, the dissonant sections eventually resolve back to their tonal foundations.²⁴ Even in late compositions by Alexander Scriabin, such as *Prometheus* (1910), nearly constant dissonance operated within a vestigial framework of tonality, indicated by the closing notes of the work.

Arnold Schoenberg is credited with having first composed so-called atonal music, or music consistently outside the bounds of a key signature or tonal center. The last movement of his Second String Quartet, op. 10, of 1908 avoided a key signature along with any tonal reference. His Three Piano Pieces, op. 11, of 1909 was his first completely atonal composition. Schoenberg's underlying theories were epitomized by his later call for an “emancipation of the dissonance,” by which he meant that the structural function of dissonant musical features were no longer limited to their previous role of leading to a tonal resolution.²⁵ All notes were now available for the composer’s expressive purposes,

²⁴ Elliott Antokoletz, *Twentieth-Century Music* (Englewood Cliffs, New Jersey: Prentice Hall, 1992), 81–92.

²⁵ Schoenberg first used the term until his 1926 essay "Opinion or Insight?" reprinted in *Style and Idea: Selected Writings of Arnold Schoenberg*, ed. Leonard Stein (London: Faber and Faber, 1975), 258–64.

an idea that closely parallels the development of total abstraction in art, as Kandinsky realized at least by January 2, 1911, after learning of Schoenberg's music and ideas.²⁶ At the time of these developments, the composer characterized his approach with the phrase "more remote consonances," a critically important concept for this study, which will be examined in various ways throughout this dissertation. The idea owes in large part to a deepening knowledge of the acoustical nature of sound.

Hermann Helmholtz first scientifically demonstrated the connection between psychoacoustic dissonance (beats) and dissonance in the Western tradition of musical theory in the mid-nineteenth century in *On the Sensations of Tone as a Physiological Basis for the Theory of Music* of 1863.²⁷ As we shall see, this relationship between harmony and the physical properties of sound would have a profound effect on both music and art theory of the late nineteenth and early twentieth centuries. Helmholtz's focus on the perception of musical sound as well as his work on optics and vision also formed the basis of the research undertaken by his assistant Wilhelm Wundt, who helped establish the field of experimental psychology. Wundt's theories also informed music and art theory of this period. Many of the nineteenth-century ideas surrounding the musical concept of dissonance as it might be applied to other art forms, such as the visual arts, were framed within more general considerations of aesthetics. The philosophies of Arthur

However, the general idea itself is put forth in his *Theory of Harmony* [1911], trans. Roy E. Carter (Berkeley: University of California Press, 1978), which will be addressed below.

²⁶ Kandinsky initiated correspondence with Schoenberg after attending a Munich concert of the composers work on January 2, 1911 with Franz Marc. See *Arnold Schoenberg – Wassily Kandinsky: Letters, Pictures and Documents*, Jelena Hahl-Koch, ed. and trans. John C. Crawford (London: Faber and Faber, 1980).

²⁷ Hermann Helmholtz, *On the Sensations of Tone as a Physiological Basis for the Theory of Music* (Die Lehre von den Tonempfindungen als physiologische Grundlage für die Theorie der Musik), trans. Alexander J. Ellis (Cambridge: Cambridge University Press, 2009).

Schopenhauer and those of Friedrich Nietzsche are especially noteworthy for connections made between visual art and music, as well as for their overall impact on the era.

Literature Overview

Consideration of possible links between dissonance in music and in art are necessarily framed within larger relationships between the arts. Such notions were not new to the nineteenth or early twentieth century. In the Western tradition, the idea harkens back at least to Pythagorean "Music of the Spheres." The general history of proposed correlations between music and the visual arts has been examined at length by Peter Vergo. In his 2005 publication, *That Divine Order*, Vergo addresses the period from classical antiquity to the nineteenth century, and his more recent *The Music of Painting* covers the nineteenth and twentieth centuries.²⁸

The depth of Vergo's studies is considerable, especially given their scope, but they leave many additional avenues of inquiry open. For instance, Vergo argues that the modern era's interest in relationships between color and sound owed to "everything from older textbooks such as Michel-Eugène Chevreul's *Simultaneous Contrasts of Colours* (1839) to more recent works by writers including Hermann Helmholtz and Ernst Wilhelm von Brücke." However, this is Vergo's only mention of Helmholtz's theories, and, in general, he does not address science and technology, focusing instead on philosophical sources. Occult literature is similarly eschewed in Vergo's writings. While Nietzsche's

²⁸ Peter Vergo, *That Divine Order: Music and the Visual Arts from Antiquity to the Eighteenth Century* (London: Phaidon, 2005); and Vergo, *The Music of Painting: Music, Modernism, and the Visual Arts from the Romantics to John Cage* (London: Phaidon, 2010).

philosophies and other aesthetic philosophies, such as those advanced by the literary Symbolists, proved vital for later artistic theories circulating within the European avant-garde, early twentieth-century artists' studies of relationships between art and music were often also strongly grounded in scientific and occult writings of the period.

Sixten Ringbom was the first scholar to explore Kandinsky's involvement with Theosophy, and Rose-Carol Washton Long enlarged this work with a specific focus on Rudolf Steiner's interest in the Book of Revelations.²⁹ Linda Henderson has done much to recover the interest of late nineteenth- and early twentieth-century artists in both occultism and science in this era, especially noting scientific discoveries and technological developments like the X-ray, radioactivity, and wireless telegraphy, which further substantiated belief in unseen realities.³⁰ As demonstrated by Henderson, far from being incommensurable, science and the occult were both rooted in the vibrational paradigm of ether physics in this period.³¹ Theosophists and other occult writers often cited new scientific findings in support of their spiritual ideas, and many scientists of the era were engaged in psychical research. Steiner proved a particularly important source for

²⁹ See, for example, Ringbom, "Art in 'The Epoch of the Great Spiritual': Occult Elements in the Early Theory of Abstract Painting" in *Journal of the Warburg and Courtauld Institutes* 29 (1966), 386–418; Ringbom, *The Sounding Cosmos: A Study of the Spiritualism of Kandinsky and the Genesis of Abstract Painting* (Abo, Finland: Acta academiae Aboensis, 1970); Long, *Kandinsky, the Development of an Abstract Style* (New York: Oxford University Press, 1980); Long, "Kandinsky and Abstraction: The Role of the Hidden Image" in *Artforum* 10 (June 1972), 43ff.; Long, "Occultism, Anarchism, and Abstraction: Kandinsky's Art of the Future," in *Art Journal* 46 (Spring, 1987), 38–45; with John Bowlt, *The Life of Vasilii Kandinsky in Russian Art: A Study of "On the Spiritual in Art"* (Newtonville, Mass.: Oriental Research Partners, 1984).

³⁰ Linda Henderson, "Vibratory Modernism: Boccioni, Kupka, and the Ether of Space" in *From Energy to Information: Representation in Science and Technology, Art, and Literature*, ed. Henderson and Bruce Clarke (Stanford, Calif.: Stanford University Press, 2002), 126–149; "Cubism and Science: Ether Physics and the Spatial Fourth Dimension, Not Einstein," *Science in Context* 17 (Dec. 2004); "X-Rays and the Quest for Invisible Reality in the Art of Kupka, Duchamp, and the Cubists," *Art Journal* 47 (Winter, 1988), 323–340.

³¹ Henderson, "Vibratory Modernism," 126–49.

Kandinsky, who owned the 1904 journal *Lucifer Gnosis*, along with Steiner's *Theosophy* of 1908, and attended some of his lectures.³²

Theosophy helped popularize scientific theories concerning the ether and offered models for their larger application. In addition to Theosophical texts, Kandinsky was well versed in an array of related occult literature and, like many of the occult writers he admired, he was especially interested in scientific discoveries that illuminated unseen, underlying, interconnecting elements of the universe. Occult and scientific literature also offered antecedents for the visual representation of invisible forces.

At the same time, many occult authors made references to musical harmony and dissonance. Considering these ideas in relation to one another rather than in isolation facilitates a greater understanding of their meanings. The unifying feature throughout is a vibrational model of communication and reception. Henderson's framework of "vibratory modernism" and its attendant restoration of ether physics have been amplified by other recent scholarship, including *Vibratory Modernism*, an anthology edited by Anthony Enns and Shelley Trower, which adopts the term and provides additional support for this viewpoint.³³

Enns and Trower focus their introduction to *Vibratory Modernism* on relationships between sympathetic vibrations of sound and those of the ether, both analogical and direct, rightly noting that "the phenomenon of 'sympathetic vibration' operated far beyond any singular period or field as a pervasive and overdetermined model

³² Ringbom, *Sounding Cosmos*, 17–18, 37–38, 59ff; Long, *Kandinsky*, 15–16, 26–40; and Henderson, "Vibratory Modernism," 145.

³³ *Vibratory Modernism*, ed. Anthony Enns and Shelley Trower (London: Pgrave Macmillan, 2013).

for how vibrations do not necessarily or immediately die out but can reproduce or communicate themselves across distances."³⁴ The authors cite a range of examples furthering this idea, from Helmholtz's 1848 investigations into the law of energy conservation to Edmund Gurney's psychical research into telepathy.³⁵ Enns and Trower also discuss physicist William Barrett, who argued in the 1870 *Quarterly Journal of Science* that "'sympathetic vibration' also served as a bridge between physical and psychical research," linking the "human perception of light and sound" through the "'sympathetic vibration' between the acoustical and luminous waves and, respectively, the fibres in the inner ear and the rods and cones of the eye."³⁶

Barrett was by no means alone in looking for connections between light and sound within human perception. As noted above, in addition to strong links between sensations offered by physics, early studies of sensory perception within experimental psychology of the late nineteenth and early twentieth century offered insights into how different media might be related. Moreover, these studies often centered on notions of consonance and dissonance. The physical experiments concerning light and sound undertaken by Helmholtz in the 1860s, in particular, would lead others, such as his student Wilhelm Wundt, to look more deeply at the physiology and psychology of perception in his research of the 1870s. As Douglas Kahn has noted, "Hermann Helmholtz had adherents among the arts, especially composers who had read his

³⁴ Enns and Trower, "Vibratory Modernism" in *Vibratory Modernism*, 5.

³⁵ Ibid., 5n, citing Helmholtz's "On the Origin of the Planetary System," in *Popular Lectures on Scientific Subjects*, E. Alkinson, trans. (London: Longmans, Green, and Co., 1881), 194.

³⁶ Quoted in Enns and Trower, 5n, citing Richard Noakes, "'The Bridge Which Is Between Physical and Psychical Research': William Fletcher Barrett, Sensitive Flames, and Spiritualism," in *History of Science* 42 (2004), 425.

monumental study *On the Sensations of Tone*, or one of its popularizations."³⁷ Kahn focuses primarily on Russolo, who used the scientist's theories to help support his ideas in *The Art of Noises* (1913/16). As we shall see, however, Helmholtz was also an important source for Schoenberg, and he likewise figured prominently in other theories of atonality advanced at the time, such as those concerning microtonality.

Among the popularizations of theories of Helmholtz and Wundt that Kandinsky might have known, Theodor Lipps's text *Psychological Studies* of 1905 is a possible candidate. Lipps included an extensive section on Helmholtz's acoustical theories and another on Wundt's refinement and expansion of them in his studies of perception.³⁸ Lipps's theories were cited numerous times in Wilhelm Worringer's seminal publication, *Abstraction and Empathy* of 1907, and both men were at the University of Munich.³⁹ Helmholtz's and Wundt's theories also offer parallels to many of Kandinsky's ideas of artistic creation and transmission, even more in Lipps's treatment than in the authors' texts. While some scholars have addressed Lipps's visual theories or those of Wundt in

³⁷ Douglas Kahn, "Concerning the Line: Music, Noise, and Photography," in *From Energy to Information*, ed. Hendrson and Clarke, 184.

³⁸ Theodor Lipps, *Psychological Studies* [1905], trans. by Herbert C. Sanborn (Baltimore, Waverly Press, 1926), 138–265.

³⁹ Members of the *Blaue Reiter* group operated within close degrees of separation with Worringer during 1911 and 1912. Klaus Lankheit was in contact with the older art historian while preparing the 1965 edition of the almanac. See Lankheit, Preface to the 1965 German Edition, *Blaue Reiter*, (New York: Da Capo Press, 1974), 10. Lankheit asserted, "Worringer obviously knew about new forces establishing themselves in the Bavarian capital" (p. 12). Worringer and Kandinsky shared publisher in Piper, and plates from Worringer's *Abstraktion und Einfühlung* were used in the almanac (see pp. 26, 55, 90, 209, 212, 268 no. 5, 271 no. 37, and 280 no. 129 and 131). There were even plans to solicit an essay from Emmy Worringer, Wilhelm's sister, whom had founded a club in Cologne promoting modern art. While that did not occur, Emmy arranged for her association to host the "First Exhibition of the Editors of the *Blaue Reiter*" in January 1912 (p. 17). Lankheit also includes Marc's reaction to Worringer's book: "I am just reading Worringer's *Abstraktion und Einfühlung*, a good mind, whom we need very much. Marvelously disciplined thinking, concise and cool, extremely cool." (p. 30).

relation to Kandinsky, the scientists' equal focus on the perception of sound has not been addressed within art historical literature.⁴⁰

Within musicological scholarship, the constructive intent of Schoenberg's early atonality has been demonstrated in numerous ways.⁴¹ However, scholars in other fields have sometimes misinterpreted calls for anarchy and freedom in music and art. Thomas Harrison's *1910: The Emancipation of the Dissonance* (1996) epitomizes the interpretive trend that focuses on the negative aspects of dissonance by concentrating on the disruptive elements of Schoenberg's music and their relationship to the jarring elements in the abstract paintings of artists like Kandinsky.⁴² Harrison fails to see the connections between these earlier works and their later extensions. By "the emancipation of the dissonance," atonality—or as he preferred, "pan-tonality"—Schoenberg sought to liberate the twelve tones from their functional associations, avoiding even the leading tones or vestigial hierarchies of chromatic music. While still dissonant in their relationship to the canon, technically, he intended his musical compositions to be neither consonant nor

⁴⁰ Crétien van Campen writes that "[Kandinsky's] description of tensions in the picture plane . . . closely resemble Lipp's descriptions of tendencies in the pictorial plane," in "Early Abstract Art and Experimental Gestalt Psychology" *Leonardo* 30 (1997), 135n. Jelana Hahl-Koch also noted a resemblance between visual theories in "Kandinsky, Schönberg and their Parallel Experiments," in *Schönberg and Kandinsky: An Historic Encounter* (Amsterdam: Overseas Publishers Association, 1997), 77. John Gage has drawn connections between Kandinsky's and Wundt's visual theories, which will be addressed in chapter four of this dissertation.

⁴¹ See, for example, George Perle, *Serial Composition and Atonality* [1968] (Berkeley: University of California Press, 1981); Walter Frisch, *The Early Works of Arnold Schoenberg 1893–1908* (Berkeley: University of California Press, 1993); Juliane Brand, Christopher Hailey, et al., *Constructive Dissonance: Arnold Schoenberg and the Transformations of Twentieth-century Culture* (Berkeley: University of California Press, 1997); and Antokoletz, *Twentieth-Century Music*, 8–76.

⁴² Thomas Harrison, *1910: The Emancipation of the Dissonance* (Berkeley: University of California Press, 1996). For instance, Harrison focuses on "the ontology of opposition" and notions of despair, sickness, calamity, and anguish in what he calls "'the first decade of the last century of a dying millennium.'" While these features were all certainly present in the era, it was neither the intended focus of the term's use by Kandinsky nor Schoenberg.

dissonant in a non-reflexive sense, the notes having been taken out of the traditional harmonic system entirely. Whatever Schoenberg's motivations in abandoning the existing harmonic system, his primary interest was in developing a new system, not merely in tearing down the old one.

Long has argued that Kandinsky's theories concerning multisensory stimulation were tied to his interest in the ideas of communal anarchy. This was a positive, constructive force, not the nihilistic destruction the term might evoke. Even so, the anarchists were keenly interested in ideas of "shock," "contrast," and "dissonance."⁴³ As Long has written, "by synthesizing multiple discordant stimuli, [Kandinsky] believed he could consciously or unconsciously involve his audience to participate in the struggle for change."⁴⁴ Communal anarchists also held that new freedoms should be founded on natural laws, a concept that was also intimately tied to Kandinsky's ideas about music and those of his friends and colleagues, such as Schoenberg and the Russian music theorist and artistic impresario Nikolai Kulbin, with whom Kandinsky was in even closer contact. Thus, considerations of early twentieth-century ideas about musical dissonance within this context are also useful.

The foundations of Schoenberg's subsequent development can be seen in his earliest atonal compositions, just as the basis for the visual system of Kandinsky's abstract paintings of the 1920s are evident from the start of his experimentation with form divorced from representation, in his abstracted but not yet totally abstract compositions.

⁴³ Rose-Carol Washton Long, "Constructing the Total Work of Art: Painting and the Public," 33–47.

⁴⁴ *Ibid.*, 44.

Even those artists who were the most adamant in their public statements about the need to break from established tradition—such as the Russian Futurists—show a desire to develop new systems of artistic communication.

Introductory Summary: Art, Music, Abstraction and Dissonance

This dissertation will seek to restore the concept of musical dissonance and its application in the visual arts to its historical context for Kandinsky, and I will suggest ways in which it served as a source for other avant-garde artists of the early twentieth century. As my study shall demonstrate, ideas of dissonance contributed greatly to new approaches to visual art-making during this era. These concepts of dissonance developed within music theory as well as other intellectual spheres, and the full range of these ideas are represented in artists' works and writings. The definition and potential utility of dissonance represented prominent issues at the time, the full range and complexity of which have since been largely forgotten.

The chapter that follows touches first on notions of musical dissonance expressed in nineteenth-century philosophy, specifically, the writings of Schopenhauer and Nietzsche, before considering ideas of musical dissonance applied to painting within nineteenth- and twentieth-century European avant-garde milieus. Chapter three introduces Kandinsky's artistic theories as expressed in *Concerning the Spiritual in Art*, focusing on ideas of musical dissonance as well as auditory models for artistic transmission. Chapters four and five address scientific and occult sources, respectively, for many of these ideas. In chapter six, I examine the relationship of Kandinsky's

Impression III (Concert) of 1911 and Schoenberg's "Three Piano Pieces," op. 11, of 1909 within their respective and combined contexts in an attempt to ascertain to what extent the painting might have (or even could have) been informed by Schoenberg's compositional strategies. I reconsider Kandinsky's theories of dissonance in chapter seven, particularly as he developed them further in 1912 and expressed them in *Der Blaue Reiter*. Chapter eight addresses ways in which all of these theories of dissonance might have informed Kandinsky's paintings of 1912 and 1913, especially *Composition VII*. In the wake of the dissertation's thorough examination of the case of musical dissonance, the conclusion briefly considers the paintings and theories other "pioneers of abstraction," such as Kazimir Malevich and others.

Chapter 2

Aesthetic Philosophies and an Artistic Background of Dissonance

Many of Kandinsky's theories are set within philosophical and artistic contexts of nineteenth-century Europe. Before examining Kandinsky's writings, I address some of the sources that appear to have informed his ideas. As I shall establish, Arthur Schopenhauer's writings provided an important foundation for Kandinsky's notions of inspiration, expression, and reception. Friedrich Nietzsche's ideas of the liberating quality of dissonance served as a particularly important source for Kandinsky and many others of his era.

Schopenhauer's Will, *Grundbaß*, and Ideas about Dissonance

In Schopenhauer's metaphysics, as expressed in *The World as Will and Idea* (1818, revised and expanded in 1844), music is not reducible to concepts; rather, its value derives from an "absoluteness of form." Schopenhauer's "Will," like Immanuel Kant's "thing in itself," represented a kind of Platonic ideal, of which the material world was only a shadow. Schopenhauer connected the general idea of the Will to concepts of the "will to life" and of "inner desire." Music was an all encompassing metaphor for him, serving as a symbol of world order and, unlike other arts, was not the idea or the "objectification" of the will, but was a "parallel and an analogy" and even a manifestation of the will itself:

Music is thus by no means like the other arts, the copy of the Ideas, but the *copy of the will itself*, whose objectivity the Ideas are. This is why the effect of music is

so much more powerful and penetrating than that of the other arts, for they speak only of shadows, but it speaks of the thing itself.¹

Schopenhauer went on to describe music as "the highest degree a universal language, which is related indeed to the universality of concepts."²

In an extended analogy of the *Grundbaß* ("general bass" or "thoroughbass") theory of harmony, Schopenhauer compared base notes to "inorganic Nature, the mass of planets," describing them as "fundamental laws" of a universal order.³ Kandinsky also drew on the idea of a "thoroughbass in painting," quoting Johann Wolfgang von Goethe, and the concept will be addressed at greater length in the next chapter of this dissertation.⁴ In the thoroughbass system, a song's bass notes are inscribed with the upper notes following based on the traditional system of harmony. In his thoroughbass model, Schopenhauer also drew upon the notion of sympathetic vibrations, which will be especially important to Kandinsky's theories. While Schopenhauer was defining harmony and consonance, not atonality and dissonance, the fundamental connection he and others

¹ Schopenhauer, *The World as Will and Idea* (1818/1844), trans. R. B. Haldane and J. Kemp (London: Kegan Paul, Trench, Trüber and Co., 1909), 1:335 and 3:196.

² *Ibid.*, 1:336.

³ *Ibid.*, 1:335–37. In German, the term is most directly translated to "Ground bass," the term *Grund* suggesting, as in English, foundation, bottom, earth or soil, as well as the notion of grounds, reason or cause. In English, it is variously given as thoroughbass, general bass, ground bass, or figured bass. In musicological contexts, it is most often referred to as *basso continuo*, following the convention of using Italian terminology.

⁴ Schopenhauer was a younger contemporary and great admirer of Goethe, and both philosophies figured heavily into Kandinsky's theories. This connection is often noted in scholarship on the artist. See, for instance, Gage, *Color and Culture*, 207, 293 and 319; and his essay "The Psychological Background to Early Modern Colour: Kandinsky, Delaunay and Mondrian," in *Towards a New Art*, 22ff; and Vergo's essay in the same publication "Music and abstract painting: Kandinsky, Goethe and Schoenberg" (p. 41ff). Schopenhauer's notions of musical harmony were close to those of Goethe, and similarly rooted in eighteenth-century theories of harmony. In addition to the thoroughbass, the concept of the Music of the Spheres and related ideas of the mathematics of music also play important roles in Goethe's ideas. See, for instance, Jamie James, *The Music of the Spheres: Music, Science, and the Natural Order of the Universe* (New York: Grove Press, 1993), 190–92.

made between musical harmony and universal harmony could serve as a model for later ideas concerning dissonance as expanded consonance.

Schopenhauer related his concept of the Will to ideas about "inner desire," both positive and negative. In the former, constructive sense, he also used the term "inner necessity" (*Innere Notwendigkeit*) in relation to his "General bass" theory described above: "the *inner necessity* of the gradation of its manifestations, which is inseparable from the adequate objectification of the will, is expressed by an *outer* necessity in the whole of these manifestations themselves."⁵ This formed part of his anthropocentric argument that the universe is in relational harmony, with animals and plants at "lower octaves" than humans. He also expressed this relationship in the form of a "pyramid, of which man is the apex."⁶ As we shall see, the idea of an inner necessity and that of an evolutionary "pyramid" were both central components of the artistic theories expressed in *Concerning the Spiritual in Art* of 1911, albeit a "spiritual pyramid" with artists at the apex for the Kandinsky.

On the topic of musical dissonance, Schopenhauer's statements were rooted in the traditional harmony of eighteenth- and nineteenth-century Europe. In his cosmic thoroughbass model, he described a "complete, pure, harmonious system of tones" where "every fifth will be related to the keynote as 2 to 3, every major third as 4 to 5, every minor third as 5 to 6 and so on" The analogy is to the most consonant musical intervals, but Schopenhauer envisioned an ideal in which the differences between

⁵ Ibid., 202.

⁶ Ibid., 201.

proportional relationships of root to other notes of the scale, and relationships between these subsequent notes, would be perfectly maintained, unlike the actualities of acoustics, where discrepancies arise.⁷ In an extended analogy, Schopenhauer described "striking painful discords" resolving eventually to the root as "analogous to the delayed and hardly won satisfaction."⁸ These musical dissonances were not desirable for their own sake, especially those of the closest intervals, such as half-steps and smaller: "Indeed, even the impure discords, which give no definite interval, may be compared to the monstrous abortions produced by beasts of two species, or by man and beast."⁹

Consistent with his overall philosophy, for Schopenhauer, dissonance could only be a positive force if leading to a consonant resolution. Schopenhauer elaborated on his analogy of musical dissonance in the third volume of the book:

The effect of the suspension also deserves to be considered here. It is a dissonance which delays the final consonance, which is awaited with certainty; and thus the longing for it is strengthened, and its appearance satisfies all the more. Clearly an analogue of the heightened satisfaction of the will through delay. The complete cadence requires the preceding chord of the seventh on the dominant; because the most deeply felt satisfaction and the most entire relief can only follow the most earnest longing. The harmonious sequence of chords consists of the correct alternation of dissonance and consonance [D]issonances must be introduced, although they disquiet us and affect us almost painfully, but only in order to be resolved, gain in consonance with proper preparation. Indeed, in the whole of music there are really only two fundamental chords, the dissonant chord of the seventh and the consonant triad, to which all chords that occur can be referred.¹⁰

⁷ This demonstrates a fairly sophisticated understanding of acoustics, as he is lamenting the need for so-called "tempered" tunings, necessitated by the slightly "imperfect" mathematical ratios of sound-wave vibrations at different pitches.

⁸ Schopenhauer, 1:336–37.

⁹ Ibid.

¹⁰ Ibid., 3:230.

While "painful," dissonance was necessary in life as in music in Schopenhauer's formulation. Although his reductive summation of music theory may be questionable, the analogue still proves significant, especially in his specific application of musical ideas about dissonance. By the end of the nineteenth century, the seventh would seem far less dissonant, but as we shall see, it likely factored into Kandinsky's considerations as well.

Nietzsche and the Dissonant Dionysian

Music is central in Nietzsche's aesthetic theory as expressed in *Birth of Tragedy: Out of the Spirit of Music* of 1872, as the subtitle suggests. In Nietzsche's formulation, both art and life are reducible to the concepts of the Apollonian and Dionysian. In the former, he appealed to the traits of logic, rationality and control expressed in Apollo, ancient Greek god of the sun, along with its attendant illumination and means of measurement; the latter derived from Dionysus, god of wine and the fertility of nature, associated with wild and ecstatic religious rites. For Nietzsche, the Dionysian was "the eternal and original artistic power" and it was intrinsically linked to the idea of musical dissonance:

But this primordial phenomenon of Dionysian art is difficult to grasp, and there is only one direct way to make it intelligible and grasp it immediately: through the wonderful significance of musical dissonance. The joy aroused by the tragic myth has the same origin as the joyous sensation of dissonance in music. The Dionysian, with its primordial joy experienced even in pain, is the common source of music and tragic myth.¹¹

¹¹ Nietzsche, *The Birth of Tragedy: Out of the Spirit of Music* [1878] in *The Complete Works of Friedrich Nietzsche*, trans. W. A. Haussmann (London: T. N. Foulis, 1909), 25–26, and quotations following.

Beyond simply equating music and the Dionysian in general, Nietzsche specifically described musical dissonance as the primary expression of this central concept. Unlike Schopenhauer, these dissonances are not merely passing moments to be quickly resolved. Rather, dissonance should be embraced and cultivated. In this account, both musical dissonance and tragic myth are "equally expressions of the Dionysian capacity of a people and they are inseparable." Far from the biological abominations described by Schopenhauer, for Nietzsche, the Dionysian could "transfigure a region in whose joyous chords dissonance as well as the terrible image of the world fade away charmingly."¹²

Nietzsche believed that encouraging the Dionysian spirit would further expressive capacities and contribute to a truer understanding of the world. In the same passage discussed above, he described the limitations of the Apollonian in a statement that could as easily be used to justify greater artistic abstraction. Nietzsche wrote that "if we could imagine dissonance become man—and what else is man?—this dissonance, to be able to live, would need a splendid illusion that would cover dissonance with a veil of beauty." Nietzsche continued, describing this "veil" as "the true artistic aim of Apollo in whose name we comprehend all those countless illusions of the beauty of mere appearance." As we shall see, the notion of going beyond visual appearance and verisimilitude would continue to find support from a variety of sources in wide-ranging spheres in the coming decades. In a statement that finds an echo in later occult literature, as well as in the theories of Kandinsky and other artists, Nietzsche described the transcendent experience of prolonged dissonance:

¹² Ibid., 26.

For we now understand what it means to wish to see tragedy and at the same time to long to get beyond all seeing: referring to the artistically employed dissonances, we should have to characterize the corresponding state by saying that we desire to hear and at the same time long to get beyond hearing. The striving for the infinite . . ."¹³

Dissonance in Late Nineteenth-Century Painting and the Works of Maeterlinck

In addition to philosophical sources, the notion of dissonance proved important in the artistic practice of many late nineteenth-century artists and writers. Dissonance in music is an disruption of musical tonality or a literal interruption in the sound waves in the ear. It is a shock, however brief or purposeful, to the senses or sensibilities of an audience. This was a trait the European avant-garde was rarely lacking. As Adorno argued, Baudelaire is an excellent literary example of dissonance in art. Critics attacked *Flowers of Evil* (*Les Fleurs du mal*) of 1857 for the poet's handling of language, but even more so for its shocking sexual content.¹⁴ The original edition was initially banned in France, and only appeared again in 1861, with six of the more explicit poem removed. Gustave Flaubert's writing suffered similar attack, both for its style and subject matter. For instance, his publication of *Madame Bovary* of 1856 resulted in his facing charges of having offended public and religious morals through his seemingly non-judgmental portrayal of middle class adultery in the book.¹⁵

In the modern visual arts, this tendency for what may loosely be termed dissonance can be traced back at least to Gustav Courbet, whose critical reception is

¹³ Ibid., and quotations above. Ellipses are Nietzsche's.

¹⁴ Edwin Morgan, *Flower of Evil: a life of Charles Baudelaire* (New York: Sheed and Ward, 1943), 179ff.

¹⁵ Geoffrey Wall, *Flaubert* (New York: Farrar, Straus and Giroux, 2001), 228–41.

readily comparable to Flaubert's. Courbet's *Stonebreakers* (1849) was attacked on the one hand for its working-class subjects. In her 1980 study, Anthea Callen called Courbet's depictions of the "complex and brutal social realities" of his time "an unpleasant and unpalatable shock" to contemporary audiences.¹⁶ Courbet's "crude" handling of the paint was another major source of critical scorn. Even sympathetic critics remarked at length on his use of a palette knife in lieu of a brush.¹⁷

The reception of Edouard Manet's paintings followed a similar trajectory, and he received harsh criticism for his shockingly modern style and subject matter.¹⁸ For a French Impressionist like Claude Monet, criticisms tended even more to focus on the specific formal qualities of his paintings. The work's "unfinished" brushwork was the chief complaint of the critic Louis Leroy's review of the first Impressionist exhibition of 1874 in Paris. Leroy also described the "initial shock" of entering the exhibition and seeing Auguste Renoir's *The Dancer*.¹⁹

In England, the infamous trial of James Abbott McNeill Whistler versus John Ruskin in 1878 demonstrated similarly shocked responses to formal tensions by the public and critics.²⁰ Suing the critic Ruskin for liable for calling his *Nocturne in Black and Gold: The Falling Rocket* of 1875 the equivalent of "flinging a pot of paint in the public's face," Whistler also appealed to the abstract qualities of music, just as he often

¹⁶ Anthea Callen, *Courbet* (London: Jupiter Books, 1980), 7.

¹⁷ For instance, Max Buchon's "Salon of 1868," see Callen, 28.

¹⁸ See, for instance, Paul Mantz "Salon of 1863" in *Gazette des Beaux-Arts*, quoted in Anne Koval, *Whistler in His Time* (London: Tate Gallery, 1994), 33.

¹⁹ Quoted in John Rewald, *The History of Impressionism* (New York: Museum of Modern Art, 1973), 1:318.

²⁰ See Koval, 51 and 124.

did in his painting's titles.²¹ When asked in the trial to define his idea of a "Nocturne," Whistler replied that he intended to "indicate an artistic interest alone in the work, divesting the picture from any outside sort of interest. . . . It is an arrangement of line, form, and colour first"²² Many of his other paintings' titles were prefaced with musical terms such as "harmony" and "symphony," while those with subjects occurring at night often referenced the popular "nocturne" theme of musical compositions, which was often described as having a "dreamy" character, comparable to Whistler's loose brushwork and interest in atmospheric effects.²³

Whistler made similar appeals to music as a model for more abstracted painting in his widely disseminated *Ten O'Clock Lecture*, delivered in 1885 and published in 1888. In the text, he used the analogy of a piano in a manner that anticipated some of Kandinsky's central statements in *Concerning the Spiritual in Art*. Whistler wrote,

Nature contains the elements, in colour and form, of all pictures, as the keyboard contains the notes of all music. But the artist is born to pick, and choose, and group with science, these elements, that the result may be beautiful—as the musician gathers his notes, and forms his chords, until he brings forth from chaos glorious harmony.²⁴

Whistler's musical proclivity was even the subject of contemporary caricature. A humorous account is included in William Goodrich Bowdoin's 1901 biography, in which a potential buyer is nearly ejected from the artist's studio over his choice of tie.

²¹ The court found in favor of the plaintiff and awarded Whistler one farthing.

"Action for Libel Against Mr. Ruskin" in *From the Classicists to the Impressionists: Art and Architecture*

²² Ibid.

²³ Wolfgang Amadeus Mozart's Notturmo in D for Four Orchestras of 1776 is a famous example of the nocturne. The type was best characterized (and popularized) by Frédéric Chopin, who composed twenty-one nocturnes during the first half of the nineteenth century.

²⁴ Whistler, *Mr. Whistler's Ten O'clock* (New York: Ernest Dressel North, 1888), 14.

According to the anecdote, ascribed to the American literary critic Vance Thompson, Whistler exclaimed to his companion, "Did you ever hear such a dissonance in your life, Madame? [. . .] His tie is in G Major, and I am painting this symphony in E Minor. I will have to start it again."²⁵ Once the offending tie was removed, Whistler is said to have quipped, "Thank goodness, my sight is perfectly deaf." Remarking later on the unfortunate gentleman's general ensemble, the artist was said to have described his brown jacket with blue trousers as being "like B flat in G Major."²⁶

Like Courbet, Cézanne often used a painting knife, or *couteau anglais*, to apply thick, directional strokes of color to the canvas.²⁷ As Richard Shiff has argued, a work such as Paul Cézanne's *Large Bathers* (1899-1906) "breaks the surface—interrupts, even shocks the eye as it performs its visual scanning."²⁸ While largely ignored by contemporary critics, Paul Cézanne's paintings of the late nineteenth and early twentieth century can be described as employing dissonances in both the reflective and non-reflective manners.²⁹ They are non-reflexively dissonant or shocking in comparison to the smooth surface of finished academic paintings. At the same time, reflexive dissonance occurs in the visual arrest of the eye in the act of looking.

Writing in Munich in 1913, art historian and *Blaue Reiter* associate of Kandinsky, Max Raphaël, described "Cézannesque optics" as relying primarily upon "tension

²⁵ Bowdoin, *James McNeill Whistler: The Man and His Work* (London: M. F. Mansfield and Co., 1901), 55–57.

²⁶ *Ibid.*, 57

²⁷ See Callen, *Techniques of the Impressionists* (Secaucus, NJ: Chartwell Books, 1982), 72.

²⁸ Shiff, "Cézanne's physicality: the politics of touch," in *The Language of Art History*, Kemal and Gaskell eds. (Cambridge: Cambridge University Press, 1991), 144.

²⁹ Where reflexive dissonance is an interruption within a locally-established system, while a non-reflexive dissonance is defined by a pre-established system. See at n. 17 in chapter one above.

between contrasts," especially color juxtapositions such as red and green, and blue and ochre.³⁰ Referring to Cézanne's *Mont Sainte-Victoire* landscapes of the 1890s, Raphaël reiterated the point subsequently in his text, writing both about a tension of color juxtapositions and about a "tension of contrasts" between the subject as it existed in nature and as depicted in the paintings.³¹ Meyer Schapiro also stressed contrasts within Cézanne's paintings in his analyses, describing localized contrasts of colors that give way to larger harmonies within the composition. For instance, the landscapes of the late 1890s, for Schapiro, "approach the state of pure painting without objects, in which the density of things has been transferred to the chords of color—great elemental forces."³² Earlier in the text, Schapiro described Cézanne's paintings as "powerful, even savage; unconstrained in conception and force of contrast," that are nonetheless, "always harmonious in color."³³

Typically, localized, reflexive dissonance is the converse of visual harmony, which has always occupied art theory. The nineteenth-century backdrop to European modernism was no exception. For instance, Charles Blanc's 1867 academic treatise on painting addressed the musicality of the abstract elements of form and color. For Blanc, "color is learned just as music," an analogy to which he frequently returned:

³⁰ Raphaël, *Von Monet bis Picasso: Grundzüge einer Ästhetik und Entwicklung der modernen Malerei* (Munich: Delphin, 1913) 80: "Diese Spannung von Kontrasten, die sich bis in jede einzelne Empfindung hinein verfolgen lässt, kennzeichnet die Cezannesche Optik. Wir können sagen, dass eine Empfindung bei Cezanne ebensowenig ohne ihren Kontrast auftritt, wie ohne die Totalität im Umkreis der Sinnesorgane."

³¹ *Ibid.*, 83. On Raphaël, see Ulrike Wendland, *Biographisches Handbuch deutschsprachiger Kunsthistoriker im Exil: Leben und Werk der unter dem Nationalsozialismus verfolgten und vertriebenen Wissenschaftler* (Munich: Saur, 1999) 2:529–535; and Gen Doy, "A Social or a Socialist History of Art?" in *Materializing Art History* (New York: Berg, 1998), 87–92.

³² Schapiro, *Paul Cezanne* (New York: Abrams, 1952), 30.

³³ *Ibid.*, 21. Schapiro also described "figural contrasts" (p. 18) and "discontinuities" of space in Cézanne's still-life paintings, which "increase the effect of freedom" of the whole of the paintings (p. 19).

One [artist] considers [nature] as a ‘repertoire’ of pleasing or terrible objects, of graceful or imposing forms which will serve him to communicate his emotions, his thoughts. Another compares nature to a piano, upon which each painter plays in turn the music that pleases him. But nobody would define painting as imitation.³⁴

In his conclusion to the text, he described the work of an architect or visual artist:

“Measuring sounds, putting into them a rhythm marked by the beating of his own heart, he brings them back to the unity of sentiment and creates Music.”

As the formal elements of painting became increasingly abstracted—and more shocking—artists turned more regularly to musical metaphors. At the same time, late nineteenth-century music itself was become shockingly dissonant. The comparisons were not lost on artists or critics of the era, and longstanding musical metaphors for visual art theory began to incorporate notions of dissonance more often. In his 1890 *Mercure de France* essay on Vincent Van Gogh, “The Isolated Ones,” G.-Albert Aurier remarked on the artist’s use of vibrant, contrasting tones to “extraordinary effect” of “harmonies of color” and “symphonies of line,” but also noted that “he is not, however, always able to avoid a certain unpleasant harshness, disharmony, dissonance”³⁵ Van Gogh replied that, for his part, he would rather be a “cobbler” of form and color than a “musician who works with colors.”³⁶ As we shall see, many of his contemporaries, such as Gauguin and

³⁴ Blanc, *The Grammar of Painting and Engraving* (Grammaire des arts du dessin) [1867], trans. by Kate Newell Doggett (New York: Hurd and Houghton, 1874), 5. See also Shiff, *Cezanne*, 84n.

³⁵ Aurier, “The Isolated Ones” in *Impressionism and post-impressionism, 1874–1903: sources and documents*, ed. by Linda Nochlin (Englewood, New Jersey: Prentice Hall, 1966), 138. The critic Camille Manclair, in a review of Van Gogh’s 1892 exhibition at Le Barc de Boutteville’s gallery for *Revue Indépendante* (no. 23, p. 139), complained of the “dislocating” effect and “discomfort” of being unable to distinguish “the objects and the ethers.” See Carol Zimmel, *The Formation of a Legend: Van Gogh Criticism, 1890–1920* (Ann Arbor: UMI Research Press, 1980), 73.

³⁶ See Aurier in Nochlin, *Impressionism and post-impressionism*, 152; and Zimmel, *Formation of a Legend*, 64–65.

Maurice Denis, would embrace Van Gogh's clashing "disharmonies" and "dissonances" of contrasting color combinations and applied the terms to their own palettes.

Writing of his painting *Manao Tupapau* (The Spirit of the Dead Watching) of 1892, in *Notes Synthétiques* (1888), Gauguin described a "literary" aspect of subject matter and a "musical" part of the painting, the undulating horizontal lines and "harmonies" of orange and blue: "the feeling of the colorist is exactly the natural harmony. Is there a science of harmony? Yes." Continuing, he argued that "the feeling of the colorist is exactly the natural harmony Later there will be study, an entire method of [color] harmony."³⁷ For Gauguin, a lack of color harmony may be a deficit, "like singers, painters sometimes are out of tune." However, he also recognized a purposeful and constructive use of dissonance, making references and analogies to musical "half-tones, and quarter-tones," and other forms of musical and visual dissonance in a positive manner. After describing the shared basis for music and art in mathematical divisions, he related musical dissonances to dissonances of color in general terms,

Instrumental music as well as numbers are based on a unit. The entire musical system derives from this principle, and the ear has become used to all these divisions. The unit is established through the means of an instrument, yet you may choose some other basis and the tones, half-tones, and quarter-tones will follow each other. Outside of these you will have dissonance. The eye is used less than the ear to perceive these dissonances, but then divisions [of color] are more numerous, and for further complication there are several units.³⁸

Here, Gauguin was writing in terms of a non-reflexive dissonance, but within a system that may be changed to allow new artistic material and greater complexity, drawing

³⁷ Gauguin, "Notes Synthétiques" [1888] in *Paul Gauguin, A Sketchbook*, 57–64.

³⁸ *Ibid.*, 64

specifically on theories of microtonal dissonance. The quotation above also suggests the more sophisticated receptive capacity required to appreciate these new works. As we shall see, both are ideas taken up with even greater conviction by early abstractionists like Kandinsky.

A mixed review of an exhibition of Gauguin's work by André Fontainas, originally published in *Mercure de France* in January, 1899, noted the "subdued harmony" of color in some paintings in a manner that suggested a certain unpleasantness, and a "clashing" of colors in other canvases.³⁹ Gauguin's spirited response of March 1899 further developed the notion of musical parallels:

You have good reason to point out numerous defects, violence, monotony of tone, clashing colors, etc. Yes, all these probably exist, do exist. Sometimes however they are intentional. Are not these repetitions of tones, these monotonous color harmonies (in the musical sense) analogous to oriental chants sung in a shrill voice, to the accompaniment of pulsating notes which intensify them by contrast? Beethoven uses them frequently (as I understand it) in the "Sonata Pathétique," for example.⁴⁰

Gauguin specifically drew on dissonant forms of music in support of his new, more abstracted style of painting. His painting style, in turn, had drawn on the juxtaposition of separate, sometimes clashing marks and forms in Cézanne's paintings.⁴¹ Dissonance, like its opposition, harmony, was gaining positive connotations for artists under some conditions. In fact, expanded notions of dissonance could be said to have essentially

³⁹ Ibid., 72–73. Fontainas also remarked on Gauguin's "perfect harmony of form and color" in earlier, more favorable texts.

⁴⁰ Ibid., 75.

⁴¹ See for instance, Shiff, "The Primitive of Everyone Else's Way" in *Gauguin and the Origins of Symbolism* (Madrid: Fundación Caja, 2004), 66.

undermined the concept entirely within two decades, or at least greatly complicated its function as an antonym for consonance.

Many of these same trends are evident among the Belgian symbolist poets and painters. Franco-Belgian dramatist Maurice Maeterlinck was lauded at length by Kandinsky in *Concerning the Spiritual*. Maeterlinck's dramas were ripe with tensions and terror and proved appealing material for interpretation by composers pushing the boundaries of tonality. For instance, Debussy and Schoenberg both based compositions on Maeterlinck's *Pelléas et Mélisande*.⁴²

Contemporary critics and later writers have drawn frequently comparisons between the tension within the plays and the dissonance of their musical settings. In Montrose Jonas Moses's 1911 study of Maeterlinck, he quoted Henry Krehbiel, an unsympathetic critic, on Debussy's adaptation: "He who would enjoy the musical integument of this play must have cultivated a craving for dissonance in harmony, and find relish in combinations of tones that sting and blister and pain and outrage."⁴³

Moses described a "cumulative tension" in Maeterlinck's work that "never abates," and concluded that, for Maeterlinck, like Debussy, "such beauty is born of . . . a certain radical departure from the accepted canons of orchestration."⁴⁴ In a 1909 review of a performance of Debussy's *Pelléas et Mélisande* in London's Covent Garden, the critic A. E. Keeton suggested that even Debussy was not dissonant enough for

⁴² Debussy completed his adaptation, a five-act opera, in 1898 and it premiered in 1902. Schoenberg's symphonic poem, *Pelleas und Melisande*, op. 5, of 1903 premiered two years later.

⁴³ Moses, *Maurice Maeterlinck: A Study* (New York: Duffield and Co., 1911), 169.

⁴⁴ *Ibid.*, 141 and 169–70.

Maeterlinck's play.⁴⁵ Otto Heller's 1915 study, *The Mysticism of Maurice Maeterlinck*, similarly noted the poet's facility with terror and "dissonant despair."⁴⁶

In a 1917 article in *The Bellman*, Pauline Carrington Bouvé compared Belgian symbolist painter Fernand Khnopff to Maeterlinck, quoting Louis Dumont-Wilden, whose 1907 monograph described the artist's work with musical similes, specifically, dissonance: "The tone he applies is not the representation of a color in nature; it is an emotional value which, place in its just relation, is capable of producing a sensation. . . . It is precisely what the harmony, the dissonance, the interval, is to the musician."⁴⁷

Knopff also designed the sets for a 1907 production of Debussy's *Pelléas et Mélisande* in Brussels, and based other images on Maeterlinck's drama, such as those used to illustrate a 1921 edition of the poet's work.⁴⁸

Musicologist Elliott Antokoletz has examined relationships between music and text in Debussy's *Pelléas et Mélisande*, such as, instances of vagueness, repetition, and disjunction, as well as "musico-textual repetitions and alternations within the general mosaic textures of the opera," in addition to other, more specific examples of musical symbolism in response to Maeterlinck's text.⁴⁹ As Antokoletz has noted, Maeterlinck was strongly influenced by Edgar Allen Poe, although Maeterlinck worried about his own

⁴⁵ Keeton, "Debussy: His Science and His Music," in the monthly review, *The Nineteenth Century and After* 66 (London: Leonard Scott Publications, 1909), 501–502.

⁴⁶ Heller, *The Mysticism of Maurice Maeterlinck* (St. Louis: Washington University Press, 1915).

⁴⁷ Bouvé, "Mysticism in Belgian Art," in *The Bellman* 22 (June 16, 1917), 654–55, translation and ellipses are Bouvé's; probably quoting Dumont-Wilden, *Fernand Khnopff* (Brussels: Van Oest, 1907).

⁴⁸ See *Le Guide Musical Revue Internationale de la Musique et des Theatres* 52 (Jan. 6, 1907), 28; and Maeterlinck, *Pelléas et Mélisande* (Brussels, Edition de la Société de bibliophiles "Les cinquante", 1921).

⁴⁹ Antokoletz, *Musical Symbolism in the Operas of Debussy and Bartok: Trauma, Gender, and the Unfolding of the Unconscious* (Oxford: Oxford University Press, 2004), 9, 108, 173ff.

reputation as a "poet of terror."⁵⁰ Kandinsky also paired the two authors in *Concerning the Spiritual*, describing both as exhibiting "true inner force," but noting that a comparison also shows the "artistic transition from the material to the abstract," in the stylistic transition from Poe to Maeterlinck.⁵¹

Visual evocations of music are also evident in Jugendstil, although there seems to have been less concern with ideas involving dissonance. As Peter Jelavich has asserted, "Already before 1900 certain artists in Munich—Hermann Obrist, August Endell and Adolf Hölzel—were coming to the conclusion that the linear and ornamental elements of Jugendstil could be used non-mimetically to evoke strong sensations."⁵² The flattened space and geometricized forms that characterized the style would prove important precursors to many of the early modernists' moves towards greater abstraction. The musical analogy was often employed here, too. As Jelavich observed, "The free line in space, much like the immaterial 'line of music,'" for Endell and Hölzel, "seemed to express feelings more directly than depictions of real objects. . . ."⁵³ In Endell's 1897 essay "The Beauty of Form and Decorative Art," he described new forms of art that "signify nothing, represent nothing, and remind of nothing, which arouse our souls as deeply and as strongly as music has always been able to do."⁵⁴

⁵⁰ Ibid., 316 and 34.

⁵¹ Kandinsky, *Concerning the Spiritual*, 16. Debussy also worked on two unrealized operas based on Poe's tales (Antokoletz, *Musical Symbolism*, 316).

⁵² Jelavich, "Munich as Cultural Center: Politics and the Arts," in *Kandinsky in Munich: 1896-1914*, ed. by Peg Weiss (New York: The Solomon R. Guggenheim Museum, 1982), 24.

⁵³ Ibid.

⁵⁴ Endell, "The Beauty of Form and Decorative Art," originally in *Dekorative Kunst* [1897], trans. by T. and C. Benton, in Charles Harrison and Paul Wood, *Art in Theory: 1900-1990* (Cambridge, Mass.: Blackwell, 1993), 62.

Dissonance in Early Twentieth-Century Painting

In "Notes of a Painter" ("Notes d'un Peintre") of 1908, Henri Matisse described an independent role for color in terms similar to Gauguin: "When I have found the relationship of all the tones the result must be a living harmony of tones, a harmony not unlike that of a musical composition."⁵⁵ This comparison of musical and color harmony is one Matisse would make numerous times and was noted by his student Pierre Dubreuil, who recalled of Matisse's lessons on color that "one tone is just a color; two tones are a chord, which is life."⁵⁶ In his 1945 essay, "The Role and Modalities of Color" Matisse wrote that "colors have a beauty of their own which must be preserved, as one strives to preserve pure tones in music."⁵⁷ Later in the text, he expanded on the idea:

What counts most with color are relationships. . . . No doubt there are a thousand different ways of working with color. But when one composes with it, like a musician with his harmonies, it is simply a question of emphasizing the contrasts. Certainly music and color have nothing in common, but they follow parallel paths. Seven notes, with slight modifications are all that is needed to write any score. Why wouldn't it be the same for plastic art?⁵⁸

Here, Matisse emphasized the relational nature of musical intervals, making an analogy to color combinations and highlighting the idea of contrast. However, he also stressed that he saw this as a parallel, rather than dependent, relationship between the arts. In an interview of the same year, he summarized his point as follows:

Painting requires organization by very conscious, very concerted means, as in the other arts. Organization of forces—colors are forces—as in music, organization of

⁵⁵ Matisse, "Notes d'un Peintre" in *La Grande Revue* (Paris, 25 December 1908); translation from Chipp, 132.

⁵⁶ Dubreuil, "Escholier 1956" in *Matisse on Art* (Berkeley: University of California Press, 1980), 80-81.

⁵⁷ Matisse, "The Role and Modalities of Color" [1945] in *Matisse on Art*, 155.

⁵⁸ *Ibid.*

tones. But let's not confuse painting and music. Their actions are only parallel. One wouldn't be able to translate Beethoven's symphonies into painting.⁵⁹

In "Notes of a Painter," Matisse wrote that "a work of art must be harmonious in its entirety," by which he meant in the reflexive sense of a unity and cohesion within the canvas.⁶⁰ However, as for Gauguin, in non-reflexive considerations of color-combinations compared to the norm, "both harmonies and dissonances of color can produce very pleasurable effects."⁶¹

In response to Matisse's shocking departure from traditional modes of painting, the critic Louis Vauxcelles dubbed him a *Fauve* ("wild beast"), a term the painter himself adopted. In his 1905 review of the Salon d'Automne, Vauxcelles described the gallery featuring paintings by Matisse, Derain, and others of their circle, famously calling a small, relatively naturalistic marble bust by Albert Marque a "Donatello among the wild beasts."⁶² The critic called Matisse "one of the most gifted painters today" and wrote approvingly of his "luminous vibration" of color. However, Vauxcelles followed those comments by stating that "the interests of form suffer," lamenting the painter's current "sinking, wandering passionate research."⁶³ He called the "bold oppositions" of colors in paintings by the exhibitors in the space to be excessive, calling them "an orgy of pure tones."⁶⁴ Vauxcelles continued by specifically noting "the easy juxtaposition of complementary colours," which he declared "will seem to some no more than puerile."

⁵⁹ Matisse, "Interview with Léon Degand, 1945" in *Matisse on Art*, 160.

⁶⁰ Matisse, "Notes of a Painter," 132.

⁶¹ *Ibid.*

⁶² Vauxcelles, "Le Salon d'Automn," supplement to *Gil Blas* (October 17, 1905), 5.

⁶³ *Ibid.*

⁶⁴ *Ibid.*, 6.

Complementary colors and other relatively non-adjacent relationships on the color wheel would often be characterized as dissonant during this period, as suggested in Gauguin's statement about the harmony of blue and orange quoted above, and in Kandinsky's writings later.

In 1905, Derain had embraced the idea of color dissonance even more fully than Matisse. In a letter to Maurice Vlaminck, Derain discussed his previous work with Matisse and their discussions of "divisions of tones," writing that the Matisse's approach to color "is logical enough in a luminous, harmonious picture."⁶⁵ He continued, "But it only injures things which owe their expression to deliberate disharmonies." Derain's much-quoted notion of "deliberate disharmonies" resonated greatly with other artists of the era. As Gill Perry has noted, such tendencies throughout Europe at this time "may also owe something to the cult of Nietzsche, which had already spread to France by the late 1890s."⁶⁶ Perry demonstrated that Derain and Vlaminck were particularly fluent in Nietzsche's philosophy.⁶⁷

The expressive, non-naturalistic colors and forms in paintings by Matisse and Derain were an important source for German Expressionists, who often purposefully shocked their viewers with their imagery and styles. For instance, the angularly abstracted forms of prostitutes in Ernst Ludwig Kirchner's *Berlin Street Scene* of 1913 can be considered both reflexively and non-reflexively dissonant. As Donald Gordon

⁶⁵ Derain to Vlaminck, July, 1905. Quoted in Denys Sutton, *André Derain* (Garden City, NY: Phaidon, 1959), 16.

⁶⁶ Perry, "Primitivism and the Modern," in Charles Harrison, Francis Frascina, and Perry, *Primitivism, Cubism, Abstraction: The Early Twentieth Century* (New Haven: Yale University Press, 1993), 48.

⁶⁷ *Ibid.*, 48–49.

described it, "if the Fauve style is wild . . . then the Expressionist style is still more arbitrary, more spontaneous, and more rudely constructed."⁶⁸ Gordon and other scholars, such as Jill Lloyd, have examined the close relationships between Expressionist aesthetics and the philosophy of Nietzsche.⁶⁹ This connection was underscored by the group that came together as Die Brücke (The Bridge), a reference to Nietzsche's *Thus Spake Zarathustra*: "What is great in man is that he is a bridge and not a goal."⁷⁰

Nietzsche's concept of the bridge, related to his notion of the *Übermensch*, was only one of many of the philosopher's ideas embraced by members of the group. Most importantly, many of the Expressionists' paintings might be considered embodiments of the Dionysian. Hermann Bahr remarked on the "savage" nature of their art in his 1916 monograph on the group that coined the term Expressionism, and the Dionysian spirit of paintings such as Emile Nolde's *Dance around the Golden Calf* (1910) and Ernst Ludwig Kirchner's *Street* (1908/9) has often been noted, by contemporary critics and later scholars alike.⁷¹

In these paintings, we might describe again both reflexive and non-reflexive dissonances. Critics and historians have frequently noted the arresting nature of both subject matter and the formal elements of these paintings, such as their sharply angular lines and garish colors. In addition to dissonances in subject and in form, as in the

⁶⁸ Gordon, *Expressionism: Art and Idea* (New Haven: Yale University Press, 1987), 74.

⁶⁹ *Ibid.*, 1–25; and Jill Lloyd, *German Expressionism: Primitivism and Modernity* (New Haven: Yale University Press, 1991), 116ff.

⁷⁰ Nietzsche, *Thus Spake Zarathustra* (New York: Algora Publishing, 2003), 152. Members of Die Brücke included Kirchner, Nolde, Schmidt-Rottluff, and Erich Heckel. Die Brücke exhibited with Kandinsky and Marc's *Blaue Reiter* group in 1912.

⁷¹ Bahr, *Expressionismus* [1916] (Munich: Delphin, 1918), 87.

paintings of Matisse and Derain, there is often a dissonant relationship between subject and form. As Karl Schmidt-Rottluff wrote in an undated letter to art historian and collector Gustav Schiefler, probably in 1913, "In various ways I have arrived at an intensification of forms, which certainly contradict scientifically derived theories of proportion, but which correspond and tally in their spiritual relationships."⁷² Schmidt-Rottluff held to the idea that what might be outwardly perceived as contrast, could be based upon an underlying spiritual harmony, an idea Kandinsky also advanced at this time. Moreover, for Schmidt-Rottluff, an outward contrast, such as an exaggerated head, might help propel an "intensification of form," which would, in turn, facilitate "expression" and "freedom."⁷³ As we shall see, this is in accord with Kandinsky's theories concerning "outward dissonance" and "inner harmony" in 1913, the grounds for which were articulated in his publications of 1911 and 1912.

Similar trends are evident in the circle of Viennese Expressionism during this era, where there were particularly close bonds between many of the leading avant-garde artists and composers. In Norway, many of these ideas and approaches were also anticipated in the proto-Expressionistic paintings of Edvard Munch in the 1890s. Within Kandinsky's immediate circle in Germany, Klee is of special note for his own deep interest in music, as is Franz Marc, who will be addressed in conjunction with Kandinsky below. Concurrent with Kandinsky's development of the musical-artistic concept of dissonance, similar ideas were circulating throughout artistic circles in Europe, to varying

⁷² Quoted in Lloyd, *German Expressionism*, 72.

⁷³ Ibid.

degrees, within movement such as Cubism and Futurism, whose respective theories will be useful to briefly consider before returning to our primary subjects.

Guillaume Apollinaire made close connections between the two arts in an essay of 1912. Discussing the "art of pure color" of Robert and Sonia Delaunay, Marcel Duchamp, and Francis Picabia, the poet wrote that their "new art" would be "to painting, as up until now, what music is to poetry."⁷⁴ He continued by stating that their paintings have "as many rapports with music as is possible." Apollinaire expanded on the sentiment later in the text:

Thus we are moving towards an entirely new art which will stand, with respect to painting as envisioned heretofore, as music stands to literature. It will be pure painting, just as music is pure literature.

The music-lover experiences, in listening to a concert, a joy of a different sort from the joy given by natural sounds, such as the murmur of the brook, the uproar of a torrent, the whistling of the wind in a forest, or the harmonies of human speech based on reason rather than on aesthetics. In the same way the new painters will provide their admirers with artistic sensations by concentrating exclusively on the problem of creating harmony with unequal lights.⁷⁵

In what would become a common refrain among those employing the general analogy of art and music, Apollinaire implicitly dismissed program music, while connecting the formal qualities of painting with absolute music, the latter a longstanding tradition.

In addition to the artists above, Apollinaire also included Fernand Léger among those he dubbed "Orphic Cubists," describing a commonality of "pure aesthetic pleasure, a structure which is self-evident, and a sublime meaning" among the artists.⁷⁶ Léger stressed the idea of visual contrasts in his works, especially in his series of paintings of

⁷⁴ Apollinaire, "On Painting," in *The Cubist Painters*; trans. Peter Read (Berkeley: University of California Press, 2004), 12.

⁷⁵ Ibid.

⁷⁶ Ibid.

1913, *Contrast of Forms*. In an essay of the same year, he asserted, "Pictorial contrasts used in their purest sense (complementary colors, lines, and forms) are henceforth the structural basis of modern pictures."⁷⁷ In an essay of 1914, "Contemporary Achievements in Painting," he elaborated on this argument, repeating the notion that modern art is formed of contrasts:

If you distribute your color in the same way, that is, by adding similar tones, coloring each of these grouping of forms in contrast with the tones of an equivalent addition, you obtain collective sources of tones, lines, and colors acting against other contrary and dissonant sources. Contrast = dissonance, and hence a maximum expressive effect.⁷⁸

Like other artists before him, he stressed the abstract formal qualities of his paintings over their representational function: "Composition takes precedence over all else."⁷⁹

In the name Orphic, Apollinaire also suggested a synthesis of music and poetry, as well as a kind of visionary, higher knowledge. Apollinaire focused his discussion of music on "harmony," making no direct reference to dissonance. However, one might see a hint of the notion in a statement encouraging the Orphic Cubists' non-naturalistic and even abstract tendencies:

Greek art had a purely human conception of beauty. . . . But the art of the new painters takes the infinite universe as its ideal Nietzsche divined the possibility of such an art . . . [and] puts in the mouth of Dionysius an implied condemnation of all Greek art.⁸⁰

As described above, for Nietzsche, the concept of the Dionysian was inexorably linked to musical dissonance.

⁷⁷ Léger, "The Origins of Painting and Its Representational Value" [1913] in *Functions of Painting*, trans. Alexandra Anderson, ed. Edward Fry (New York: Viking Press, 1973), 7.

⁷⁸ *Ibid.*, 16.

⁷⁹ *Ibid.*, 14.

⁸⁰ *Ibid.*, 224.

Pablo Picasso and Georges Braque, as well as many of the so-called Salon or Puteaux Cubists, included musical references in their paintings, such as instruments and musical notes, further suggesting the general analogy of modern painting and music, along with providing other, more specific cultural references in most cases. Kupka, part of the informal group of Puteaux Cubists, regularly included musical themes in his paintings, such as *Piano Keys-Lake* (1909) and *Amorpha: Fugue in Two Colors* (1912).⁸¹ Kupka's juxtaposition of the colors red and blue in *Amorpha*, among an abundance of other references, calls to mind Kandinsky's statements in *Concerning the Spiritual in Art*, in which he described the juxtaposition as a "spiritual contrast of the strongest effect" and being "one of the most frequent occurrences in modern choice of harmony."⁸²

⁸¹ Henderson has explored the deep interest in scientific and occult literature in of Kupka and this circle in "X Rays and the Quest for Invisible Reality," 323–40; "Kupka, les rayons X, et le monde des ondes électromagnétiques," in *František Kupka, 1871–1957, ou l'invention d'une abstraction*, ed. by Krisztina Passuth (Paris: Musée d'art moderne de la ville de Paris, 1989), 51–57; "Die moderne Kunst und die Unsichtbare: Die verborgenen Wellen und Dimensionen des Okkultismus und der Wissenschaften," in *Okkultismus und Avantgarde: Von Munch bis Mondrian, 1900–1915* (Frankfurt: Schirn Kunsthalle, 1995), 13–31; and in "Vibratory Modernism," 126–49. On Kupka's *Amorpha* of 1912, probably the first totally abstract painting to be publically exhibited within the context of Western fine art, see also Pierre Brullé and Brigitte Léal, *František Kupka 1871–1957*, exh. cat. (Paris: Centre Georges Pompidou, 2003); Meda Mladek, *František Kupka, 1871-1957, ou, La naissance de l'abstraction*, exh. cat. (Gent: Snoeck-Ducaju & Zoon, 1998); Denise Fédit, *L'Oeuvre de Kupka*, exh. cat. (Paris: Éditions des Musées nationaux, 1966); Dorothy M. Kosinski, *Painting the Universe: František Kupka, Pioneer in Abstraction*, exh. cat. (Ostfildern-Ruit, Germany: G. Hatje, 1997). See also, in *Inventing Abstraction 1910–1925: How a Radical Idea Changed Modern Art*, exh. cat. (New York: Museum of Modern Art): Leah Dickerman, "Inventing Abstraction," 16–17; Lanka Tattersall, "Mr. Kupka Among Verticals," 67; Michael R. Taylor, "Francis Picabia: Abstraction and Sincerity," 110–12; and Robert Michael Brain, "A Sense and Essence of Nature: Wave Patterns in the Paintings of František Kupka," in *Vibratory Modernism*, 145–61, which draws on Henderson's analysis. In addition to the abstract quality of music, Kupka was deeply interested in invisible wave vibrations of all sorts, from X-rays to the possibility of thought-transfer, also connected to his belief in a possible evolution of consciousness (see Henderson, "Vibratory Modernism," 142–43). On the theme of the Fugue in the work of Kupka and others, see John Gage, *Color and Culture: Practice and Meaning from Antiquity to Abstraction* (London: Thames and Hudson, 1993; and Berkeley: University of California Press, 1999).

⁸² Kandinsky, *Concerning the Spiritual*, 43. As noted above, Kandinsky referred to Gauguin in the accompanying footnote. In the earlier painting by Kupka mentioned above, *Piano Keys-Lake* of 1909, the

The Italian Futurists viewed dissonance of all forms as valuable tools in their attempt to overturn tradition, and they often drew on parallels to music, such as in their statement “The Exhibitors to the Public” of 1912.⁸³ Drawing explicitly on a comparison with “the evolution of music,” they claimed not only to have abandoned the “motive fully developed” according to its “artificial equilibrium” (in other words tonal resolution and traditional harmony), but also to have combined multiple atonal melodies on top of one another to create a “chaos and clashing . . . which we nevertheless assemble into a new harmony.”⁸⁴ In their “Futurist Painting: Technical Manifesto” of 1910, the artists position their style, in part, as a radical development of Divisionist color. Describing their abundant use of what might traditionally be considered clashing color pairings, they declared that “innate complementariness is an absolute necessity in painting, just as free meter in poetry or polyphony in music.”⁸⁵

For the Italian Futurists, atonal musical compositions offered a model for the shock they sought to impart and the newness they looked to embody. Dissonant music was also a specific component of their overall artistic program, and Russolo’s *Art of Noise* manifesto of 1913 further developed the notion of a new, chaotic and atonal harmony in music. Russolo applied his ideas by creating what he called *intonarumori* or noisemakers.

artist might even be said to be dissolving naturalistic representation through the notes of music, as represented by dislocated piano keys, floating up the canvas and across the lake.

⁸³ “The Exhibitors to the Public,” signed by Umberto Boccioni, Carlo Carrà, Russolo, Giacomo Balla, and Gino Severini, in Chipp, *Theories of Modern Art*, 294–98. The text introduced the catalogue for the group’s exhibition in Paris in February 1912, which then travelled to other European countries and the United States in 1915.

⁸⁴ Ibid.

⁸⁵ “Futurist Painting: Technical Manifesto” [1910] signed by Boccioni, Carrà, Russolo, Balla, and Severini, in Chipp, *Theories of Modern Art*, 293.

He wrote of his desire through them to respond to the “fervent, rapid, intensity of modern life” and intended his music to have a similar affect: “This lyrical and artistic coordination of the chaos and noise in life constitutes our *new acoustical pleasure*, capable of truly stirring our nerves, of deeply moving our soul, and of multiplying a hundred-fold the rhythm of our life.”⁸⁶

Luciano Chessa has noted the important connections the Italian Futurists made between the arts, and between the senses that receive them. Chessa has also addressed the model for this idea in occult literature such as Annie Besant and Charles Leadbeater's Theosophical text "Thought-Forms," noting the often-intertwining currents within occult and scientific models of the universe that were centered around the concepts of the ether. Chessa argued that the Italian Futurists adopted the wave theory that included both light and sound among electromagnetic vibrations, which contributed to the group's notion of an interconnection between different senses, different media, and even between matter and thought.⁸⁷ Chessa called "the interest in waves and vibrations, and in their relationship to occult themes" a "constant" in the poetry of Filippo Tommaso Marinetti.⁸⁸

In their 1915 text "Futurist Reconstruction of the Universe," the Italian Futurists wrote of the "interpenetration of planes and states of mind."⁸⁹ For them, poetry, music and the visual arts all sprang from the same "lyric valuation of the universe," which they

⁸⁶ Russolo, *Art of Noise*, 86–87. See also Luciano Chessa, *Luigi Russolo, Futurist: Noise, Visual Art, and the Occult* (Berkeley: University of California Press, 2012).

⁸⁷ Chessa, 17–18. Chessa also draws on heavily on Henderson's scholarship (see, especially, "Vibratory Modernism," 126ff). As noted elsewhere, Henderson connects these ideas to Kandinsky's art and theories in her study.

⁸⁸ *Ibid.*

⁸⁹ "Ricostruzione futurista dell'universo," signed by Balla and Fortunato Depero and written with Marinetti's assistance. See Chessa, *Luigi Russolo, Futurist*, 41–42.

would present as the "dynamic, simultaneous, plastic, noisy expression of the universal vibration." They proposed that their initial goal would be to "find the abstract equivalents of all the forms and of all the elements of the universe, then we will combine them together" ⁹⁰ Umberto Boccioni described his vision for the trajectory of the visual arts in similarly interconnected terms: "There will come a time when a painting will no longer be enough. . . . The eye of man will perceive colors *like feeling in themselves*. Multiplied colors will have no need of forms to be understood, and pictorial works will be whirling musical compositions of enormous colored gases" ⁹¹

Following from Boccioni's notion of a fundamental interconnectedness of all arts, he envisioned an advanced stage of artistic development in which individual artistic media disappear entirely and one might express "the idea before it can be localized in any one sense and be determined either as music, poetry, painting, architecture, that way capturing without any mediation of the primal universal sensation." ⁹² This suggests something similar to Nietzsche's idea of going beyond seeing and hearing as addressed above. Expressing a similar combinatory sentiment in 1926, Giacomo Balla claimed to have "already created a new sensitivity in art that is expression of future ages that will be colorradioiridesplendoridealluminosisssssssimiiiiiii," merging the words color, radio, rainbow, splendors, ideals, and most luminous. ⁹³

⁹⁰ Ibid.

⁹¹ Boccioni, "La pittura futurista (conferenza tenuta a Roma nel 1911)," in Boccioni, *Altri inediti*, 11; quoted from Chesse, *Luigi Russolo, Futurist*, 25–26.

⁹² Ibid.

⁹³ In *Demolizione della casa di Balla* of 1926, see Chesse, *Luigi Russolo, Futurist*, 33.

As in the writings of Gauguin and Matisse, analogues of dissonant music were centered around abstract, formal elements in the Italian Futurists' paintings: "One may remark, also, in our pictures spots, lines, zones of color which do not correspond to any reality, but which, in accordance with a law of our interior mathematics, musically prepare and enhance the emotion of the spectator."⁹⁴ They go on to proclaim that abstract forms, "those lines, those spots, those zones of color, apparently illogical and meaningless, are the mysterious keys to our pictures." Earlier in the 1912 text, the Italian Futurists described the pictorial element they call "force lines" as "prolongations of the rhythms impressed upon our sensibility by these very objects," stating a desire "not to draw sounds, but their vibrating intervals."⁹⁵ In these statements, the underlying justification comes from a perception of the world as an interconnection of vibrating waves of energy in the ether, and a connection between all types vibrations, including light and sound.

As we shall see, many of these same ideas contributed to the early theories of total abstraction proposed by artist, especially Kandinsky. The development of new visual systems for their art was based, in part, on current scientific understanding of energy vibrations within physical models of the universe. This was a common theme throughout the European and Russian avant-garde. A similar set of sources and ideas also formed the basis of new theories of harmony developed by Schoenberg and other composers of the era, who often drew upon Helmholtz and subsequent acoustical studies in defense of

⁹⁴ "The Exhibitors to the Public," in Chipp, *Theories of Modern Art*, 297.

⁹⁵ *Ibid.*, 294.

expanded tonal systems. Nietzsche's concept of the Dionysian, a simultaneously anarchic and constructive force giving way to a new freedom, also helped establish positive connotations for dissonance.

Chapter 3

Kandinsky's Artistic Theories ca. 1911

Kandinsky's statements in *Concerning the Spiritual in Art* attest to the importance, not only of music, but more specifically, of new musical idioms developing in the first decade of the twentieth century. As we shall see, his understanding of musical harmony and its relationship to art theory evolved over the years 1911 to 1913, and he adapted his visual strategies based on an ever-growing understanding of new musical styles and ideas. To set the stage for the analysis that follows, a brief overview of Kandinsky's background is helpful. Many of the trends of his later work can be traced back to his early development.

Background

Born in Moscow on December 4, 1866, Kandinsky was brought up in a comfortable, bourgeois setting, created by a successful merchant father.¹ He was raised in the Russian Orthodox faith, a belief he professed throughout his life. The family moved to Odessa in 1871, where the young Wassily received his initial education.² At the age of 20, Kandinsky returned to Moscow to study economics and law at Moscow University in 1886. Graduating in 1892, Kandinsky took a position lecturing on jurisprudence at the

¹ The basis of most accounts of Kandinsky's early biography comes from his *Reminiscences* essay of 1913, which appears in *Kandinsky: Complete Writings on Art*. For a more complete biography of Kandinsky, see Jelena Hahl-Koch's *Kandinsky* (New York: Rizzoli, 1993).

² The German transliteration of Kandinsky's name, "Wassily," was used by the artist when employing Roman characters (in European contexts), and is used for consistency throughout this dissertation, even where the Russian context would otherwise make the transliteration Vasili or Vassily more appropriate, as here.

same university. In 1889, he traveled extensively through Syryenian communities in the northern portions of Moscow and Vologda provinces to study the origins of peasant law, subsequently publishing three ethnographic papers on his findings.³ In his later “Reminiscences,” he also described being particularly taken with the region’s artistic and musical traditions. In the essay, he placed this trip alongside two other events of 1896—his viewing of Monet’s *Haystack* (1891) and his attendance at a performance of Wagner’s *Lohengrin* (written in 1850)—in describing what led him to his career as an artist.⁴ That year he abandoned his academic career in law and moved to Munich to study art.

In Munich, Kandinsky enrolled in city's most renowned private art academy, studying painting with Anton Azbé for two years.⁵ During this time, Kandinsky was exposed to a variety of artistic styles and pedagogical methods, from traditional studies in life and anatomical drawing to the contemporary techniques of the French Divisionists.⁶ As much of his extant work from this period shows, he was also exposed to Jugendstil design, another strong artistic current in Munich at the time.⁷ Jugendstil interest in musical parallels and in folk motifs would have appealed to Kandinsky, as well as the style's emphasis on formal elements over verisimilitude.

³ Hahl-Koch, *Kandinsky*, 30–31.

⁴ Kandinsky, *Complete Writings on Art*, 363.

⁵ Hahl-Koch, *Kandinsky*, 59–61.

⁶ French Divisionism was a form of Post-Impressionism that developed from Georges Seurat’s Pointilism. For examples of Kandinsky’s student work, see Barnett and Helmut Friedel’s *Vasily Kandinsky: A Colorful Life* (New York: Harry N. Abrams, 1996), 33–45, nos. 1–19.

⁷ Peg Weiss, *Kandinsky in Munich: The Formative Jugendstil Years* (Princeton, N.J.: Princeton University Press, 1979). Weiss concluded that the Jugendstil interest in the significance of form over content was key to Kandinsky’s development of an abstract style.

Kandinsky left Azbé's academy in 1898 and enrolled in the Munich *Kunstakademie*, where he studied with Franz Stuck, a member of the Munich Secession of 1892.⁸ In Stuck's studio, Kandinsky was further exposed to the variety of styles popular in Munich at the time. Stuck's own paintings suggest late Romantic and Symbolist sources in their dream-like and fantastical imagery, often based on myth. Kandinsky wrote in "Reminiscences" that, while pleased with Stuck's lessons in drawing, he was dissatisfied with his teacher's understanding of color.⁹ As we shall see, color was of profound importance for Kandinsky. By 1900 he was planning his own "new association in Munich which will permanently exhibit works from all artistic realms."¹⁰

1901–1911

In 1901 Kandinsky left the academy and formed an artists' association called the Phalanx, where he taught and organized exhibitions. The Phalanx exhibited many of the most prominent European avant-garde artists of the era, including Degas, Monet, Signac, Denis, Van Gogh, and Nabis such as Pierre Bonnard and Edouard Vuillard.¹¹ At this time, Kandinsky's paintings were still very much in the vein of French Post-Impressionism, and this was the style he appears to have taught his students at the time.¹²

⁸ Peg Weiss, "Kandinsky in Munich," 32. Otto Heine and Peter Behrens, fellow members of the Munich Secession and friends of Stuck, were devoted to the idea of the Arts and Crafts Movement and to the idea of a *Gesamtkunstwerk* or total work of art, an idea discussed more fully later in this chapter.

⁹ See Hahl-Koch, *Kandinsky*, 59–60.

¹⁰ *Ibid.*, 47. Kandinsky made this statement in a letter to Dmitri Kardovsky—a fellow Russian who he met in Azbé's studio—dated November 14, 1900.

¹¹ Initially centered around Académie Julian in Paris, Paul Sérusier named and marshaled the group, which also included Denis, championing Gauguin's work and theories especially.

¹² *Ibid.*, 81–83. For examples of Kandinsky's work at this time see figs. 66–78.

The association disbanded in 1904, but by then, Kandinsky had established his reputation as a serious artist and had had a work accepted by the jury of the 1904 Salon d'Automne in Paris.

Kandinsky lived in Paris for one year between 1906 and 1907, then returned to Munich. He formed a new group in 1909, the *Neue Künstlervereinigung* (New Artists' Association) or *NKV*, with Marc, Alexei von Jawlensky, Alfred Kubin, and Gabriele Münter, friends he had made during his association with Phalanx. During this time he also developed a close relationship with the Russian composer Thomas Alexandrovich de Hartmann, known in Munich as Thomas von Hartmann.¹³ Kandinsky's experiences in Paris reinforced many of the ideas with which he had already become acquainted in Munich, including Symbolist theory.¹⁴

Kandinsky's early theories of abstraction, like many other artists of his era, were deeply rooted in the Symbolists' Neo-Platonic notion of correspondences between various physical phenomena on a higher, spiritual level. Symbolism was an important source for artists attempting to move away from representations of the visible world of objects. As we have seen, these ideas were also tied to notions of dissonance for artists like Gauguin,

¹³ See Thomas C. Daly and Thomas A. C. Daly, "On Thomas de Hartman," in *Gurdjeff International Review* 3 (Summer, 1999), at www.gurdjeff.org (accessed March 30, 2014).

¹⁴ Long, "Kandinsky and Abstraction: The Role of the Hidden Image," in *Major European Art Movements 1900-1945*, ed. Patricia Kaplan and Susan Manso (New York: E. P. Dutton, 1977), 296n. According to Long: "Between 1896 and 1911, Kandinsky had been exposed to a variety of Symbolist concepts. Although Symbolism reached its height as a literary movement in France in the mid-1890s, its impact was of a longer duration in Germany and Russia. In Russia, Symbolism continued to be a dominant influence in intellectual circles as late as 1911. Kandinsky was the Munich correspondent for the Russian Symbolist periodical *Apollon* in 1909 and 1910." His interest in Symbolism also manifested itself in the inclusion of many Symbolist artists in the Phalanx, the NKV, and the *Blaue Reiter* group exhibitions as well as his comments regarding such authors as the German poet Stefan George and Belgian dramatist Maurice Maeterlinck. See also Patricia Mathews, *Aurier's Symbolist Art Criticism and Theory* (Ann Arbor: UMI Research Press, 1986), 19–43.

Matisse, and Derain. The impact of Symbolist aesthetics and French avant-garde art becomes especially apparent in Kandinsky's visual production in 1908. The many landscape and cityscape paintings of Munich and Murnau he executed between 1908 and 1909 reflect the bold, seemingly arbitrary color and abstracted, yet still recognizable, forms of paintings by artists such as Gauguin and Matisse.¹⁵ In a 1910 review of an exhibition of Fauvist paintings, Kandinsky remarked, "there is not one that is mediocre."¹⁶ He went on to praise the Fauves use of so-called arbitrary color and called for a similar development in the "realm of form."

1911–12

By the spring of 1911, tensions were developing among the members of the NKV, and two factions had become evident within the group. One was led by then chairman of the group Adolf Arbslöh, and the other by Kandinsky.¹⁷ Kandinsky's increasingly abstracted style and the ever-growing theoretical schism within the NKV led to the exclusion of *Composition V* (1911) by the jury for the association's 1911 winter exhibition. As a result, Kandinsky, along with Marc, Kubin, Münter, and Hartmann, immediately split from the NKV to form a new artistic association, *Der Blaue Reiter*

¹⁵ See, for instance, figs. 250–56 in Barnett and Friedel, *Vasily Kandinsky*, 195–203; and figs. 136–55 in Hahl-Koch, *Kandinsky*, 111–123. Barnett and Hahl-Koch both note Kandinsky's debt to Fauvism.

¹⁶ Hahl-Koch, 120

¹⁷ See Klaus Lankheit's essay introducing the English version of Kandinsky and Marc's 1911 publication, "A History of the Almanac," in *The Blaue Reiter Almanac* (New York: DaCapo Press, 1974), 13.

(The Blue Rider).¹⁸ The first exhibition of the new group opened on December 18, 1911 in Munich and later traveled throughout Germany.¹⁹

1911 and 1912 were critical years in Kandinsky's development of a totally abstract style of painting and in the promulgation of his ideas in support of abstraction. Kandinsky and Marc organized touring exhibitions in 1911 and 1912 and began work assembling a collection of essays, images, and musical scores in March 1911, which was published by Reinhard Piper in Munich in May 1912 as *Der Blaue Reiter*.²⁰ The almanac also included Kandinsky's libretto for his unrealized *The Yellow Sound: A Stage Composition*.²¹ Both *The Yellow Sound* and *Der Blaue Reiter* as a whole serve as clear indications of Kandinsky's desire for a synaesthetic fusion of the arts. They were also a further refinement of the theories of abstraction Kandinsky had put forth in his seminal theoretical text advocating total abstraction in painting, *Concerning the Spiritual in Art*, first published by Piper in December of 1911. Dissonance was an important theme in *The Yellow Sound* and in many of the almanac's essays, expanding on statements in his text of 1911.

Über das Geistige in der Kunst

Concerning the Spiritual in Art may be seen as the culmination of Kandinsky's

¹⁸ Ibid., 11–12. Even before Kandinsky and Marc's split from the NKV, the two were preparing the almanac.

¹⁹ Ibid., 14.

²⁰ Ibid., 14–15, and 29.

²¹ Ibid., 207ff. Kandinsky's text credits Thomas von Hartmann with the music. Unfortunately, whatever music he created for the work—presumably unfinished like the work as a whole—has been lost.

theoretical concerns at that point in time as well as the expression of his goals for his art that would follow. While most of the typeset was completed on October 18, 1910, Kandinsky added to the text early in 1911.²² In all, there are nine extant manuscripts, written in both German and Russian, dating from 1904 to 1911. Kulbin presented an abbreviated version of the text on Kandinsky's behalf as a lecture at the Second All-Russian Congress of Artists in St. Petersburg in December 1911. *Concerning the Spiritual in Art* was first published in Munich in its German form that same month, although it bore the date 1912.²³ By 1914, it had already been republished in both a Russian and an English language edition.²⁴ It is notable that the first English edition, translated by Kandinsky's friend Michael Sadler, bore the title *The Art of Spiritual*

²² See Hahl-Koch, *Kandinsky*, 172. See also, John Bowl's "Reconstructing the Spiritual," in *Experiment* 8 (2002), 53–58. Bowl gives October, 1910 as the end date for work on the manuscript, but it is clear that at least one addition was made in 1911, since Kandinsky did not become aware of the statements he quotes from Schoenberg's until January of 1911. I will address this statement in greater depth below.

²³ See Lindsay and Vergo's introductory essay in *Kandinsky: Complete Writings on Art*, 114. This was a common publishing practice to prolong novelty.

²⁴ The German version of the text, published by Piper under the title, *Über das Geistige in der Kunst Insbesondere in der Malerei (On the Spiritual in Art and Painting in Particular)*, was reprinted three times in 1912. The manuscripts for the book are now held in the Kandinsky Archive at the Getty Research Institute, Getty Center for the History of Art and the Humanities, Los Angeles. Obviously, Kandinsky himself prepared the Russian version of the text. It was translated into English by Michael T. H. Sadler, a prominent British publisher, and a friend of Kandinsky. Sadler was in close contact with Kandinsky during his preparation of the translation, and remained in touch with the artist for the next two decades. It is this version of the text that will be most familiar to the contemporary reader because of the inexpensive printing offered by Dover Publications, Inc., New York. The more recent translation, prepared by Lindsay and Vergo, appearing in their publication, *Kandinsky: Complete Writings on Art* (Boston: G. K. Hall, 1982), corrects some of liberties taken in Sadler's version, and is used in this dissertation in those instances where Sadler's translation deviates significantly from the original. However, as noted above, the citations given here will refer to the 1977 Dover edition unless otherwise noted. In addition to being more generally accessible, it follows the first 1914 English translation, the page numbering roughly follows that of the original Piper publication and gives a better sense of the placement of individual quotations, unlike the translation in *Complete Writings*, which begins on page 119.

Harmony.²⁵ To date, the text has appeared in more than one hundred editions, and at least fifteen different translations.²⁶

Kandinsky divided the book into two main parts. “Part I: About General Aesthetics” is further subdivided into four sections. In the first subsection he introduced his main argument, the opposition between the spiritual and the material, touched on his central concept of “inner necessity,” and argued for the “prophetic strength” of art and the artist. The next three subsections of Part I, “The Movement of the Triangle,” “Spiritual Revolution,” and “The Pyramid,” are primarily concerned with the development of this last argument: artist as prophet, leading the way in a vast, spiritual ascent.

Kandinsky described a model for societal, spiritual progress that is structured like a triangle or pyramid. Those who are the most spiritually enlightened occupy the top portion of the pyramid, propelling it ever upwards, so that those in the lower portions of the pyramid are also uplifted. Kandinsky was calling for the development of a totally abstract style of art. He saw the model of the ascending pyramid as the vehicle by which this new form of art would be developed and the means by which it would come to be accepted by the general public. He recognized that this process of acceptance would be

²⁵ Kandinsky, *The Art of Spiritual Harmony*, translated by Sadler (London: Constable and Company, 1914). Subsequent Sadler translations were published under the title *Concerning the Spiritual in Art*. It was also published in English as *On the Spiritual in Art*, translated by Hilla Rebay (New York: Solomon R. Guggenheim, 1946).

²⁶ A search of OCLC’s First Search: Worldcat, revealed fifty-five editions of the text on March 5, 2009. Sadler’s translation has entered the public domain and with offerings from e-book publishers, the number of editions has more than doubled since my previous search. In addition to multiple versions in English and French, translations include Bulgarian, Chinese, Czech, Danish, Hebrew, Italian, Japanese, Korean, Portuguese, Spanish, Turkish, and Romanian. Most of these translations were published in the late 1990s.

gradual and was careful to move from recognizable subject matter, to abstracted subject matter, to totally abstraction in an equally gradual fashion in his own paintings. Beyond advocating total abstraction in art, Kandinsky's model of the pyramid represented an idealistic notion of spiritual progress throughout society. As we have seen, the artist's model of a pyramid may also be viewed as an adaptation of Schopenhauer's theories of the universe as a "pyramid, of which man is the apex."²⁷

In "Part II: About Painting," Kandinsky explored the application of the tenets he called for in the first part of the book. The majority of this portion of the text is devoted to descriptions of the working of color, but he also discussed form and the combination of the two elements. A brief chapter, "Art and Artists," is given over to repeating the idea of artist as spiritual leader. The conclusion to *Concerning the Spiritual* consists mainly of a description of the author's artistic working method and future goals, emphasizing again his notion of gradual, spiritual progress that would allow for the general acceptance of totally abstract art. In the text's final, artistically empowering sentence, Kandinsky connected all intellectual and spiritual endeavors: "We have before us the age of conscious creation, and this new spirit in painting is going hand in hand with the spirit of thought towards an epoch of great spiritual leaders."²⁸

²⁷ See ch. 2, n. 50 above. Often noted in scholarship on the artist, Mark Cheetham addressed Kandinsky's debt to Schopenhauer's philosophy particularly directly in *The Rhetoric of Purity: Essentialist Theory and the Advent of Abstract Painting* (Cambridge: Cambridge University Press, 1991).

²⁸ Kandinsky, *Concerning the Spiritual*, 57.

“Innere Notwendigkeit”

In following the path of spirituality, the key ingredient and highest compliment Kandinsky bestowed was the declaration of “inner necessity.”²⁹ For him, this idea was the key to artistic production and spiritual transcendence. Kandinsky used the term “inner necessity” frequently, although he never defined it specifically. Nonetheless, it is clear that his use of the term referred to a drive that has its source in feeling rather than logic, stemming from the soul rather than the brain, and that it exists in opposition to the external, material embodiment of things. As noted above, the term appears in Schopenhauer's *The World as Will and Idea*, where it is used to describe universal harmony based on natural laws, and an aspect of the philosopher's concept of “The Will,” which was later adopted by Nietzsche in *The Birth of Tragedy*.³⁰

In Kandinsky's system of artistic creation and transmission, this inner necessity leads to the production of works of art that embody the spirituality of the artist and convey that spiritual essence to the viewer. He considered this spiritual necessity a universal phenomenon. In his discussion of the effect the work of art has on the viewer, Kandinsky described an “inner sound” (*innere Klang*) or “inner harmony” (*innere Harmonie*) that resounds in the soul of the viewer.³¹ Kandinsky's notion of inner necessity is both subtle and complex, and critical analyses of the term are by no means

²⁹ Ibid., 26, 29, 32, and others. *Innere Notwendigkeit* is most literally translated as “inner necessity,” however “inner need” is frequently used as well, for instance in Sadler's translation.

³⁰ See Schopenhauer, *The World as Will and Representation*, 2:9–10; and Nietzsche, “The Birth of Tragedy,” 50–52. As noted above, both authors also give primacy to music in the artistic manifestation of this force (Schopenhauer, 1:259; and Nietzsche, esp. 37).

³¹ Kandinsky, *Concerning the Spiritual*, 15.

consistent among Kandinsky scholars. Given that problem, an examination of some of the definitions proposed is in order.

In his article “Sound in Kandinsky’s Painting,” logician Jerome Ashmore takes a formal approach to trying to understand inner necessity.³² Although he falls short in his attempt to define this term precisely, Ashmore’s cataloging of Kandinsky’s statements regarding it is useful:

Inner necessity is a principle having its source in feeling; is associated with divinity; is active when the artist is creating; is decisive in questions of color and form; is responsible for the vibrations endowing form with a spiritual aspect; is the power manifested in the unavoidable desire of what is objective to express itself; is incited by (a) particular demands of creativity within the artist, (b) the style prevailing at his time, and (c) an eternal constant, the main ingredient identifying a work of art as art, independently of time and space; and ‘might be called honesty.’³³

Ashmore rightly concluded that in spite of all this information, “the quiddity of inner necessity remains indeterminate.”³⁴ Indeed, far from arriving at a clear answer as to exactly what inner necessity is, we are left to ourselves to sort out the contradictions such as how inner necessity can rely on “the style prevailing at his time,” and yet exist “independently of time and space.”

Of these three, final, components of inner necessity—a, b, and c above—it is the third, the “eternal constant,” that Kandinsky stressed the most, stating, “Only the third

³² Ashmore, “Sound in Kandinsky’s Painting,” in *Journal of Aesthetics and Art Criticism* 35 (Spring 1977), 329–36. Ashmore takes an extremely literal reading of Kandinsky’s text, meticulously compiling the artist’s individual arguments. By restructuring the individual statements embedded in *Concerning the Spiritual*, Ashmore illuminates Kandinsky’s emphasis of the parallel between spiritual/artistic transmission and the physical process of sound. Where Ashmore’s analysis falls short is in its failure to look beyond the text. When the larger context is reincorporated, we should find that these passages reveal more information than was apparent before.

³³ Ibid, 331.

³⁴ Ibid.

element—that of pure artistry—will remain forever.”³⁵ The first two elements are included because, as mentioned above, his idea of an evolution of consciousness entailed a general movement upwards, not just the evolution of the individual artist, so the artist must therefore concern himself with the style of his time. In Kandinsky’s optimistic, evolutionary scenario, the first two elements (the artist’s style and the style of his time) are forever moving closer to the third (the eternal constant).³⁶

Hahl-Koch described inner necessity as “the artistic conscience that leads every conscientious artist to search for the mode of expression best suited to him . . . so that his art is necessary not only to himself but to the world.”³⁷ This definition brings us closer to Kandinsky’s meaning and encapsulates much of what the artist probably meant by the term. Hahl-Koch recognized that inner necessity, as understood by Kandinsky, is something greater than the individual artist, and she touched on the aspect of transmission of meaning, but both components of this definition can be expanded upon and refined.

In her 1995 analysis of Kandinsky’s *Compositions*, Dabrowski recognized that Kandinsky considered inner necessity a “guiding principle” in the creation of a successful work of art, but there is a problem with her description of the concept, which she defined as “the artist’s emotional response to events of an internal nature.”³⁸ Dabrowski is by no means alone in her assumption that Kandinsky’s use of the word “inner” refers to the

³⁵ Kandinsky, *Concerning the Spiritual*, 34.

³⁶ Kandinsky is being purposefully vague here in using the phrase “style prevailing at his time” and is not referring to any specific, contemporary styles, but rather to a general stylistic trend that would be readable to a contemporary viewer.

³⁷ Hahl-Koch, *Kandinsky*, 174.

³⁸ Dabrowski, *Kandinsky: Compositions* (New York: Harry Abrams, 1995), 11–12. See also “Kandinsky and Schoenberg,” in which Dabrowski defined inner necessity as that which “convey[s] the artist’s response, or, in his words, “an expression of inner necessity,” stimulated by his imagination” (p. 86).

source of artistic inspiration rather than indicating the receptor of this force. True, the artist is at the center of the structure Kandinsky described, but his role is really one of mediator or conduit for transmission of a universal force.

One source of confusion about the term has undoubtedly been Kandinsky's frequent use of similar terms such as *inner appeal*, *inner basis*, *inner beauty*, *inner being*, *inner desire*, *inner feeling*, *inner form*, *inner harmony*, *inner impulse*, *inner knowledge*, *inner life*, *inner meaning*, *inner note*, *inner principle*, *inner resonance*, *inner sound*, *inner spirit*, *inner tendency*, *inner thought*, *inner value*, *inner vibration*, and simply, *the inner*.³⁹ Some of these terms—for instance, inner desire and inner impulse—are virtually synonymous with inner necessity in their connotation and use in *Concerning the Spiritual*. I would argue that the other terms, however, are more aptly viewed as subsets of the more general designation of *inner necessity*, what the author referred to as “inner principles.”⁴⁰ In his individual references to these terms, it would seem that Kandinsky was suggesting a causal relationship between them; however, these relationships are fluid rather than fixed. For instance, as Kandinsky says, an artist may be affected by an inner sound or inner vibration—from whatever the source—and, finding that this source creates an inner harmony with his or her own spirit or soul, works as a conduit transmitting this inner necessity to others through his or her own artistic creation. With the presence of the

³⁹ Kandinsky, *Concerning the Spiritual in Art*, 32, 33, 36, 40, and 42 (inner appeal); 36 (inner basis); 16 (inner beauty); 47 (inner being); 35 (inner desire); 1, 2, 49, and 57 (inner feeling); 46 and 47 (inner form); 15, 31, 34, 39, 47, and 51 (inner harmony); 35 (inner impulse); 13 (inner knowledge); 1, 17, 19, and 43 (inner life); 3, 24, 29, 30, 35, 49, 50, and 54 (inner meaning); 15 and 31 (inner note); 44 (inner principle); 43 (inner resonance); 52 (inner sound); 34 and 51 (inner spirit); 1 (inner tendency); 4 (inner thought); 48 and 49 (inner value); 32 (inner vibration); 16, 17, and 49 (the inner).

⁴⁰ *Ibid.*, 44. The author uses some of these terms for their obvious, connotative values. For instance, something can have “inner being” (p. 47) without having “inner truth” (pp. 1 and 9).

viewer (or listener, or reader) comes the potential for the transmission of this inner vibration, which, in turn, may find an inner resonance or harmony in the viewer, yet another inner vibration.

While Kandinsky remains vague about the original source of this inner necessity, it is clear that he intends to suggest that it is universal in nature, encompassing any manifestation of “the inner,” whether it is found in the artist, the work of art, or the viewer. As he stated in a letter to Münter written in December 1910, discussing “the internal:”

The world rings with sound, nothing is silent. The ear has to capture what is necessary to it. This necessity comprises beauty and truth. For that reason there is neither a single beauty nor a single truth. There are as many of each as there are souls in the world.⁴¹

We are presented here again with a difficult duality. It would seem that the internal is universally present, and yet entirely subjective in each of its manifestations.⁴² Ringbom addressed this duality, describing inner necessity as universally present, but individually manifested.⁴³ Long made a similar distinction, stating that Kandinsky’s concept of inner

⁴¹ Hahl-Koch, 174.

⁴² Kandinsky, realizing the difficulty inherent in his statement, first offered a caveat that might be of use when considering any of his theories, especially his idea of inner necessity: “Don’t philosophize about it, just simply understand and imagine it!” He makes a similar statement in *Concerning the Spiritual in Art*: “It is impossible to theorize about this ideal of art. In real art, theory does not precede practice, but follows her” (p. 35). This statement appears shortly before the section of the text entitled, “Theory.” Kandinsky obviously set aside this advice while writing his theoretical text and others. However, his point about the importance of studio practice in his development of theory is significant. This interplay will be addressed in chapter eight of this dissertation.

⁴³ Ringbom, *Sounding Cosmos: A Study in the Spiritualism of Kandinsky and the Genesis of Abstract Art* (Abo: Abo Akademi: 1970), 110–116.

necessity “allowed art to move beyond time and space, beyond the personal and the national, to the eternal and the universal.”⁴⁴

Both assessments are in accord with the final statement about inner necessity found in *Concerning the Spiritual in Art* where Kandinsky wrote, “that is beautiful which is produced by inner necessity, which springs from the soul.” Here then, we are presented with Kandinsky’s idea of the source of inner necessity. It is found in the soul, which may be conceived as an individual manifestation of the universal. This is in accord with Schopenhauer as well, who wrote, “All possible efforts, excitements, and manifestations of the will . . . may be expressed by the infinite number of possible melodies, but always in the universal . . . always according to the thing-in-itself, not the phenomenon, the inmost soul.”⁴⁵ Schopenhauer's statement is presented in the context of his earlier discussion of music as a manifestation of the Will. He continued by noting the “deep relation which music has to the true nature of all things,” allowing it to “disclose to us [the world's] most secret meaning, and appears as the most accurate and distinct commentary upon it.”⁴⁶

“Die Seele in Vibration”

To introduce his central thesis of “inner need” and explain his notion of its process of transmission, Kandinsky described three “guiding principles of inner

⁴⁴ Long, “Occultism, Anarchy, and Abstraction,” 42. In an email of June 16, 2003, Long confirmed that “Kandinsky did not mean by ‘inner’ our American understanding of individuality or personal or subjective,” and that “he still believed that his works could touch upon some aspect of universality.”

⁴⁵ Schopenhauer, *The World as Will and Representation*, 1:340.

⁴⁶ Ibid.

necessity.” He presented each by means of a single analogy, “the metaphor of the piano.” While much of *Concerning the Spiritual in Art* relied upon musical metaphors, this is the only time a metaphor was repeated, and the author himself emphasized this repetition in the text. In Kandinsky’s extended analogy, the hand (artist) makes a choice from a set of keys (color, form, and object; i.e. the picture). In turn, the keys trigger a vibration in the strings of the piano, which then transmit these vibrations to the listener (viewer).⁴⁷ He writes,

Generally speaking, color is a power that directly influences the soul. Color is the keyboard, the eyes are the hammers, the soul is the piano with many strings. The artist is the hand which plays, touching one key or another, to cause vibrations in the soul. *It is evident therefore that color harmony must rest only on a corresponding vibration in the human soul; and this is one of the guiding principles of the inner need.*⁴⁸

To use once more the metaphor of the piano—the artist is the hand which, by playing on this or that key (i.e. form), affects the human soul in this or that way. *So it is evident that form-harmony must rest only on a corresponding vibration in the human soul; and this is a second guiding principle of the inner necessity.*⁴⁹

Once more the metaphor of the piano. For “color” or “form” substitute “object.” Every object has its own life and therefore its own appeal; man is continually subject to these appeals. But the results are often dubbed either sub- or super-conscious. Nature, that is to say the ever-changing surroundings of man, sets in vibration the strings of the piano (the soul) by manipulation of the keys (the various objects with their several appeals). The impressions we receive, which often appear merely chaotic, consist of three elements: the impression of the color of the object, of its form, and of its combined color and form, i.e. of the object

⁴⁷ In the second and third appearance of the piano analogy, he expands the term “vibration” to read “corresponding vibration” (*Concerning the Spiritual*, 29 and 31). Such vibrational imagery characterizes much of the treatise, for instance, pp. 2, 15, 24, 26, 29, 31, 32, 38n, 18, 40, 41, 47, 48n, 3, and 53. Schoenberg might have picked up on Kandinsky’s frequent use of the term when, in a letter to the artist praising *Concerning the Spiritual*, Schoenberg wrote: “you are such a full man that the least vibration always causes you to overflow.” (March 8, 1912).

⁴⁸ Kandinsky. *Concerning the Spiritual*, 25. Italics are Kandinsky’s throughout these quotes.

⁴⁹ *Ibid.*, 29.

itself. At this point the individuality of the artist comes to the front and disposes, as he wills, these three elements.

*It is clear, therefore, that the choice of object (i.e. one of the elements in the harmony of form) must be decided only by a corresponding vibration in the human soul; and this is a third guiding principle of the inner need.*⁵⁰

As noted above, Kandinsky's use of the piano metaphor recalls Whistler's

statement in his famous *Ten O'Clock Lecture* of the late 1880s:

Nature contains the elements, in colour and form, of all pictures, as the keyboard contains the notes of all music. But the artist is born to pick, and choose, and group with science, these elements, that the result may be beautiful—as the musician gathers his notes, and forms his chords, until he bring forth from chaos glorious harmony. To say to the painter, that Nature is to be taken as she is, is to say to the player, that he may sit on the piano.⁵¹

Charles Blanc had made a similar argument when he wrote the following in his

Grammaire of 1867:

One [artist] considers [nature] as a 'repertoire' of pleasing or terrible objects, of graceful or imposing forms which will serve him to communicate his emotions, his thoughts. Another compares nature to a piano, upon which each painter plays in turn the music that pleases him. But nobody would define painting as imitation.⁵²

These piano metaphors were not arbitrary. In the nineteenth and early twentieth century, before the advent of recorded music, the piano was nearly ubiquitous.⁵³ Because of its popularity—due, in large part, to its availability and versatility—the piano served as a readily accessible, cultural symbol of music. In the early twentieth century, it found its way into far flung rural villages as well as the posh salons of European capitals largely because the piano allowed a single musician to accompany himself. Just as the instrument

⁵⁰ Ibid., 31.

⁵¹ Whistler, *Ten O'Clock*, 14.

⁵² Blanc, *Grammar*, 5. See also Shiff, *Cezanne*, 84n.

⁵³ This subject was the focus of my master's thesis, "At the Piano: Wassily Kandinsky and the Keyboard Metaphor in Image and Text" (master's thesis, University of Texas at Austin, 2003).

itself was versatile, the piano analogy also saw diverse usages. In his publication *Atoms and Rays* of 1924, Lodge observed,

When W. K. Clifford in the late 1870s reasoned, from the complexity of atomic spectra, that ‘atoms must be at least as complex as a grand piano,’ he could not have known that the internally structured atom would turn out to be several orders of magnitude more complex than anyone had anticipated.⁵⁴

With more than one thousand moving parts, the piano could suggest complexity as well as order. Furthermore, the visual clarity of tonal relationships makes the piano useful for musical composition, as well as in analysis of larger scores, such as in piano reductions. Piano reductions helped disseminate symphonic works as well. A relatively exacting sound generator, the piano also served as a valuable tool for scientists like Helmholtz. As Elfrieda Hiebert has noted, the "vibrating piano string [was] central to Helmholtz's acoustical explorations."⁵⁵

Whistler and Blanc used the analogy of composition and performance on the piano to argue against following nature too closely, emphasizing the formal elements and their relationships within paintings. While this was part of Kandinsky's argument as well, he took the notion further, extending the analogy to include aspects of artistic reception. He called for art that has a spiritual effect on the viewer independent of any representational imagery, painting that acts directly on the viewer. What better analogy to use for this effect than that of sound? A prominent low note, played on a piano or any other instrument, can be physically felt as well as heard. The audible perception of sound

⁵⁴ Lodge, *Atoms and Rays* (London, 1924), 74; cited by Erwin N. Hiebert, "The Transformation of Physics," in *Fin de siècle and Its Legacy*, ed. Mikulas Teich and Roy Porter (Cambridge: Cambridge University Press, 1990), 249.

⁵⁵ Hiebert, "Listening to the Piano Pedal," in *Music, Sound, and the Laboratory*, 240. Steinway & Sons even made gifts of a pianos to the scientist in 1871, 1881, and 1893.

itself requires the vibration of the eardrum. As noted above, the initiation of a vibration in one object by the vibration of another object is known as “sympathetic vibration.”⁵⁶

While analogical, the passage is not a strict metaphor throughout. It begins as a metaphorical statement—“color is the keyboard,” “the soul is the piano,” “the artist is the hand”—but where a continuation of the metaphor would logically conclude with acoustical vibrations in the ear (eye), Kandinsky switches to a direct statement—“to cause vibrations in the soul.” In the passage, “vibrations” is the pivotal term. The artist’s word choice is not arbitrary, nor is he merely maintaining an analogy already established. The profusion of the term’s use—nearly two dozen times throughout the text—assures that its appearance in the quotations above was a decision based not upon style but on substance.

In *Concerning the Spiritual*, the term “vibration” appears early on in the introductory paragraphs. Writing about the difficulties faced by the avant-garde artist, Kandinsky claimed, “the observer of today is seldom capable of feeling such vibrations.”⁵⁷ Shortly before introducing the piano analogy, he explained the effects of color as two-fold: first, the physical effect that begins at the eye, followed by a second, psychic effect: “They produce a corresponding spiritual vibration, and it is only as a step

⁵⁶ While the passages quoted above are taken directly from the Sadler translation, it should be noted that Sadler translated other instances of Kandinsky’s word “Vibrationen” as “emotion,” which obscures the dual meaning the author intended. See, for instance, Kandinsky’s introduction in *Concerning the Spiritual in Art*, translated by Sadler (Dover, 1977), 12; and Kandinsky, *Über das Geistige in der Kunst* (Bern: Benteli-Verlag, 1952), 22. The context of the statement, which goes on to describe sympathetic vibrations as they occur in musical instruments, makes this clear. The version that appears in Lindsay and Vergo’s *Kandinsky: Complete Writings*, restores the original meaning as “vibrations,” as am I in appropriate passages (p. 129).

⁵⁷ *Ibid.*, 2.

towards this spiritual vibration that the elementary physical impression is of importance.”⁵⁸ Earlier in the text Kandinsky described the idea of a corresponding vibration in a slightly different context, stating, “This would imply an echo or reverberation, such as occurs sometimes in musical instruments which, without being touched, sound in harmony with some other instrument struck at the moment.”⁵⁹ Clearly, this model has a basic grounding in the sympathetic vibrations that occur in musical instruments.

"Die Grundbaß in der Malerei"

Before considering more fully some of the many sources underlying Kandinsky's artistic theories, it will be useful to address another key analogue he employed in defining his concept of visual harmony, which operated as part of the framework for his later ideas concerning dissonance. In Kandinsky's chapter, "The Language of Form and Color" in *Concerning the Spiritual in Art*, he repeated his assertion that "music is innate in man," and again proposed a fundamental relationship between music and painting, citing Goethe.⁶⁰ The artist elaborated on this question of the nature of harmonic rules in *Der Blaue Reiter*: "In 1807 Goethe said: ' . . . in painting the knowledge of the thoroughbass has been missing for a long time; a recognized theory of painting, as it exists in music, is lacking.'"⁶¹ The thoroughbass that Goethe wrote of— *Grundbaß*, known by various

⁵⁸ Ibid., 24–25.

⁵⁹ Kandinsky, "Concerning the Spiritual," in *Complete Writings*, 158.

⁶⁰ Kandinsky, *Concerning the Spiritual*, 27.

⁶¹ Kandinsky, *Blaue Reiter*, 42; from *Goethe im Gespräch* (Leipzig: Insel-Verlag, 1907). This brief passage is the only text that appears on the page.

names including general bass, fundamental bass, figured base, and *basso continuo*, as noted above—is basically an elaborate set of rules governing musical composition that is based on the principles of harmony.⁶² The principles of harmony, in turn, were by this point explained by the acoustical principles of harmonics.⁶³

Sound is produced by vibration and a sound's pitch is determined by its rate of vibration. However, in each instrument there exists a different timbre, a different quality of sound, even for an identical pitch. This is due, in part, to the nature of harmonics as they exist in different instruments, in turn based primarily on the instrument's shape, materials, and manner of initiating the vibration. Each note contains "overtones" or "partial tones," which contribute to the overall timbre. Overtones are also related to the effect of "sympathetic vibrations."⁶⁴ Since vibrations that emanate from one source are able to affect another, in string instruments, one note or one set of strings will affect certain other strings, through the phenomenon of sympathetic vibration. The piano was designed with the explicit intent of maximizing sympathetic vibrations and represented the pinnacle of achievement in acoustical wave production at the start of the twentieth-century.

Because of its number of strings and their arrangement, the piano can produce more overtones than any other instrument commonly employed.⁶⁵ Only the lowest tone is

⁶² On etymology and use of the term, see ch. 2, n. 47 above.

⁶³ See Kevin Mooney, "Harmonics," *The New Groves Dictionary of Music Online*, ed. L. Macy (accessed August, 5, 2009), www.grovemusic.com; or Schoenberg's *Theory of Harmony*, 23–31.

⁶⁴ These phenomena and their relationships will be addressed in greater detail in chapter four of this dissertation.

⁶⁵ For a chart comparing the overtone series of different instruments see *The Harvard Brief Dictionary of Music*, 4–5.

immediately perceptible to the ear because it is by far the strongest sound being produced; however, the overtones add a depth to the total sound that would otherwise be lacking. The overtone series that is created by playing the low C on the piano begins, in order of proximity to the initial note and therefore in order of strength of vibration, C (an octave up), G, C, E, B-flat, C, D, E, F-sharp, G, A, B-flat, B, and C.

The low C is the tone perceived by the ear. The string vibrates with the most force at that pitch. In the harmonic series that follows, C is also the most prominent pitch-class. It appears four times and in its first appearance as an overtone, it is closest to the initial vibration rates. It can also produce the strongest sympathetic vibration in C-strings at other octaves. E and G are the second most prominent pitches in the overtones produced by C. Similarly, a D will produce F-sharp and A as its second most prominent overtones. Both of these sets, indeed, the three most prominent overtones of any of the twelve pitch-classes, are the same as the major chord of the note's scale, although they are not expressed in chromatic order. This general principle was first observed by Pythagoreans in the "nodes" within a vibrating string and was greatly refined by later experiments in acoustics, a subject addressed in the following chapter of this dissertation.

The method of thoroughbass is grounded in the system of harmony. Methods of thoroughbass accompaniment were foreshadowed in the sixteenth century by the *basso sequente*, but did not acquire a wide usage until the eighteenth century.⁶⁶ In the nineteenth century, the seminal text on the subject became John George Albrechtsberger's *Methods of Harmony, Figured Base, and Composition*, published just

⁶⁶ See George J. Buelow, *Thoroughbass Accompaniment* (Berkeley: University of California Press, 1966).

one year before Goethe's 1807 statement. While first developed as abbreviated notation for religious music, thoroughbass was subsequently adopted for many uses and was still frequently taught at the end of the nineteenth century.⁶⁷

In the thoroughbass system, all of the song's bass notes were written out. These notes, specifically their intervallic progression and rhythm, determined which chords were to accompany them. The chords were based on the traditionally prescribed system of harmony. Some leeway was given to the performer in deciding which set of prescribed chords to use—in Albrechtsberger's method, they are given as many as five choices in chord sets for a given bass line—but these chords were the same basic chord. They usually consisted of the same notes arranged differently or of the same chord with a single note added or removed. The performer was also allowed to add minor ornamentation but the song remained recognizable regardless of the differences resulting from the choices made by the performer. The point, for our purposes as for Goethe's, is that within this strict system, some degree of personal expression was possible.

The thoroughbass system was also commonly used to provide the harmonic framework in the instruction of free improvisational techniques on the piano.⁶⁸ In this respect it was used instructively for teaching composition. Conversely, it was used in musical analysis, providing a method for the reduction of a larger score. Because of its diverse utility, the term thoroughbass came to stand for the science of harmony itself. As

⁶⁷ Evident by the relatively large number of music teachers advertising their services in its instruction. See Christensen's "The *Règle de l'octave* in Thoroughbass Theory and Practice," in *Acta Musicologica* v. 64, no. 2 (July–Dec. 1992), 91–117.

⁶⁸ Buelow, 47, and Peter Williams and David Ledbetter, s.v. "Generalbass," *The New Groves Dictionary of Music Online*, ed. L. Macy (August, 5, 2009), www.grovemusic.com.

Schopenhauer's thoroughbass quotation demonstrates, it also made an appeal analogy for any comprehensive system working in harmony, in the broad sense of the term, similar to notions of the Music of the Spheres. As we shall see in chapters seven and eight, Kandinsky's understanding of musical harmony would soon be altered by his deeper engagement with atonal composition strategies, such as those of Schoenberg and others, but he would adapt rather than discard his earlier notions of parallels between visual and acoustic dissonance. The notion of freedom within a system grounded in "natural laws" would play an important role in Kandinsky's later theories.⁶⁹

Synaesthesia and Color-Music

Before considering additional sources that likely contributed to Kandinsky's understanding and use of the musical concept of dissonance in his work, it will be useful to examine another facet of his interest in this sphere, namely color-music. As we shall see, for Kandinsky and others of his era, notions of the relationship of color and sound not only reinforced the need to consider new ideas from other artistic disciplines, such as musical dissonance and atonality, it also offered a means of applying ideas from music. Kandinsky's first major interest in color-music is expressed via reference to synaesthesia in *Concerning the Spiritual in Art*. Strictly speaking, synaesthesia is a psychological

⁶⁹ As noted above, Vergo has addressed Kandinsky's thoroughbass analogy, most extensively in his essay "Music and abstract painting" in *Towards a New Art*, 41ff. Summarizing his position in his introduction to "On the Spiritual in Art" in *Complete Writings*, Vergo writes that Kandinsky "tries, not altogether successfully," to describe his view of a possible, future, color theory "by recourse to the musical notion of *Generalbass*, or 'figured bass,' using the term to symbolize that balance between logic and inspiration which, he believed, could be neither taught nor learned, but only felt" (p. 116). Vergo's arguments concerning the thoroughbass analogy will be further addressed below.

condition in which the senses intermingle. From the Greek *syn* (together) and *aesthesis* (sensation or perception), the first scientific description of the condition seems to be provided by G. T. L. Sachs in his *Historiae naturalis duorum leucaetiopum auctoris ipsius et sororis eius* (Natural History of Two Albinos, the Author and His Sister) of 1812.⁷⁰ Sach's study was primarily concerned with the doctor's and his sister's albinism but also contained a section devoted to the siblings' condition of "chromaesthesia" (color sensation or perception). The condition of seeing colors when hearing music, was also the most commonly described form of synaesthesia at the end of the nineteenth century, known then as *audition colorée* in France where the concept was most popular.⁷¹ Color-hearing and its converse, hearing music when seeing colors, seem to have been Kandinsky's chief synaesthetic concern and it is highly possible that Kandinsky encountered the concept while in Paris in 1906 and 1907, if not before. As a concept, synaesthesia was especially popular among the Symbolist artists and poets, and is mentioned—under various names—in much of the Theosophical literature Kandinsky is known to have read, a more detailed account of which will follow in chapter five of this dissertation.

The term synaesthesia was in use by the time Kandinsky went to France, French clinical psychologist Jules Millet having coined the term in 1892, but does not appear in

⁷⁰ Kevin Dann, *Bright colors falsely seen: synaesthesia and the search for transcendental knowledge* (New Haven: Yale University Press, 1998), 18–19.

⁷¹ See Crétien van Campen's "Artistic and Psychological Experiments with Synesthesia," in *Leonardo* 32, (Feb. 1999), 9–14.

Kandinsky's writings.⁷² Although it is never specifically named, there are numerous references to synaesthetic perception in *Concerning the Spiritual*. Kandinsky begins his chapter "The Language of Form and Color" by addressing this relationship:

Musical sound acts directly on the soul and finds an echo there because, though to varying extents, music is innate in man. "Everyone knows that yellow, orange, and red suggest ideas of joy and plenty" (Delacroix). These two quotations show the deep relationship between the arts, and especially between music and painting.⁷³

Later in the chapter, Kandinsky went on to compare "light warm red" with the "sound of trumpets," vermilion was said to "thunder like a drum," orange was "an old violin," and violet was "an English horn, or the deep notes of wood instruments (e.g. a bassoon)."⁷⁴

There has been some debate over whether or not Kandinsky was himself a synaesthete. Psychologist Richard Cytowic argues that synaesthetic experimentations by modern artists were based on deliberate contrivances of sensory function and not on involuntary experiences of what he calls "cross modal association" and were therefore not truly synaesthetic experiences.⁷⁵ He also points to Kandinsky's associative descriptions of the effects of colors as evidence against consideration of the artist as a synaesthete. Kandinsky made associative references in *Concerning the Spiritual* when he wrote that "warm red will prove exciting, another shade will cause pain or disgust through association with running blood," and "keen yellow looks sour, because it recalls

⁷² Dann, 21. Kandinsky does use the term *Farbenhören* (color hearing), the German equivalent of *audition colorée*, in *Concerning the Spiritual in Art* (see *Über das Geistige*, 1952, pp. 24 and 25).

⁷³ Kandinsky, *Concerning the Spiritual in Art*, 27.

⁷⁴ *Ibid.* 40–41.

⁷⁵ Cytowic, "Synaesthesia: Phenomenology and Neuropsychology," in *Psyche* 2 (July 1995), 54.

the taste of a lemon.”⁷⁶ However, it must be noted that Kandinsky immediately went on to describe the published case of a Dresden doctor, Franz Freudenberg, whose patient seemed to have a condition known as “colored gustation” whereby a certain sauce had a “blue taste.”⁷⁷

The footnote Kandinsky included citing Freudenberg's study is particularly relevant here. After citing Freudenberg, Kandinsky went on to write that the doctor believed that no rules for synaesthetic perception could be ascertained, but that Sabaneev, in an article in *Musik* of 1911, hinted that there was “the imminent possibility of laying down a law.”⁷⁸ In his own copy of Freudenberg’s article, Kandinsky underlined the doctor’s characterization of his patient as “spiritually unusually developed” and wrote in the margin:

The harmonic reverberation (*Zusammenkligen*) of the highest developed parts certainly attainable to many by early exercise as a result of perfect reaction to higher stimuli; thereby the exclusion of distracting, accidental stimuli and highest concentration and absorption.⁷⁹

Kandinsky believed that through spiritual exercise and exposure to higher stimuli, one could obtain synaesthetic impressions.

On the following page, Kandinsky included another relevant footnote in which he cited a study by the Russian occultist Aleksandra Zakharin-Unkovskaia who taught

⁷⁶ Kandinsky, *Concerning the Spiritual in Art*, 24.

⁷⁷ *Ibid.*, 24.

⁷⁸ Sabaneev, “Novye puti muzykalnogo tvorstva” (New Ways of Musical Creativity) in *Muzyka*, 1911 v. 54, pp. 1210–13; v. 55, pp. 1242–47; and v. 56, pp. 1268–70. Sabaneev makes a similar argument in his essay for Kandinsky’s next major publication, *Der Blaue Reiter* (1912), discussed below.

⁷⁹ See Ringbom, “Kandinsky und das Okkulte,” in *Kandinsky und München: Begegnungen und Wandlungen 1896-1914*, ed. Armin Zweite (Munich: Städtische Galerie im Lenbachhaus, 1982), 92; and Ringbom’s “Transcending the Visible: The Generation of the Abstract Pioneers,” in *The Spiritual in Art: Abstract Painting*, 132.

“unmusical children” to play the piano by “describing sounds by natural colors, and colors by natural sounds, [so] that color could be heard and sound seen.”⁸⁰ A pamphlet by Zakharin-Unkovskaia, which Kandinsky possessed, “The Method of Colors, Sounds, and Numbers,” explains the mystical connections she drew between these abstract expressions, largely rooted in Theosophy.⁸¹ Kandinsky concluded his note in *Concerning the Spiritual* by comparing Zakharin-Unkovskaia with the composer Scriabin, also a Theosophist, who created a chart detailing his perception of corresponding musical notes and colors that was later incorporated in his work for the stage, *Prométhée: Le Poème du Feu*, op. 60 (1910).⁸²

What is important for consideration here is not whether Kandinsky himself was or was not a synaesthete, but rather the degree to which the artist concerned himself with these ideas. It is clear that Kandinsky was diligently searching for a correlation between color and sound. Kandinsky’s interest in a synaesthetic co-mingling of the arts is further evident in his next major publication, the anthology *Der Blaue Reiter* of 1912.⁸³ This publication was itself a testament to a synthesis of the arts—if not synaesthesia itself—since it included reproductions of art, musical scores, and essays on both art and music. As we shall see in chapter seven, Kandinsky's ideas concerning relationships between art

⁸⁰ Kandinsky, quoting Zakharin-Unkovskaia, *Concerning the Spiritual in Art*, 25n.

⁸¹ Zakharin-Unkovskaia was a member of the Kaluga branch of the Russian Theosophical Society, closely aligned with Rudolf Steiner. See Dann, *Bright Colors*, 44. See also, *Complete Writings*, 876n; and Aleksandra Anatol'evna Orlova, *Musorgsky Remembered* (Bloomington, IN: Indiana University Press, 1991), 33.

⁸² Scriabin will be discussed at greater length below.

⁸³ *Blaue Reiter* was edited by Kandinsky and Marc along with significant help from Muntet. It was first published in 1912 with a second German edition in 1914. An English language translation was prepared by the art historian Klaus Lankheit and published by Thames & Hudson Ltd. in 1974.

and music would continue to evolve, especially where musical dissonance was concerned.

Many of Kandinsky's ideas about relationships between art and music would also have been informed by the concept of the *Gesamtkunstwerk*, or total work of art. The modern interest in creating a *gesamtkunstwerk* is typically traced to the Romantic composer Richard Wagner who coined the term and strongly promoted the idea in the second half of the nineteenth century.⁸⁴ In his 1849 treatise on the subject, *Das Kunstwerk der Zukunft* (The Work of Art of the Future), Wagner traced the notion as far back as ancient Greece.⁸⁵ He stressed the development of art based on *Nothwendigkeit* (necessity) and used the phrase “inner natural necessity” when describing what he believed to be the noblest inspiration for art.⁸⁶ This is concordant with Kandinsky’s statements describing inner necessity in *Concerning the Spiritual*.

In *Reminiscences*, Kandinsky noted the profound effect Wagner’s music had on him during a performance of *Lohengrin* in Moscow in 1896, as noted above. He called the concert “one of the two events that stamped my whole life and shook me to the depths of my being,” and went on to describe the event’s effect in detail:

The violins, the deep tones of the basses, and especially the wind instruments at that time embodied for me all the power of the pre-nocturnal hour. I saw all my colors in my mind; they stood before my eyes. Wild, almost crazy lines were sketched in front of me. I did not dare use the expression that Wagner had painted ‘my hour’ musically. It became, however, quite clear to me that art in general was

⁸⁴ See Carolyn Joyce Steinke, “Abstract Painting and Music: Kandinsky, Schoenberg, Scriabin” (Master’s Thesis, The University of Texas at Austin, 1992), 28–56.

⁸⁵ Richard Wagner, *The Art-Work of the Future and Other Works*, translated by William Ashton Ellis (Lincoln, Nebraska: University of Nebraska Press, 1993). In his commentary, Ellis demonstrates that Wagner based many of his theories on the philosophical framework developed by Schopenhauer.

⁸⁶ *Ibid.*, 69–73.

far more powerful than I had thought, and on the other hand, that painting could develop just such powers as music possesses.⁸⁷

In the above quotation we see evidence, not only of Kandinsky's interest in Wagner, but also his predilection for synaesthesia and his belief in the interrelatedness of music and art. Wagner came the closest to realizing his notion of the total work in his four-part cycle *Der Ring des Nibelungen* (The Ring of the Nibelung). The Ring cycle premiered in 1876 at the "festival" theater in Bayreuth, Germany, which was specially designed for the ambitious work. The work's staging, set-design, lighting, and other visual elements were instructed to some extent by Wagner, but the notion of the *gesamtkunstwerk*, insofar as it was advanced and realized by the composer, was more concerned with relationships between the libretto and the score. Written together, Wagner intended the text and the music to reinforced one another. This reinforcing parallel between text and music would be at odds with ideas expressed by Schoenberg and by Kandinsky in *Der Blaue Reiter*, both of whom were critical of that Wagnerian strategy in their essays for *Der Blaue Reiter*, as will be addressed in chapter seven below.

Kandinsky's Musicology in *Concerning the Spiritual in Art*

While much has been written about Kandinsky's interest in the Wagnerian *gesamtkunstwerk*, the composer's use of leitmotifs would feature more prominently in *Concerning the Spiritual in Art*. Wagner employed leitmotifs throughout his operatic works, including *Lohengrin*, as well as in the Ring cycle, where the idea was most fully developed. In short, different melodies were related to specific characters, locations, and

⁸⁷ Kandinsky, *Complete Writings*, 364. See also Hahl-Koch, *Kandinsky*, 28.

moods.⁸⁸ The musical phrases are repeated in recognizable variation throughout the work to help the narrative progress and to reinforce the intended emotional affect.⁸⁹ After extolling the "inner force" of Maeterlinck's Symbolist poetry in his section of *Concerning the Spiritual*, "The Spiritual Revolution," Kandinsky addressed the concept of leitmotifs while comparing Maeterlinck to Wagner:

Something similar may be noticed in the music of Wagner. His famous leitmotiv is an attempt to give personality to his characters by something beyond theatrical expedients and light effect. His method of using a definite motif is a purely musical method. It creates a spiritual atmosphere by means of a musical phrase which precedes the hero, which he seems to radiate forth from any distance.⁹⁰

Kandinsky reinforced the suggestion of a link between Wagner's musical motifs and other "spiritual atmospheres" in his footnote to the passage,

Frequent attempts have shown that such a spiritual atmosphere can belong not only to heroes but to any human being. Sensitives cannot, for example, remain in a room in which a person has been who is spiritually antagonistic to them, even though they know nothing of his existence.⁹¹

The link between Wagner's motifs and psychic emanations that "seem to radiate forth" is highly suggestive of Besant and Leadbeater's *Thought-Forms*, as well as similar occult literature Kandinsky discussed elsewhere in *Concerning the Spiritual*.⁹²

Following the passage quoted above, Kandinsky continued his musicological considerations, devoting considerable attention to Debussy. Kandinsky addressed the

⁸⁸ The use of leitmotifs is not, in itself, new to Wagner, but he amplified its use and made motifs more important as organizing elements within his work than previous composers had done. Later use of leitmotifs may also be seen in Debussy's *Pelléas et Mélisande* and in Schoenberg's *Lucky Hand*.

⁸⁹ On Wagner's leitmotifs in the Ring cycle, see for instance, Deryck Cooke, *I Saw the World End: A study of Wagner's Ring* (Oxford, 1979).

⁹⁰ Kandinsky, *Concerning the Spiritual in Art*, 16.

⁹¹ Ibid.

⁹² *Thought-Forms* is addressed in chapter five of this dissertation in relation to its link with scientific ideas, also evident in this passage.

application of the term "Impressionism" to Debussy's music. The composer used "natural settings" as starting points within his work, but despite this, for Kandinsky, his music created "spiritual impressions" with "purely musical forms." Kandinsky wrote that, "even in his 'impressionistic' pictures, Debussy never employs a wholly material effect, which is characteristic of program music, but continues to exploit the inner value of appearances."⁹³ As examined above, Matisse also made connections between color combinations and musical dissonance in "Notes of a Painter," a text to which Kandinsky referred elsewhere in *Concerning the Spiritual*.⁹⁴

After considering Debussy, he returned to Scriabin, whom he had introduced earlier in the text, as addressed above.⁹⁵ Here, Kandinsky described the Russian composer as being "deeply concerned with spiritual harmony," especially because, "in his works one hears the suffering and tortured nerves of the present time." In a particularly revealing statement, Kandinsky wrote that the listener is "often snatched quite suddenly from a series of modern discords into the charm of more or less conventional beauty."⁹⁶

⁹³ Kandinsky, *Complete Writings*, 148. In this sentence, Sadler's translation deviates significantly from the original. In Sadler's version, the passage reads, "And further Debussy never uses the wholly material note so characteristic of programme music, but trusts mainly in the creation of a more abstract impression" (p. 16). In the original German, Kandinsky wrote, "Und andererseits braucht, Debussy auch in den 'impressionistischen' Bildern nie eine ganze materielle Note, die das Charakteristische der Programmusik ist, sondern bleibt bei der Ausnützung des *inneren* Wertes der Erscheinung." (p. 48) Vergo makes the basic meaning of Kandinsky's statement much clear than Sadler, especially by translating "materielle Note" to "material effect," which makes more sense given the topic of program music. However, the ambiguity of Kandinsky's initial statement seems intentional, since he could as easily used another synonym for effect that did not carry additional musical connotations. Vergo's translation is more faithful to the second part of Kandinsky's sentence as well, where he translated "*inneren* Wertes" to "inner value," while Sadler changed the statement to contrast "material note" with "abstract impression." Sadler takes liberties, but his translation does maintain Kandinsky's suggestion of a binary between "material" and "abstract," and, in its language, makes closer connections between this and other elements of Kandinsky's argument.

⁹⁴ *Ibid.*, 876n.

⁹⁵ See n. 217 (Scriabin)

⁹⁶ Kandinsky, "On the Spiritual," 148–49.

While he previously mentioned Scriabin's color-music innovations in a footnote, here, Kandinsky devoted half a page to the composer, focusing primarily on his move away from traditional harmony, and his use of extended dissonant passages. The artist's primary criticism of Scriabin, and most other composers, is their return, at least momentarily, to "more or less conventional beauty," or tonal resolution in their works. In his larger argument, Kandinsky is setting up a comparison with artists like Matisse and Picasso who brought their paintings to the brink of total abstraction.⁹⁷

Kandinsky's discussion of Debussy and Scriabin lead to his primary musical parallel for abstraction in painting, the atonal compositions of Schoenberg, whom, Kandinsky wrote, was "almost alone in severing himself from conventional beauty."⁹⁸ Kandinsky stressed again, as he had with regard to Debussy and Scriabin, his own concept differentiating "inner" and "outer" beauty and dissonance:

This inner beauty is achieved by renouncing customary beauty, and is occasioned by the demands of internal necessity. This inner beauty naturally appears ugly to those not accustomed to it, since man in general inclines towards the external, and does not willingly recognize internal necessity.⁹⁹

Following this reiteration of ideas about inner versus outer, Kandinsky connected Schoenberg's theories of an expanded harmonic system to his own move towards abstraction, quoting the composer's *Theory of Harmony*: "Every chord, every progression is possible. And yet I feel already today that even here there are certain conditions that govern whether I choose this or that dissonance."¹⁰⁰ In what will become a reoccurring

⁹⁷ Kandinsky, *Concerning the Spiritual*, 18.

⁹⁸ Ibid, 17.

⁹⁹ Ibid.

¹⁰⁰ Ibid.

theme of Kandinsky's statements concerning his adoption of the idea musical dissonance, Kandinsky's central point about Schoenberg in *Concerning the Spiritual* is that the composer understood the "greatest freedom . . . cannot be absolute." In other words, Kandinsky recognized the shared connection in both artistic theories, that a dissolution of traditional harmony and long-standing aesthetic "rules" would not seek to abolish a grounding in "natural laws," whatever they might prove to be. For Kandinsky, Schoenberg's early atonal compositions were an initial step: "Here begins the 'music of the future'."¹⁰¹ The eventual goal was the expansion of available material based on new compositional structures, allowing greater complexity and artistic freedom.

Kandinsky concluded the chapter with direct comparisons of visual artists and composers. For instance, Matisse, like Debussy, derived his subjects from nature, but despite this perceived shortcoming, created "great inner life," especially through his expressive use of color.¹⁰² Throughout the chapter, Kandinsky frequently drew on direct appeals to the abstract qualities of music. For instance, he stated that "the different arts learn from one another and often resemble one another in their aims."¹⁰³ As examined above, he also made frequent appeals to direct connections between art and music, and between vision and hearing. Similarly, he drew on Wagner's notion of the *gesamtkunstwerk* as well as Scriabin's color-music in *Prometheus*. However, these aspects of their works are largely overshadowed in *Concerning the Spiritual* by discussions of the music itself. In this area, Kandinsky focused on the evolution of

¹⁰¹ Ibid.

¹⁰² Ibid., 18.

¹⁰³ Ibid., 16.

acceptable tonality—or put another way, the increasing use of dissonance—and on new means of organization. His discussion of Wagner, Debussy, Scriabin, and Schoenberg can be read as a musicological précis concerning the dissolution of traditional harmony and the extended use of unresolved dissonance. This, in turn, formed an important part of his model of a spiritual pyramid. Color-music and synaesthesia were important premises, but they were not Kandinsky's argument, per se, which revolved around the idea of freedom within new organizing structures, which, in turn, would help artists' attempts to lead the way towards greater spirituality throughout society. In this context, Kandinsky's musicological statements are fairly sophisticated, especially for 1911. They are undeniably idiosyncratic and serve his larger argument first and foremost, but they nonetheless demonstrate a keen interest in and an understanding of the direction art music was taking.

Many of the same themes and references that have been discussed in relation to *Concerning the Spiritual in Art* are also evident in *Der Blaue Reiter*, often in expanded form. The further evolution of Kandinsky's concern with these issues will be addressed in chapters seven and eight of this dissertation. Whereas in the artistic treatise, Kandinsky was only able to mention Scriabin and Sabaneev in passing, in the almanac, he was able to include an essay by the latter on the former's *Prometheus*.¹⁰⁴ The almanac also includes an essay by Schoenberg on the relationship between music and text in programmatic compositions, as well as examples of his music, and that of his students, an essay by von Hartmann defending atonal music, and another by Kulbin professing the superiority of

¹⁰⁴ Sabaneev, "Scriabin's 'Prometheus'," in *Der Blaue Reiter*, 127–140.

so-called “free music,” especially with regard to microtonality, all addressed in chapter seven.¹⁰⁵ It will first be useful to consider the larger context of Kandinsky's statements concerning sympathetic vibrations, overtones, and especially, musical dissonance.

¹⁰⁵ “Free music” does not utilize the traditional tonal system, relying instead on half-tones, quarter-tones, and even smaller intervals. The idea of such “free musical composition” was especially popular in Russia where it was used to great effect by the Futurists in their production of an avant-garde opera, *Victory Over the Sun* (1913), addressed below.

Chapter 4

The Science of Dissonance: Acoustics, Ether Physics, and Experimental Psychology

Defining Dissonance Scientifically

Kandinsky synthesized a wealth of information in formulating the theories expressed in *Concerning the Spiritual in Art*, and the abundant references throughout the text suggest some of the sources important to him at the time. Additionally, many of the arguments he made and the general theoretical models he employed may be better understood within their larger context. Kandinsky's considerations of musical dissonance were informed by theories of acoustics and studies of sensory perception being undertaken in Germany, especially, in the late nineteenth and early twentieth century. These ideas were also closely tied to scientific models positing the universe as bound together by ether, a topic which has received deserved attention in recent literature on this period. Considerations of musical dissonance and its affects should add to that discussion as well.

The acoustical basis of harmony proposed within nineteenth-century physics also formed the chief justification for atonality employed by Schoenberg and many other composers in the early twentieth century. Schoenberg's declaration of "more remote consonance," which he later articulated as the "emancipation of the dissonance," was rooted in the prevailing understanding of the physical basis of sound during this era. As noted at the outset of this dissertation, developments in physics also spurred investigations into perception. This chapter will examine scientific studies that sought to

define the notion of dissonance, along with considerations of connections proposed between light sound and sight as well as hearing during this era.

Hermann von Helmholtz's Theories of Consonance and Dissonance

Helmholtz's Acoustical Studies

As Enns and Trower note in *Vibratory Modernism*, "The phenomenon of 'sympathetic vibration'" served as a "pervasive and overdetermined model" for vibratory interactions of all sorts."¹ The observation of sympathetic vibrations can be traced back to antiquity, but their scientific explanation is owed to nineteenth century German physician and physicist Hermann von Helmholtz, who addressed the topic in his *Die Lehre von den Tonempfindungen als Physiologische Grundlage für die Theorie der Musik* (On the Sensations of Tone as a Physiological Basis for the Theory of Music) of 1863.²

Wissenschaftliche Abhandlungen (Scientific Treatises) of 1882 also gave a summary of his theory on this and other topics.³ Helmholtz's work was well known at the beginning of the twentieth century, appearing in multiple editions and translations, and incorporated in curricula throughout Europe and Russia. Historian of science David Cahan has argued that during the late nineteenth century, "Helmholtz was revered as a scientist-sage—much like Albert Einstein in this century."⁴ Even today, Helmholtz's work forms the

¹ Enns and Trower, *Vibratory Modernism*, 5.

² Helmholtz, *Sensations of Tone*, see ch. 1, n. 27 above.

³ Helmholtz, *Wissenschaftliche Handlungen* (Leipzig, Johann Ambrosius Barth, 1882).

⁴ Cahan, *Herman Von Helmholtz and the Foundations of Nineteenth-century Science* (Berkeley: University of California Press, 1984), 1–15.

basis for psychoacoustic studies and is the starting point for the *Grove Dictionary of Music and Musicians* entries on consonance and dissonance.⁵

As its title suggests, Helmholtz's *On the Sensations of Tone as a Physiological Basis for the Theory of Music* sought to scientifically confirm and elaborate upon the mathematical ratios that form the basis of traditional Western musical harmony.

Helmholtz postulated that the availability of new methods of measuring rates of vibrating sound waves and the ability to create precise pitches would allow for the scientific confirmation of the basic ratios of consonant intervals used in Western harmony. In this, his thinking was largely rooted in Jean-Philippe Rameau's theories of harmony, developed in conjunction with Rameau's late seventeenth- and early eighteenth-century French Baroque compositions.⁶ Helmholtz's experiments involved the production of sound with a modification of "Seebeck's Siren," invented by German physicist August Seebeck in 1841.⁷ Helmholtz recorded the rates of sound vibrations using a phonoautograph, invented by French physicist Édouard-Léon Scott de Martinville in 1857, which visually graphs sound waves by making use of the sympathetic vibrations they produce in metal rods.⁸ Helmholtz's siren involved a metal disc with holes drilled in concentric circles around it. Air blew through the holes while the disc spun. By dividing

⁵ Claude V. Palisca and Brian C. J. Moore, "Consonance" and "Dissonance" in *Grove Dictionary of Music and Musicians* (New York: St. Martin's Press, 1954), 325–328 and 380.

⁶ On Helmholtz and Rameau, see, for instance, Christensen, *Cambridge History of Western Music Theory* (Cambridge: Cambridge University Press, 2002), 88; H. F. Cohen, *Quantifying Music: The Science of Music at the First Stage of the Scientific Revolution: 1580–1650* (Hingham, Mass.: Kluwer, 1984), 242; and Kursell, *Schallkunst*, 85.

⁷ Helmholtz, *On the Sensation of Tone*, 11–15. See also Cahan, *Helmholtz*, 263.

⁸ Helmholtz, *Sensations of Tone*, 20. Although the device can only visually map sounds and not play them back, computer analysis has allowed the reproduction of early phonoautograms. See George Brock-Nannestad and Jean-Marc Fontaine, "Early use of the Scott-Koenig phonoautograph for documenting performance," in *The Journal of the Acoustical Society of America* 123 (May 2008), 3802.

the rate of the disc's revolution by the number of holes, the rate of sound vibrations could be achieved with relative precision.

Helmholtz's experiments confirmed his hypothesis of a relationship between traditional musical theory and the acoustical properties of sound. For instance, an octave in musical notation or the halving of a string in the Pythagorean demonstration is a doubling of the rate of vibration in Helmholtz's measurement.⁹ The lowest C on a piano produces a sound wave vibrating at 33 oscillations per minute. C played one octave above that produces 66 vibrations, the next produces 132, and so on. The same holds true for the other notes of the scale and their octaves.¹⁰

In *Sensations of Tone*, the intervallic relationships described by musical theory, such as the perfect fourth and fifth, also found new scientific justification in Helmholtz's measured ratios of vibrating waves. For the Pythagoreans, harmonious intervals and consonances, were defined by simple ratios. Similarly, for Helmholtz, the degree of consonance was determined by the simplicity of the ratio. Helmholtz also sought to determine why consonance "pleased the ear" more than dissonance. His theories concerning these properties of sound led him to further study regarding the interactions of wave vibrations and their effects on the ear, which in turn vibrate in sympathy with the sound being produced.

Based largely on Georg Simon Olm's (1789-1854) definition of tone, which he modified based on contrary evidence introduced by Seebeck, Helmholtz built upon the

⁹ Helmholtz, *Sensations of Tone*, 14, 17, and 22.

¹⁰ Slight discrepancies exist between the rates of overtone vibrations expressed by different root tones, necessitating the tempered scale, which will be addressed below.

long-held observation that sound is based on waves' vibrations akin to waves of water.¹¹ These oscillations are made up of crests and troughs. Helmholtz distinguished between “sound” and “noise” based on whether these wave oscillations are perceived as being either relatively constant or broken. If the oscillations are too slow, they are heard individually as “puffs,” as Helmholtz described them. If the waveforms are too irregular, either because of the manner in which they were initiated or having become too complicated by vibrations from multiple sources, then noise also occurs. Helmholtz’s experiments primarily involved “simple waves,” involving regular patterns, at vibration rates that created audible tones. Vibrations within the range of 20 to about 32,000 vibrations per second that are relatively constant are interpreted by the ear as a single tone.¹²

Helmholtz further observed that vibrations producing what are considered single musical sounds are actually made up of multiple sound vibrations, most of which are not immediately evident to the ear. These “partial tones” or “overtones” result from the properties of vibrations within the sound-producing object, the interaction of the sound wave with itself, and its interaction with other objects vibrating in sympathy.¹³

Overtones and their physical properties are most evident in string instruments, which

¹¹ Cahan, *Helmholtz*, 250; Kahn, “Concerning the Line: Music, Noise, and Photography,” in *From Energy to Information*, 180 and 404-5n.; and Frederick Vinton Hunt, *Origins in Acoustics* (New Haven: Yale University Press, 1978), 23–24.

¹² Helmholtz, *Popular Lectures*, 69.

¹³ The term “overtone” is a literal translation of Helmholtz’s *Obertöne*, itself a contraction of *Oberpartialtöne*. Employed in early English-language editions, translator Alexander Ellis argued against its use, as it might suggest the existence of “undertones,” which was not Helmholtz’s intent. Instead, Ellis suggested “harmonic partials,” a synonym also in use. See translator’s notes in Helmholtz, *Sensations of Tone* (New York: Dover, 1954), 24–25.

Helmholtz said “are peculiarly favourable for such an investigation, because they are themselves capable of assuming extremely different forms in the course of their vibration.”¹⁴ As noted above, the piano was his stringed instrument of choice.¹⁵

Helmholtz described the “nodes” or “knots” that occur when a string is plucked or struck, which occur in regular divisions of the Pythagorean ratios 1:2:3:4 along the string.¹⁶ These points on a string are also those capable of producing the “bell-like harmonics or flageolet-tones” of strings frequently employed by violinists and guitarists when touched lightly and the string is struck. While particularly evident in strings, harmonic overtones are present in any acoustic instrument. Helmholtz determined that these subtle, almost imperceptible overtones are responsible for the qualitative difference in tones of the same pitch produced by different instruments.

Overtones, as their name suggests, are upper register tones that result from the main note that is being played. We do not perceive them directly because the main note that is struck is much stronger, but Helmholtz described how to observe their effect on a piano:

If several tones are sounded in the neighborhood of a pianoforte, no string can be set in sympathetic vibration unless it is in unison with one of those tones. For example, depress the forte pedal (thus raising the dampers), and put paper riders on all the strings. They will of course leap off when their strings are put in vibration. Then let several voices or instruments sound tones in the neighborhood. All those riders, and *only* those, will leap off which are placed upon strings that correspond to the tones of the same pitch as those sounded.¹⁷

¹⁴ Ibid., 89

¹⁵ Hiebert, "Listening to the Piano Pedal," 240.

¹⁶ Helmholtz, *Sensations of Tone*, 90–92.

¹⁷ Ibid., 38–39.

He went on to make the comparison between the human ear and the manner in which the piano strings vibrate, arguing that both are “capable of analyzing the wave confusion of the air into its elementary constituents.”¹⁸

The overtones produced by the initial tone initiate sympathetic vibrations in the upper piano strings corresponding to the overtones’ pitches. Helmholtz described an experiment to allow us to hear the overtones expressed in the sympathetic vibrations of the piano strings:

In commencing to observe upper partial tones [overtones], it is advisable just before producing the musical tone itself which you wish to analyse, to sound the note you wish to distinguish in it, very gently... First gently strike the note G... and after letting the [piano key] rise so as to damp the string, strike the note C, of which G is the third partial, with great force, and keep you attention directed to the pitch of the G which you had just heard, and you will hear it again in the compound tone of the C.¹⁹

This principle may also be observed even more distinctly by laying one’s right arm across as many keys on the upper part of the keyboard as one is able, so that the hammers and dampers are raised to allow the strings to vibrate freely but gently enough that the hammers do not actually initiate a vibration in the strings. By then playing a lower note strongly with the left hand where the keys are still damped except when the key is depressed, and quickly removing one’s left hand to silence the initial tone, all the while keeping the upper dampers raised with the right arm to let the sympathetic vibrations ring out, you can hear the sympathetic expressions of the overtone series in the upper strings.

¹⁸ Ibid.

¹⁹ Ibid., 50.

While the relative strength of the particular overtones varies in different instruments, the basic series of pitches is consistent. The piano is particularly good for demonstrating overtones because it maximizes sympathetic vibrations. Helmholtz found that the first overtones in any series are also the simple ratios Pythagoreans demonstrated by plucking divided strings. Helmholtz then expanded upon the idea, charting the larger, more complex mathematical ratios that describe dissonant musical intervals, and describing the basic harmonic series of overtones: C, C (octave), G (perfect fifth), C (perfect fourth), E (major third), G (minor third), B-flat, C, D, E, F, G, A-flat, B-flat, C. The order of the intervals between the overtones is significant, which begins with the octave, perfect fifth, perfect fourth, major third, and minor third (fig. 4.1).

Helmholtz also found that overtones have a profound effect on the relationship of separate musical tones when they combine to form intervals or chords. The remainder of the first half of *Sensations of Tone* is dedicated to “enunciating the proposition that oscillatory motions of the air and other elastic bodies,” or sounds, “produced by several sources acting simultaneously, are always the exact sum of the individual motions producible by each source separately.” In other words, the act of studying harmonic intervals as vibrating waves starts with simple addition. Helmholtz found that the simultaneous interaction of separate wave vibrations in intervals, or so-called “compound sounds,” create subtle new tones that are the sum of the vibration rates of the initial tones. Helmholtz further discovered that combined intervals of ratios that are equally divisible form new tones that can also be expressed as simple, divisible ratios.

Consonant harmonies mitigate the competing oscillations of the tones, sounding more constant and uniform than dissonant intervals. Dissonant intervals, on the other hand, have a tendency to exaggerate the differences in wave oscillations, producing auditory “beats,” or “Koenig’s beats,” to greater or lesser extents depending on the interval. Helmholtz also theorized that the relative consonance or dissonance of an interval was the product of the interaction of each tone’s overtones. As Cahan summarized this point:

Helmholtz argues that interval tones have to be considered as two series of harmonics. Only very few of those partials will be of exactly the same frequency; the remaining ones, he concluded, will produce more or less distinct beats. If the beating frequency is so high that the single beats cannot be distinguished, then they will blend into a rattling or jarring noise. This unpleasant intermittence, he argued, is the cause of dissonance.²⁰

Helmholtz on Perception

In examining what is usually perceived as the unpleasant effect of dissonant musical intervals, Helmholtz considered the effect of sound waves on the human ear. Our perception of sound, just like the transcription of sounds produced by Helmholtz's phonautograph, is based on the principle of sympathetic vibrations. In his abbreviated presentation of this material in “Harmony in Music” (1857), published in his *Popular Lectures on Scientific Subjects* (1885), Helmholtz again described the functioning of the ear by analogy to the piano.²¹ Discussing a partition of the cochlea and what he called transverse fibers “lying orderly beside each other like the keys of a piano,” he described

²⁰ Cahan, *Helmholtz*, 250.

²¹ Helmholtz, *Popular Lectures*, 84–85.

newly discovered hair-like, elastic appendages at the ends of the nerves, now known as “hair cells”:

The anatomical arrangement of the appendages leaves scarcely any room to doubt that they are set into sympathetic vibration by the waves of sound that are conducted through the ear. Now if we venture to conjecture—it is present only a conjecture, but after careful consideration I am left to think it very probable—that every such appendage is tuned to a certain tone like the strings of a piano, then the recent experiment with a piano shows you that when (and only when) that tone is sounded the corresponding hair-like appendage may vibrate, and the corresponding nerve-fibers experience a sensation, so that the presence of each single such tone in the midst of a whole confusion of tones must be indicated by the corresponding sensation.²²

While Helmholtz’s proposal that traditional harmony is ingrained into our very physiology might be at odds with Kandinsky’s notion of spiritual transcendence, Helmholtz’s description of sympathetic vibrations and their prevalence throughout different media formed the basic model for Kandinsky’s theories of artistic transmission, whether directly or indirectly. The use of the piano as a metaphor for reception in the ear also bears a close resemblance to Kandinsky’s extended piano metaphor for artistic transmission and reception.

Helmholtz’s theory, like traditional musical harmony itself, also allowed for so-called “passing or changing notes,” and “suspensions” with “prepared dissonances” that “resolve” to their tonal root.²³ These temporary dissonant notes or passages were “not used for their own sakes, but principally as a means of increasing the feeling of onward

²² Ibid.

²³ Helmholtz, *On the Sensation of Tone*, 353–54.

progression in the composition.”²⁴ He provided a sequence of chords as an example, demonstrating tonal preparation, suspension, and resolution (fig. 4.2).

The preparatory chord is C major with the notes A and G as its base. The passage resolves to a G major chord. The first and third chords in the example are consonant, but the C note in the first chord “prepares” the dissonant suspension of the second chord (where the D is “suspended”), delaying the harmonic resolution that comes in the resolution of the final chord. The suspended D is a perfect fifth to the G in the base, a consonance, but is a dissonant second interval to the C. Such interlocking and codependent consonances and dissonances provide a logical progression. As Helmholtz noted, dissonant suspensions were employed by composers to “express energy and vigorous progress” in their works, provided they were used briefly.²⁵ He made similar statements in the closing section of his *Popular Lectures* essay on the subject. He described dissonance and harmony as “urging” and “moderating” the music, respectively, and he made a comparison to this alternation and that of our own thoughts and moods.²⁶ In what probably comes the closest to Kandinsky's later position with regard to dissonance, Helmholtz stated that both harmony and disharmony were means for “attainment of that higher beauty that appeals to the intellect,” although for Kandinsky, the goal would be an appeal to the spirit, not only the mind.²⁷

Furthermore, while Helmholtz proposed that our auditory nerves were specifically situated to appreciate harmony, he did allow for relative degrees of receptivity and

²⁴ Ibid.

²⁵ Ibid.

²⁶ Helmholtz, *Popular Lectures*, 105–106.

²⁷ Ibid.

sensitivity to stimuli. According to Helmholtz, musicians are particularly receptive to the complex nature of musical tones, but anyone is capable of perceiving them with practice.²⁸ In one of his most important contributions to the study of sound, he distinguished between “synthetic” and “analytic” perception.²⁹ While we are inclined to hear overtones as a part of the primary tone, like musical chords, our ear is capable of analysis, of deconstructing these complex sounds into their individual parts. However, Helmholtz argued, “unless you know how to perform this act, the tones remain concealed.”³⁰ This corresponds to Kandinsky’s notion of the sensitive artist’s role at the pinnacle of the spiritual pyramid.³¹

Helmholtz’s theories also reflect a general scientific worldview that would have also informed Kandinsky’s ideas concerning the possible interrelation of the arts through an interrelation of the senses. In addition to his research concerning the genesis and perception of sound, Helmholtz examined color theory and vision, and proposed that the long sought after “laws of color harmony” could be found in human physiology and psychological perception rather than exclusively in the extrinsic study of physics.³² As he argued in his *Popular Lectures*, “Light is also an undulation of a peculiar medium, the luminous ether, diffused through the universe, and light, as well as sound, exhibits

²⁸ Helmholtz, *On the Sensation of Tone*, 44, 48, 49, and 62.

²⁹ *Ibid.*, 62–65.

³⁰ Helmholtz, *Popular Lectures*, 92.

³¹ This might even be seen as parallel to Kandinsky’s process of abstracting recognizable subject matter in his paintings in the years leading up to 1913, the “veiling” and “striping” described by Long.

³² This was in breaking with the extrinsic studies of color that had been undertaken by Goethe in *Farbenlehre* [1810] and with those by Chevreul’s theories in *De la loi du contraste simultané des couleurs* [1839].

phenomena of interference."³³ Furthering his comparison of the two wave forms, Helmholtz theorized that like sound, light travels as "waves of various periodic times of vibration, which produce in the eye the sensation of colour, red having the greatest periodic time, then orange, yellow, green, blue, violet; the periodic time of violet being about half that of the outermost red."³⁴

The idea of vibrating light waves akin to waves of sound corresponds to some degree with Kandinsky's theory of synaesthetic color perception, where both yellow and red are compared to the harsh sound of a trumpet, and violet is "the deep notes of wood instruments (e.g. a bassoon)."³⁵ However, it should be noted that Kandinsky's color theory, as expressed in *Concerning the Spiritual*, does not represent a direct comparison between sound and light vibrations, but rather, takes a variety of factors into consideration. Light blue, for instance, could be the sound of a flute, while dark blue was the "thunderous double bass."³⁶ Vermillion could "ring like a great trumpet" or "thunder like a drum."³⁷ Hence, while some of Kandinsky's synaesthetic color theory seems based on an analogy to light wave vibrations and the color spectrum, other aspects of it are dependent on a color's value, or relative mixture of white and black. His comparisons seem to rely both on the general pitch-range of an instrument, where darker equals lower, and ideas of musical timbre, or "color."

³³ Helmholtz, *Popular Lectures*, 105.

³⁴ *Ibid.*

³⁵ Kandinsky, *Concerning the Spiritual*, 24, 40, and 41.

³⁶ *Ibid.*, 38.

³⁷ *Ibid.*, 40.

The Luminiferous Ether

Before further considering Helmholtz's theories concerning sound, especially as they might relate to light, it is necessary to restore his ideas to their context at the time of their writing, as well as during the later period in which Kandinsky could have known them. E. T. Whittaker's *A History of the Theories of Aether and Electricity*, published in 1910, offers an especially useful summation of the physics of his day, and was written at roughly the same time Kandinsky was writing *Concerning the Spiritual*.³⁸ Whittaker took as a given that "[t]he aether is the solitary tenant of the universe, save for that infinitesimal fraction of space which is occupied by ordinary matter."³⁹ For Whittaker, the central question that followed concerned the relationship between the ether and the "condensations of matter that are scattered throughout it," and he traced speculations from the seventeenth century. Much of Whittaker's history necessarily concerned debates about the makeup and transmission of light. To greatly simplify Whittaker's ambitious text, two general camps may be distinguished: one holding to a "wave theory" of light and the other to a "corpuscular theory."

Whittaker traced the wave theory, in which light travels by undulating waves, to seventeenth-century British theorist Robert Hooke, whom Whittaker considered a fundamental source of the "fully developed theory of undulations," if not its specific application to light.⁴⁰ Hooke's research was wide-ranging, but his findings relevant to later wave theories of light were primarily concerned with vibrations in liquids. Hooke

³⁸ See ch.1, n. 28 above.

³⁹ Whittaker, *History*, 1.

⁴⁰ *Ibid.*, 11.

described color as "nothing but the disturbance of light by the communication of the pulse to other transparent mediums."⁴¹ Newton later rejected Hooke's theory of color, and proposed a corpuscular theory of light, in which small particles of light travelled in straight lines. This was the prevailing theory of light in the eighteenth century. However, it is important for our purposes to note that while vibrations of ether are not light in Newton's theory, they are nonetheless "capable of mutual interaction; aether is in fact the intermediary between light and ponderable matter," for instance, in the phenomenon of heat.⁴² Historian of science Abdelhamid I. Sabra has examined Newton's numerous debts to Hooke.⁴³ In a letter to Hooke of February 5, 1675, Newton praised the former's work in optics, "especially in taking the colours of thin plates into philosophical consideration."⁴⁴ Gage has argued that Newton's descriptions based on his experiments on the colours of thin plates, which became known as Newton's Rings, were the "starting point for the study of complementarity in the latter half of the century," which was later "canonized for the nineteenth century in Chevreul's *On the Law of Simultaneous Contrast of Colours* of 1839."⁴⁵ While Newton's corpuscular theory would deny undulatory patterns of light, his

⁴¹ Ibid., 14.

⁴² Ibid., 18. Furthermore, Newton drew frequently on analogies between color and sound, for instance: "sonorous bodies of different pitch excite vibrations of different types in the aether; and if by any means those [aether-vibrations] of unequal size be separated from one another, the largest beget a sensation of a red colour, the least or shortest of a deep violet, and the intermediate ones, of intermediate colours; much after the manner that bodies, according to their several sizes, shapes, and motions, excite vibrations in the air . . . [and] make several tones in sound." (Newton, vii (1672), 5088; quoted in Whittaker, *History*, 18–19).

⁴³ Sabra, *Theories of Light, from Descartes to Newton* (London: Oldbourne, 1967), 329.

⁴⁴ Ibid. The term "colors of thin plates" describes an observation by Newton and others of prismatic colors, striations, and other effects produced by white light illuminating a film of variable thickness.

⁴⁵ Gage, *Color and Meaning*, 142.

formulations did much to lay the groundwork for later theories involving the ether as a medium of transmission.

Christiaan Huygens proposed the wave theory of light, put forth in his *Theorie de la lumière*, first published in 1690. Whittaker described Huygens's central tenant, which held that "space occupied by more than one kind of matter may permit the propagation of several kinds of waves, different in velocity."⁴⁶ Huygens further proposed that sound and light were capable of direct interaction in "aethereal matter, where sound-waves and light-waves are propagated together."

Whittaker summarized the argument against the wave theory, noting that Newton's demonstration of double refraction of light seemed "an insuperable objection" to the hypothesis proposing that waves of light travelled in the same manner as sound waves.⁴⁷ As Whittaker discussed at length, such hypotheses were regularly tested, debated, and revised by scientists over the course of the eighteenth century. Leonhard Euler was a strong proponent of the wave theory in the early nineteenth century. He wrote, "Just as a vehement sound excites not only a vibratory motion in the particles of the air, but there is also observed a real movement of the small particles of dust which are suspended therein, it is not to be doubted but that the vibratory motion set up by the light causes a similar effect."⁴⁸ Euler also compared the effects of colors of thin plates to Chladni plate patterns produced by sound, describing them as "analogous to well-known

⁴⁶ Whittaker, *History*, 25–26.

⁴⁷ *Ibid.*, 26–27.

⁴⁸ *Ibid.*, 27–28, quoting Euler [1802, p. 46]

effects observed in experiments on sound."⁴⁹ Analogies with Chladni plates were frequently employed to describe other invisible transmissions, by scientists and occultists alike (see fig. 4.3 for examples of Chladni plate patterns).⁵⁰

The theories of Thomas Young concerning the double refraction of light offered the greatest support for the wave theory in the nineteenth century. In addressing Newton's objections, Young examined the interaction of light in different conditions, drawing a parallel between refraction and "partial reflection of sound from a cloud or denser stratum of air."⁵¹ Young's demonstrations of "light interference" in the first decade of the nineteenth century involved a ripple tank, which is a shallow tank of water used to show wave formations and interactions, such as reflection, refraction, diffraction, and interference. Young also drew connections to Chladni's experiments with wave formations of sound.⁵² Young's wave theory of light was further expanded by French physicist Augustin-Jean Fresnel beginning in the 1820s, in what would become known as the Young-Fresnel theory.⁵³

In the first decade of the twentieth-century, the concept of the ether was more prominent than ever. It served to explain numerous physical forces. As Henderson has argued, "From the mid-nineteenth century onward, the ether was also discussed as the

⁴⁹ Ibid.

⁵⁰ In her essay "Experiments on Tone Color in Music and Acoustics," Kursell examined Chladni's experiments in the context of those by Olm, making a particularly important point for our purposes: "As Chladni explained in his manual on acoustics, these so-called sound figures had often been misunderstood as visualizing different sounds and, more specifically, different pitches of sounds," when their "great superiority," according to Chladni, was that they "showed shapes that the ear was unable to detect." As Kursell observed, Chladni's device and its resulting figures "did not illustrate what was known from music," rather, they "made new phenomena accessible" (p. 197).

⁵¹ Whittaker, *History*, 105.

⁵² Ibid., 109–110 and 122–123.

⁵³ Ibid., 123–125.

possible source of matter itself."⁵⁴ The ether was all pervasive in the primary theoretical models of the universe advanced by science of the nineteenth century, and, as noted by Henderson, had taken on even greater roles by the early twentieth century.

The Electron Theory of Matter

Having touched upon Kandinsky's most prominent scientific references in *Concerning the Spiritual in Art* in the previous chapter of this dissertation, it will be useful to reconsider the artist's statement about the "electron theory" in the context presented here. In considerations of this topic, Henderson has drawn on Robert Kennedy Duncan's book *The New Knowledge: A Simple Exposition of the New Physics and the New Chemistry in Their Relation to the New Theory of Matter*, a useful perspective on the electron theory in particular. Published in 1905 and in its eight edition by 1910, Duncan primarily addressed theories of the "electrical nature of matter." J. J. Thompson's 1897 discovery of the electron and Marie and Pierre Curie experiments with uranium in the years immediately after had profound effects on scientific models of the makeup of the universe. Lodge proposed an "electric theory of matter," or "electronic theory" as described by Duncan (also known as the electron theory of matter), in which "the whole mass of matter may be accounted for on the supposition that it is electrical in origin."⁵⁵

⁵⁴ Henderson, "Vibratory Modernism," 129.

⁵⁵ Duncan, *The New Knowledge: A Simple Exposition of the New Physics and the New Chemistry in Their Relation to the New Theory of Matter* [1905] (New York: A. S. Barnes Company, 1919), 188. Or, as Lodge wrote, "Matter is composed of electricity, and of nothing else." Lodge, "Electric Theory of Matter," in *Harper's Magazine* (August 1904).

Kandinsky specifically referred to this theory in his discussion of materialist scientists whose work nonetheless "boldly shakes the pinnacles that men have set up," writing,

The electron theory—i.e., the theory of moving electricity, which is supposed completely to replace matter, has found lately many keen proponents, who from time to time overreach the limits of caution and thus perish in the conquest of this new stronghold of science, like heedless soldiers, sacrificing themselves for others at the desperate storming of some beleaguered fortress. But *there is no fortress so strong that it cannot be taken.*⁵⁶

This is also closely related to Kandinsky's statement in *Reminiscences* of 1913, in which he wrote that "the collapse of the atom was equated, in my soul, with the collapse of the whole world."⁵⁷ As Henderson and others have rightly noted, far from suggesting pessimism and distress, it was intended as a positive statement. Kandinsky saw the subdivision of the atom as further justifying his interest in unseen forces and the immaterial.⁵⁸

Duncan's text also provides a useful summation of the state of the debate about light in the first decade of the twentieth century:

The light and heat proceeding from the sun consist either of particles or of waves. There is no other explanation conceivable. The first assumption, that they consist of particles, is known as the "corpuscular theory," and was killed outright and buried years ago after a battle royal. The second assumption, that of waves, known as the undulatory theory, meets with universal acceptance. It is the only complete explanation of all the known facts.⁵⁹

In describing waves of light in the ether, Duncan made frequent analogy both to sound waves and those of water, writing, "The ocean waves are made of water,—sound waves

⁵⁶ Kandinsky, "On the Spiritual," in *Complete Writings*, 142. Sadler's translation omitted the specific reference to Lodge's theory, but keeps a reference to Crookes in the accompanying note.

⁵⁷ Kandinsky, "Reminiscences," in *Complete Writings*, 364.

⁵⁸ Henderson, "Vibratory Modernism," 145.

⁵⁹ Duncan, *New Knowledge*, 4.

of air,—light waves of, we must say,—something." This vast something, the ether, "in all its manifold complexity," encompassed all matter "as a sponge lies soaked in water."⁶⁰ As noted earlier, ripples in water were frequently used to test and to describe various vibratory patterns in other media. As we shall see below, the wave theory would prove a useful analogue for occult writers seeking to explain their ideas concerning spiritual and mental vibratory transmissions, as it would for Kandinsky's explanation of spiritual-artistic transmission.

Helmholtz's quotation above, in which light is an "undulation" of the "luminous ether . . . and light, as well as sound, exhibits phenomena of interference" was a reference to Young's findings; Helmholtz was a proponent of the wave theory of light. He figures into Whittaker history primarily for his contributions to the study of voltaic cells and electromagnetism, in which he is described as a follower of James Clerk Maxwell, his contemporary.⁶¹ Regarding theoretical models of the ether, Helmholtz's chief contribution was to supply a theory of reflection, which had been missing from Maxwell's electromagnetic models of the ether.⁶²

⁶⁰ Ibid., 5. Duncan's description of the ether is discussed in Henderson, *Duchamp*, 25 and 234n; and Henderson, "Modernism and Science," in *Modernism*, ed. Astradur Eysteinnsson and Vivian Liska (Philadelphia: John Benjamins Publishing, 2007), 388. See also, Bruce Clarke, "From Thermodynamics to Virtuality," in *From Energy to Information*, ed. Henderson and Clarke (Stanford: Stanford University Press, 2002), 22–23; and, in the same anthology, Bruce Hunt, "Lines of Force, Swirls of Ether," 104; and Hunt, *The Maxwellians* (Ithica: Cornell University Press, 1991).

⁶¹ Whittaker, *History*, 241–43. Whittaker also discussed Helmholtz's theories of vortex motion, which Maxwell adopted (p. 274).

⁶² Ibid., 338. Helmholtz's theory involved differences in magnetic permeability and their resulting vectors. Helmholtz's formulae were further refined through experiments of the mid-1870s with his pupil Nikolai Schiller, and in the 1880s by Thompson (p. 339ff).

Helmholtz on Perception and Relationships between Color and Sound

Helmholtz was also interested in possible relationships of sound and color in the way in which the senses are perceived. In addition to proposing a fundamental similarity in the wave vibrations that produce sound and those that produce light, Helmholtz suggested a connection in the way we store and access that information in the brain. For instance, he compared the latent ability to hear overtones to the act of ignoring the “mouches volantes” in the vitreous humour of the eye.⁶³

In his well-known *Handbook of Physiological Optics*, published in stages between 1856 and 1867, Helmholtz proposed a color-music scale in explaining his ideas about the optical colors of light.⁶⁴ He aligned the note A with deep red, while the other end of the musical scale, G, aligned with the other end of the spectrum of light, violet. This allowed his three primary colors of red, green and blue-violet to correspond most closely to the major chord of the intervals 1, 3, and 5 (i.e., A, C-sharp, and E in the key of A, to use Helmholtz's example, or, C, E, and G in the key of C). Despite this seemingly synaesthetic approach, Helmholtz stated that he employed this color-music scale mainly for convenience in explaining his ideas, and in a footnote, he was critical of other theorists’ “forced, musical analogies,” arguing that “at any rate, it is clear that in the so-called colour harmony no such absolute definite relations are to be expected as are characteristic of the musical intervals.”⁶⁵ While he considered light and sound to be

⁶³ Helmholtz, *Sensations of Tone*, 92. “Mouches volantes” refers to the small specks within the eye's vitreous humour, known commonly in English as “floaters,” or scientifically as “myodesopsia.”

⁶⁴ Helmholtz, *Handbuch der physiologischen Optik*, 269ff.

⁶⁵ Ibid.

transmitted as vibrating waves in the ether, and sharing some characteristics, they did not operate in a directly parallel manner.

Aside from differences in the extrinsic properties of light and sound waves and their ratios of vibrations, the primary difference between light and sound, according to Helmholtz was found in the nerves that receive the stimulation. The ear is able to analyze compound sound in a manner in which the eye is incapable. Where sound vibrations combine to form new sounds, both the original tone and the new tones are perceptible to the trained ear. However, when light vibrations of different colors combine to form a new color, the eye can only perceive the new one; the original colors are not perceptible. As he states in his *Popular Lectures*, “The eye has no sense of harmony in the same meaning as the ear. There is no music to the eye.”⁶⁶ However, Helmholtz's materialist outlook in this regard is the sort that Kandinsky sought to refute in *Concerning the Spiritual in Art* when he criticized Positivist scientists for not recognizing that “yesterday” they held as “nonsense” the “theories that today are proven,” and argued “facts are being established which the science of yesterday dubbed swindles.”⁶⁷ As we shall see, he was also dubious of any universal one-to-one correspondences between color and tone, but did seem to have explored the idea in addition to broader ideas about musical timbre and color. Kandinsky's deep engagement with the question by the early 1910s is evident in his

⁶⁶ Helmholtz, *On the Sensation of Tone*, 105. This statement and its underlying argument was a source of contention for Russolo in his *Art of Noise* manifesto of 1913 and book of 1916, see Kahn, "Concerning the Line," 184-86. Gauguin may also have been responding, in part, to this idea in his argument for the superiority of painting over music in “Notes Synthétiques” of 1888 (see n. 80 above).

⁶⁷ Kandinsky, *Concerning the Spiritual*, 11 and 13.

quotation of Goethe's quote in *Der Blaue Reiter*, and his remarks in *Concerning the Spiritual* and other writings.

According to Helmholtz, while compound colors were not divisible by the eye, their very combinatorial capability could be used for artistic effect. Helmholtz's *Handbook* built upon the work of Young and his theory has come to be called the Young-Helmholtz theory of color. Gage has argued that the Young-Helmholtz theory of color was a significant source for artists like Georges Seurat and Paul Signac, whose paintings included juxtapositions of colors intended to optically mix in the eye.⁶⁸ In the case of complementary colors that are opposite one another on the color wheel, Helmholtz held that they "enhance each other's brilliancy."⁶⁹ As noted earlier, many of the Post-Impressionists, as well as the German Expressionists, were aware of this effect. These techniques and their basic principles would have been known to Kandinsky from his artistic training, as well as through study of these styles in the years leading up to the formation of the *Blaue Reiter* group.

Studies of Perception in Early Experimental Psychology

Wilhelm Wundt and the Perception of Dissonance

Helmholtz's assistant Wilhelm Wundt furthered the study of the psychological effects of colors and of sounds.⁷⁰ Wundt, often credited as the being the "father of

⁶⁸ Gage, *Color and Culture*, 174–75.

⁶⁹ *Ibid.*, 207. For instance, Kirchner is known to have studied Helmholtz's *Handbook*.

⁷⁰ Wundt was Helmholtz's assistant at the Physiological Institute in Heidelberg beginning in 1858. See Robert W. Rieber and David Keith Robinson, *Wilhelm Wundt in History: The Making of a Scientific Psychology* (New York: Kluwer Academic, 2001).

experimental psychology,” focused on sensory perception to an even greater extent than had Helmholtz. Wundt’s work was also well known at this time. His *Principles of Physiological Psychology* of 1874 was in its ninth German edition by 1911 and had been translated into Russian in 1900, and into English in 1904.⁷¹ As Gage asserted, “Before the prestige of the Vienna School focused attention on psychiatry and psycho-analysis, it was experimental psychology that provided the concepts shaping public awareness of the problems of the mind.”⁷² In this and other texts, Gage has observed that the color diagrams showing the relationship between yellow and blue that Kandinsky included in *Concerning the Spiritual in Art* are remarkable similar to Wundt’s.⁷³

Wundt described how the transition from yellow to blue could be achieved through two routes. Moving from yellow to green to blue was a “stable” route, while moving from yellow, through red, purple, and violet was “highly unstable” (fig. 4.4). Similarly, Kandinsky’s “Table 1” distinguished between the “warm,” “eccentric” yellow and the “cold,” “concentric” blue (fig. 4.5). In the text, he also discussed the stability of green. The pair yellow and blue formed Kandinsky’s second antitheses of color, his first being white and black. Red and green were his third pairing, and orange and violet were his final antitheses. For Kandinsky, both white and black suggested “discord,” but where white left “possibilities for the future (birth),” black was “devoid of possibilities for the

⁷¹ Wundt, *Grundzüge der physiologischen Psychologie* (Leipzig: Engelmann, 1874).

⁷² Gage, “Mood Indigo,” in *The Romantic Spirit and German Art: 1790-1990*, edited by Keith Hartley, Henry Meyric Hughes, et al. (London: Thames and Hudson, 1994), 126, n. 36. As Gage noted, Wundt’s publications were so well known that the politician and critic Friedrich Naumann could, in a review of a 1906 exhibition of Munch’s paintings in Berlin, “appeal quite naturally to Wundt” to explain elements of some of the paintings included in the exhibition.

⁷³ See Wundt, *Outlines of Psychology*, 329; and Kandinsky, *Concerning the Spiritual*, 36–38.

future (death).”⁷⁴ Wundt also described the pairs white and black as a fundamental contrast, along with red and green.

Wundt’s most immediate source for his color theory seems to have been Viennese psychologist Ewald Hering, whose theory of color-perception was also based on the three oppositions of black-white, red-green, and blue-yellow.⁷⁵ Gage suggested that Kandinsky may have been demonstrating his awareness of Wundt’s theories, and by extension, Hering’s, when he wrote in *Concerning the Spiritual in Art* that his theories of color depended on “spiritual experience” and not on “positivist science.”⁷⁶ Wundt and Hering’s theories of polar oppositions of colors both owed major debts to Goethe’s *Farbenlehre*, which also directly informed Kandinsky’s color theories. Regardless, connections to Wundt are prominent elsewhere in Kandinsky’s texts.

Wundt stressed an interconnection of senses within the brain even more so than Helmholtz. In his chapter of *Principles of Physiological Psychology*, “General Principles of the Processes of Central Conduction,” Wundt drew comparisons between the mechanics of the ear and the eye.⁷⁷ Later in the text he expanded on this idea in his chapter “Principle of Relative Localisation,” in which he posited that although there are distinct sensory organs and corresponding regions of the brain, there is no “absolute localization of function.”⁷⁸ In his *Outlines of Psychology*, Wundt further stressed the

⁷⁴ Kandinsky, *Concerning the Spiritual*, 37. This seems to represent Kandinsky’s earliest statement of interest in dissonance and discord as having the potential for positive effects.

⁷⁵ Gage, *Color and Meaning*, 242.

⁷⁶ *Ibid.*, and Kandinsky, *Concerning the Spiritual*, 37. Clearly, Kandinsky’s color theories were informed by numerous sources, but also seemed to have been changing frequently in response to his studio practice.

⁷⁷ Wundt, *Principles of Physiological Psychology*, 227.

⁷⁸ *Ibid.*

“simultaneous interconnection” of sensory faculties, stating that “psychical elements” are made of “compound” stimuli. In short, Wundt proposed a kind of synaesthetic reception or the cross-modal translation of different sensory stimuli in the brain.

Gage has argued that Wundt’s theory of localization and his general theory of colors were informed by “chromotherapy,” where patients suffering mental illness were exposed to different colored lights. This was also an idea that appealed to Kandinsky and contributed to his own thinking about color, as evident in his references to the practice in *Concerning the Spiritual*. Arguing for the non-associative psychological effects of color, Kandinsky wrote:

Anyone who has heard of color therapy knows that colored light can have a particular effect upon the entire body. Various attempts to exploit this power of color and apply it to different nervous disorders have again noted that red light has an enlivening and stimulating effect upon the heart, while blue, on the other hand, can lead to temporary paralysis These facts in any case prove that color contains within itself a little studied but enormous power, which can influence the entire human body as a physical organism.⁷⁹

In *Outlines of Psychology*, Wundt also built upon Helmholtz’s work in acoustics and the perception of sound. Developing Helmholtz’s definition of dissonance and its relationship to overtones and combination-tones, Wundt identified what he called “difference-tones” (*Differenztöne*), so called because they result from the difference between the vibrating rates of two tones, which he argued may result from Helmholtz’s “combination-tones” or from Koenig’s “beat-tones.”⁸⁰ He noted that the resulting difference-tones surpass those of the primary tones in audibility in the case of tones that

⁷⁹ Kandinsky, *Concerning the Spiritual*, 24.

⁸⁰ Wundt, *Outlines of Psychology*, 99–100.

also produce Koenig's beats, while the resulting tones are weaker in the case of combination-tones.

Wundt also described the changing nature of some of these difference-tones. When produced by dissonant intervals that are closer together than the notes in the musical scale, such as half-tones and quartertones, they can create "disturbances in the compound sound." These, Wundt explained, are due to the alternation of "like and opposite phases of vibration," where the oscillation of the two tones' crests and troughs vary because of their different rates of vibration. In addition to "beats," this can produce the "intermittent sensations of difference-tones." Difference tones, like Helmholtz's combination-tones, are the result of the interaction of two vibrating waves. However, here the new tone is a result of the difference between the two vibrations rates, rather the addition of them.

Wundt found that in dissonant intervals that are further apart—the dissonance of regular musical intervals like the tritone—the disturbance of beats does not occur continually. Wundt described a perception of tonal continuity, but with an accompanying "harshness" of occasional beats. He called this "ordinary dissonance." However, over the course of letting the notes continue, "the harshness disappears and we have *pure dissonance*."⁸¹ That this notion of the transformation of a form of "harsh," or "ordinary dissonance" into a form of "pure dissonance" would have appealed to Kandinsky becomes even more apparent in his notes of 1912 and 1913, but even in *Concerning the Spiritual in Art* there are suggestions of similar ideas. Discussing the role of recognizable

⁸¹ Ibid.

objects within artistic subject matter and their relationship to abstract forms on the canvas, Kandinsky wrote that both possess "an inner harmony of [their] own." These two intrinsic harmonies may be parallel, or not, "in which case the combination may be unavoidably discordant." Even if barely recognizable, the choice of subject matter is crucial because "however diminished in importance the organic [recognizable] form may be, its inner note will always be heard." As in Wundt's model of "pure dissonance," a dissonant or contrasting relationship between subject matter and its abstracted representation "may strengthen" the "spiritual accord" of the overall composition, while a consonant or parallel relationship might "by similarity . . . destroy it."⁸²

Kandinsky's description of the inner harmony possible in the combination of a painting's subject matter and its abstract composition parallels Helmholtz and Wundt's notion of combination-tones. Helmholtz addressed the relationship of overtones, combination tones, and harmony, as did Wundt following him, but Wundt developed Helmholtz's notion of combination-tones much further. In particular, he described the manner in which dissonant intervals can either produce interference or else reinforce the primary tones in "pure dissonance." Kandinsky's discussion of the strengthening or weakening of the accord by contrast or similarity bears a striking resemblance to Wundt's notion of the relative strength or weakness of "difference-tones" and "beats" to the primary tones of "pure" and "ordinary" dissonance in different circumstances.

⁸² Kandinsky, *Concerning the Spiritual*, 31.

In his discussion of the relationship of color and form within abstract compositions, Kandinsky's model in *Concerning the Spiritual* seems to come even closer to Wundt's:

It is evident that many colors are hampered and even nullified in effect by many forms. On the whole, keen colors are well suited by sharp forms (*e.g.*, a yellow triangle), and soft, deep colors by round forms (*e.g.*, a blue circle). But it must be remembered that an unsuitable combination of form and color is not necessarily discordant, but may, with manipulation, show the way to fresh possibilities of harmony.⁸³

As in Wundt's acoustic theory where an "ordinary dissonance" could give way to a new form of "pure dissonance," Kandinsky's "unsuitable discord" could produce a new "harmony" of color and form. Whether or not Kandinsky was intentionally drawing on the acoustical models of Helmholtz or Wundt in these statements, the artist's interest in the transformative power of dissonance seems to have only increased over the course of 1912 and 1913.

Theodor Lipps's "Psychic-excitations"

In addition to the well known texts by Helmholtz and Wundt discussed above, their theories were highlighted in numerous popularizations and further developed and discussed in subsequent studies. For instance, Helmholtz and Wundt were both discussed at length in a further psychological consideration of the topic of dissonance included in Theodor Lipps *Psychological Studies* of 1885.⁸⁴ Lipps was a professor at the University of Munich and his theories concerning the perception of form were especially important

⁸³ *Ibid.*, 29.

⁸⁴ See note 36 above.

for Wilhelm Worringer, who cited Lipps throughout his seminal art historical text, *Abstraction and Empathy*, written as a dissertation at the University of Munich in 1906. Worringer seems to have been sympathetic to the *Blaue Reiter* group, and through their shared publisher, Reinhard Piper, supplied plates of medieval art from his collection for inclusion in the group's almanac.⁸⁵ Crétien van Campen has examined connections between Kandinsky's and Lipps's visual theories, arguing that "description of tensions in the picture plane . . . closely resemble Lipps's descriptions of tendencies in the pictorial plane."⁸⁶ Van Campen defined this as a two-step process, where sensory registration is followed by the "mental construction of forms."⁸⁷ For Lipps, the process of hearing worked similarly.

Lipps 1885 study was based on two previously published articles, "The Space of Visual Perception," and "Consonance and Dissonance." In his reconsideration of the topics in *Psychological Studies*, Lipps proposed to examine psychological processes that are related to the senses, and "completely beyond the reach of consciousness," and how they are interpreted by the conscious mind.⁸⁸ Lipps's initial discussion of vision offers a

⁸⁵ See *Der Blaue Reiter*, 288ff. Kandinsky and Marc also hoped to include an essay by Worringer in a second volume of the almanac, as noted in Klaus Lankheit's preface to the 1965 German edition of the almanac (p. 30). See also n. 39 above.

⁸⁶ Van Campen, "Early Abstract Art and Experimental Gestalt Psychology," in *Leonardo* 30 (Cambridge, Mass.: MIT Press, 1997), 133–36, esp. 135. Van Campen focused on Lipps's 1897 study of the optics of geometric illusion and the aesthetics of space, *Raumästhetik und geometrisch-optische Täuschungen* (Amsterdam: Bonset, 1897), 268–69. As van Campen further uncovered, Klee later taught specific visual theories drawn from Lipps in his Bauhaus courses, along with other experimental psychologists, such as Friedrich Schumann, and related studies by Ernst Mach, such as his 1886 *The Analysis of Sensations and the Relation of the Physical to the Psychological* (see p. 133n.). Van Campen identified these themes most clearly in Kandinsky's Bauhaus publication, *Point and Line to Plane*, but also notes evidence as early as *Concerning the Spiritual*.

⁸⁷ *Ibid.*, 135.

⁸⁸ Lipps, *Psychological Studies*, 22.

sense of his approach to the idea of musical consonance and dissonance. For instance, a revealing example involves comparing a set of two points that are unconnected by a line with two points of equal distance that are connected.⁸⁹ Since the eye can move between two points more quickly in an arc than in a straight line, the connected points will appear further apart. In other words, in terms of the time taken to perceive the spatial interval of two points, the shortest distance is not a straight line.

Lipps also took a relativistic view of musical consonance and dissonance, similarly rooted in physiology and psychology. Lipps began his discussion of hearing by considering the formation of acoustic waves, the vibration-ratios of musical intervals, and "tone-rhythms" as explained by Helmholtz.⁹⁰ However, the text soon changes its foci to more subjective tendencies, as in Lipps's preceding study of vision. For Lipps, consonance is a "feeling of pleasurable, inner *consistency* or *unanimity*, of inner or *qualitative homogeneity*," even if not immediately, consciously recognized as such.⁹¹

Lipps did not believe there to be a linear relationship between the simplicity of the vibration-ratio of the musical interval and the pleasure obtained by the listener, even while there was still a tendency for a return to the root and its equilibrium. As he stated, "The pleasure increases up to a certain limit, when the feeling of consonance is a feeling of *less* simple consonance." Even in this respect, the more complex, more pleasurable, yet

⁸⁹ Ibid., 38–39.

⁹⁰ Ibid., 138.

⁹¹ Ibid., 142.

"less consonant" ratios still reveal an "inner structure" based on their acoustical properties.⁹²

Moreover, Lipps distinguished between vibration rates of sound waves and consonance, and even musical pitches, as acts of perception, not acoustics, per se:

Consonance occurs only in my consciousness and the ratios of the vibration-numbers do not occur in my consciousness; but, in precisely the same way, what I call *the pitch of a tone* is something absolutely different from a specific number of vibrations. And *pitch* itself is only an event in my consciousness, while the numbers of the vibrations and their ratio exist only *outside* of consciousness. However, this does not prevent our believing that the immediate experience of consciousness, called consonance, *depends* on the ratio of the vibration-number any more than it prevents the belief that the immediate experience of consciousness called *pitch* depends upon the absolute *vibration-numbers*.⁹³

Lipps reasoned that there must be a relationship between the vibration rates of tones and the corresponding "tone-excitations" of their perception, which he described as leading to "psychic-excitations."⁹⁴ Simplified, this component of his theories might be described as a consciousness of consonance by sympathetic vibration. For Lipps, dissonance was the result of discontinuity, so he sought to understand whether the discontinuity of dissonance lay within or outside of consciousness:

Even when I only *ideate* a dissonant compound chord or a dissonant succession of tones, I have the experience of dissonance; beats can, however, at such a time not take place in my ear. How is, then, the dissonance to be explained in *this* case? [. . .] Whenever I have noticed any disturbing element in a given situation, no matter how often I have experienced it, and when regularly there has come from it a feeling of disturbance, this has nevertheless not resulted, at the time when the disturbing element *has dropped out*, in my having this feeling *once more* merely on account of analogy with the former perception. On the contrary, the result is

⁹² Ibid., 143.

⁹³ Ibid., 147.

⁹⁴ Ibid., 144–45.

regularly the very opposite of this. The disappearance of the disturbing factor catches my attention and my feeling goes accordingly in the *opposite* direction.⁹⁵

Consonance can then interrupt and form a discontinuity within an otherwise dissonant passage, much like Kandinsky's description in *Concerning the Spiritual in Art*, discussed above, of listening to Scriabin and being "snatched quite suddenly from a series of modern discords into the charm of more or less conventional beauty."⁹⁶ For Lipps, the *itches*, as perceived, not the sound wave and its vibration-ratio, "are the factors upon which consonance as well as dissonance depends."⁹⁷ Continuing, Lipps held that both consonance and dissonance demonstrated "consciousness of an *intrinsic relationship* between *itches* . . . this latter may be of any degree whatsoever, and the consonance will remain the same consonance as before, although to be sure it may not be so easily apprehended as previously." Lipps stressed that underlying structural relationships did not need to be immediately perceived as such in order to operate as continuous elements.

In his summation of theories concerning the perception of sound leading up to his publication, Lipps provided his evaluation of the studies undertaken by Helmholtz and Wundt, in addition to those of Felix Krüger, and the theories of Carl Stumpf, each of whom he had addressed in the sections preceding, leading up to Wundt:

The theory of Helmholtz may be considered as abandoned. That of Krüger, as I said above, never ought to have been set up. With respect to that of Stumpf, I was in doubt whether it may not have been abandoned by its founder; so that only the theory of Wundt remains to be discussed.

A methodological opposition that seems to exist between Wundt and me is doubtless easily removed. Wundt lays stress on the fact that consonance is not in

⁹⁵ Ibid., 162–63. In his ideation of dissonance, Lipps also made an analogy with a good drawing on dirty paper, which could then be perfectly imagined as pure lines.

⁹⁶ Kandinsky, *Concerning the Spiritual*, 17.

⁹⁷ Lipps, 165.

every case the same thing. He means that we do not always feel the same in the presence of the chords and the sequence of tones that we designate as consonant.⁹⁸

In Lipps's more detailed assessment earlier in the text, he argued that Helmholtz was essentially on the correct path with regard to the perception of sound in the last chapter of his *Sensations of Tone*, where he allowed for an expanded view of consonant ratios.⁹⁹ However, Lipps saw Helmholtz's theories as too rooted in the acoustics of sound waves. While Lipps dismissed Stumpf, and even Helmholtz, it is important for our purposes to note that all of these theories held, essentially, that intervals traditionally considered dissonant in music theory yet found within the diatonic scale were still extensions of the overtone series as defined by Helmholtz.

Schoenberg mentions Stumpf's expanded notions of consonance based upon the overtone series in his *Harmonielehre* of 1911. Elaborating on a passing discussion of other musical theories involving new tonalities, specifically those of composers and theorists Ferruccio Busoni and Georg Capellen, Schoenberg mentions Stumpf in a footnote. The reference is secondary; Schoenberg only notes that Stumpf is cited by Capellen in support of the idea that "the [intervallic] relations 4:7, 7:8, 5:7, and the like will be raised gradually to the status of consonances!"¹⁰⁰ Like Schoenberg and others, Stumpf argued that the division between consonance and dissonance was arbitrary, and

⁹⁸ Ibid., 208.

⁹⁹ Ibid., 166.

¹⁰⁰ Schoenberg, 431, citing Georg Capellen, *Ein neuer exotischer Musikstil an Notenbeispielen nachgewiesen* (Stuttgart: Grüninger, 1906); who, in turn, was citing Carl Stumpf's *Tonpsychologie*, published in two volumes (Leipzig, S. Hersel, 1883-1890). These ratios may also be expressed as the augmented sixth (4:7), diminished third (7:8), and augmented fourth (5:7), among other possible musical monikers. Stumpf was working with Helmholtz, among others, around the time he published the first volume of his influential *Tone-Psychology* in 1890, and he later came to be considered one of the founders of experimental psychology. Busoni, with whom Schoenberg studied and maintained a friendship, will be addressed more fully below.

that more intervallic expressions of the overtone series should be considered consonant. In his note, Schoenberg went on to exclaim: "If I only had an inkling that a scholar with the reputation of Stumpf represents the same view as I!"¹⁰¹

Max Meyer's Argument for Tonal Expansion and a Comparison of Theories

While Stumpf and Wundt represented, at least to some extent, different camps, both were arguing for an expanded series of consonant intervals based on the overtone series. Another useful perspective on these ideas is offered by German-American psychologist Max Meyer, who wrote his dissertation at the University of Berlin in 1896 under the supervision of Stumpf and renowned physicist Max Planck. Throughout his work, Meyer proposed a mathematically based theory of hearing. He went on to found the Psychology Department at the University of Missouri in 1900, and later published his theories in *The Musician's Arithmetic* in 1928.

In a speech to the Music Teachers National Association (United States) in 1911, Meyer first offered a brief history of consonance and dissonance before making an argument for the expansion of consonant intervals in familiar, but particularly concise terms.¹⁰² Describing mathematical formulations of consonance, Meyer distinguished between Pythagorean and Ptolemaic views, the former only permitting the ratios 1:2 and

¹⁰¹ Schoenberg, *Theory of Harmony*, 431.

¹⁰² Meyer, "Harmonization of the Ethnic Scales" in Music Teachers National Association, Volume of Proceedings 6 [1911] (published 1912), 156–168. Meyer included a "Japanese scale," and numerous "ethnic scales," otherwise unidentified. Connections between atonal art music of Europe, especially microtonality, and the music of other cultures were also made by Kulbin and others. These were, in many ways, parallel to modern artists' interest in the so-called "primitive" in art.

2:3, while the latter allowed "any smaller than 25."¹⁰³ According to Meyer, Italian Renaissance composer and theorist Gioseffo Zarlino "took a middle stand" but "limited to the prime numbers from 1 up to 5."¹⁰⁴ Finally, for Meyer, the Baroque "authority" of Rameau bound harmony to major and minor chords and limited melody to the diatonic scale.¹⁰⁵

The essential premise of Meyer's argument is the same as Lipps's, Schoenberg's, and those of many others, even where the specific ratios differ:

We need not hesitate to answer that Zarlino was wrong, that the prime number 7 must not be excluded; and even Helmholtz would support us here, although only in a half-hearted way, owing to his bondage under Rameau's doctrine that all music is based on the major and minor chords in which the number 7 plays no rôle. But, while to reject Zarlino's view requires little courage, it requires a great deal of courage, backed by a great deal of experience in tone-perception, to substitute a definite number of ratios, to serve as the foundation of a musical theory¹⁰⁶

Meyer offered the "following ten ratios as fundamental: 2:2, 2:3, 2:5, 2:7, 2:9, 2:15, 3:5, 3:7, 5:7, 5:9," also including powers of two. Meyer's position is notable, not only for his argument for the reconsideration of what constitutes dissonant intervals already employed in Western music, but also for his advocacy for microtonality. Meyer allowed that for practical purposes, precise ratios should be adjusted to the closest possible. However, he suggested that new (or at least non-Western) tunings and techniques be employed to utilize quartertones, again based on the argument of an expanded series of consonant overtones.

¹⁰³ Ibid., 159

¹⁰⁴ Ibid., 160.

¹⁰⁵ Ibid., 161.

¹⁰⁶ Ibid., 162.

In his assessment of the current state of acoustical theories, Meyer drew heavily on Helmholtz, but was critical of his notion of "roughness," also suggesting a criticism of the subsequent research in that area by Wundt:

Helmholtz has often been praised for his work in tone-perception. We need not belittle the genius of Helmholtz; we could not if we chose. But in his fundamental conceptions of musical theory he is completely in the bonds of Rameau, and it is difficult to see what praise he deserves for this. He only drags into musical theory an additional irrelevant fact, that of the *relative roughness* and smoothness of different tone-combinations. For this emphasis laid on irrelevant, non-musical, facts he has been severely criticized, from by Moritz Hauptmann, later, down to recent times, by other distinguished investigators of musical perception, for example, by Carl Stumpf—and quite justly, I think.¹⁰⁷

Contrary to Meyer, Lipps embraced Wundt's distinction between a "roughness" or "coarseness" resulting from beats, and a "pure dissonance," evident in other intervals considered dissonant within music theory.¹⁰⁸ In his primary argument, Lipps sought to expand Wundt's "principle of relative comparison" and his notion of relative dissonance with what Lipps called "psychic relativity," whereby perception is a product of psychological differentiation, not absolute law. Consonance and dissonance, for Lipps, could be subjectively based upon context and expectation. While connected to the physical properties of sound, this was not interchangeable with the process of perception and its attendant feelings of uniformity or alienation.¹⁰⁹

Lipps differentiated between different concepts of dissonance, which, while not using the terms, may be considered the same as reflexive and non-reflexive dissonance as described above. To make his point, Lipps drew on an artistic analogy of an Ionic capital

¹⁰⁷ Ibid., 161–62.

¹⁰⁸ Lipps, *Psychological Studies*, 209ff. On Wundt's "pure dissonance," see n. 320 above.

¹⁰⁹ Ibid., 290 and 299–327.

and column separated from one another.¹¹⁰ While both may be classified based upon conventional means (both conforming to forms and proportions consistent with Ionic capitals and columns), their true relationship is based upon an intrinsic connection or "natural inner-affinity." Both share an underlying style and "fundamental rhythm."¹¹¹ Similarly, Lipps saw an intrinsic connection of overtones and their root, whether close to one another or further removed in the series.¹¹²

Kandinsky's Vibrational Theories Reconsidered

As argued in the previous chapter of this dissertation, Kandinsky's theories of artistic transmission and reception put forth in *Concerning the Spiritual* used a vibratory model and made extended analogies to music. As he wrote,

Generally speaking, color is a power that directly influences the soul. Color is the keyboard, the eyes are the hammers, the soul is the piano with many strings. The artist is the hand which plays, touching one key or another, to cause vibrations in the soul. *It is evident therefore that color harmony must rest only on a corresponding vibration in the human soul; and this is one of the guiding principles of the inner need.*¹¹³

These ideas were greatly informed by the scientific worldview of his time, which also informed his ideas about color-sound relationships. Theories of the nature and perception of sound would likely have bolstered Kandinsky's positive notions of dissonance as well.

¹¹⁰ Ibid. 219–20.

¹¹¹ Ibid., 220. That is to say, the capital and shaft may be related by comparing their specific measurements and proportions or by reference to a general definition of "Ionic."

¹¹² Ibid., 215.

¹¹³ Kandinsky, *Concerning the Spiritual*, 25. As noted previously, emphases are the author's throughout these quotations and all others.

As discussed above, Kandinsky developed his idea of spiritual vibrations throughout the text. For instance, shortly before introducing the piano analogy, he explained the effects of color first as physical effects, then as a psychic effect: “They produce a corresponding spiritual vibration, and it is only as a step towards this spiritual vibration that the elementary physical impression is of importance.”¹¹⁴ In the same chapter, Kandinsky had drawn his most direct parallel with acoustical sympathetic vibrations, “as occur sometimes in musical instruments” sounding in harmony.¹¹⁵ As evident in his annotation to Freudenberg’s article, Kandinsky specifically proposed an expansion of stimuli as key to spiritual development in terms similar to those used to justify expanded tonal systems, and akin to elements of the theories of perception proposed by Wundt and Lipps. Perhaps most notably, Kandinsky’s notions of inner and outer harmony and dissonance are largely commensurable with Wundt’s concepts of pure dissonance. He wrote,

This inner beauty is achieved by renouncing customary beauty, and is occasioned by the demands of internal necessity. This inner beauty naturally appears ugly to those not accustomed to it, since man in general inclines towards the external, and does not willingly recognize internal necessity.¹¹⁶

This idea would prove central to his studies for *Composition VII* of 1913, where he would write, paraphrasing many of his statements in *Concerning the Spiritual*, that an “inner dissonance” gives way to an “outer consonance.”¹¹⁷ In *Concerning the Spiritual*

¹¹⁴ Ibid., 24–25.

¹¹⁵ Ibid., 25. In *Complete Writings*, the phrase is given as “vibrate in sympathy” (p. 158).

¹¹⁶ Ibid.

¹¹⁷ The study is reproduced in Barnett and Friedel, *Vasily Kandinsky: A Colorful Life*, 505.

this was most directly articulated in his statement on the juxtaposition of red and blue, an approach that would figure prominently in *Composition VII*:

The combination of colors hitherto considered discordant, is merely a further development. For example, the use, side by side, of red and blue, colors in themselves of no physical relationship, but from their very spiritual contrast of the strongest effect, is one of the most frequent occurrences in modern choice of harmony. Harmony today rests chiefly on the principle of contrast which has for all time been one of the most important principles of art.¹¹⁸

Kandinsky's description of this as a "further development" also suggests a parallel to the arguments for expanded tonality advanced by Stumpf, Wundt, Schoenberg, Kulbin, Sabaneev and others.

Justification for Kandinsky's model of sympathetic vibrations would have been reinforced by its centrality in theories of acoustics and of hearing, areas in which early experimental psychologists were making particularly important strides during this time. New findings in acoustics and psychology informed and bolstered musical theories concerning the constructive use of dissonant intervals, which advanced the idea of an expansion of the overtone series freed from the restraints of traditional harmony. These included not only Schoenberg's free atonality and his "emancipation of the dissonance," but also other theories of atonality, such as those of Kulbin and of Sabaneev.

These musical ideas were in many ways parallel to Kandinsky's own pursuit of abstract painting, especially concerning the expansion of available artistic material, the new (but not unconditional) freedoms afforded, the basis in an underlying order, and the gradual process often necessary to appreciate new systems. Furthermore, Kandinsky's use

¹¹⁸ Kandinsky, *Concerning the Spiritual*, 43–44.

of a vibrational model in describing the transmission of unseen forces, such as "vibrations in the soul," found even greater resonance within occult and Theosophical literature. As we shall see in the following chapter, occultists, in turn, also drew on scientific models, including as many of those described above.

Chapter 5

The Spirit of Dissonance: Theosophy, the Occult, and Occult-Oriented Science

Overview: Science and Occultism

The scope of nineteenth-century scientific inquiry broadened, with new areas of research opened in every field. Chladni's model of acoustics was verified and expanded by Helmholtz. Within the nascent field of experimental psychology, Wundt, Lipps, and others furthered these studies to encompass perception. Newly discovered energies with similar vibrational patterns also made acoustical theories all the more relevant. Similarly, many of the paradigms and basic tenants of late nineteenth- and early twentieth-century occultism were well established by the mid-nineteenth century, but these ideas were also reinvigorated and expanded in later decades.

The era's lack of trust in a visibly verifiable reality and the related notions of the interconnectedness of all things were in some ways reiterating ancient themes in metaphysics. For example, Kandinsky would have been familiar with the idea of Plato's "allegory of the cave" from his grounding in Symbolist theory, where the allegory was well known.¹ Similarly, Theosophy was rooted in various "ancient wisdoms," including Neoplatonism. Concepts of the ether and of invisible forces can also be traced to ancient writers. However, contemporary physics offered new justification for many of these ideas and an additional impetus to represent invisible aspects of reality. Experimental

¹ See, for instance, Aurier, "Le Symbolisme en peinture: Paul Gauguin," *Mercure de France* (March 1891), 155–64; and Plato, *Republic* 29, ed. Anthony F. Beavers, trans. Benjamin Jowett (Champaign, Ill.: Project Gutenberg, 1990–), 514a–521b.

psychology offered models of human interaction with unseen forces. Theosophy and the occult provided Kandinsky with a model for applying these scientific theories of vibrations to matters of spirituality. As he wrote in *Concerning the Spiritual*: "The artist is the hand which plays, touching one key or another, to cause vibrations in the soul."²

Kandinsky did not cite Helmholtz, Stumpf, Wundt or Lipps in *Concerning the Spiritual*. They would figure among the "ultramaterialists" and "positivists, only recognizing those things that can be weighed and measured."³ They would have been the scientific equivalent of "naturalists" in art.⁴ These scientists' methods and theories were far too materialistic and grounded in positivism for Kandinsky to cite directly. However, contemporary readers might have understood the artist's statements concerning "corresponding vibrations" and his near-constant employment of the vibrational model in Helmholtzian terms, even where Kandinsky expanded these notions for his own theoretical purposes. Helmholtz's theories—and those derived from them, both in physics and in early experimental psychology—also informed the work of occult-oriented scientists whom the artist cited in *Concerning the Spiritual*. The vibrational paradigm was essential for occult writers seeking to conceptualize and explain unseen forces, just as it was for Kandinsky.

Additionally, new scientific discoveries of the late nineteenth century reinforced ideas about invisible human emanations that had been introduced at least by antiquity, and which continued to circulate during this era. Literary scholar Mark Morrison traces

² Kandinsky, *Concerning the Spiritual*, 25.

³ *Ibid.*, 11.

⁴ *Ibid.*, 13.

some of this history of vitalism over the course of the nineteenth century, from Mesmer, through spiritualism, to his focus on Theosophy.⁵ As Morrison notes, "Mesmerism and spiritualism were two early progenitors of the occult revival," which was widespread by the start of the twentieth century.⁶ Historian Alex Owen has demonstrated that Mesmer's theories served as "an overture to the huge explosion of interest in spiritualism after the midcentury partly because they offered a naturalizing explanation for the ephemera of personality and altered mental states."⁷ In turn, while occultists of the late nineteenth century were dismissive of spiritualist practices, they had nonetheless primed much of the public's interest for later occultism.⁸

Mesmer was generally discredited by the end of the nineteenth century, both within established science and by the public at large, but his theories continued to have an impact in occult circles. With the detection and production of unseen forces like X-rays and the Hertzian waves of telegraphy, earlier concepts of invisible emanations were often recast in a new scientific vocabulary. Furthermore, occult theories were often accompanied by ostensible rigor and various forms of documentation, their own, as well as appropriations from established science. Most importantly, science provided a model for conceiving and explaining the ways in which these psychic forces might operate,

⁵ Morrison, *Modern Alchemy: Occultism and the Emergence of Atomic Theory* (Oxford: Oxford University Press, 2007), 13 and 21.

⁶ Ibid. As Morrison continues, by later in the century, Theosophy "had become significant cultural force."

⁷ Owen, *The Place of Enchantment: British Occultism and the Culture of the Modern* (Chicago: University of Chicago Press, 2004), 305. Owen charts the mystical revival, or range of "spiritual alternatives to religious orthodoxy that sprang up in the 1880s and 1890s and gained momentum and prominence as the old century gave way to the new" (p. 334).

⁸ Ibid., 333. Morrison further explains, "In spite of the many differences between spiritualism and fin-de-siècle occultism, a shared belief in the realities and relevance of the spirit world remained a constant" (p. 340).

especially concerning matters of perception and communication. It is thus useful to briefly consider some of the earlier nineteenth-century background for occult ideas of the fin-de-siècle.

Nineteenth-Century Background: Vibratory Models of Harmony

"Mesmeric Revelations"

Kandinsky's synthesis of scientific and occult concepts of the ether, the latter already drawing on the former, suggests similarities to passages in Edgar Allen Poe's writings. Kandinsky referred to the poet in *Concerning the Spiritual*, comparing him to Maeterlinck in a footnote that immediately precedes the discussion of Wagner, Debussy, and Schoenberg.⁹ As historian Joe Milutis argues, Poe's ideas about the transfer of thought were rooted in a range of sources, including Franz Anton Mesmer's animal magnetism and Newton's scientific model of the ether.¹⁰ In his short-story "Mesmeric Revelations" of 1844, Poe wrote,

A luminous body imparts vibrations to the luminiferous ether. The vibrations generate similar ones within the retina; these again communicate similar ones to the optic nerve. The nerve conveys similar ones to the brain; the brain, also, similar ones to the particled matter which permeates it. The motion of this latter is thought, of which perception is the first undulation.¹¹

⁹ Kandinsky, *Concerning the Spiritual*, 16.

¹⁰ Milutis, *Ether: The Nothing that Connects Everything* (Minneapolis: University of Minnesota Press, 2006). Milutis's study traces the idea from "ancient ethers," focusing especially on the period beginning in the eighteenth century when "this general concept of ancient cosmology entered into scientific discourse . . ." (pp. 1–2). Milutis addressed later manifestations in the nineteenth century, such as Poe, and touches upon some in the early twentieth century, such as the Russian Futurists' zaum poetry and their interest in technology, such as radio (p. 90).

¹¹ Poe, *Edgar Allan Poe: Tales*, 2 vol. (Urbana: University of Illinois Press, 2000), 2:1033; and the quotation following. See also Milutis, *Ether*, 20.

In Poe's text, once the patient is an advanced stage, "the whole body vibrates, setting in motion the unparticled matter which permeates it." In this way, thoughts could be projected and received. This was an expansion of existing theories of ether vibrations. Poe was even writing about the perception of these vibrations in the terminology of physiology, if not its later application in experimental psychology. The story preceded not only Wundt's work, but also Helmholtz's first major publications of the late 1840s. It serves as an important reminder that many of these ideas were already well founded by the mid-nineteenth century. Poe's story points, especially, to the centrality of vibratory human emanations in mesmerism, which originated in the late eighteenth century.

Mesmer proposed an all pervasive, all connecting fluid within nature, including the human body.¹² His initial method of healing involved magnets, which he believed could affect the vital fluids within his patients.¹³ He later used his own animal magnetism and will, claiming through his hands to adjust the vital fluids of his patients. Mesmer is also credited as having developed a form of hypnotism or somnambulistic trance, which was part of his process.

Mesmeric sessions involved a glass harmonica. Invented by Benjamin Franklin, the instrument employs the same principle used to play drinking glasses with the friction of a finger, but it has larger circles that spin. Franklin's name for the instrument emphasized harmony, but at the same time, the tones are commonly characterized as

¹² Mesmer, *Mémoire sur la découverte du magnetisme animal* (Paris: Chez P. Fr. Didot le jeune, 1779), 3.

¹³ *Ibid.*, 7ff.

"ethereal," because of their tranquil but wavering quality.¹⁴ Glass instruments had long been associated with the music of the spheres, which seems to have been among the reasons for Mesmer's enthusiasm for the device.¹⁵

Mesmer's ideas were based on the general concept of harmony, which he stressed in the first "supposition" of his 1779 text. In a 1785 translation, Caullet de Veumore gave it as the first of Mesmer's "General Notes on Cures": "There is but one malady, and one remedy, the perfect harmony of all our organs and their functions, contribute health. A malady is only the aberration from this harmony: the cure thereof consists to re-establish disturbed harmony."¹⁶ The organizations that formed around Mesmer's practice were called the *Sociétés de l'Harmonie Universelle*. Mesmer's analogies to harmony were clearly rooted in tonal principles of the eighteenth century. However, other writers adopting his ideas in the late nineteenth and early twentieth century would extend the model.

Reichenbach's Od

Born in 1788, Karl von Reichenbach was elected to the Prussian Academy of Sciences in 1839. His early work included contributions to chemistry and geology, notably, theories concerning the Earth's magnetism. He later became best known for his

¹⁴ For instance, Charles Ferdinand Pohl, in his book *Cursory Notices of the Origin and History of the Glass Harmonica* (London: Petter and Galpin, 1862), wrote that "two English ladies, Marianna and Cecily Davies, relatives of B. Franklin, made publicly known for the first time this instrument with its ethereal sounds" (p. 6).

¹⁵ See Betsy van Schlun, *Science and the Imagination: Mesmerism, Media, and the Mind in Nineteenth* (Madison, Wis.: Galda and Wilch: 2007), 33.

¹⁶ Mesmer, *Mesmer's Aphorisms and Instructions*, trans. Caullet de Veumore (London: Glass Warehouse, 1785), 16; and Mesmer, *Mémoire*, 10.

theory of Od, or Odic force. Like Mesmer's animal magnetism, Reichenbach's theories of the Od centered on invisible bodily emanations. Unlike Mesmer, whose purported concern was healing, Reichenbach sought to elucidate the Od's properties and its interaction with substances and forces already defined by science.

Some of Reichenbach's experiments of the 1850s concerned a possible relationship between sound and Od. He described working with "a Viennese artisan, Mr. Enter, a sensitive of medium power," who, in a darkened room, described seeing different qualities of "Odic light" in reaction to different types of sounds.¹⁷ Continuing their experiments, Reichenbach described the results produced by a violin: "not only its strings but the whole sounding-board became luminous." Bells proved especially effective. One made of metal "had a powerful, penetrating tone," and after being rung continuously, "became so luminous [it was] diffused throughout the entire room."

Reichenbach found the most dramatic results of Odic light issued from drinking glasses filled to various heights to make a scale, presumably diatonic. The glasses were struck with a knife. As noted above, Mesmer's glass harmonica produced a related sound, but with a softer initiation and quicker decay of the tones. Reichenbach described Mr. Enter's observations: "The luminosity could be seen to quiver in sympathy with the sound. And in each case it was precisely the spot on which the stroke fell that was the brightest." Moreover, the tones "acquired an environment of light, brighter in proportion

¹⁷ Reichenbach, *The Odic Force*, 50, and quotes following. On Reichenbach and the Od, see also, Henderson, "Vibratory Modernism," 140–41; and Henderson, *Duchamp*, 22, 101, and 204.

to the height of the tone yielded in the musical scale."¹⁸ In its synaesthetic suggestion of forms deriving from music, this passage strongly anticipated elements of Theosophical texts, such as Besant and Leadbeater's *Thought-Forms* of 1901. Reichenbach's writings are also significant for their consistent application of the model of sympathetic vibration.

In seeking to quantify his theories, Reichenbach often sought the assistance of mediums like Mr. Enter. At the same time, he looked for acceptance for his theories within scientific circles, for example, presenting his work to professors at the University of Berlin and to fellow members of the Prussian Academy of Science in 1862.¹⁹

Reichenbach spent the last year and a half of his life in Leipzig, where he travelled in 1867 to demonstrate his experiments to his esteemed colleague Gustav Theodor Fechner.²⁰ Fechner's assessment of Reichenbach's theories might be characterized as skeptical, yet promising; he generally accepted the validity of the line of inquiry. Fechner primarily noted success in Reichenbach's demonstrations, with only occasional instances in which he questioned the methods employed.²¹ Reichenbach also found some support

¹⁸ Ibid., 50–51.

¹⁹ Reichenbach, *The Odic Force: Letters on Od and Magnetism*, trans. and introduction by F. D. O'Byrne [1852] (Escondido, Calif.: Book Tree, 2000), xxxii–xlix.

²⁰ See Fechner, *Erinnerungen der Letzten Tage der Odlehre und ihres Urhebers* (Memories of the Last Days of the Odic Theory and its Originator) (Leipzig: Breitkopf und Härtel, 1876), 8–9; see also O'Byrne in Reichenbach, *The Odic Force*, lviii–lx. Fechner is now variously described as an early experimental psychologist, and as a philosopher of science, mathematics, and aesthetics, in various combinations depending on the context. Reichenbach had been particularly anxious to have Fechner's approval, because he was greatly admired in scientific circles, but at the same time, vocal in his theological beliefs and thus a potential ally.

²¹ See, for instance, Fechner, *Memories*, 54–56.

for his theories within the scientific community, including positive responses from Lodge and Crookes.²²

Fechner's Psychophysics

As noted in the previous chapter, Fechner is among those counted as a founder of experimental psychology. Fechner's *Elemente der Psychophysik* of 1860 looked to establish the discipline of "psychophysics," which the author defined as the study of "the functional or dependency relationships between the body and the soul, or more generally, between the bodily and mental, or the physical and psychical world."²³ Historian Michael Heidelberger explains that Fechner was especially concerned with "the relation between mental and bodily activity that is directly tied to sensation."²⁴ Fechner also applied his psychophysical studies to aesthetics.

Many of Fechner's ideas, while not occult, or as unconventional as Reichenbach's Od, dealt with religious concepts such as the soul, and matters more generally associated with spirituality and metaphysics than physical science. In his 1906 translator's introduction to the English edition of Fechner's *Das Büchlein vom Leben nach dem Tode* of 1836, Hugo Wernecke quoted Wundt to address the subject of Fechner's interest in the psychical. Wundt wrote:

²² See Reichenbach, *The Odic Force*, 98; quoting Lodge, *Raymond Revised*, (London: Methuen, 1922), 220; and Crookes in the *Quarterly Journal of Science* v. 7 (July 1870), 316. Both scientists cite Reichenbach's work.

²³ Fechner, *Elements of Psychophysics*, 8. On the same page, Fechner reiterated his definition of psychophysics as "the exact science of the functional relations of dependence among body and soul, more generally, between the corporeal and the mental, the physical and the psychological world."

²⁴ Heidelberger, *Nature from Within: Gustav Theodor Fechner and His Psychophysical Worldview*, trans. by Cynthia Klohr (Pittsburgh: University of Pittsburgh Press, 2004), 2.

Fechner was the first to introduce exact methods, exact principles of measurement and experimental observation for the investigation of psychic phenomena, and thereby to open the prospect of a psychological science, in the strict sense of the word. . . . The chief merit of Fechner's method is this: that it has nothing to apprehend from the vicissitudes of philosophical systems.²⁵

Fechner and Wundt were contemporaries, colleagues, and friends. Wundt discussed Fechner's work in some of his own publications, and wrote glowingly of his methods.²⁶

Fechner also found strong encouragement from the poet and philosopher Siegfried Lipiner, who was studying in Leipzig but had close ties to the circle in Vienna that included Gustav Mahler and Sigmund Freud. He also associated with Nietzsche and Wagner in Germany. Lipiner compared Fechner to German astrophysicist Johann Carl Friedrich Zöllner, calling their respective works the greatest indications that science and religion are "wholly commensurable," and that "science itself inspires us to 'idealistic and even theistic notions.'"²⁷

Wernecke's 1906 introduction to *Life After Death* tied Fechner's psychical investigations to his studies in aesthetics.²⁸ In the aesthetical sphere, Fechner focused on questions of what is considered pleasant or unpleasant, attempting to test his hypotheses

²⁵ Quoted in Wernecke's introduction to Fechner's *On Life After Death* (Chicago: Open Court Publishing, third ed., 1914), 10; from Wundt, *Rede zur Feier seines hundertjährigen Geburtstags gehalten* (Leipzig: Wilhelm Engelmann, 1901).

²⁶ As Wundt further declared, "I know no other general expression for this trait than to say that he *absolutely lacks intellectual prejudice and is fearless in his own convictions*. I cannot recall ever having observed this quality developed to a similar degree in any other person, a character for which I count it one of the most unforgettable rewards of my life to have met him." Wundt, *Gustav Theodor Fechner* (1901); quoted in Heidelberger, *Nature from Within*, 43 (emphasis in original).

²⁷ *Ibid.*, 62–63; quoting Lipiner's lecture to the "Vienna German Students' Reading Club" of 1878, where he also argued that "'the main doctrines of all true religion' must not contradict science"

²⁸ Fechner, *On Life After Death*, 10.

empirically.²⁹ Fechner's writings and studies emphasized experimentation and data-gathering, or as he called it, aesthetics "from below."³⁰ While primarily concerned with vision, Fechner also considered hearing, focusing on tonal harmony in music. Discussing sound and hearing, Fechner cited Helmholtz and generally accepted his definitions of consonance, dissonance, and compound sounds.³¹ His primary interest in this sphere was to further Helmholtz's preliminary ideas about sensory perception.³²

For Fechner, psychophysics, like physics, would be based on "experience and the mathematical linking of facts," and "preferably" concerned with "relations of measurement."³³ Fechner's psychophysics suggests further metaphysical and spiritual applications of vibratory models. As Heidelberger explained using Fechner's terminology:

If we think of the oscillations of the physical bearer of psychical phenomena as exhibiting the form of a wave, whereby the psychical phenomena first enter

²⁹ Fechner began by considering simple, geometric shapes, and his work placed special emphasis on the golden section in geometry. Drawing on his background in mathematics to assist his analysis of form, he measured thousands of paintings in museums collections in an attempt to analyze patterns and proportions common among them. He then studied reactions to select images, for instance, whether they were considered pleasant or unpleasant, compiling a diagrammatic presentation of his statistical data. On Fechner's aesthetics, see also Rudolf Arnheim, "The Other Gustav Theodor Fechner" in *New Essays on the Psychology of Art* (Berkeley: University of California Press, 1986), 39ff. On Fechner's psychological studies, see, for instance, Edwin Boring, *Sensation and Perception in the History of Experimental Psychology* (New York: 1941), 34–35. On Fechner's mathematical support, especially with regard to proposed relationships between the physical and psychophysical scales, see Jean-Claude Falmagne, *Elements of Psychophysical Theory* (Oxford: Oxford University Press, 1985), 113ff.

³⁰ Fechner, *Vorshule der aesthetik* (Leipzig: Breitkopf und Härtel, 1876), 1.

³¹ Alexandra Hui's most recent publication, *The Psychophysical Ear: Musical Experiments, Experimental Sounds, 1840–1910* (Cambridge, Mass.: MIT Press, 2013), offers a particularly revealing account of Fechner's theories of sound. On Helmholtz, see ch. 4 above.

³² For instance, he quoted an address by Helmholtz of 1859 given before the Assembly of German Natural Scientists and Physicians in Karlsruhe, Germany, introducing ideas that he later expounded on in *Sensations of Tone* of 1862. Fechner, *Elements der Psychophysik* [1860] (Leipzig: Dreck und Verlag von Breitkopf und Härtel, 1889), 1:289–90.

³³ Heidelberger, *Nature from Within*, 192–94. On measuring sensations, Fechner wrote that "magnitudes of quantity must appear in various ways and exhibit constant quality," but there must also be "a degree of difference" between any two magnitudes.

awareness after the waves crossover a certain level, namely the threshold of consciousness, this gives us a model for explaining how one consciousness is subordinate to another. God's consciousness is represented as a main wave. It carries smaller surface waves with shorter vibration periods and thresholds higher than that of the divine wave. There is discontinuity in the transition of one consciousness of surface waves to another, but there is continuity in God's main consciousness, whose threshold for awareness lies much deeper.³⁴

In addition to the acoustical model of his divine wave structure, which was longstanding in metaphysics, Fechner's notions of psychological expression suggest parallels to Wundt's ideas concerning "pure dissonances," which could resolve of their own accord.³⁵ This philosophy also offers striking parallels to Kandinsky's notions of artistic transmission, and ideas about "inner necessity," its manifestations, and its source in the soul.

Writing of a scientific basis for the afterlife, Fechner proposed that it could "only be founded" in "the main wave of our psychophysical system," by which he primarily meant the brain, "on which our main consciousness depends."³⁶ Continuing, Fechner described the brain-wave leaving "that part of the earthly system on which it depends or in which it now crosses over the threshold and is transferred *in continuo* to another part or to supplement of this system."³⁷ For Wundt, Fechner's philosophy represented a "different angle," but nonetheless a valid pursuit.³⁸

Far from being incommensurable, science and metaphysics were intrinsically linked for Fechner, as they were for many others. Fechner's attempt to prove spiritual matters empirically would differ greatly from Kandinsky's artistic approach, but the two

³⁴ Ibid., 127; summarizing Fechner's theories from chapter 45 of *Psychophysics*.

³⁵ See at n. 320.

³⁶ Fechner, *Psychophysics*, 540.

³⁷ Ibid.

³⁸ See Heidelberger, *Nature from Within*, 59; quoting Wundt, *Philosophische Studien* [1901/1914], 269.

men appear to have been grappling with similar questions, and, at the very least, shared a number of sources from which they began formulating their respective answers. Whether or not Kandinsky was familiar with them, Fechner's writings demonstrate the degree to which these ideas of vibratory, spiritual transference were relevant at this time. Like Crookes, Zöllner, and others discussed below, consideration of Fechner's ideas also further demonstrates the thin divide between scientific and spiritual pursuits in this era.

Occult-Oriented Science and Spiritual Health at the Turn of the Century

The model of vibratory transference is a prominent theme in much of the scientific, occult, and artistic literature of this era. The ether was seen as the vehicle for all energies, but was subject to countless variations in its conception. For instance, respected scientists such as Sir William Crookes, J.C.F. Zöllner, and French astronomer Camille Flammarion—each of whom Kandinsky noted in *Concerning the Spiritual in Art*—were interested in the possibility of psychic vibrations in the ether. Psychic phenomena such as telepathy and telekinesis were described as vibrating waves affecting distinct bodies, a crucial component of Kandinsky's model of spiritual-artistic transmission. Over the course of the last decade of the nineteenth century and the first decade of the twentieth, many of these occult ideas would also come to incorporate positive notions of dissonance.

Zöllner's Schopenhauerian Notions of Harmony

As noted above, Helmholtz's theories helped form the basis for less materialistic theories presented by authors discussed in *Concerning the Spiritual*. Kandinsky owned a copy of Zöllner's *Die transcendente Physik* of 1879, and he cited Zöllner alongside Crookes, and Flammarion as having helped shake science and the educated public's trust in the scope of visibly verifiable reality.³⁹ Zöllner's *Die transcendente Physik*, the third book of his *Wissenschaftliche Abhandlungen*, posited a spatial fourth dimension based both on mathematics and on an idealistic notion of a higher existence akin to Platonic forms. In his justification of higher realms and the limitations of our own sensory perceptions, Zöllner placed Helmholtz beside Kant and Schopenhauer as having laid the foundation for the conception of the third dimension as nothing more than an intellectual construct of two-dimensional stimuli: "In accordance with Kant, Schopenhauer, and Helmholtz, the author regards the application of the law of causality as a function of the human intellect given to man a priori, i.e., before all experience."⁴⁰ Zöllner's argument followed that gaining awareness of higher dimensions of space was a matter of enlarging our intellectual construction through an expansion of consciousness.

Zöllner's interests also overlapped with those of Reichenbach. For instance, he conducted experiments testing of the psychic powers of the medium Henry Slade.

³⁹ Kandinsky, *Concerning the Spiritual*, 13. Kandinsky's copy of Zöllner's text is now housed in the Gabriele Münter and Johannes Eichner archives in Munich. Zöllner, *Die transcendente Physik und die sogenannte Philosophie: eine deutsche Antwort auf eine "sogenannte wissenschaftliche Frage"*, v. 3 of *Wissenschaftlich Abhandlungen* (Leipzig: L. Stackmann, 1879).

⁴⁰ Zöllner, *Transcendental Physics: An Account of Experimental Investigations*, trans. Charles Carleton Massey (London: W. H. Harrison, 1880), 32. On Zöllner, see also Henderson, *Fourth Dimension*, 22-24, 32-33, and 42.

Fechner, whom Reichenbach had sought out in 1867, was a colleague of Zöllner's, and was present during many of these experiments.⁴¹ Wundt, who was likewise at the university in Leipzig, also attended many of Zöllner's presentations involving Slade, although he proved far less sympathetic than Fechner.⁴² Helmholtz was particularly critical of what he saw as Zöllner's misappropriation of scientific principles of energy for metaphysics, among other things.⁴³ As Cahan argues, "Zöllner was enraptured by the notion that the mind, in harmony with nature, could by intuition discover its inner workings, and so he insisted that the laboratory could not reveal anything fundamental."⁴⁴ Cahan notes that this directly contradicted many of Helmholtz's core views and that the two scientists became bitter rivals. While derisive, Helmholtz's statements concerning Zöllner are particularly relevant to this study:

Judging from what he aims at as his ultimate object, it comes to the same thing as Schopenhauer's Metaphysics. The stars are to "love and hate one another, feel pleasure and displeasure, and to try to move in a way corresponding to these feelings." Indeed, in blurred imitation of the principle of Least Action, Schopenhauer's Pessimism, which declares this world to be indeed the best of possible worlds, but worse than none at all, is formulated as ostensibly generally applicable principle of the smallest amount of discomfort, and this is proclaimed as the highest law of the world, living as well as lifeless.⁴⁵

⁴¹ Zöllner, *Transcendentale Physik*, 15–29 and 168–204 passim. Zöllner believed psychic forces resulted from actions taking place in the fourth-dimension. See also Henderson, *Fourth Dimension*, 22–24.

⁴² *Ibid.*, 11–12, 21, 40, 108, 118, 284ff.

⁴³ Helmholtz also took particular offense at the position Zöllner advanced in *Über die Natur der Cometen* of 1872 concerning elements of Sir William Thomson and Peter Guthrie Tait's *Treatise on Natural Philosophy*, which Helmholtz had translated into German. In a subsequent volume of the *Treatise*, Helmholtz wrote that Zöllner "recognize[d] in the method's of Thomson and Tait's book the exact opposite of the right way." See also Cahan, *Helmholtz*, 371.

⁴⁴ *Ibid.*

⁴⁵ "Helmholtz on the Use and Abuse of the Deductive Method in Physical Science," *Nature* 11 (Dec. 24, 1874), 150.

While neither scientist used the terms, Schopenhauer had used musical concepts of consonance and dissonance to illustrate an important part of this idea in *The World as Will and Idea*.⁴⁶

Crookes's Corresponding Vibrations

Sir William Crookes's contributions to physics included the discovery of thallium and the development of the Crookes tube, which was essential in Röntgen's discovery of X-rays, as well as aiding in other research into invisible energies.⁴⁷ Crookes was also a member of the Society of Psychical Research and served as president from 1896 to 1899.⁴⁸ Founded in 1882, the Society included among its members prominent scientists, who represented a range of beliefs concerning psychic phenomena.⁴⁹ The Society appointed committees to study Mesmerism, Odic Force, telepathy, and séances, among other areas of research.

In his 1898 presidential address before the British Association for the Advancement of Science, Crookes noted his membership in the Society of Psychical Research, and touched on his belief in telepathy: "It would be well to begin with *telepathy*; with the fundamental law, as I believe it to be, that thoughts and images may

⁴⁶ Many of Zöllner's experiments with Slade involved bells, and even a glass harmonica, but the purpose was always to study the medium's purported telekinetic powers. There does not seem to have been any emphasis on the music, or even the quality of the sounds. Rather, these seem to have been standard accessories in the salons of spiritualists. See, for instance, Zöllner, *Wissenschaftlich Abhandlungen*, 188ff.

⁴⁷ See at n. 378.

⁴⁸ *Presidential Addresses to the Society for Psychical Research, 1882-1911* (Glasgow: University Press, 1912).

⁴⁹ Crookes had located the ability for "psychic forces" in the "Soul, Spirit, or Man of Man (call it what we may) . . ." *Quarterly Journal of Science* (London: J. Burns, 1874), 101; also included in *Researches in the Phenomena of Spiritualism* of 1874.

be transferred from one mind to another without the agency of the recognized organs of sense—that knowledge may enter the human mind without being communicated in any hitherto known or recognized ways."⁵⁰ In his addresses before the Society of Psychical Research the previous year, he drew heavily on "the newly discovered Röntgen rays," which helped reveal the existence of an "order of vibrations of extremist minuteness."⁵¹ Crookes offered that "there is no reason to suppose that we have here reached the limit of frequency." As he noted, "Waves of this character cease to have many of the properties associated with light waves," suggesting further, unrealized possibilities in them. He nonetheless believed that both forms of energy existed "in the same ethereal medium."⁵²

Developing his link between known energy waves and those that might transmit thought, Crookes speculated that "the increasing rapidity or frequency of the vibrations" might "accompany a rise in the importance of the functions of such vibrations." He continued by analogy to the process of speech and hearing: "I first call up in my own brain a picture of a scene I wish to describe, and then, by means of an orderly transmission of wave vibrations set in motion by my vocal chords through the material atmosphere, a corresponding picture is implanted in the brain of anyone whose ear is capable of receiving such vibrations."⁵³ Crookes described the "rays of a new order," like

⁵⁰ "Address by Sir William Crookes, President," *Report of the Sixty-Eighth Meeting of the British Association for the Advancement of Science (1898)* (London: John Murray, 1899), 31. Crookes went on to argue that "ether vibrations have powers and attributes equal to any demand—even to the transmission of thought." For Crookes as scientist, see Henderson, *Duchamp*, 6, 40–42, 53, 76, 100–115; and Henderson, "Vibratory Modernism," 131–32 and 142.

⁵¹ "Address by the president, William Crookes, to the Society for Psychical Research, January 29, 1897," in *Proceedings of the Society for Psychical Research 7* (March 1897), 338–355.

⁵² *Ibid.*

⁵³ *Ibid.*, 349–50

X-rays, as "bundles of different wave-lengths, analogous to what would be differences of color" if they could be seen as light. He continued, further developing his concept of a new type of hearing:

It seems to me that in these rays we may have a possible mode of transmitting intelligence which, with a few reasonable postulates, may supply a key to much that is obscure in psychical research. Let it be assumed that these rays, or rays even of higher frequency, can pass into the brain and act on some nervous center there. Let it be conceived that the brain contains a center which uses these rays as the vocal chords use sound vibrations (both being under the command of intelligence), and sends them out, with the velocity of light, to impinge on the receiving ganglion of another brain. In this way some, at least, of the phenomena of telepathy, and the transmission of intelligence from one sensitive to another through long distances, seem to come into the domain of law and can be grasped.⁵⁴

After speculating on the psychics and physiology of telepathy through analogy to sound vibrations, Crookes proposed the possibility of telepathy by practice, whereby one might expand one's projective or receptive capacity and be "rendered more sensitive to these high-frequency waves." Crookes offered a table charting various etheric vibrations to further support his theories. Crookes's often-reproduced "table of vibrations," first put forth in his address before the Society that year, showed the small portion of wavelengths that had been identified by science. Writers of the era frequently cited Crookes's table to substantiate belief in an unseen reality.⁵⁵ Additionally, Crookes's table is notable for the connection made between various wave vibrations, including light and sound. The system employed for the table relies upon the same principle of doubled rates of vibration that

⁵⁴ Ibid., 350ff.

⁵⁵ See Crookes, "De la relativité des connaissances humaines," *Revue Scientifique* 7 (May 15, 1897), 612–13. For a further discussion of this table, see Henderson, *Duchamp in Context: Science and Technology in the Large Glass and Related Works* (Princeton: Princeton University Press, 1998), 6; "X-rays," 326; see also, n. 406 above.

forms the basis for the system of harmony described by Helmholtz. In Crookes's table, audible sound occupies the fifth to the fifteenth degrees of doubling, ranging from fifty-two vibrations per second to 32,768 vibrations per second. Electricity occupies the thirtieth degree, vibrating at 1,073,741,824; light ranges from the forty-eighth to fiftieth degrees; and X-rays are represented by the figures between the fifty-eighth and sixty-first degrees, vibrating more than 288,230,376,151,711,722 times per second. All other vibratory degree locations on the chart are listed as "Unknown." While Crookes does not list the doubled steps in his table as "octaves," others adopting his idea would do so.⁵⁶

Although Crookes's table of vibrations would prove incorrect in its combining of sound and electromagnetic waves, it was reproduced by Camille Flammarion in his widely disseminated book *L'Inconnu*, and by psychological researcher Colonel Albert de Rochas in his *Les sentiments la musique et le geste*, both of 1900.⁵⁷ This table would have been an important source for anyone seeking a unifying connection between various

⁵⁶ In addition to longstanding vibrational models present in metaphysics, Crookes would have encountered a similar concept in Walter Noel Hartley's theories of chemical vibrations. Hartley described "harmonic" doubling of "octaves" and developed the musical analogy throughout an argument presented to attendees at a Chemical Society meeting in London, March 15, 1883. The note was subsequently published in *Chemical News*, which Crookes edited. As Hartley argued, "Ciamician has remarked that almost every element has a number of feeble lines which bear the same relation to the chief line or lines that the overtones in music bear to the fundamental note. These observations, however, refer only to the visible rays, or about one octave of the spectrum; photographs of the ultra-violet region can easily be extended to more than two octaves. The conclusions of Ciamician are completely confirmed by such extended photographs. The three hydrogen lines, h, F, and C, have been shown to be the 32nd, 27th, and 20th harmonics of a fundamental vibration whose wave length is 0'01313 m.m. There is evidently a harmonic relation between the lines in the spectra of magnesium, zinc, cadmium, aluminium, and in those of calcium, strontium, and barium, when two octaves of the spectra are examined. The fundamental vibrations appear to be all in the infra-red region." "Proceedings of the Societies: Chemical Society," *Chemical News*, ed. William Crookes, 47 (March 25, 1883), 138. Hartley offered a further piece in the history of this idea by his reference to Giacomo Luigi Ciamician, whose research offers intriguing parallels to Baraduc's photographs and Rochas's statements about photosynthesis (see below).

⁵⁷ Flammarion, *The Unknown (L'Inconnu)* (New York: Harper & Brothers Publishing, 1900), 15–16; and Rochas, *Les Sentiments la Musique et la Geste* (Grenoble: H. Falque et Félix Perrin, 1900), 271.

sensory modes. In the title of Flammarion's book, and throughout his text, the author also stressed the large ranges of vibrations that were still unknown by science, suggesting further untapped forces. Kandinsky was clearly aware of this table, its implications for suggesting an underlying unity for the arts, as well as further possibilities it suggests. Kandinsky notebook containing long excerpts from Theosophist Rudolph Steiner's *Lucifer Gnosis* also includes references to the aforementioned text by Rochas.⁵⁸ As noted above, the artist also cited Crookes and Flammarion directly in *Concerning the Spiritual*.⁵⁹

Flammarion's *Vibrations Inconnues*

In *L'Inconnu*, Flammarion expressed the notion of an expanded consciousness in terms quite similar to Kandinsky's later theories. He also drew his own musical metaphor involving sympathetic vibrations: "If we had other cords to our lyre, ten, one hundred, or a thousand, the harmony of nature would be transmitted to us more complete than it is now, by making these cords all feel the influence of vibrations."⁶⁰ Flammarion further suggested that psychic vibrations act upon human recipients like sound waves causing sympathetic vibrations: "an impression sent from the brain of a dying person" to the "brain of another more than three hundred miles away" through "sympathy," can give the "sensation of extraordinary and unusual noises."⁶¹ In his adoption of Crookes's table of

⁵⁸ These notes on Rochas's text were taken in the same notebook that contain numerous passages transcribed from Steiner's writings. See Ringbom, "Transcending the Visible," 148.

⁵⁹ Kandinsky, *Concerning the Spiritual*, 13.

⁶⁰ Flammarion, *The Unknown*, 12.

⁶¹ *Ibid.*, 51.

vibrations, Flammarion also furthered the acoustical model of doubled rates of vibrations by listing them as "octaves," which Crookes had not done. In another analogy for telepathy, Flammarion wrote,

There can be no doubt that our psychic force creates a movement of the ether, which transmits itself afar like all movements of the ether, and becomes perceptible to brains in harmony with our own. The transformation of a psychic action into an ethereal movement, and the reverse, may be analogous to what takes place on the telephone, where the receptive plate, which is identical with the plate at the other end, reconstructs the sonorous movement transmitted, not by means of sound, but by electricity. But these are only comparisons.⁶²

Sympathetic vibrations of sound provided the basic model for Flammarion's notion of psychic transmissions, but their justification came through more recent scientific and technological discoveries that offered a translation of types of vibrations, between sound and electromagnetic waves.

Rochas's "Oreilles Intelligentes and "Dissonance . . . de Plus Grande Nombres"

In many ways, Rochas's theories updated the vitalist tradition that included animal magnetism and Odic force. He, too, proposed that humans emit a vibrating force.⁶³ In Rochas's *L'Extériorisation de la sensibilité* of 1895, he argued that "if we can accept that the various bodies are condensations of this hypothetical ether, the basis of all

⁶² Ibid., 308–9.

⁶³ Ibid., viii, 2–5, 36, 65, 187–90 (on Reichenbach); and 50, 163, and 186 (on Mesmer). Rochas also discussed the force in terms of refraction, employing a spectroscope (p. 16). On Rochas, see also Henderson, "Vibratory Modernism," 140–41; and Ringbom, *Sounding Cosmos*, 51–52, 54–55, and 122–23.

matter, it is true that all our sensations are caused by vibratory movements."⁶⁴

Continuing, he writes, "It is also certain that these vibrations do not spread equally in all materials: some conduct light, others heat, others electrically, others sound." Like Reichenbach before him, Rochas attempted to study this force under different circumstances, such as its interaction with electromagnets.⁶⁵ He justified his vitalist extension of the vibrational paradigm, in part, by noting that Crookes's discoveries "gave some guidance."⁶⁶

In *L'Extériorisation*, Rochas described these forces as acting like vibrating strings, creating "nodes" in the body at regular intervals. Like the harmonic nodes described by Pythagoras and quantified by Helmholtz, lightly touching them modifies their vibration.⁶⁷ Rochas also addressed this idea in his book *Les Sentiments la musique et le geste* of 1900, where, as noted above, he included Crookes's table of vibrations and used it to make connections between various types of vibrations in the ether.⁶⁸ Like Flammarion, he used the term "octave" in place of Crookes's "step" in describing doubled rates of vibrations in the ether. This vibratory model linked various invisible forces that had been identified by science with those proposed by occult writers. As Rochas argued,

⁶⁴ Rochas, *L'Extériorisation de la sensibilité: etude experimental et historique* (Paris: Chamuel, 1895), 50–51.

⁶⁵ Rochas, *L'Extériorisation*, 13–14 and plate 2.

⁶⁶ *Ibid.*, 14.

⁶⁷ *Ibid.*, 65.

⁶⁸ *Ibid.*, 271.

"This substance, designed for transmitting to the spirit the sensations of the body, and to the body, the orders of the spirit, has received the name astral or etheric body."⁶⁹

Rochas's *Sentiments* recounted his own experiments concerning possible relationships between music and movement in hypnotized subjects. The author also drew on various other sources to validate these ideas. As part of his support for the notion of the projection and reception of vital emanations, his *Sentiments* book included images of Chladni plate patterns, as well as Margaret Watts-Hughes's "voice figures," which recorded vibrational patterns formed by the author, a singer and educator, on her "Eidophone." Watts-Hughes was interested in correspondences between musical forms and the visual forms that resulted.⁷⁰ Like Chladni's images, voice figures demonstrated the order, yet seemingly endless variety, of patterns that could result from invisible vibrations surrounding us (fig. 5.1). Watts-Hughes's "voice figures" were particularly appealing to writers interested in vital forces. Rochas used them to support his ideas concerning vibrations within the ether, especially in relation to human interactions.

In *Les Sentiments*, Rochas examined the effects of music on the "exteriorized sensibility" in greater detail, drawing on his own experiments as well as many other sources. Hypnotized subjects were told they would not remember what music was played, but only the sensations they experienced. This was a similar approach to Lipps's ideations

⁶⁹ Ibid., 201. Rochas also attempted to provide other examples of exchanges between etheric forces, such as his description of photosynthesis, in which light is transformed into oxygen via sympathetic vibrations (pp. 246–47).

⁷⁰ Watts-Hughes, *Voice Figures* (London: Hazell, Watson and Viney, 1891), later expanded as *The Eidophone Voice Figures: Geometrical and Natural Forms Produced by Vibrations of the Human Voice* (London: Christian Herald, 1904).

of sensations.⁷¹ Rochas studied his subjects' physiological reactions while under hypnosis and recorded their descriptions afterwards.

Many of Rochas's findings seem largely associative. Addressing pitches in isolation, he found that high notes are generally "clear and pleasant" but can also be painful in the extreme.⁷² Low notes are serious or sad and can produce anxiety or terror in the lowest range.⁷³ Rochas also accounted for timbre in different instruments. The piano was among the most neutral, while brass were considered to have a "particularly powerful" and primal quality.⁷⁴ Ascending and descending scales produced parallel spatial sensations and triggered muscular responses in progressively higher or lower areas of the body, respectively.⁷⁵ Increases in volume had parallel results in the intensity of hypnotized subjects' reactions.⁷⁶

Rochas's comments on harmony are among his most revealing musical discussions, although, some are what would be expected. Major chords are happy and minor chords are sad. On dissonance, he wrote, "In all [tonal] ranges, dissonance caused an acute suffering in the subject, which resulted in his gestures."⁷⁷ Beyond these basic observations, Rochas theories become more nuanced. In discussing major and minor chords further, he argues that "where the relationship between the numbers of vibrations

⁷¹ See at n. 335 (Lipps's ideation of sensation).

⁷² Rochas, *Sentiments*, 150 and 233. In order to demonstrate the reactions he described, Rochas provided photographs of "Lena," one of his subjects, whose melodramatic expressions and gestures appear comical today.

⁷³ *Ibid.*

⁷⁴ *Ibid.*, 234–35.

⁷⁵ *Ibid.*, 152. The tonic moved the feet, the third moved the pelvis, etc.

⁷⁶ *Ibid.*, 151.

⁷⁷ *Ibid.*

is very simple, we have a sense of satisfaction because we are presented with something clear and precise." However, "minor chords, which are much more complex, take an unconscious strain to understand."⁷⁸

He also addressed the idea of musical complexity as it relates to dissonant intervals. As noted above, dissonances were uniformly painful in Rochas's studies and always "produced suffering." However, the effect could be, not only powerful, but coordinated. A major second (i.e. the notes C and D played together) is considered among the most dissonant intervals. In Rochas's hypnotized patients, the interval "engendered the most powerful agreement" in the excited gestures of the subjects among the various tonal harmonies he explored.⁷⁹

Rochas also examined what effect different notes and chords would have within different established key signatures. He noted the ability of dissonance to produce an "emotive power" that was "penetrating." For Rochas, the mediant (i.e. major or minor third; or E or E-flat in the key of C) and submediant (i.e. sixth scale degree; A or A-flat in C) were particularly powerful.⁸⁰ Similarly, fourth and fifth together (i.e. F-G in the key of C) were of special note, both for the highly expressive reactions and gestures it engendered in his subjects.

In studying reactions to different musical compositions featuring expressive dissonance, Rochas seems to have found his most dramatic results in two musical sources: Gounod and Wagner. For instance, he uses Gounod's *Faust* (1859) to illustrate

⁷⁸ Ibid., 154–55.

⁷⁹ Ibid., 153.

⁸⁰ Ibid., 152–53. Rochas found that transposition had little affect on these findings provided the general range remained similar.

the penetrating tones of the mediant interval used at significant moments of the work.⁸¹

Wagner's music, especially *Der Ring des Nibelungen* (1876), was an important example of passion for Rochas. Among other references, he described experiments "he had already done" that were "taken up and developed" by Aldrid Warthin, an American professor of clinical medicine at the University of Michigan.⁸²

Warthin recorded his subjects' physiological and psychological reactions to various motifs in the Ring cycle. Self-professed psychic philosopher Loren Albert Sherman quoted Warthin's findings at length in his 1895 publication *The Science of the Soul*:

Wagner's "Ride of Walkure" was played from the piano score. The subject's pulse became more rapid, fuller and of increased tension. As the music continued the pulse rose from 60, his normal rate, to 120 per minute, becoming very full, quick and of low tension; at the same time the rate of respiration was increased from 18 to 30 per minute. The subject's face showed great mental excitement, his whole body was thrown into motion, the legs were drawn up and the arms tossed into the air, at the same time the whole body was bathed in profuse sweat. On being awakened the subject said he did not perceive the music as sound, but as feeling, and that this feeling was a sensation of wild excitement, brought on by "riding furiously through the air." This state of mind brought up before him in the most realistic and vivid manner imaginable the picture of the ride of Tam O'Shanter, which he had seen years before; that almost immediately this became real to him, and in some way he took part in the wild chase, not as a witch, devil, nor as Tam, but in some way his consciousness was spread through every part of the scene, being of it, and yet playing the part of a spectator.⁸³

⁸¹ Ibid., 153–54. Rochas also gives lengthy consideration to *Faust* in other sections. See for instance, pp. 171–79.

⁸² Ibid., 148.

⁸³ Sherman, *The Science of The Soul: A Scientific Demonstration of the Existence of the Soul of Man as His Conscious Individuality Independently of the Physical Organism; Of the Continuity of Life and the Actuality of Spirit Return* (Port Huron, Mich.: Sherman, 1895), 52–54. Tam O'Shanter refers to the 1790 poem by Robert Burns, involving a drunkard accosted by licentious and murderous witches on his way home.

After describing similar agitation in other subjects, Warthin's report noted that "the subjects could not tell afterward what music had been played to them while in the hypnotic state, and that the same composition played to them while in the normal state produced no impression comparable with that received in the hypnotic condition, and was without physiologic effect."⁸⁴

Warthin's associations with dissonant music appear to have been largely unpleasant, but Rochas took a different view, in many respects. His chapter titled "Musical Suggestions" begins with excerpts from an essay by Euler, addressing "the curious question of why beautiful music excites in us the feeling of pleasure."⁸⁵ Euler essentially argued that the perception of order in consonant intervals contributes to beauty and to pleasant feelings. However, clear proportions are "not sufficient to excite the feeling of pleasure." He used the octave to illustrate the point, "where the proportions are certainly easier," but there is little potential for compelling music.⁸⁶

Rochas offered an assessment of Euler's argument: "So we say that pleasure requires knowledge that is not too easy, but requires some difficulty . . . but in my opinion, this is still not enough."⁸⁷ In an accompanying note, Rochas compared Euler's ideas about simple ratios to those presented by Léon Winiarski in an 1899 article published in *La Revue philosophique* in Paris.⁸⁸ From his standpoint of "social

⁸⁴ Ibid., 54.

⁸⁵ Rochas, *Sentiments*, 232. Euler's mathematical contributions to the wave theory of light were noted in the previous chapter of this dissertation. See at n. 289.

⁸⁶ Ibid.

⁸⁷ Ibid.

⁸⁸ Winiarski, "Essai sur la mécanique sociale. L'équilibre esthétique" *La Revue philosophique* 1 (June 1899), 569.

mechanics," Winiaski argued against Euler's ideas concerning pleasurable music. As Rochas writes, "The author seeks to establish that the pleasant sensations of consonance are not, as Euler supposed, due to our mind's sense of the simple relationships between the vibrations of which they are composed, but that these notes vibrate in a manner with all the vibrations of nature that surround us."⁸⁹

Rochas then expanded on both ideas. He described dissonance as having "proportions larger in numbers," that were "more difficult to understand."⁹⁰ However, dissonance is still capable of creating beauty if "striking intelligent ears." Here, Rochas was drawing directly on the ratios expressed by the overtone series and their relationship to harmony, an idea central to Helmholtz's studies in acoustics. Rochas was even suggesting an expanded view of consonance. He also argued that artists were often capable of advanced perception, and that "the true artist . . . possesses the magical faculty of producing a synthesis of an era and a race in his soul."⁹¹ This is largely consistent with later statements about the role of the artist in *Concerning the Spiritual*, where the artist is at the apex of the spiritual pyramid and, as Kandinsky wrote in the opening sentence of his book, "Every work of art is the child of its time, often it is the mother of our emotions."⁹²

Rochas's notion of an 'intelligent ear' also suggests similarities to Helmholtz's explanation of the "analytic perception" of hearing, or the ability to distinguish multiple

⁸⁹ Ibid., 233.

⁹⁰ Ibid.

⁹¹ Ibid., 201. In addition to his more progressive ideas about music and science, Rochas adopted many of Gustav Le Bon's ideas, including his racial theories.

⁹² Kandinsky, "Concerning the Spiritual," 127.

notes and even compound sounds.⁹³ In Rochas's argument, order may be maintained even within extended passages of dissonances because they are merely an expansion of the long-established series of consonances that form harmony. Appreciating this more complex order requires expanded perception, but the author's enthusiasm for late Romantic music suggests that dissonance could aid in this as well. Rochas's notions of vital human and astral energies were modeled on theories of acoustics and musical harmony, but as is evident above, they were suitably expanded to accommodate new ideas offered both by science and music of his era.

Gessmann's *Disharmonische Töne*

Gustav Wilhem Gessmann suggested the psychically transformative power of dissonant music in his *Magnetismus und Hypnotismus* of 1895, which Kandinsky also owned.⁹⁴ Gessmann was trained in chemistry and active in Theosophy, and his theories were firmly rooted in Mesmer's idea of the magnetism of living beings and vibrations in the ether, which, in turn, provided much of the basis for the practice of hypnosis.⁹⁵ Like others discussed above, Gessmann updated these ideas to reflect his time. He described how the vibrations transmitted electrically by telephone or microphone easily induced muscle-contractions in hypnotized patients.⁹⁶ For Gessmann, this was one of many demonstrations of the fundamental link between wave forms identified by science and

⁹³ See at n. 304 and n. 343 (Helmholtz's "analytic perception").

⁹⁴ Gessmann, *Magnetismus und Hypnotismus* (T. Griebens Verlag: Leipzig, 1895). Kandinsky's copy of this book is now housed in the Münter-Eichner archives in Munich.

⁹⁵ See for instance, A. P. Sinnett, *The Rationale of Mesmerism* (Boston: Houghton, Mifflin and Co., 1893), 34–37.

⁹⁶ Gessmann, *Magnetismus*, 144.

those suggested by Mesmer. His interest in sound transmitted as electromagnetic vibrations in telephone receptors and its relationship with the vital fluid anticipated statements made by Flammarion in *L'Inconnu* (1900).⁹⁷

Gessmann also wrote specifically about music. He experimented with different stimuli that might affect his hypnotic practice. Drawing again on Mesmer, he wrote that the hypnotic state is enhanced by soft music, and that the “aural acuity” of the hypnotized patient is greater than when he or she is awake.⁹⁸ Gessmann further suggested that weakly played “disharmonious tones” are preferred in maintaining the hypnotic state to strongly sounded harmonious ones. The positive notions of dissonance proposed by Gessmann, especially those that linked aural and psychic reception, were becoming increasingly prevalent at this time.

Baraduc's "Vibrations Désharmonique"

French physician and "thought-photographer" Hippolyte Baraduc was another important source for Kandinsky, as well as for the Theosophists and other occult writers of the period. Baraduc further developed the concept of invisible human emanations and produced photographs intended to document his experiments. His images were frequently reproduced and cited by occultists in support of ideas about astral manifestations of various sorts, for instance, in Besant and Leadbeater's *Thought-Forms*. Baraduc's theories

⁹⁷ See at n. 419 (telephone) above.

⁹⁸ *Ibid.*, 156.

and methods were addressed by American journalist Henry Ridgely Evans in his 1902 publication *The Spirit World Unmasked*:

During the year 1896 considerable stir was created by the investigation of Dr. Hippolyte Baraduc, of Paris, in the line of "Thought Photography," which is of interest to psychic investigators generally. Dr. Baraduc claimed to have gotten photographic impressions of his thoughts "made without sunlight or electricity or contact of any material kind." These impressions he declared to be subjective, being his own personal vibrations, the result of a force emanating from the human personality, supra-mechanical, or spiritual.

The experiments were carried on in a dark room, and according to his statement were highly successful. In a communication to an American correspondent, printed in the *New York Herald*, January 3, 1897, he writes: "I have discovered a human, invisible light, differing altogether from the cathode rays discovered by Prof. Röntgen."⁹⁹

Evans described the enthusiastic reception Baraduc's photographs received in France, and noted similar results obtained by American researchers. While Evan's book sought to "debunk" spiritualists and Theosophists, exposing tricks and "chicanery" of mediums and occultists, his assessment of Baraduc is reserved, yet encouraging. He concludes simply that since the operating laws of these phenomena are not yet known, "stronger evidence is needed to support the claims made for it than that which has been adduced by the French and American investigators."¹⁰⁰ He even suggests that future experiments along these lines might yield an "explanation of genuine spirit photographs, if such there be." Notably, Evans also included Crookes's and Lodge's psychic experiments among "a class of cases not ascribable to trickery," and he went on to declare that "telepathy is an incontrovertible fact."¹⁰¹

⁹⁹ Evans, *The Spirit World Unmasked: Illustrated Investigations into the Phenomena of Spiritualism and Theosophy* (Chicago: Laird and Lee, 1897), 197–98.

¹⁰⁰ *Ibid.*, 201.

¹⁰¹ *Ibid.*, 207 and 209.

In *L'Ame humaine: ses mouvements, ses lumières et l'iconographie de l'invisible fluidique* (1896), referenced by Evans above, Baraduc described the "fluidic invisible" emanations of the soul, or a "vital force." For Baraduc, it was "that which models the body" and was the "creator of form."¹⁰² Like Rochas's notion of emanating human forces, for Baraduc, the concept was rooted in the tradition of Mesmer's animal magnetism and in Reichenbach's Odic force. Baraduc described this invisible fluid further in his 1904 publication, *Les Vibrations de la vitalité humaine*: "The vital cosmic force, also called odic fluid – Od, a particular natural force, which extends over the whole Universe, and differs from all the known forces, – saturates the organism of living beings and constitutes our fluidic body."¹⁰³ Continuing, he writes, "The fluidic body, or astral body, is the intermediary of the material body and the spiritual soul."

Baraduc used Reichenbach's idea of the Od, as well as drawing on occult themes, such as the astral body. Simultaneously, he described its operation within the ether of contemporary physics. For instance, it was all pervasive and saturating, or fine enough to permeate solid matter. Similarly to Reichenbach, Baraduc considered his work "a new chapter of higher physics wrested from the occult," but he was by no means dismissive of earlier attempts to explain these proposed phenomena through other means. He expressed hope that his studies would serve to "pay homage to the great occultists of former times, who have expressed by symbols the forms and vibrations of these forces."¹⁰⁴

¹⁰² Baraduc, *L'ame humaine: ses mouvements, ses lumières et l'iconographie de l'invisible fluidique* (Paris: G. Carré, 1896), 25.

¹⁰³ Baraduc, *Les vibrations de la vitalité humaine: méthode biométrique appliquée aux sensitifs et aux névrosés* (Paris: Baillière, 1904), 20.

¹⁰⁴ Baraduc, *L'ame humaine*, 34.

In his 1896 publication, Baraduc included a chart of various vibration rates, where "vibratory movement passes outward in waves, being spread at a rate of rate of 64 to 73,000 a second, and with an amplitude of 5 mètres to 5 millimètres."¹⁰⁵ The chart goes on to define sound as "5 m. to 5 mm.," followed by obscure heat ("200 to 500 trillion"), light ("500 to 800 trillion"), with "photo-chemical effects of photography" at the highest range ("800 to 1600 trillions"). Baraduc then proposed that "a luminous classification will one day be made of the modes of the vibrations of movement," including those projecting from the human body.¹⁰⁶

Baraduc further refined his notion of emanating human forces in his *Vibrations de la vitalité humaine* of 1904.¹⁰⁷ Charting the various "biometric vibrations," Baraduc concluded that vibration rates in multiples of ten contribute to health, while those vibrating in the odd multiples of five are unhealthy.¹⁰⁸ For instance, the tenth degree represented a "life of good instincts and good naturalness." Other positive traits appear further up the scale in multiples of ten: "family spirit and fruitfulness" (20°), "logic, reason, and science" (30°), "moral order" (40°), and "piety, religiosity, veneration" (50°). In contrast, "sorrow" (15°), "trouble and irrationality (25°), "imagination and insanity"

¹⁰⁵ Ibid., 78. Cited as "Note extracted from the Book of Barlet on vibratory movement." This is likely a reference to Félicien-Charles Barlet (also Dr. Charles Barlet; pseudonym of Albert Faucheux), who actively published in French occult journals such as *L'Initiation* in the 1880s and 1890s, as did Baraduc in the later 1890s. Barlet was also director of the Centre Esotérique Oriental de France in Paris, whose *Revue* often published astral photographs to support esoteric theories. See, for instance, those of the center's founder, Theosophist Dr. Alberto de Sarâk picturing "Od fluidique" in *Revue de Hautes Etude Psychique* (Paris: Centre Esotérique Oriental de France in Paris, 1908), 25.

¹⁰⁶ Ibid., 78. The ascendancy of photo-chemical reactions in the chart would have been especially appealing given Baraduc's methods.

¹⁰⁷ See n. 459 above (*Vibrations*). Baraduc found the greatest justification for his theories in the electromagnetic, Hertzian waves of wireless telegraphy, as had Rochas. However, Helmholtz's studies of sound waves served as familiar models for describing more complicated forces.

¹⁰⁸ Baraduc, *Les Vibrations*, 84ff.

(35°), and “obsession, telepathy, and sympathy” (45°), are among the “disharmonious vibrations.”

Like other occult-oriented scientists addressed above, Baraduc’s studies are significant throughout for their use of a vibration model.¹⁰⁹ A key point for our purposes here is the underlying basis for this model in acoustics and sympathetic vibrations, which the author extended to include concepts of consonant and dissonant biometric vibrations. As Baraduc stated: “[These biometric vibrations] occur, in a word, as in acoustics, when the ear is put in the presence of correct or false notes, they cause repercussion in us, a pleasant consonance or a painful dissonance.”¹¹⁰

In addition to his fairly traditional use of the analogy of musical dissonance in this quotation, Baraduc’s chart of “biometric vibrations” is especially notable for the relationship drawn between dissonance and telepathy. The classification of imagination and telepathy as dissonant vibratory rates strongly suggests dissonance’s transformative and transporting power. As demonstrated above, Baraduc's ideas about dissonance linked aural and psychic reception in a manner similar to Gessman's theories. These notions would have been appealing to Kandinsky, especially in the context of the new musical climate of the early twentieth century.

¹⁰⁹ Ibid. Baraduc’s chart also seems to display an attempt to bolster the Romantic notion connecting creative genius and mental illness at the thirty-fifth degree.

¹¹⁰ Ibid.

Vibrational Models and Dissonance in Theosophical Literature

Much has been written about Kandinsky and Theosophy. As demonstrated above, his interest in the occult was not limited to this group.¹¹¹ The artist was well read in this type of literature, having in his possession a vast array of texts on such diverse subjects as spirit photography and spiritual healthcare, by authors like Gessmann, Rochas and Baraduc.¹¹² Nonetheless, the synthesis of ideas found in the Theosophical literature was, in all likelihood, a particularly appealing parallel to the artist's own studies. In his deployment of models drawn from science in support of spiritual ideas, Kandinsky's text would, in many ways, echo those by Theosophists such as Helena Blavatsky and Rudolf Steiner, whom Kandinsky discussed in *Concerning the Spiritual* and whose publications he owned.¹¹³

In addition to the information garnered from Theosophical texts themselves, Kandinsky would also have participated in any number of casual discussions on spiritual and occult topics. His circle of friends in Munich included many who were also engaged in this vein of thought. Thomas von Hartmann, a contributor to the *Der Blaue Reiter* almanac and composer of the music for Kandinsky's stage composition *The Yellow Sound*, was a member of the Theosophical Society, as were two of Kandinsky's pupils in

¹¹¹ As Henderson notes in "Vibratory Modernism," 145: "The literature on Kandinsky has tended to focus largely on Besant's and Leadbeater's *Thought-Forms*, but their work was obviously just one manifestation of a much larger fascination in this era with the transfer of thought by means of ether vibrations." Elaborating in "Abstraction, Ether, and the Fourth Dimension" (forthcoming, n.21): "While Ringbom presented a much fuller view of Kandinsky's occult sources in the *Sounding Cosmos*, his 1966 'Occult Elements' article, cited above, commenced the focus on Besant and Leadbeater's *Thought-Forms* to the detriment of his other sources." The greater range of Kandinsky's occult interests is only more recently coming to light.

¹¹² Ringbom, *Sounding Cosmos*, 20–21.

¹¹³ *Ibid.*, 62.

the Phalanx group.¹¹⁴ The general model of sympathetic vibrations was reflected in much of the occult literature Kandinsky read. Additionally, Theosophical ideas concerning psychic vibrations often adopted the Helmholtzian paradigm of consonant and dissonant vibration ratios. In some cases, there are further suggestions of positive, constructive contexts of dissonance.

"The Spiritual Revolution"

While in Berlin in 1907 and 1908, Kandinsky attended Steiner's lectures and also acquired copies of his periodical *Lucifer Gnosis* (1904-1908).¹¹⁵ It seems clear that the artist paid close attention to Steiner's articles. In one of Kandinsky's notebooks of 1908, ten pages are devoted to excerpts and summaries of Steiner's writings.¹¹⁶ These studies in Steiner's theories would find their way into *Concerning the Spiritual*, indicated by quotations taken from *Lucifer Gnosis* as well as the shared references one finds in Steiner's and Kandinsky's texts.¹¹⁷ Steiner, like Kandinsky, spoke at length about "the inner" spiritual world in opposition to "the outer" material world, and both men thought of themselves as spiritual leaders, helping others to find the path to greater spirituality. Steiner frequently drew on scientific developments in support of his ideas, for instance, in his quotation of Lord Balfour's 1904 address in one of the issues of *Lucifer Gnosis* later the same year, that Kandinsky owned. As noted above, Kandinsky adopted this argument

¹¹⁴ Ibid.

¹¹⁵ Ibid., 37 and 223.

¹¹⁶ Ibid., 62.

¹¹⁷ Ibid., 37–39, 62, 66–96, and 79–80.

in *Concerning the Spiritual*, where he drew on the electron theory, citing it as evidence in support of his theory of a spiritual transcendence of society.¹¹⁸

Kandinsky referred to Theosophical Society co-founder Helena Petrovna Blavatsky multiple times in *Concerning the Spiritual*, for instance, while extolling the virtues of non-Western cultures in his chapter Spiritual Revolution. Kandinsky wrote glowingly of the founder of Theosophy:

Mme. Blavatsky was the first person, after a life of many years in India, to see a connection between these “savages” and our “civilization.” From that moment there began a tremendous spiritual movement which today includes a large number of people and has even assumed a material form in the *Theosophical Society*. This society consists of groups who seek to approach the problem of the spirit by way of the *inner* knowledge.¹¹⁹

He specifically complimented Blavatsky’s ability to connect ancient conceptions of the universe with the latest advances in science. In her own texts, Blavatsky included scientists such as Helmholtz among materialists of limited vision, but nonetheless drew on their theories to support her own. For instance, in the 1895 edition of *The Secret Doctrine: The Synthesis of Science, Religion, and Philosophy* she wrote, "Helmholtz says that electricity must be as atomic as a matter; and Mr. W. Crookes, F.R.S., supported the view in his address to the Chemical Section of the British Association, of which he was President (at Birmingham, 1886)."¹²⁰ Blavatsky went on to quote Helmholtz's *Faraday Lectures* of 1881 in a discussion of the nature of matter, stressing theories of the insolubility matter in support of her occult ideas. As evident above, Crookes provided a

¹¹⁸ See at n. 298 above.

¹¹⁹ Kandinsky, *Concerning the Spiritual*, 13. Kandinsky owned Blavatsky’s *Isis Unveiled*.

¹²⁰ Blavatsky, *The Secret Doctrine* (London: Theosophical Publishing House, 1895), 1:580.

particularly useful link between established science and the occult, as he would for Kandinsky.

Drawing on the science of the ether, which they redefined for their own purposes, Theosophists like Blavatsky and Steiner made abundant connections between vision and hearing, consistently using the model of sympathetic vibrations. In *Secret Doctrine*, Blavatsky outlined this fundamental link, where "the seven prismatic colors are direct emanations from the Seven Hierarchies of Being . . . the creator and source of the corresponding human principle."¹²¹ Continuing, she explains, "This is the reason why sensitives connect every colour with a definite sound, a fact well recognized in Modern Science."¹²² She further defined these and other parallels springing from the Hierarchies of Being in her *Esoteric Instructions* from the 1880s, which includes a chart of the Hierarchies of the Colors and Sounds.¹²³ Blavatsky coupled esoteric philosophy and contemporary physics to validate a link between color and sound. She proposed this connection on a higher plane and within corresponding human vibrations, which suggests similarities to Kandinsky's later piano metaphor.

Specialized Sense-Organs and Astral Syncopation

Annie Besant's *The Ancient Wisdom* of 1897 is especially rich with musical analogies. Many of Besant's ideas in her 1897 publication were also offered in abbreviated form in her later *Thought-Forms* (1901), written with Charles Webster

¹²¹ Ibid., 1:462.

¹²² Ibid.

¹²³ Blavatsky, "Esoteric Instructions," in *Collected Writings*, 12:542–48.

Leadbeater. The references to music here, as in most Theosophical texts, deal almost exclusively with analogs to traditional harmony. However, throughout this body of literature, the authors stressed that metaphors to commonly known sensations were offered to explain a vastly more complex system that was beyond typical human experience. The Theosophists appealed to natural laws recently reconceived by science, and they argued for a further extension of them, from the physical to the astral realm. In their calls for a transcendental expansion of existing models, and in other respects, the Theosophists' ideas would anticipate a number of later artistic theories, including those of Kandinsky.

Besant frequently described her larger vibrational model through musical analogy, but she also discussed the literal benefits of expanded perception, as well as the means of achieving them:

In the earlier building of human bodies this selective action was due to the Monad of form, but now that man is a self-conscious entity he presides over his own building. By his thoughts he strikes the keynote of his music, and sets up the rhythms that are the most powerful factors in the continual changes in his physical and other bodies. . . .

As specialized sense-organs are developed to receive special kinds of vibrations, the value of the body increases as a future vehicle for a conscious entity on the physical plane. The more impressions it can answer to, the more useful does it become; for only those to which it can answer can reach the consciousness. Even now there are myriads of vibrations pulsing around us in physical nature from the knowledge of which we are shut out because of the inability of our physical vehicle to receive and vibrate in accord with them.¹²⁴

¹²⁴ Besant, *Ancient Wisdom*, 52–53. The concept of the "monad" was one of the many ideas that were incorporated into Theosophical writings. Besant was using a term frequently employed by Blavatsky, who, in turn, had adopted it from Gottfried Wilhelm von Leibniz. Leibniz traced the idea back to Plato and Aristotle in his *Monadology* of 1714, where he equated it with the soul. Leibniz's concept of the monad was part of his notion of a connected, harmonious universe, which he explained in terms of a wave structure. In Leibniz's philosophy, monads are a manifestation of God in every particle of matter. As he argues, "The world consists solely of Monads, each of which is a concrete unity of soul and body, of

Besant described the goal of this evolutionary process as "the perfect body that shall thrill to every pulse in nature as the aeolian harp to the zephyr."¹²⁵ Her appeal to the wind harp is analogical, as was her metaphor of the "keynote," or root of a musical composition within traditional harmony. However, the expansion of perception offered by "specialized sense-organs," offered the realization of "unimagined beauties, exquisite sounds, [and] delicate subtleties," arising from these otherwise undetected vibrations. Here, Besant was writing in literal terms. Moreover, the means to achieve this enlightened state relied upon vibrational accord with higher level waves.

In *The Ancient Wisdom*, Besant further described her idea of expanded sensory perception in scientific terms, mixing physiology, physics, and the occult:

The vibrations that the body is able to receive transmits [sic] to physical centres, belonging to its highly complicated nervous system. . . . Most of the vibrations in the dense matter are changed into chemical, heat, and other forms of physical energy; the etheric give rise to magnetic and electric action, and also pass on the vibrations to the astral body, whence, as we shall see later, they reach the mind.¹²⁶

Like many of the authors discussed above, this passage updated a longstanding metaphor for astral perception with a new vocabulary of electro-magnetism, in turn, modeled on acoustics.

entelechy and *materia prima*. This nature is throughout living; there is nothing really inorganic." Leibnitz, *The Monadology: and Other Philosophical Writings* (Oxford: Oxford University Press, 1898), 109. Rochas discussed the monad in relation to the atoms of science in *L'Extériorisation de la sensibilité* of 1895, where he commented on Leibniz (p. 191). Blavatsky described the monad as the "atomic Soul." See, for instance, *The Secret Doctrine*, 1 and 619. The Theosophists were keen to distinguish the atoms of their theories from those of contemporary science. However, they nonetheless largely modeled their occult atoms after those of matter that were described in physics of this era.

¹²⁵ Besant, *Ancient Wisdom*, 53.

¹²⁶ Ibid.

Infinite Melodies and Astral Sight

As evident above, analogies to music in Besant's writings, as in Theosophical literature in general, are almost summarily tonal; there are few direct references to musical dissonance. Concerning music, Kandinsky's artistic theory best aligns with Theosophical ideas in the belief in an underlying natural order that links art and music on higher levels. For instance, recounting the descriptions of angels by a "Christian Seer," Besant wrote, "'As the sound of many waters' are their voices, as echoes from the music of the spheres. They guide natural order" ¹²⁷

Besant and Leadbeater's *Occult Chemistry* of 1908 expressed similarly synaesthetic ideas with scientific language. They wrote of "whorls," through which "flow currents of different electricities; the seven vibrate in response to etheric waves of all kinds—to sound, light, heat, etc." ¹²⁸ According to the authors, these seven vibrations "respond in a variety of ways to physical vibration," and demonstrate both "the seven colors of the spectrum" and "the seven sounds of the natural scale." Here, the reference is to the diatonic scale. Like other references to the "keynote" in the texts of Leadbeater and Besant, the idea is rooted in traditional music theory. However, like the Theosophists' use of scientific models, it is a radically expanded notion of harmony.

In each of the instances in which Theosophists drew on traditional ideas of harmony, they were writing metaphorically. They stressed that their appeals to known sounds and colors were intended to suggest what was otherwise "unimagined." As

¹²⁷ Ibid., 115.

¹²⁸ Besant and Leadbeater, *Occult Chemistry* [1908] (London: Theosophical Publishing House, 1919), 33.

Leadbeater later proposed, "One curious and very beautiful novelty" resulting from the development of astral vision "would be the existence of other and entirely different colors beyond the limits of the ordinary visible spectrum, the ultra-red and ultra-violet rays which science has discovered by other means being plainly perceptible to astral sight."¹²⁹

Throughout her extended analogy of harmony in *Ancient Wisdom*, Besant emphasized the variety and complexity that would be possible with expanded perception. Where dissonance is addressed, the concept is quickly redefined. In this way, Besant's approach is similar to new musical theories, such as Schoenberg's idea of 'pantonicity', which suggested that dissonances were consonances when viewed from the standpoint of contemporary physics, rather than musical tradition. For Besant, "in the Logos, no discord could arise."¹³⁰ This is not to say that there are restrictions, but rather, that there are "infinite melodious concords." In Besant's description, these infinite concords are "all tuned to a single note, in which Life and Wisdom and Bliss are blended into one keynote of Existence."

A 1908 essay by the British poet, playwright, and Theosophist Clifford Bax further advanced the idea of infinite melody in an essay published in the journal *The Theosophist*, which Besant edited.¹³¹ Bax wrote about "the poet," whom he has attempted to establish as an archetype for all artists.¹³² He described the benefits obtained through

¹²⁹ Leadbeater, *The Astral Plane: Its Scenery, Inhabitant, and Phenomena* [1895] (London: Theosophical Publishing, 1905), 7.

¹³⁰ Besant, *Ancient Wisdom*, 276, and quotations following.

¹³¹ Bax, "Theosophy and Art," *The Theosophist* (London: Theosophical Publishing, 1908), 307–314.

¹³² *Ibid.*, 307ff. Bax gives lengthy consideration to relationships between the arts. Music is "the most spiritual," while "sculpture is the most formal" (p. 310), but in the end, he gives primacy to poetry, which he sees as combining key elements of visual art and music.

"a certain altitude of thought," or spiritual enlightenment: "Thus, the poet as he passes through the world, observing the lives of his fellow men, will no longer feel so bitterly the burden of their folly and their pain, nor will the world any longer give such jangling music to his ears, for under the apparent dissonance of things he will hear the harmony of an exquisite order."¹³³ For Bax, as for Besant and Leadbeater, dissonance was only apparent. The distinction disappears when the natural order is comprehended. The idea of a natural order allowing new freedom through greater variety and complexity is also strongly evident throughout *Der Blaue Reiter*.

Thought-Forms and Beyond

Kandinsky owned a copy of the 1908 German translation of Annie Besant and Leadbeater's *Thought-Forms*, first published in 1901.¹³⁴ Throughout the book the authors described the vibrational, spiritual presences they believed arise from individuals, which affect the vibrations of those around them.¹³⁵ Besant and Leadbeater wrote that "these vibrations, which shape the matter of the plane into thought-forms, give rise also—from their swiftness and subtlety—to the most exquisite and constantly changing colours, waves of varying shades."¹³⁶ They described these waves of color as "etherealized and brightened to an indescribable extent, sweeping over and through every form, so that

¹³³ Ibid., 308.

¹³⁴ See Ringbom, *Sounding Cosmos*, 135, n. 24. Kandinsky's copy of book is now in the Kandinsky collection at the Musée National d'Art Moderne, Paris. The 1905 edition of *Thought-Forms* followed a 1901 edition that did not include any illustrations. The German translation of the 1905 text was published that same year.

¹³⁵ Besant and Leadbeater, *Thought-Forms* (London: Theosophical Publishing Society, 1905).

¹³⁶ Ibid., 25.

each presents a harmony of rippling, living, luminous, delicate, colours, including many not even known to earth."¹³⁷ While scientists like Crookes and Flammarion posited the vibratory transfer of thought, Besant and Leadbeater carried the concept a step further by proposing the projection of specific thought patterns that were visible in certain circumstances, similarly to what occult-oriented scientists such as Baraduc and Rochas had suggested.

Thought-Forms begins with a discussion of contemporary science, and the authors take a stance similar to that of Blavatsky and of Leadbeater:

As knowledge increases, the attitude of science towards the things of the invisible world is undergoing considerable modification. Its attention is no longer directed solely to the earth with all its variety of objects, or to the physical worlds around it; but it finds itself compelled to glance further afield, and to construct hypotheses as to the nature of the matter and force which lie in the regions beyond the ken of its instruments. Ether is now comfortably settled in the scientific kingdom, becoming almost more than a hypothesis. Mesmerism, under its new name of hypnotism, is no longer an outcast. Reichenbach's experiments are still looked at askance, but are not wholly condemned. Röntgen's rays have rearranged some of the older ideas of matter, while radium has revolutionized them, and is leading science beyond the borderland of ether into the astral world.¹³⁸

The text then briefly charts the development of experimental psychology from its origin in physics, where "as the physicist nears the confines of his kingdom he finds himself bewildered by touches and gleams from another realm which interpenetrates his own."¹³⁹ More recently, "the Western scientist, commencing in the anatomy and physiology of the brain, endeavours to make these the basis for 'a sound psychology.'" Noting the shift of study from the extrinsic to the intrinsic, Besant and Leadbeater sought to connect both to

¹³⁷ Ibid., 26.

¹³⁸ Ibid., 1.

¹³⁹ Ibid., 11.

the spiritual. For them, the next step was to cross from the "borderland of the ether" of contemporary science, into awareness of the astral world. They write, "Dr. Baraduc of Paris has nearly crossed the barrier," with his thought photograph experiments, "obtaining pictures of what from the materialistic standpoint would be the results of vibrations in the grey matter of the brain."¹⁴⁰

Besant and Leadbeater explain the creation and interaction of thought forms as "radiating vibrations," which are capable of "awakening sympathetic vibration in any mental body near at hand," similar to Kandinsky's later notion of spiritual-artistic vibrations. Besant and Leadbeater write about this phenomenon in chemical, electromagnetic, and acoustical terms, but the latter offered the clearest example for a contemporary audience. The authors note, "The fact of the creation by vibrations of a distinct form, geometrical or other, is already familiar to every student of acoustics, and 'Chladni's' figures are continually reproduced in every physical laboratory."¹⁴¹ Illustrations and descriptions of Chladni's sound figures follow this statement.

The authors further connect Chladni plates and thought-forms to human-produced vibrations by citing Watts-Hughes's 1904 publication, *The Eidophone Voice Figures*.¹⁴² Besant had addressed Watts-Hughes's images previously, in *Ancient Wisdom* (1895). As in *Thought-Forms*, the model of sympathetic vibrations was key:

¹⁴⁰ Ibid., 12. Besant and Leadbeater go on to discuss Baraduc at some length (pp. 13–14). Elsewhere, they described him as their "scientific counterpart" (p. 55). On Baraduc, see also Ringbom and Henderson (see n. 29 and 31 above).

¹⁴¹ Ibid., 27.

¹⁴² Ibid., 28, citing Hughes, *The Eidophone Voice Figures* (London: Hazell, Watson and Viney, 1891). See also n. 426 above.

Clear, precise thoughts have each their own definite shapes, with sharp clean outlines, and show an endless variety of designs. They are shaped by vibrations set up by thought, just as on the physical plane we find figures which are shaped by vibrations set up by sound. "Voice-figures" offer a very fair analogy for "thought-figures," for nature, with all her infinite variety, is very conservative of principles, and reproduces the same methods of working on plane after plane in her realms.¹⁴³

The last statement is also among Besant's most concise justifications for her application of scientific models.

In those sensitive to them, thought-forms could "set up vibrations similar to their own, and thus thoughts spread from mind to mind without terrestrial expression."¹⁴⁴

Continuing her extended analogy for the interaction of different astral vibrations, Besant proposed an interchange of attraction between "synchronous vibrations."¹⁴⁵ Writing about the sensitive's response to the thoughts of others within "that portion of the astral sphere immediately surrounding us," Besant states that "they intensify the points in which we accord with our surroundings and flatten away the differences."¹⁴⁶ Here again, astral vibrations are modeled on acoustics. More than just a general analogy, the authors' statements indicate an interest in the production and reception of vibrations whose operations had been described, in part, by Helmholtz and Wundt. Physical entities could vibrate in sympathy with divine waves if spiritually tuned to align. They could then manifest their own spiritual vibrations, which could affect others. In the interaction of these sympathetic vibrations at variously aligned rates, there are similarities, not only to Helmholtz's combined tones, with their additive properties, but also to Wundt's changing

¹⁴³ Besant, *Ancient Wisdom*, 60.

¹⁴⁴ *Ibid.*, 61.

¹⁴⁵ *Ibid.*, 64

¹⁴⁶ *Ibid.*

and mitigating difference tones. In their text, Besant and Leadbeater describe ancillary vibrations and their reactions as distinct from primary vibrational interactions, even if the authors do not use the term overtone.

At the end of *Thought-Forms*, the authors included illustrations visualizing the spiritual presence of music from three sources.¹⁴⁷ The first figure shows a relatively close view of a cathedral, with a form arising from the melody of Felix Mendelssohn's *Songs without Words* of 1853 (fig. 5.2). The musical form is represented with stepped and scalloped lines in the primary colors. The next figure shows a slightly more distant view of another cathedral, with a larger representation of a musical thought-form issuing from the "crashing chords" of Charles Gounod's soldier's chorus from *Faust*, 1859 (fig. 5.3). It produces swathes of yellow, blue, green, and various shades of red. The final figure shows a distant view of a third cathedral. The form arising from the themes of Wagner's overture to *Die Meistersinger* (1867) is a complex composition that dwarfs the building underneath (fig. 5.4). The authors' also praise Wagner's "genius." The three forms taken together express a progression from melody, to harmony, to motif. Each illustration represents a progressively larger and more complex musical form, which they identify in the text.

In its inclusion of Gounod's *Faust* and Wagner's motifs as prime examples of expressive music, *Thought-Forms* again recalls Rochas's *Les Sentiments la Musique et la*

¹⁴⁷ Besant and Leadbeater, *Thought-Forms*, 28 and fig. 1. On the artists involved, especially John Varley, Jr., see, for example, Ringbom, *Sounding Cosmos*, 147; Ringbom, "Art in 'the epoch of the great spiritual'", 404; and Gregory Tillett, *The Elder Brother: A Biography of Charles Webster Leadbeater* (London: Routledge and K. Paul, 1982), 70. Among his and his family's many connections with mysticism and the occult, Varley was a student of Blavatsky.

Geste. In his publication of 1900, Rochas had used both composers to demonstrate the excited responses dissonance could elicit. This suggestion extends to Besant and Leadbeater's book as well. At the very least, the progression of musical works in *Thought-Forms* associates complexity and newness. However, the illustrations and their arrangement also chart an expansion of tonality through greater chromaticism and the increasing use of expressively dissonant intervals. Chronological ordering is reasonable, but in an era when these works were more commonly known, this sequence of examples might have taken on additional meanings.

Leadbeater's Octaves of Astral Color

In *Man Visible and Invisible* of 1902, Leadbeater expressed similar ideas to many of those in *Thought-Forms*. He also made further connections between emotions and colorful human emanations that "radiate vitality."¹⁴⁸ Theosophists described this phenomenon as the "etheric double," which Leadbeater believed was "visible to the clairvoyant as a mass of faintly luminous violet-grey mist interpenetrating the denser part of the physical body and extending very slightly beyond it."¹⁴⁹ For Leadbeater, this "etheric matter" was "the link between the astral and the physical." This connection also allowed additional functions, including the ether's role as "the vehicle of the vital life force

¹⁴⁸ Leadbeater, *Man Visible and Invisible: Examples of Different Types of Men as Seen by Means of Trained Clairvoyance* [1902] (Whaton, Ill.: Theosophical Publishing House, 1969).

¹⁴⁹ *Ibid.*, 112. Blavatsky, Steiner, and others also used the concept and term. See, for instance, *Spiritualism, Madame Blavatsky, and Theosophy: An Eyewitness View of Occult History* (Great Barrington, MA : Anthroposophic Press, 2002), 47; and Arthur Edward Powell's adoption in *The Etheric Double: The Health Aura of Man* (Wheaton, Ill.: Theosophical Publishing House, 1925).

on the physical plane."¹⁵⁰ Leadbeater described a wave structure connecting the physical and astral planes, where the largest vibrations occur at the lowest levels of matter, in "the mineral kingdom," with living organisms occupying variously higher levels based upon their complexity. This bears a particularly close resemblance to Schopenhauer's anthropocentric model of the universe as ascending octaves, in addition to recalling the music of the spheres.¹⁵¹

Explaining his idea of an "evolution towards divinity," Leadbeater also incorporated the concept of the monad. He described the "upward progress of the monadic essence" in vibrational terms and proposed that the "object then is to develop [the monad's] consciousness fully," both to better receive these vibrations and to control one's own "magnetic form of vital energy."¹⁵² According to Leadbeater, the evolution of monads allows them to "not only serve as bridges to carry impressions from without the soul, but shall also enable that soul to express itself."¹⁵³

In his further descriptions of this force, Leadbeater employed a model of ether physics and of sympathetic vibrations. In the early stage of development of the "causal body," or physical monad, the aura "has as yet had little time to vibrate in response to impacts from without, and consequently there is little color."¹⁵⁴ For Leadbeater, individual monadic-etheric vibrations were strengthened by the reception of "vibrations

¹⁵⁰ Ibid., 112-113. Leadbeater proposed that the spleen acts as the receptive organ, after which the vibrations travel to the brain and through the nervous system.

¹⁵¹ See at n. 50 above. Humans are at the apex of the physical world in Leadbeater's hierarchy, as in Schopenhauer's model.

¹⁵² Leadbeater, *Man Visible and Invisible*, 116.

¹⁵³ Ibid., 37.

¹⁵⁴ Ibid., 54.

of divine forces” from external sources, provided the individual is “tuned” in sympathy with the divine, or at least with the “group-soul” arising from the more enlightened elements of the physical plane.¹⁵⁵ Similarly, the expression of "the true quality of the soul" is impossible if "the string is not sufficiently stretched to enable it to respond to the note above."¹⁵⁶ As for Schopenhauer, this hierarchy is explained by the concept of the musical octave; it can be "tuned to correspond" with other vibrations at a "lower octave."

As noted above, Leadbeater simultaneously explained these vibrations as color: "The differences between these octaves of color is very far greater than can in any way be represented on paper or canvas . . . for even the next octave above the physical is entirely beyond the conception of our mind as long as it works under the limitations of the physical brain."¹⁵⁷ Like others, including Schopenhauer, Leadbeater used the analogy of the greatest consonant interval, the octave, but he stressed that the metaphor applied to a vastly more complex system. In *Thought-Forms*, Leadbeater and Besant similarly described a "harmony of colors" that was "not even known to earth," and in *Occult Chemistry*, they wrote of "inconceivably beautiful and brilliant" forms.¹⁵⁸

In describing the interaction of individual, group, and divine vibrations, Leadbeater suggested not only acoustical vibration models, but also studies concerning perception of vibrations. As he writes of the “luminous vibrations” produced in an early stage of individual monadic evolution,

¹⁵⁵ Ibid., 58.

¹⁵⁶ Ibid.

¹⁵⁷ Ibid.

¹⁵⁸ Besant and Leadbeater, *Occult Chemistry*, 33; see also n. 483 above.

What little there is comes because certain qualities have been already evolved within the group-soul of which that causal body previously formed a part, and it is in process of communicating these to the force within, so that there is already a certain vibration at the rates corresponding to these; and consequently faint indications of these rates of vibrations are even now observable within the form as dawning gleams of color.¹⁵⁹

Leadbeater overlaid Eastern philosophy with vibrational models drawn from physics and experimental psychology, as Theosophists tended to do.¹⁶⁰ In his texts, bodily vibrations are detected as colorful forms, which are amplified by sympathetic vibration oscillating at higher rates. His characterizations of interacting waves bear resemblance to Helmholtz's descriptions of overtone and compound tones, and even hint at Wundt's difference tones. Leadbeater described not only additive properties of combined vibrations, but also the subtractive, mitigating, and evolving properties of secondary vibrations.

As in the examples of occult-oriented science and spiritual health addressed earlier in this chapter, Theosophists drew on longstanding models of spiritual vibrations. These were manifest in the divine, but the individual soul could vibrate in sympathy, helping to spread these vibrations further. Where Mesmer's ideas suggested analogues to physics and physiology to Poe, by the end of the century, these ideas were recast by occultist to reflect emerging science. Scientists and occultists extended and refined existing models, developing links between color and sound suggested by the wave theory of light and defined by acoustical models. While ideas adopted from the study of electromagnetism suggested the closest parallels to theories of unseen forces, the paradigm of

¹⁵⁹ Ibid., 54.

¹⁶⁰ For instance, among other elements in this passage, Leadbeater described individual monads in advanced states, which remained on the physical plane in order to initiate vibrations in other, less evolved souls, and thereby facilitating the transcendence of others (i.e., essentially monad-bodhisattvas).

sound waves and harmony—sufficiently redefined and expanded—offered the clearest way to conceive of and explain them.

Kandinsky, vis-a-vis the Scientific and Occult in *Concerning the Spiritual*

As his references in *Concerning the Spiritual in Art* demonstrate, Kandinsky drew on scientific and occult sources to support his artistic theories. Such commingling of science and the occult was not at all unusual at the time. Even mutually sympathetic positions were wide ranging, from occultists who were enthusiasts of science, like Steiner and Besant, to scientists of a spiritual bent, such as Fechner. The challenge to materialist science posed by the new prominence of the invisible was highly liberating for Kandinsky and many others of his era. This brings us back to an essential point regarding Kandinsky's theory of artistic transmission. In the central piano metaphor in *Concerning the Spiritual in Art*, “color is the keyboard,” “the soul is the piano,” “the artist is the hand that touches many strings”—but where a continuation of the metaphor along acoustical lines would end in the ear (eye), Kandinsky shifted to a direct statement—“to cause vibrations in the soul.”¹⁶¹ The statement is grounded in scientific models but it is concerned with artistic and spiritual communication. With scientific and occult sources restored, the idea takes on additional meaning.

The revelation of measurable phenomena that are invisible to the eye bolstered the belief, already widely held by occult writers, that our visual perception of reality is severely limited. As noted above, Kandinsky also drew on contemporary theories of

¹⁶¹ Kandinsky piano metaphor pgs and ref n. above.

physics, largely rooted in ideas about the ether, and like the Theosophists, he expanded them for his own rhetorical purposes. Kandinsky expressed the profound effect these discoveries had on him in *Concerning the Spiritual* and in his "Reminiscences" essay, and it will be useful to return to a key passage from each of the texts, considering them more fully than earlier:

And higher still we find that there is no more fear. The work done here boldly shakes the pinnacles that men have set up. . . . We find professional intellectuals who examine matter over and over again and finally cast doubt upon matter itself, which yesterday was the basis of everything, and upon which the whole universe was supported. The electron theory—i.e., the theory of moving electricity, which is supposed completely to replace matter, has found lately many keen proponents, who from time to time overreach the limits of caution and thus perish in the stronghold of science. . . . But there is no fortress so strong that it cannot be taken.¹⁶²

The collapse of the atom was equated, in my soul, with the collapse of the whole world. Suddenly, the stoutest walls crumbled. Everything became uncertain, precarious and insubstantial. I would not have been surprised had a stone dissolved into thin air before my eyes and become invisible. Science seemed destroyed: its most important basis was only an illusion, an error of the learned, who were not building their divine edifice stone by stone with steady hands, by transfigured light, but were groping at random for truth in the darkness and blindly mistaking one object of another.¹⁶³

Kandinsky used scientific theories to further multiple ends simultaneously. He used the subdivision of the atom and the electron theory to support the idea of other unseen realities, and to emphasize universal interconnection. Simultaneously, he used new scientific studies refuting older ones to point to the limitations of science itself. The same

¹⁶² Ibid., 12. See also Edna Garte, "Kandinsky's Ideas on Changes in Modern Physics and their Implications for his Development," in *Gazette des Beaux-Arts* (October 1987), 137–144; and Henderson, "Abstraction, the Ether, and the Fourth Dimension," and "Vibratory Modernism," 145.

¹⁶³ Kandinsky, *Complete Writings*, 364. See also Hahl-Koch, *Kandinsky*, 52. It is important to note that Kandinsky's admonishing of science is confined to "positivist science."

may be said of numerous discussion of contemporary science within Theosophical literature. Much of the Theosophists' rhetoric was also modeled on popular scientific writings. This is less true of Kandinsky's writings in *Concerning the Spiritual*, but becomes more apparent in his later publication *From Point and Line to Plane* (1926).

Kandinsky's piano metaphor also draws on standing theories involving vital forces. Literary scholar Bruce Clarke has examined similar themes within scientific and literary spheres during this era, astutely tracing "vitalism from science, to a scientific ideology, to a social ideology" in his study of Dora Marsden. Clarke argues that vitalism grew out of a scientific reaction against Newtonian mechanics, but was nonetheless "inscribed within Newtonian paradigms."¹⁶⁴ Morrison has productively applied Clarke's argument to Theosophical literature. As Morrison notes, "Paradoxically, in [the Theosophists'] critique of scientific materialism, they asserted a mechanical theory of spirituality."¹⁶⁵ According to Morrison, this mechanistic tendency in Theosophical literature was offset by vitalist traditions that "Blavatsky had appropriated as far back as *Isis Unveiled*" (1877).¹⁶⁶ Morrison also notes the manner in which *Thought-Forms* and similar publications appeal to empiricism through images, even where the authors served as their own "instrumentation."

Throughout much of *Concerning the Spiritual*, Kandinsky made a point to emphasize his non-empiricism with regard to artistic creation. This was in line with his theories of inner necessity and was congruous with his role as an artist. For instance,

¹⁶⁴ Clarke, *Dora Marsden*, (Ann Arbor: University of Michigan Press, 1996), 28.

¹⁶⁵ Morrison, *Modern Alchemy*, 87.

¹⁶⁶ Ibid.

writing in reference to his color theories, Kandinsky stressed, "These statements have no scientific basis, but are founded purely on spiritual experience."¹⁶⁷ However, as Gage notes, his color charts suggest similarities to Wundt's ideas and many others within that nascent field. Gage argues, "Few, if any, of the many approaches to colour among members of the [*Blaue Reiter* group] cannot be paralleled in the technical publications of experimental psychology in this period."¹⁶⁸ Gage draws strong comparisons between Kandinsky's "polar progressing from yellow to blue, the 'primary' contrast" and similar ideas in Wundt's *Grundzüge der Physiologischen Psychologie* of 1874.¹⁶⁹

Recent scholarship in the history of science has increasingly acknowledged the rhetorical power of images.¹⁷⁰ Kandinsky's diagrams draw on this strategy.¹⁷¹ However, at the same time, he regularly underlines his artistic subjectivity: "It is impossible to theorize about this idea of art. . . . Any theoretical scheme will be lacking in the essential of creation—the inner desire for expression—which cannot be determined. Neither the quality of the inner need, nor its subjective form, can be measured nor weighed."¹⁷²

Similarly, Kandinsky employed scientific findings in support of his spiritual-artistic ideas where useful, but also used science's refutation of previously held theories

¹⁶⁷ Kandinsky, *Concerning the Spiritual*, 37.

¹⁶⁸ Gage, *Color and Culture*, 208.

¹⁶⁹ *Ibid.*, 207; citing Wundt, *Physiologischen Psychologie*, 329. Gage further observes that Kandinsky's diagrams relate to Viennese physiologist Ewald Hering, as well as colour-therapies he knew as early as 1901.

¹⁷⁰ For instance, M. Norton Wise, ed., *The Values of Precision* (Princeton: Princeton University Press, 1997); Peter Galison, *Image and Logic: A Material Culture of Microphysics* (Chicago: University of Chicago, 1997); Wise, "Making Visible," *Isis* 97, 75–82; Pamela Smith, "Art, Science, and Visual Culture in Early Modern Europe," *Isis* 97 (2006), 83–100; and her book, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004); are among the many excellent examples.

¹⁷¹ Kandinsky, *Concerning the Spiritual*, facing 36 and 37.

¹⁷² *Ibid.*, 35.

in an argument encouraging greater emphasis on spirituality over materiality. In each case, after drawing on scientific findings, Kandinsky would amend the statement, suggesting a further spiritual development in line with his thesis devoted to the transcendence of society led by the artist. For instance, Kandinsky described contemporary resistance to abstraction in a manner that seems a direct refutation of theories concerning the perception of tones in the nerve fibers of the ear, while nonetheless drawing on the scientist's model:

It is because of the elementary stage reached by our painting that we are so little able to grasp the inner harmony of true color and form composition. The nerve vibrations are there, certainly, but they get no further than the nerves because the corresponding vibrations of the spirit that they call forth are too weak.¹⁷³

Here, Kandinsky's argument is closer to Crookes's, who wrote of "masses of nerve coherers in the brain" capable of receiving telepathic vibrations in the ether, and closer still to Flammarion's notion of future possibilities for "other chords to our lyre."¹⁷⁴ Kandinsky's statement here also suggests similarities to Leadbeater's argument concerning the augmentation of monadic vibrations by the group-soul and divine forces.¹⁷⁵

In his relationship to the positivist science of Helmholtz and Wundt, Kandinsky took a stance similar to that of the Theosophists. They cited well-known scientists who supported the notion of psychic phenomena, and, most often, merely referred to others generally when they were unsympathetic to these ideas. Unlike Baraduc, whose "thought

¹⁷³ Ibid., 47. In comparison, see n. 262 (Helmholtz on "hair cells).

¹⁷⁴ Crookes, 1889 BAAS address, p. 21 (see n. 406 above); and n. 413 (Flammarion) above; see also Henderson, "Vibratory Modernism," 142.

¹⁷⁵ See at n. 506 and 511.

photography” warranted praise by Besant and Leadbeater, scientists like Helmholtz and Wundt are usually relegated to a general criticism of their limited methodology. Besant and Leadbeater’s statement regarding the initial scientific step in the study of thought forms being rooted in psychology based on physiology (quoted above) was a clear reference to Wundt’s “physiological psychology.”¹⁷⁶

It is little wonder that the Theosophists were reluctant to mention Helmholtz or Wundt by name since they were so critical of psychic phenomena and directly attacking such endeavors. For instance, Helmholtz fiercely criticized Zöllner for what he called an “idealist embrace” of “empty illusions” in his lecture “Gustav Magnus. In Memoriam,” which appeared in his published *Popular Lectures* of 1885.¹⁷⁷ Wundt was also vocal in his criticism of the Theosophical Society. He categorized different methods of psychological study in his introduction to *Outlines of Psychology*, dismissing those he saw as “spiritualistic.”¹⁷⁸ In his later *Hypnotismus und Suggestion* of 1892, he directly attacked the Society for Psychological Research and their notion of psychic phenomenon, as well as Theosophists and their belief in “higher secrets.”¹⁷⁹ Nevertheless, the theories of the Theosophists and many others were largely modeled after the principle of sympathetic vibrations as described by Helmholtz and his assistant Wundt, as was Kandinsky’s theory of artistic transmission as put forth in *Concerning the Spiritual in Art*, where color “causes vibrations in the soul.”

¹⁷⁶ See at n. 317.

¹⁷⁷ Helmholtz, *Popular Lectures*, 2:14. See also Cahan, 352, 363–64, and 370–73.

¹⁷⁸ Wundt, *Outlines of Psychology*, 6–17

¹⁷⁹ Wundt, *Hypnotismus und Suggestion*, 5.

While contemporary science may have provided Kandinsky a model for his ideas of artistic transmission, the application of these principles within the sphere of human-astral interaction offered by Theosophy, the occult, and occult-oriented science more closely parallels *Concerning the Spiritual*. The importance of this body of literature is further evidenced by Kandinsky's numerous references to authors in these genres and by the books that he owned. As demonstrated above, his use of a vibrational paradigm to define his artistic-spiritual theories was part of a larger discourse, as were his comments about music and dissonance. This context helps explain Kandinsky's intended meanings and suggests ways in which *Concerning the Spiritual* might have been read by his many of his contemporaries.

While then-recent scientific discoveries and technological developments like wireless telegraphy provided the most direct justification for theories of psychic forces in this era, sound waves were the primary model employed by authors seeking to explain them, whether writing in the sphere of science, the occult, or somewhere in between. The only other model employed to explain vibrational patterns with anything near the regularity of the analogy of sound was that of water, which was frequently used to explain sound's mechanical properties and interactions as well.¹⁸⁰ Furthermore, the relationship of vibration rates and overtones greatly informed Arnold Schoenberg's notion of "the emancipation of the dissonance," or "further removed consonances." Schoenberg's theories of dissonance began to shape Kandinsky's engagement with these

¹⁸⁰ As evident above, and in many of the examples from the previous chapter of this dissertation. For instances, see at n. 251 (Helmholtz), n. 293 (Young), n. 301 (Duncan), and n. 483 (Besant) for water models.

vibratory concepts in 1911 and had an even greater impact on his work in the years immediately following.

Chapter 6

Kandinsky's *Impression III (Konzert)* and Kandinsky's and Schoenberg's Initial Encounter

Having considered some of the important crosscurrents within the literature that Kandinsky knew, as well as a common paradigm employed in various instances, it will be useful to return to the artist's most celebrated musical connection, Arnold Schoenberg, and the painting most associated with the two men's friendship, *Impression III (Concert)* of 1911. Kandinsky had long been engaged with music and musical subjects when he encountered Schoenberg's atonality in the January 1, 1911 concert in Munich. Kandinsky played the piano, cello, and zither.¹ As established herein, *Concerning the Spiritual*—which he was finishing at this time—is replete with musical references and analogies on various levels, which often serve to explain central ideas in the text. Beginning in 1909, Kandinsky was also engaged in the creation of what he perceived as a synaesthetic gesamtkunstwerk, *The Yellow Sound*, with his friend Thomas von Hartmann.² However, Kandinsky's most prominently musical subject in painting to date came the day after attending the Schoenberg concert.³ *Impression III (Concert)* was executed on January 2, 1911 (fig. 6.1).⁴

¹ According to Nina Kandinsky, Wassily Kandinsky began taking private lessons in music, chiefly on the piano, beginning in 1874. See Hahl-Koch, *Kandinsky*, 25 and 391.

² Kandinsky, "The Yellow Sound: A Stage Composition," *The Blaue Reiter Almanac* (London: Thames & Hudson Ltd., 1974), 207–225.

³ The only other prominent depiction of a musical instrument by Kandinsky at this date seem to have been Gabriel's horn, as pictured in numerous paintings of 1910–1911, such as *Sound of Trumpets (Large*

The Painting

The iconography of *Impression III (Concert)* has been described numerous times in the literature of the last decade. Two preliminary sketches aid identification of the painting's main elements, which include a piano and a group of figures.⁵ There is general agreement that the painting is a response to the concert of Schoenberg's music, as its date would strongly suggest. It also seems commonly agreed that the amorphous yellow form represents the music issuing from the piano.⁶ References elsewhere, such as his stage work, *The Yellow Sound*, make this clear enough, but it is also evident within formal elements of the painting. The vibrant yellow form dominates much of the canvas. The yellow aligns with black where the sound would issue from the actual instrument, and his

Resurrection) of 1910-1911, *All Saints*, from early summer 1911, and various *Resurrection* scenes painted in July and August of 1911. See for instance, Barnett, *A Colorful Life*, 330-40.

⁴ See Wasserman, "Schoenberg and Kandinsky," in *Schoenberg, Kandinsky and the Blue Rider*, 22-24; and Hoberg, "Impression III (Concert)," in *Schoenberg, Kandinsky and the Blue Rider*, 162. The title, *Impression III*, was given by Kandinsky. The parenthetical description, "Concert," seems to have been added by Münter. As such, literature on Kandinsky seems to have held to the distinction in italicized versus Roman text for those given by the artist versus those used by others to describe a work, which is a convention I maintain here.

⁵ The sketches are in the collection of the Musée National d'Art Moderne, Centre Georges Pompidou (AM 1981.65.198-199). The verso of the second sketch was inscribed, "Impression Konzert 3 1.11," by Münter. See Barnett, *Vasily Kandinsky: A Colorful Life*, 310.

⁶ See, for instance, Wasserman, "Schoenberg and Kandinsky in Concert," in *Schoenberg, Kandinsky and the Blue Rider*, 17ff.; Dabrowski, "Kandinsky and Schoenberg: Abstraction as a Visual Metaphor of Emancipated Dissonance," *Schoenberg, Kandinsky and the Blue Rider*, 79-94; Hoberg, "Impression III (Concert)," *Kandinsky*, 162; Dickerman, "Inventing Abstraction," *Inventing Abstraction* (New York: Museum of Modern Art, 2013), 23-24. Klaus Kropfnger's reading is perhaps the most suggestive: "The true content is the impact of the expressive power of the music, which evoked in the artist inner vibrations, and permeated and transformed the relics of figural imagery through pictorial means that are derived solely from structural forces. [. . .] By pictorial structure, I mean the evocation of strong tensions . . ." However, as Kropfnger explained, "With this kind of analysis, I do not intend to propose any direct comparison between individual works of painting and music. . . ." and he went on to argue, "Such comparison . . . are, strictly speaking, not possible." Kropfnger, "Latent Structural Power versus the Dissolution of Artistic Material in the Works of Kandinsky and Schönberg," *Schönberg and Kandinsky: An Historic Encounter*, ed. Konrad Boehmer (Amsterdam: Harwood, 1997), 22-23. Christopher Butler wrote that "the relationship between abstraction and musical thinking is affirmed" in *Impression III (Concert)*, see *Early Modernism: Literature, Music and Painting in Europe 1900-1916* (Oxford: Clarendon Press, 1994), 39.

notation (*gelb*) to the right of the piano in the second sketch further supports this interpretation. The yellow form suggests movement from the piano's opening, out into the audience; the color envelopes them in much the same way sound would assert its presence at an actual concert.

The visualization of sound had precedents in much of the literature Kandinsky read, including Baraduc, Rochas, Gessmann, Leadbeater, Besant and others. Connections between light and sound were also strongly suggested in the science of the era, where vibrations in the ether were manifest all around. These ideas not only suggested sound's visualization, but also provided extended analogies and deeper meanings. As has been regularly suggested in interpretations of the painting, on a purely formal level, the yellow form not only dominates the composition, it also interacts with other elements throughout.

Kandinsky suggested the yellow sound's interaction with the figures in the foreground in various ways. While schematized into rows of partial circles for heads and a few globular shapes for bodies, they are certainly human figures, because they correspond to Kandinsky's depiction of such forms in other paintings executed around this time and because of their appearance in the previous sketch.⁷ Simple black outlines define some figures, but the more colorful of them have irregular edges. The most prominent figures in the foreground are leaning forward, towards the piano, and their

⁷ Many of Kandinsky's abstracted paintings from this period are preceded by more representational versions of the same theme. For instance, *All Saints I*, July–August 1911, a painting in oil on canvas, was preceded by *All Saints I*, early summer 1911, a painting on glass in which one can clearly make out the figures that become reduced to colorful spheres in the later work. See figs. 396 and 397 in Barnett's *Vasily Kandinsky: A Colorful Life*, 334–35. On Kandinsky's methods of abstractions in this period, see especially Long, "Kandinsky and Abstraction: The Role of the Hidden Image," *Artforum* 10 (June 1972), 42–49.

colors seems to extend beyond the bounds that might be suggested by the outlined figures nearby. The two right-most figures are bright yellow and orange, colors responding to the yellow of their surrounds. The angles of their edges align with the intersection of the piano and the yellow sound.

As established in the previous chapter, color and sound were clearly related in Kandinsky's theories. Ideas about the creation, interaction, and perception of vibrations were important topics across a range of different disciplines, including physics, metaphysics, the occult, music, and the visual arts, and dissonance was coming to have increasingly positive connotations. In his chapter on color in *Concerning the Spiritual*, Kandinsky asserted, "Light yellow . . . on black . . . has such a strong effect that it flies off the background, floats in the air, and jumps into the viewers' eyes."⁸ The juxtaposition of yellow and black is the most prominent contrast in the painting, but the yellow also interacts with most of the other colors present—red, blue, green, orange, and touches of purple, with some variation of hues—creating a range of interactions. These are defined as contrasts in Kandinsky's theories of the period, and were evident in other art of the avant-garde, where colors "long considered disharmonious are now placed next to each other."⁹ He contrasted "modern" color harmony, which used "physically unrelated colors," with academic approaches, where "color families" and softer gradations around the color wheel would be used locally.¹⁰ The juxtaposition of red and blue was Kandinsky's chief example of color contrasts, but other colors that are non-adjacent on

⁸ Kandinsky, *Concerning the Spiritual*, 37.

⁹ Ibid.

¹⁰ Ibid.

the color wheel were also considered contrasting. Throughout the section, Kandinsky emphasized the constructive possibilities of color contrasts: "'Permitted' and 'forbidden' combinations, the clash of different colors, the overriding of one color by another, or of many colors by a single color, the emergence of one color from the depths of another, . . . all this opens up purely pictorial (= painterly) possibilities" ¹¹

Immediately before this statement, Kandinsky compared traditional ideas of color harmony to Mozart. He described a new harmony, derived from "inner need," which would provide an "infinitely greater arsenal of expressive possibilities." Throughout this passage, Kandinsky also stressed his desire to avoid naturalism in order to further expressive and spiritual ends. Greater abstraction and the use of acute formal contrasts are his primary arguments throughout the chapter. Both qualities are described as arising from "inner need," and are seen by Kandinsky as essential in the artist's goal in leading society towards greater spirituality. As noted in chapters one and two, avant-garde music of the era had established the expressive possibilities of dissonance, further encouraged by Nietzsche's concept of the Dionysian. The creative possibilities of color contrasts had already been explored by artists of the late nineteenth century, as Kandinsky noted in this passage.

¹¹ Ibid. Kandinsky's frequently use of the terms "permitted" and "forbidden" appear consistent with the terms' usage within music theory (such as the prohibitions against consecutive fifths, parallel octaves, tritones, etc.). *Unerlaubte* and *verboten* are both employed, depending on context in writings on music. Kandinsky used *erlaubte* and *unerlaubte* (p. 110). Von Hartmann used the same terms in his essay "On Anarchy in Music," in *Blauer Reiter*: "Man braucht sich nur an die Zeiten erinnern, als die Sexten und Terzen von Theoretikern für unerlaubte Missklänge gehalten wurden." (p. 46). Schoenberg used both, for instance, "Käme der Inhalt in Betracht, so müßten auch Quartan parallelen verboten werden. Genau genommen dürfte dann vor allem die Verbindung der betreffenden Stufen nicht erlaubt werden." (*Harmonielehre*, p. 78; see also, pp. 74–81 passim).

As we have seen, by the early twentieth century, dissonance was frequently discussed as transporting and transformative. In *Impression III* (Concert) Kandinsky was responding, generally, to Schoenberg's music within this larger context of dissonance. In *Concerning the Spiritual*, Kandinsky wrote of an "extension in harmonious or disharmonious combinations" and the "richness" and "power" they would offer:

Clashing discords, loss of equilibrium, "principles" overthrown, unexpected drumbeats, great questionings, apparently purposeless strivings, stress and longing (apparently torn apart), chains and fetters broken (which had united many), opposites and contradictions—this is our *harmony*. *Composition* on the basic of this harmony is *the juxtaposition of coloristic and linear forms that have an independent existence as such, derived from internal necessity, which create within the common life arising from this source a whole that is called a picture*.¹²

This statement immediately precedes his discussion of color juxtapositions addressed above. In many ways, his statements of this section seem to describe *Impression III* (Concert).¹³

At the same time, the painting might be interpreted as a visual equivalent of his extended piano metaphor:

Generally speaking, color is a power that directly influences the soul. Color is the keyboard, the eyes are the hammers, the soul is the piano with many strings. The artist is the hand which plays, touching one key or another, to cause vibrations in the soul. *It is evident therefore that color harmony must rest only on a corresponding vibration in the human soul; and this is one of the guiding principles of the inner need*.¹⁴

The idea of correspondences between colors and sounds, their interaction with the soul, the exteriorization of invisible forms, an expansion of perception leading to a greater

¹²Kandinsky, "On the Spiritual," 193.

¹³ This appears to be among the passages not included in the 1909 manuscript, an issue I will address in the conclusion of this dissertation.

¹⁴ Ibid., 25. Italics are Kandinsky's throughout these quotes.

spiritual awareness, as well as other interconnected intellectual currents addressed above are embodied in *Impression III* (Concert), where the dissonant music issuing from the piano interacts with, and uplifts, the foregrounded figures.

It is not difficult to think of Kandinsky and his artistic companions as the radiating forms in the foreground, their physical bodies reflecting the spiritual and psychological transformation enabled by transporting power of dissonance, drawn up and into the dissonance of the piano's etheric emanation. As artists, they would be especially capable of vibrating in sympathy with the music and creating their own creative undulations, as asserted in much of the literature addressed above. The interaction of sound and figures in the work may, in this way, be seen as a metaphor for Kandinsky's goals for his paintings: the vibrations interact with the audience, who are uplifted and radiate their own spiritual vibrations.

Kandinsky and Schoenberg: Initial Exchanges

Kandinsky surely found inspiration for *Impression III* (Concert) in the January 1, 1911 concert of Schoenberg's music in Munich, but there is no evidence to suggest that Kandinsky understood the composer's specific organizing methods and compositional strategies enough at that point—or even would have had access to them—to have incorporated them into his conception of the painting. Schoenberg's *Harmonielehre* was not yet published, and Kandinsky only had access to excerpt that appeared on the concert poster. He had not yet begun his correspondence with the composer. Even if he had had access to the scores from the performance—and there is no indication that he did—

comprehending Schoenberg's organizing principles and specific strategies can be challenging, even if appreciation of the music is immediate, and even if its underlying justification in the overtone series was clear from the start.

As reviews of the concert suggest, Schoenberg's music is difficult to understand, even for sympathetic critics, of whom there were few. *Allgemeine Musikzeitung*, in Leipzig, included a review of the event, describing Schoenberg as "the well-known Vienna cacophonist" and writing that the music left "no impression but of—to put it mildly—pointless experimentation."¹⁵ Kandinsky responded to this sentiment later that year in *Concerning the Spiritual*, rebuking those who saw "clashing discords" as "apparently purposeless strivings."¹⁶ The unidentified reviewer described the audience's reaction, writing, "There was no shortage of applause, but there was plenty of laughter and cursing as well." Friedrich Keyfel, reviewing the notable January concerts in Munich, was highly critical of Schoenberg's music, but allowed that the musicians were masterful, and, in particular, that the pianist of op. 11 "performed a feat of heroism by coaxing a certain degree of music from her piano as if by magic."¹⁷

The critic for the *Münchener Post* offered a range of reactions. Although the reviewer described the concert as "a rather horrible 'Happy New Year'," subsequent comments nonetheless acknowledged the significance of the performance and a begrudging acceptance of the need to give the composer's ideas further consideration. For instance,

¹⁵ *Allgemeine Musik-Zeitung* 3 (January 1911); see Wasserman, "Schoenberg and Kandinsky," 19.

¹⁶ See at n. 231 above.

¹⁷ "München, Ende Januar," *Signal für die musikalische Welt* (Feb. 8, 1911), 221.

[Schoenberg is] too much of a genius, albeit of an unconventional sort, to be relegated to the realm of musical impossibility; there is method to even the most extreme madness. . . . One must, therefore, reckon with him as a composer who is here to stay. . . .

The Munich audience, at least those still there by the middle of the concert, did not hurl rotten eggs and apples at the 'Professor of Remote Consonance' but instead broke into calls of bravo without applause that sounded like stifled laughter; people were dumbfounded.¹⁸

Whether Kandinsky understood it completely or not when he first wrote to Schoenberg in 1911, the composer's "free atonality" abandoned tonality as an organizing feature but replaced traditional harmony with new structures. There was no longer a root key, and the organizing feature would be dissonant intervals introduced within the works themselves. Schoenberg justified this by extending the "consonant" series of the overtones. This was the concept to which Kandinsky referred when he first quoted Schoenberg's "The dissonances of today are the consonances of tomorrow."¹⁹ It is possible that he understood Schoenberg's justifications and goals, but it is highly unlikely that Kandinsky was aware of any of Schoenberg's specific compositional strategies at this point. Kandinsky's written statements from the period of their initial meeting strongly suggest that he understood few, if any, elements of the composer's means of organizing. However, that Schoenberg's new theory of harmony was based on an expansion of the overtone series became clear soon enough, if it was not already, and this premise offered a compelling fit with Kandinsky's own ideas about the expansion of artistic choices and his notions of spiritual transcendence. Schoenberg's theories, like Kandinsky's, were in

¹⁸ "Münchener Konzerte," *Münchener Post* 6 (Jan. 8, 1911); see Wasserman, "Schoenberg and Kandinsky," 20.

¹⁹ Kandinsky, *Concerning the Spiritual*, 16.

many ways rooted in scientific theories such as those of Helmholtz as well as other models of a universe connected by the ether and interacting through vibrations.

Although there could have been any number of opportunities for Kandinsky to witness a scene such as the one depicted in *Impression III (Concert)*, the Schoenberg concert Kandinsky attended with Gabriele Münter, Franz Marc, and others of their circle, and which was organized by Kandinsky's friend Alfred Guttman, likely served as the work's inspiration.²⁰ The performance, held in Munich's Tonhalle, featured two of Schoenberg's string quartets and his *Three Piano Pieces*, op. 11, so the second half of the concert would have centered on a solo pianist. Kandinsky's use of the term "Impression" further suggests that it did take inspiration from a particular event. Kandinsky described each of his paintings as being one of three categories: "Direct impressions of 'external nature' expressed in a drawing/painting form. I call these paintings 'Impressions'."²¹ Whether or not *Impression III (Concert)* draws significantly on the concert of January 1, 1911, the performance and accompanying poster made enough of an impression on Kandinsky to prompt him to write to Schoenberg on January 18, 1911.²²

²⁰ As I demonstrated in my master's thesis "At the Piano: Wassily Kandinsky and the Keyboard Metaphor in Image and Text" (The University of Texas at Austin, 2003), this subject may also be viewed as part of the artist's larger interest in the piano as a symbol for music. The piano was nearly ubiquitous in this era, shortly before the availability of recorded music. It also aided in the analysis of scores, and in the dissemination of music. As evident above, it served as metaphor for complexity, as model for creative expression, and even as a scientific instrument. See at n. 67 (Whistler), n. 77 (Blanc), n. 190 (Lodge), n. 263 (Helmholtz). On the latter, see also Hui, *Psychophysical Ear*, ch. 3.

²¹ Kandinsky's use of the term "Impression" should not be confused with the term "Impressionism," a style designation coined in the 1870s. "Events of the spiritual type" were named "Improvisation," and he called his most carefully planned paintings "Compositions," notably musical in connotation. See Hahl-Koch, *Kandinsky*, 152.

²² While Kandinsky was clearly excited by the concert and the performance, it should be noted that this interaction was greatly facilitated by Münter, who obtained Schoenberg's address, and urged Kandinsky to initiate contact: "I think such people should get to know each other, just as I had found your address" (Aug.

The two men shared many of the same artistic concerns and Kandinsky's letter would begin a friendship that would last, to varying degrees, into the 1930s.²³ Schoenberg kept all of the correspondence that he received throughout his life. He and Kandinsky wrote frequently, sometimes daily, between 1911 and 1914, using each other as a sounding board for their art theories. Thus, the letters between the two offer valuable insight into the evolution of their thinking and helps further a comparison of their respective theories.

At the time of their initial contact, Schoenberg and Kandinsky were at very similar points in their respective, artistic developments. Furthermore, both had arrived there along similar routes. Each man started his adulthood in a more stable, professional career: Kandinsky had studied law and economics, and Schoenberg had been a banker only to abandon it for his art. Between 1900 and 1907, both were engaged in fairy-tale-like representations—knights, lovers, and other folk motifs—and were indebted to the Jugendstil movement.²⁴ Both drew heavily on Symbolist literary theory as well, as would have been clear to Kandinsky from the outset. Schoenberg used Stephan George poems “Litanei” and “Entrückung” of 1907 for the third and fourth movements respectively—the two atonal movements—of his *Second String Quartet*, performed at the January 1

20, 1912). She also frequently corresponded with the composer on matters concerning the almanac and exhibitions. See *Arnold Schoenberg, Wassily Kandinsky*, 55ff.

²³ Ibid.

²⁴ For instance, in Schoenberg's *Pelleas und Melisande* (1903) and *Gurre-Lieder* (1900–11); and in Kandinsky's *Motley Life*, 1907.

concert.²⁵ Between 1907 and 1910, Schoenberg was moving towards atonality and Kandinsky was moving towards abstraction.²⁶ In 1910 and 1911, both were composing works for the stage that included similar elements. At the same time, they were each writing major theoretical texts that were intended to explain and justify their respective innovations. Schoenberg's *Harmonielehre* remains as essential to the study of early atonality as Kandinsky's *Über das Geistige in der Kunst* is to understanding the emergence of total abstraction in modern European art.²⁷

In these publications, Kandinsky's *Concerning the Spiritual* and Schoenberg's *Theory of Harmony*, the greatest similarity between the two artists can be found. Each man clearly distrusted visible reality and positivist science and had concluded that his art must move beyond traditional types of representation.²⁸ For Schoenberg, this meant a break from the traditional system of tonal harmony; for Kandinsky, a break with representational art. However, this was not merely a tearing down of the old. Both artists realized that with the new language they sought, there would be a need for new structures. Both believed that these new languages of atonal music and abstract art would

²⁵ Schoenberg, *Streichquartett II, für zwei Violinen, Viola, Violoncello und eine Sopranstimme*, op. 10 [1907–1908] (Wien, Universal Edition, 1940). See also Alan Philip Lessem, *Music and Text in the Works of Arnold Schoenberg* (Ann Arbor, Mich.: UMI Research Press, 1973), 33–36.

²⁶ *Second String Quartet*, Op. 10 (1907–8) and *Three Piano Pieces*, op. 11 (1909); and Kandinsky's *Composition II* (1910).

²⁷ Arnold Schoenberg, *Theory of Harmony*, trans. by Roy E. Carter (Berkeley: University of California Press, 1978).

²⁸ For instance, in *Concerning the Spiritual*, Kandinsky argued, “Those who strive to follow the Greek methods [naturalism] . . . achieve only a similarity of form, the work remaining soulless for all time. Such imitation is mere aping. . . . There is, however, in art another kind of external similarity which is founded on a fundamental truth . . . [which is expressed] only in internal truths, renouncing in consequence all consideration of external form” (*Complete Writings*, 127). Schoenberg offers a similar argument in his *Harmonielehre*: “Art in its most primitive state is a simple imitation of nature. But it quickly becomes imitation of nature in the wider sense of this idea, that is, not merely imitation of outer but inner nature In its most advanced state, art is exclusively concerned with the representation of inner nature” (*Theory of Harmony*, 18).

allow for greater expression on the part of the artist, but neither artist thought it possible to allow for this expression without structures, or rules as it were, in which to frame that expression. Rather, they sought to expand those rules that had already been proven profoundly expressive, even if they were expressing a different 'epoch'.

In Kandinsky's initial letter to Schoenberg, he excitedly described some of what he saw as their points of shared thought. He extolled the "independent progress through their own destinies, the independent life of the individual voices," and he wrote of a "great tendency in painting to discover the 'new' harmony."²⁹ He offered that "modern harmony" should be "constructed" in an "anti-geometric, antilogical way," continuing, "And this way is that of 'dissonances in *art*,' in painting, therefore, just as much as in music. And 'today's' dissonance in painting and music is merely the consonance of 'tomorrow.'"³⁰ Here he was paraphrasing an excerpt from Schoenberg's *Harmonielehre* that appeared on the promotional poster for the concert. He mentioned the poster in the penultimate paragraph of the letter, saying he was sorry that he did not understand the last two sentences, then closed by mentioning an enclosed portfolio of woodcuts and some photographs of his paintings.³¹

Schoenberg's return letter of January 24 is gracious and appreciative. He agreed with the artist on most points, but suggested that what Kandinsky calls "antilogical" he considers the "unconscious," reflecting his interest in the theories of his fellow Austrian

²⁹ Hahl-Koch, *Schoenberg/Kandinsky, Letters*, 21. As evident in the "discord" statement from *Concerning the Spiritual* that is quoted above, and elsewhere, Kandinsky equated "individual voices" with "inner need," and in his case, abstraction. See at n. 548.

³⁰ Ibid.

³¹ Schoenberg was unclear as to which two sentences Kandinsky was referring, and shifts the discussion to the notion of dissonance. The initial, pedagogical issue appears to have been forgotten (see at n. 570).

Sigmund Freud. In a train of thought clearly indebted to Schopenhauer's philosophy, Schoenberg went on to stress that "when the artist reaches the point at which he desires only the expression of inner events and inner scenes in his rhythms and tones, then the 'object in painting' has ceased to belong to the reproducing eye."³² This statement was particularly exciting to Kandinsky, fitting as it did perfectly with the ideas he was putting forth in *Concerning the Spiritual*, already started, especially his own notion of "inner necessity," which was also deeply rooted in his understanding of Schopenhauer.³³

The only initial point of potential disagreement between the two men seems to have been on the notion of dissonance, as paraphrased by Kandinsky. In a lengthy postscript to his January 18 response, the composer expressed worry about the poster, stating that he had no control over its production or content and that he finds such advertising "unwanted and distasteful." He enclosed an excerpt from *Harmonielehre* that had appeared as an article in *Der Musik*, October 1910, an advance publication of the section 'On Parallel Octaves and Fifths' from chapter four, "The Major Mode and the Diatonic Chords":

In one sense one should never be untimely—in a backward direction!

Dissonances are only different from consonances in degree; they are nothing more than remoter consonances. Today we have already reached the point where we no longer make the distinction between consonances and dissonances. Or at most, we make the distinction that we are less willing to use consonances.

I believe that it will eventually be possible to recognize the same laws in the harmony of those of us who are the most modern as in the harmony of the classics; but suitably expanded, more generally understood.

³² Ibid., 22. That Schoenberg is drawing on Schopenhauer here is made clearer by passages in *Harmonielehre* where he expresses similar ideas and cites the philosopher directly (see for instance, p. 18).

³³ See at note 49 and at 175 above (Schopenhauer and Kandinsky on "inner necessity").

Our teaching persuades us to regard even the productions of the young, which the ears of their elders despise, as necessary steps in the development of beauty. However, one should never wish to write things for which one can take responsibility only by staking a complete personality; things which artists have written almost against their will, compelled by their development, but not out of the unrestrained wantonness of an absolutism unsure of form.³⁴

Although Schoenberg gave Kandinsky the benefit of the doubt, placing blame for the misinterpretation of his idea on the concert promoter, it might have been a partial misunderstanding by Kandinsky. At least, it was a metaphorical use of Schoenberg's concept. The text that Schoenberg enclosed in his letter to Kandinsky was the same passage the concert promoter had excerpted for the poster. Kandinsky took the idea that dissonances of today are merely further removed consonances to mean further removed chronologically. Schoenberg meant that they were further along in the overtone series that defined harmony, but of the same series. When Schoenberg wrote of "the same laws . . . suitably expanded," he was being far more literal than Kandinsky had been in his statement. The excerpt is easily misunderstood but whether Kandinsky's use was mistaken or willful is unclear. Either way, he would soon become better acquainted with Schoenberg's ideas.

In his next letter to Schoenberg, Kandinsky wrote that he had taken the liberty of ordering copies of Schoenberg's article in *Die Musik* to be sent to his friend, the sculptor Vladimir Alekseevich Izdebskii, who was organizing an exhibition in Odessa at the time and had asked Kandinsky for recommendations of essays on new theories concerning "all

³⁴ Schoenberg, "Dur- und Moll-Tonleitern und anderen diatonischen Modi," *Der Musik* 9 (October 1910) 97–105. It would seem that Guttman was aware of the article on his own, both because of Schoenberg's surprise at his use of it, and because none of Schoenberg's letters to Guttman suggest that he included it, for promotional or other purposes.

the arts, thus also music” for the exhibition’s catalogue.³⁵ Kandinsky asked Schoenberg to inform him immediately if he objected to the article’s translation and reprinting in the catalogue. Without waiting for a response, he seems to have immediately begun translating the text, with Hartmann's assistance, and added his own footnotes, which are highly revealing.

In the footnotes to Schoenberg’s article, Kandinsky continued to use the composer’s new notion of dissonance in the non-reflexive sense.³⁶ In other words, he was writing about dissonance as defined by traditional harmony, not in Schoenberg's redefinition as an existing consonance. Kandinsky's use of Schoenberg's phrase was similar to the evolutionary scenario described in *Concerning the Spiritual*, which he was completing at this time: “What yesterday was rejected with derision today is deified.”³⁷ He used Schoenberg's music as metaphor for the idea that styles that are currently shocking will later be accepted. However, this does not preclude his having understood Schoenberg's literal intent as well. Kandinsky's key point was that just as Schoenberg was producing an “inner sound” and providing the “music of the future,” so too must artists ignore academic conventions of naturalism and continue on the path to total abstraction.

³⁵ Hahl-Koch, *Schoenberg/Kandinsky, Letters*, 26n and 187. It appears that Kandinsky sent Izdebskii the annotated translation before hearing back from Schoenberg. The next letter that Schoenberg sent included an album of photographs of the composer’s paintings, which Kandinsky then hoped to include in the exhibition. This did not occur, but Kandinsky did, of course, include Schoenberg’s paintings in the *Blaue Reiter* exhibitions, and he included an essay by Schoenberg in the almanac, along with musical compositions by the composer's students. As Lindsay and Vergo suggest in their essay in *Complete Writings*, Izdebskii’s exhibition and catalogue seem to have been a stimulus for the *Blaue Reiter* exhibitions and catalogue that came shortly after.

³⁶ See at n. 17 (reflexive v. non-reflexive)

³⁷ Kandinsky, *Complete Writings*, 94.

Schoenberg understood that his new music might not find immediate popular acceptance, but as we have seen, the argument he was making was much more specific than that. In addition to offering an analog for greater receptivity of the sort Kandinsky sought, Schoenberg's theories regarding dissonances offered a specific path to new harmonies in music. Schoenberg's expanded tonality would also suggest new approaches to abstraction in painting for Kandinsky, but that would come later. It would seem that Kandinsky did understand two key things at this point, which were indicated in his letters and publications, even if not yet emphasized: 1) Schoenberg was looking to develop "new laws" for music that would allow for greater expressive possibilities through the use of dissonances, and 2) these new laws were still based on what were then understood as the fundamental properties of the tone.

Impression III (Concert) Reconsidered

It is evident that at this moment Kandinsky was deeply engaged in considerations of dissonance in music and in its implications for art. His writings, both published and personal, demonstrate the degree to which his concerns were part of a larger dialogue concerning the transformative and transporting power of dissonance in this era. The concert of Schoenberg's music clearly offered inspiration, and *Impression III* was, as its title and date suggest, probably the first result. However, it was primarily conceived in relation to the ideas the artist already held. The painting does not show evidence of specific strategies employed by Schoenberg, such as those I will address later in this dissertation, namely, the variation and expansion of a cellular statement.

In *Impression III* Kandinsky expressed visual tensions in his colors and in the relationship between representation and abstraction. This may be seen as parallel to Schoenberg's musically tense work, which turns unresolved dissonances into an organizing structure. More specific responses would necessarily await a greater understanding, which takes longer than a day. However, the shared points of contact between Kandinsky's theories and Schoenberg's, as well as the concert, would also have served as significant inspiration for Kandinsky's continued study of the composer's work and ideas.

In addition to his continued correspondence with Schoenberg, the artist was in contact with music theorists such as Sabaneev and Kulbin. Kandinsky would have been helped in his exploration of new theories of harmony by his friends von Hartmann and Marc. In later years, Nina Kandinsky recounted that "among all his [Kandinsky's] circle of friends, there was only one whom he ever addressed by the familiar second person singular, and only one who addressed him likewise: the Russian composer Thomas von Hartman."³⁸ Hartmann had studied at the Moscow Conservatory under Sergei Taneyev, who had also taught Scriabin and Rachmaninoff. In a letter to Marc of September 1911, Kandinsky wrote, ". . . I for my part wrote to Hartmann," who was in Russia at the time, "told him about our union, and bestowed on him the title of 'Authorized Representative for Russia.' I asked him expressly to feel with all his soul what that meant."³⁹

³⁸ See Daly and Daly, "On Thomas de Hartman," (see n. 149 above). Unfortunately, there are very few extent records of their interactions. Hartmann encountered Kandinsky's paintings upon his arrival in Munich in 1908. They were being shown in a three-person exhibition in Munich that included Van Gogh and Gauguin.

³⁹ Lankeit, *Blaue Reiter*, 16 (see also pp. 262–63).

In a letter to August Macke written shortly after attending the January 1 concert, Marc paraphrased the text from the poster and its connection to the music performed far more faithfully than had Kandinsky in his initial letter to Schoenberg: "Can you imagine a kind of music in which tonality (that is, adherence to any key) has completely disappeared? Schoenberg starts from the principle that the concepts consonance and dissonance simply do not exist. A so-called dissonance is simply a further-removed consonance."⁴⁰ Marc made Schoenberg's essential point: dissonances are fundamentally the same as consonances, they are just further along in the overtone series. Schoenberg's theory of harmony is, in many ways, an expansion of the prevailing system, which was based on a new understanding of the natural laws governing consonance and dissonance.

In *Concerning the Spiritual*, Kandinsky included a related quotation from the same section of the text paraphrased by Marc above: "Arnold Schoenberg says in his *Harmonielehre*: 'Every chord, every progression is possible. And yet I feel already today that even here there are certain conditions that govern whether I choose this or that dissonance'."⁴¹ Kandinsky was no longer paraphrasing Schoenberg, and the passage itself speaks to the composer's early views on atonal organization. In using this quotation, Kandinsky was going one step further than his footnotes for Schoenberg's article in the Odessa catalogue, acknowledging that the composer saw his dissonances as rooted in the properties of the tone, and as a logical expansion of the existing musical idioms. This

⁴⁰ See Kandinsky, *Complete Writings*, 91.

⁴¹ Kandinsky, *Complete Writings*, 149.

suggests a redefined use of the term dissonance (as expanded consonance) that is faithful to Schoenberg's idea.

Within the larger argument of *Concerning the Spiritual*, this expanded notion of harmony and its reception served as part of a general analogy for greater receptivity and expanded perception on the part of the viewer. In other words, Kandinsky was still fitting it into his evolutionary schema. While he was being more faithful to Schoenberg's theory through direct quotation, Kandinsky still uses the idea to reinforce his argument that "art is the child of its age." He went on to draw parallels to the formal shifts in modern artistic styles from Impressionism to Neo-Impressionism to Cubism, arguing, of course, that total abstraction should follow. However, his use of metaphor in the phrase "the dissonance of today is the consonance of tomorrow" does not exclude the original musical and acoustical meaning; the original meaning reinforces Kandinsky's metaphor of vibratory transfer.

Interlude: The Background of Scholarship on Kandinsky, Schoenberg, and Dissonance in Painting

As noted in the introductory chapter of this dissertation, contemporary critics, artistic colleagues, and later art historians have regularly remarked on Kandinsky's interest in music. Although this has been a key point from the start—assured by Kandinsky's own emphasis—misconceptions have abounded in the literature concerning the artist. The artist was adamant that he did not intend to "paint music." However, he

was equally clear that he sought to learn from music, especially new musical idioms, and he was deeply engaged with musical issues, especially ideas of constructive dissonance.

Peter Vergo's essay "Music and Abstract Paintings: Kandinsky, Goethe and Schoenberg," in the 1980 Tate Gallery publication *Towards a New Art*, is perhaps the most sophisticated and insightful study focusing on Kandinsky's musical analogies to date. Vergo adeptly identified and described many of the musical concepts that were central to Kandinsky's thinking in the years 1911 and 1912, especially Goethe's analogy of the thoroughbass, which the artist employed. Vergo also noted that the underlying basis of Schoenberg's concept of "further removed consonances" was grounded in an expansion of the overtone series. However, as is the case with Vergo's subsequent publications on these subjects, recovering the additional sources and contexts of these ideas is highly revealing.

Vergo is intimately aware of Kandinsky's writings, but in focusing on Kandinsky's work from the period around 1911 in his book *The Music of Painting*, specifically, the ideas expressed in *Concerning the Spiritual* and the painting *Impression III*, Vergo's analysis seems overly dismissive of Kandinsky's eventual understanding of atonal methods. According to Vergo,

No matter how little he really understood about the ways in which the 'principle of dissonance' might be applied to painting or how glibly he might talk about the 'path of dissonance' in art, Kandinsky knew enough about music to realize that letting dissonances 'stand for themselves' meant ultimately discarding the tonal system altogether.⁴²

⁴² Vergo, *The Music of Painting*, 185; and quotes following.

While Vergo allowed that the artist understood the underlying principle of Schoenberg's system, terms such as "glib" do not acknowledge Kandinsky's deep interest and continued study in this area.

Much of Vergo's dismissal seems to be based on the idea that Kandinsky's thoroughbass analogy was at odds with his praise for dissonant music. With more of their context recovered, Kandinsky's statements are far more congruent. Vergo claimed that "Kandinsky's somewhat limited understanding of purely musical matters did not permit him to appreciate fully the difficulties Schoenberg was facing." Moreover, Vergo dismissed the "illogicality of the arguments deployed by [Schoenberg] in order to justify the use of unresolved dissonances."⁴³ Basing his analysis on Rudolph Reti's 1958 study of Schoenberg's music, Vergo focused on problems faced in early theories of atonality rather than emphasizing the new, internal organizing structures at work in Schoenberg's early atonal period. Nor did he address their roots in nineteenth-century science. Perhaps, as has often been the case elsewhere, this occurred because of preference giving to the composer's later twelve-tone system.⁴⁴

As noted above, Kandinsky was trained in music. His closest friend, von Hartmann, was a professional musician and composer. Marc was fluent in new music ideas and demonstrated a keen grasp of Schoenberg's thesis. Kandinsky was also in

⁴³ Ibid., 186.

⁴⁴ Ibid., citing Rudolph Reti, *Tonality, Atonality, Pantonality: A Study of Some Trends in Twentieth-Century Music* (London, 1958). Vergo advanced a similar argument in his essay "Music and Abstract Painting," in *Towards a New Art: Essays on the background to abstract art, 1910–20* (London: Tate Gallery, 1980), where the scholar seemed to equate a distrust of overarching "rules" in music to a lack of localized, organizing structures within individual works. Vergo's emphasis on the problems faced in the creation of new artistic idioms often belies the possible solutions that artists were exploring at the time (see especially, p. 62).

contact with Kulbin and Sabaneev, both of whom were prominent and influential theorists of the Russian avant-garde. He was in even closer contact with Schoenberg. As we shall see, Kandinsky came to better understand the composer's ideas in the years 1912 and 1913, coming to a greater understanding of the theories concerning musical dissonance that he already knew before his encounter with Schoenberg and his music, such as ideas advanced by Kulbin and Sabaneev.

On the topic of Kandinsky and dissonant music, Vergo rightly perceived the constructive intent of Kandinsky's abstraction and Schoenberg's atonality, even if the latter is deemphasized in relation to the composer's early atonal compositions. However, many scholars have mischaracterized the artist's calls for "anarchy" during this period, focusing on the notion of destruction rather than the intended emphasis on freedom. While much of Kandinsky's imagery involved apocalyptic visions and scenes from the Book of Revelations this was not nihilism or a call for wanton destruction. It was an end to make way for a beginning, but it was also more; for Kandinsky, Schoenberg, and so many others, the roots of this new harmony would be one and the same as those that tore down the old. Abstract forms and dissonant intervals would become organizing features, not merely shocking elements.

The emphasis on Kandinsky's "musicality" has only increased within recent scholarship concerning the artist. For instance, Leah Dickerman's essay for the *Inventing Abstraction* catalogue made the point insistently, drawing special attention to Kandinsky's *Impression III* (Concert) as a response to the January 1911 concert of

Schoenberg's music that the artist attended.⁴⁵ "With the concert," Dickerman wrote, "his work took a new direction."⁴⁶ However, Dickerman adopted a common argument concerning the effect that ideas about atonality might have had on Kandinsky's art:

Actual structural borrowings from music occur less frequently in the art of these years than analogies between music and art do in critical explanations of abstraction; yet at a moment when no rules for this new form of picture-making had yet been established, music played a key role for several of the first-generation abstract artists in suggesting how an abstract picture might be organized.⁴⁷

Dickerman cited a single study drawing direct connections between music theory and abstract painting, James Leggio's 2002 essay "Kandinsky, Schoenberg and the Music of the Spheres."⁴⁸ Like most scholars examining the issue, Leggio looked almost exclusively at Schoenberg's theories, finding their greatest resonance in Kandinsky's Bauhaus publication, *Point and Line to Plane* of 1926.⁴⁹ Leggio focused on the notion of the music of the spheres and issues of harmony. I would agree with every point he makes. However, in limiting his considerations to long-standing notions of harmony, not taking into account new theories suggesting the expansion of that very system (i.e. ideas that might be summarized using Schoenberg's later term, "the emancipation of the dissonance"), Leggio's considerations are greatly hampered. He did not address seeming contradictions between these and other statements by Kandinsky, which have been raised elsewhere in the literature. For instance, there is no mention of Kandinsky's use of analogies based

⁴⁵ Dickerman, "Inventing Abstraction," in *Inventing Abstraction* (New York: Museum of Modern Art, 2013), 23–24.

⁴⁶ *Ibid.*, 24.

⁴⁷ *Ibid.*, 26.

⁴⁸ Leggio, "Kandinsky, Schoenberg and the Music of the Spheres," in *Music and Modern Art*, ed. Leggio (New York: Routledge, 2002), 97ff.

⁴⁹ Kandinsky, *Point and Line to Plane* [Bauhaus, 1926] (New York: Dover, 1979).

upon systems of traditional harmony, while at the same time, making statements embracing greater dissonance and atonality. These potential incongruities are largely resolved by recovering a greater range of attendant ideas. However, failing to address the issue misses the larger meaning of the artist's theories. For Kandinsky, Schoenberg, and many others, ideas of expanded harmony were strongly supported by—and in many cases grounded in—scientific and occult literature of the era. The incorporation of both of these currents and their areas of overlap are essential to understanding the full range of Kandinsky's ideas.

The emphasis on Schoenberg in Kandinsky literature was encouraged by the publication of their correspondence in *Arnold Schönberg, Wassily Kandinsky: Briefe, Bilder und Dokumente einer aussergewöhnlichen Begegnung*, edited by Jelena Hahl-Koch in 1980.⁵⁰ Several museums in The Hague organized an interdisciplinary workshop and symposium in 1993.⁵¹ The symposium papers were published as *Schönberg and Kandinsky: An Historic Encounter*, a collection that suggests the generative and cooperative spirit that was the project.⁵²

The exhibition and catalogue *Schönberg, Kandinsky, Blauer Reiter und die Russische Avantgarde* followed, originating at the Schönberg Center in Vienna in 2000. It was curated by the center's director, Christian Meyer, and had an iteration at the Jewish

⁵⁰ Hahl-Koch [Hahl-Fontaine], first published in Vienna by Residenz Verlag in 1980, the English-language edition was published in English as *Arnold Schoenberg, Wassily Kandinsky: letters, pictures, and documents* (London: Faber and Faber, 1984).

⁵¹ Haags Gemeentemuseum, the Royal Conservatory, the Institute of Sonology, the Royal Academy of Fine Arts, and the Interfaculty of Image and Sound participated.

⁵² Hahl-Koch's contribution to the proceedings, "Kandinsky, Schönberg and their Parallel Experiments," is notable for the author's speculations about Lipps (pp. 67–88).

Museum in 2003–2004.⁵³ Initially called "Dissonant Painting," the exhibition and accompanying catalogue highlighted *Impression III (Concert)*, 1911, as well as themes of dissonance in Kandinsky's work.⁵⁴ Fred Wasserman's introductory essay for the catalogue provides an astute account of the interchange between Kandinsky and Schoenberg, also highlighting salient parallels in their theories.⁵⁵ Wasserman documented the importance of Schoenberg's music for Kandinsky, and the January 1911 concert, in particular. Yet, aside from remarking on the visual dissonance of Kandinsky's color juxtapositions, considerations of specific connections between atonality and Kandinsky's artistic practice fell outside the scope of the essay.

In the 2003 catalogue, *Kandinsky: Compositions*, Magdalena Dabrowski comes the closest to addressing specific connections between Schoenberg's music and Kandinsky's paintings.⁵⁶ Dabrowski rightly noted Kandinsky's interest in parallels between formal tensions such as color contrasts and musical dissonance. She described a "jolt" to the "viewer's consciousness and soul" in *Impression III (Concert)*, which became both a "spiritual and a musical experience."⁵⁷ She also characterized Kandinsky's paintings of the period following, culminating in *Composition VII* of 1913, as

⁵³ *Schönberg, Kandinsky, Blauer Reiter und die Russische Avantgarde: die Kunst gehört dem Unbewußten* (Vienna: Schönberg Center, 2000) and *Schoenberg, Kandinsky and the Blue Rider* (New York: The Jewish Museum, 2003). The Schönberg Center also featured an excellent early example of an online exhibition, which ran parallel to the show and afterwards.

⁵⁴ Campen, *Schönberg, Kandinsky, Blauer Reiter*, 15. As the author explains, the working title was abandoned out of fear that the negative connotations of the term dissonance would cause misunderstanding among the general public.

⁵⁵ Wasserman, "Schoenberg and Kandinsky in Concert," 17–36.

⁵⁶ Dabrowski, "Kandinsky and Schoenberg," 79–94.

⁵⁷ *Ibid.*

cacophonous and jarring, representing "metaphorical equivalents of Schoenberg's dissonance."⁵⁸

However, parallels between media are largely limited to metaphor in Dabrowski's analyses. For instance, discussing *Composition V*, she writes that "analogies to music seem to operate on two levels." The first, "more literal," is the "presence of musical instruments, such as the trumpets." Continuing, Dabrowski argues,

The viewer's experience of the painting is the second, more subtle, level. The monumental canvas, executed in muted grays with only a few touches of brighter colors distributed unevenly throughout the composition, presents a crashing symphony of colliding forms—another instance of a visual equivalent of Schoenberg's "emancipated dissonances."⁵⁹

Discussing Kandinsky's Bauhaus paintings, Dabrowski drew on Leggio, stressing concepts of "celestial harmony" and "harmonious resolution . . . like musical interaction between spheres."⁶⁰ Aside from noting Kandinsky's continuation of musical analogies after the war, Dabrowski does not address this seeming postwar shift from dissonance to harmony, or, alternatively, the seeming contradiction of dissonant harmony.⁶¹

The 2009 Kandinsky retrospective, organized by the Guggenheim Museum, New York, in conjunction with the Lenbachhaus in Munich and the Centre Pompidou in Paris, brought further attention to the connection between Schoenberg and Kandinsky. This

⁵⁸ Ibid., 88 and 93.

⁵⁹ Ibid. This probably represents the most direct formal comparison in the argument, which repeatedly relies on musical metaphors to characterize Kandinsky's paintings and their possible connections to Schoenberg's music, essentially, begging the question.

⁶⁰ Ibid., 92–93.

⁶¹ On the topic of Kandinsky's stylistic shift, Dabrowski speculates earlier in her essay on his move from more organic to more rigidly geometric forms, arguing that it owed to his exposure to Malevich's Suprematism (p. 83).

exhibition once again highlighted *Impression III (Concert)*.⁶² In her catalogue entry for the painting, Annegret Hoberg suggested that Kandinsky's 1911 painting is "not only visual, but acoustic."⁶³ Hoberg went on to describe the work as "one of modern art's most outstanding examples of synaesthesia."

In his essay for the Guggenheim catalogue, like Dickermann later, Matthias Haldemann placed *Impression III (Concert)* at the center of Kandinsky's shift to total abstraction:

As his work became increasingly abstract during his time in Murnau, Germany [1909–1914], Kandinsky did everything he could to destabilize the picture so as to deprive it of all physical appearance. Using boundless contrasts of color and form, he transformed it into a visual field of effects that eluded any permanent fixation, especially that of linguistic description. Following the music model, this unsettling involves the aesthetics of process taken to the extreme in order to transform the painting from a spatial into a temporal art, best seen in the work *Impression III (Concert)*.⁶⁴

While stressing the "music model" in relation to *Impression III* in his interpretation of Kandinsky's work of the period 1912–13, Haldemann looked primarily at the theories of Philipp Otto Runge, and he described their "radicalization by Kandinsky."⁶⁵ In support of the statement concerning music quoted above, Haldemann cited his earlier essay, written with Andreas Brenner and Michael Roth for the 2006 catalogue for a Swiss exhibition focusing on the paintings of Kandinsky, and those of Viennese expressionist Richard Gerstl. The exhibition examined their shared connection

⁶² The exhibition, *Kandinsky*, was organized by Tracey Bashkoff at the Solomon R. Guggenheim Museum, New York; Christian Derouet at Centre Pompidou; and Hoberg at Städtische Galerie im Lenbachhaus in Munich. The English language edition of the catalogue was published by the Guggenheim, New York, in 2009.

⁶³ Hoberg, *Kandinsky*, 162.

⁶⁴ Haldemann, "The Theater of Pictures: Kandinsky's Abstraction of Abstraction," in *Kandinsky*, 77.

⁶⁵ *Ibid.*, 76–80.

to Schoenberg.⁶⁶ While Haldemann rightly notes the importance of ideas about dissonance in Kandinsky's art, and the pivotal role that Schoenberg's concert played, his readings may be greatly expanded by considering Kandinsky's continued engagement with these ideas and their specific application in works of 1913. In short, what Haldemann and others hint at may be demonstrated once the larger context of these ideas is recovered.

In her essay for the 2009 Guggenheim catalogue, Vivian Endicott Barnett also positioned Kandinsky's shift to greater abstraction immediately following the Schoenberg concert in 1911. However, she located this in *Romantic Landscape*, which, like *Impression III*, was painted immediately following the January 1 concert.⁶⁷ For Barnett, *Romantic Landscape* took Kandinsky "beyond the specifics of place" for the first time.⁶⁸ Barnett's essay quickly moves to considerations of the artist's work in 1914 and after. However, her brief discussion of the period between 1911 and *Composition VII* of 1913 centers on the "sense of struggle." Barnett meant this in two ways. She describes the visual tension within paintings like *Composition VII*, and she suggests the rich array of ideas with which Kandinsky grappled in order to build a conceptual framework for total abstraction.⁶⁹

The common theme of these interpretations is the emphasis upon Kandinsky's paintings immediately following the concert of Schoenberg's music. While each of the

⁶⁶ Andreas Brenner, Matthias Haldemann, and Michael Roth, "Ut pictura musica. Ein interdisziplinäres Gespräch," in *Harmonie und Dissonanz. Gerstl, Schönberg, Kandinsky. Malerei und Musik im Aufbruch*, ed. Haldemann (Zug, Switzerland: Kunsthaus Zug, 2006), 253–73.

⁶⁷ Barnett, "The Artist Reinvents Himself: Changes, Crises, Turning Points," in *Kandinsky*, 59–73.

⁶⁸ *Ibid.*, 63.

⁶⁹ *Ibid.*, 63–64.

studies noted here adds to scholarship on the artist, they can all be productively expanded. Emphases on the links between Schoenberg and Kandinsky are warranted, but these considerations are greatly furthered by looking at the larger context of the two men's theories and discussions, some of which the previous chapters of this dissertation have established. Moreover, the nuances of Schoenberg's theories are not easy to understand on first hearing. Looking for specific formal links in Kandinsky's paintings created days and weeks after he attended the concert seems unwarranted. It would have taken him longer to understand Schoenberg's specific musical strategies and to incorporate them in his visual art. Months and years seems a more reasonable timeline.

On the other hand, it is not necessary to jump to the 1920s to find expressions of "structural borrowings" from music within Kandinsky's paintings. While Kandinsky's Bauhaus paintings and publication might offer the clearest and most fully developed iterations of Kandinsky's musical parallels for visual art, he had greatly refined his theories by that point. The cultural climate had changed considerably, and, in Kandinsky's codification of his earlier theories, some elements that were significant in the 1910s were stripped away. However, considerations of the full range of Kandinsky's engagement with concepts of dissonance are nonetheless helpful in understanding his later work. The discourse surrounding constructive dissonance that I have described above is crucial in understanding Kandinsky's paintings and theories of the period between 1911 and 1914.

Concluding Thoughts on Kandinsky's Initial Studies in Dissonance and *Impression III* (Concert)

As his manuscripts for *Concerning the Spiritual* demonstrate, Kandinsky was already familiar with some of the theories of atonality in circulation at the time of the January 1 concert, such as Sabaneev's article on Scriabin's *Prometheus*.⁷⁰ Kandinsky was also in close contact with Kulbin, who was his strongest artistic link in Russia at this time. For instance, Kulbin read a Russian version of *Concerning the Spiritual* before the Pan-Russian Congress of Artists on December 29 and 31, 1911.⁷¹ Kulbin was a vocal advocate of atonality.

Concerning the Spiritual, published in December of 1911, included considerations of the Schoenberg's ideas, as discussed above. However, the text was largely completed by the time Kandinsky attended the concert, and the ideas expressed in the Schoenberg passages are limited and preliminary. In contrast to Schoenberg's music, Kandinsky made connections between Wagner's motifs, Maeterlinck's poetry, and his own art. There are no such references to specific elements or strategies of Schoenberg's music.

As discussed above, occult writers often borrowed from musical and scientific sources, further enlivening these connections. Kandinsky's awareness of theories of dissonance prior to encountering Schoenberg's music would have added to his appreciation of the concert. The New Year's concert, in turn, would have inspired even greater interest in the theme of dissonance and the potential it might hold for abstract

⁷⁰ See n. 239 (Sabaneev on Scriabin) above.

⁷¹ See, for instance, Lindsay and Vergo, *Complete Writings*, 115 and 873n.

painting. This is evident in Kandinsky's writings and art of the period. The impact of dissonance and atonality is strongly suggested in *Impression III (Concert)*, but the painting reflects Kandinsky's ideas much more than Schoenberg's. In *Impression III*, Kandinsky offered his impression of Schoenberg's music, interpreted through his own theories of spiritual and artistic transmission, which were already linked to constructive notions of dissonance.

Schoenberg was part of a larger body of ideas involving dissonance that Kandinsky understood and applied in his artistic theory and practice at this time. As we have seen, Kandinsky grasped the basic premise of Schoenberg's argument. It stands to reason that he would continue making connections with his own theories, including ideas already adapted and incorporated into *Concerning the Spiritual*. At the time he painted *Impression III (Concert)*, Kandinsky understood Schoenberg's grounds and goals, but not his methods and strategies. He also understood the musical and cultural significance of Schoenberg's early atonality, which is more than can be said of most of the concert's reviewers.⁷² *Impression III (Concert)* offers strong suggestions of the power of dissonance, but it was not the only significant project undertaken that year. 1911 also marked the start of work in earnest on *Der Blaue Reiter*, which was published in 1912.

⁷² This is especially evident in his musicological discussion in *Concerning the Spiritual*, in the earlier chapter, "Spiritual Revolution." See at n. 225 above.

Chapter 7

Dissonance in *Der Blaue Reiter*

Overview of the Publication

Kandinsky's edited volume *Der Blaue Reiter* represents the most serious consideration of dissonance and atonality undertaken by the artist at this time. The content of the almanac appears to have been complete by March 1912 and it was published by Piper in May of that year.¹ As we have seen, Kandinsky was primed to explore ideas of atonality and dissonance. He had thorough grounds for connecting them to his own artistic theories, and he expressed great enthusiasm for their creative potential. This is not to say that the ideas put forth throughout the almanac are Kandinsky's own, but as co-editor of the project, it is clear that these were concepts with which he concerned himself and that he thought relevant enough to represent his group.

The almanac serves as a testament to the idea of a synthesis of the arts in its content and organization. Three essays by Marc open the book, followed by essays by David Buriuk and August Macke. Each of these authors focused primarily on visual art, especially painting. The rest of the almanac alternates among essays on visual art, theatre, and music. Marc and Kandinsky had been working on the yearbook since early in 1911, but that fall, Kandinsky found additional impetus for the project. In a letter to Marc, he wrote, "I received a copy of the manifesto of the Italian Futurists, which gives us some material on the Italian musical movement. Schönberg *must* write on German music. Le

¹ See Lankheit, *Blaue Reiter*, 15–22.

Fauconnier *must* get a Frenchman. Music and painting are already properly covered.

There should also be a few scores. Schoenberg, e.g., has lieder."²

For Kandinsky, it was clearly important to establish, not only the numerous bonds between German and Russian art, but also the *Blaue Reiter* group's connection to the French avant-garde. This is evident in the almanac, especially in Erwin Ritter von Busse's and Roger Allard's essays on Delaunay and others who would soon become advocates of total abstraction in Paris. Marc and Burliuk also make frequent references to modern French artists, from Van Gogh and Gauguin, and to living artists, such as Matisse and Picasso. Kandinsky and Marc seem to have also been spurred to establish their movement and situate their ideas against those of the Italian Futurists. As in Italy and Russia, the battle for avant-garde ascendancy necessarily included music. As Kandinsky later described, the primary purpose of *Der Blaue Reiter* was "to demonstrate eventually that the question of art is not a question of form but one of artistic content," essentially, creating another important premise for his larger argument for abstract painting.³

Kandinsky seems to have been especially involved with those elements of the publication that focused on new music. He had already translated excerpts of Schoenberg's *Harmonielehre* for publication in Russia.⁴ For *Der Blaue Reiter*, he undertook translating Sabaneev's and Kulbin's essays.⁵ Von Hartmann assisted in each of

² Kandinsky to Marc, September 1, 1911; see Lankeit, *Blaue Reiter*, 17.

³ *Ibid.*, 37.

⁴ See Lindsay and Vergo, *Complete Writings*, 91–95.

⁵ Lankeit, *Blaue Reiter*, 266: "Kandinsky wrote to Marc on December 31, 1911: '... Sabaneev's article on Scriabin is most interesting and will surely be impressive. Hartmann and I worked conscientiously at the translation all last night. I hope to finish it today.'"

these endeavors.⁶ Kandinsky included an essay by Schoenberg, a score to a recent composition, and scores to songs by Schoenberg's pupils, Alban Berg and Anton Webern. *Der Blaue Reiter* includes an essay on new music by von Hartmann. Kulbin wrote about "free music" in general terms. Sabaneev analyzed Scriabin. Kandinsky's own texts were concerned with a synthesis of the arts. All of these elements of the almanac were centered on concepts of dissonance, or rather, its redefinition as a new consonance. The 1912 publication allowed Kandinsky to return to many of the key themes introduced in his treatise of the previous year and to expand upon them. As he described to Marc in a letter of June 1911, "In the book the entire year must be reflected; and a link to the past as well as a ray to the future must give this mirror its full life."⁷

Schoenberg's "The Relationship to the Text"

Schoenberg's essay for *Blaue Reiter*, "The Relationship to the Text," probably does more to bolster ideas of abstract painting than it serves to clarify any of its author's specific compositional strategies. He first addressed an issue that was closely tied to many of Kandinsky's concerns for painting, noting that "music has to convey some sort of idea" although it "lacks an immediately perceptible subject." In addressing this potential challenge, he called on a familiar philosophy:

Schopenhauer himself first expressed a wonderful insight into music: "The composer reveals the innermost essence of the world and pronounces the most profound wisdom in a language that his reason cannot understand; it is like a mesmerized somnambulist who reveals secrets about things that he knows nothing

⁶ Ibid., and 16; see also n. 149 and n. 574 above (von Hartmann).

⁷ See Lankheit, *Blaue Reiter*, 15.

about when he is awake." Even Schopenhauer later gets lost when he tries to translate details of musical language, *which reason cannot understand*, into the language of our concepts.⁸

Schoenberg would have good reason to dismiss the philosopher's musical analysis. As noted above, Schopenhauer compared dissonances to the "monstrous abortions produced by beasts of two species, or by man and beast."⁹ However, the philosopher's belief in the primacy of music was clearly appealing, as were his Neoplatonic ideas of an ideal essence.

Schoenberg's primary thesis was that music, which was often set to poems or other text, should not be constrained by words, but should act freely, steaming from its "inner essence." His own encounters with Schubert's lieder serve as an example, despite being set to Stefan George poems, a poet whom Schoenberg admired. In this context, Schoenberg comments on Wagner with mixed assessments. On the whole, the essay is complimentary of the operatic composer, but it is strongly critical of much of his works' reception. Schoenberg argued that critics and the public overemphasized reinforcing relationships between music and text, failing to recognize the significance of the music itself. He writes that Wagner gives "the impression of the 'essence of the world' that he conceived in music," again drawing on Schopenhauerian and Neoplatonic sentiments.¹⁰ According to Schoenberg, Wagner's librettos were built from the music, not vice versa, and this was necessary "because poetic art, being bound to matter, does not possess such a direct, unclouded expression."

⁸ Schoenberg, "The Relationship to the Text," in *Blaue Reiter*, 91–92.

⁹ Schopenhauer, *World as Will and Idea*, 1:336–37. See also at n. 53 above.

¹⁰ Schoenberg, "The Relationship to the Text," 92, and quotations following.

Schoenberg's essay also provides valuable insight into the reception of new music. He notes that his own scores are complex, and performances are few and brief, giving only "a fleeting impression." So, critics and the public have little opportunity to come to a better understanding of his methods. Moreover, "The capacity for pure vision is very rare and only to be found in highly cultured people. It is understandable when a few accidental difficulties bar their way to the enjoyment of music."¹¹

"The Relationship to the Text" reveals nothing specific about Schoenberg's methods, nor does it make a case for atonality. Rather, the composer is making a general argument for absolute music similarly to Kandinsky's essay regarding characters and plot, "On Stage Composition," later in the book. Schoenberg's criticism of reinforcing parallels between music and text simultaneously serves as an argument for abstraction in art. Much of his music theory is highly technical. Here, a more general aspect of his philosophy served to bolster wider claims.¹²

Musical Scores in *Der Blaue Reiter*

While Schoenberg's essay for *Der Blaue Reiter* offers scant insight into his compositional strategies, his scores and those of his pupils might have filled that role for

¹¹ Ibid., 93.

¹² Schoenberg appears to have chosen the topic of his essay. See Lankheit, *Blaue Reiter*, 22; and Arnold Schoenberg, *Wassily Kandinsky*, 34–35. As noted above, Schoenberg's and Kandinsky's thoughts on artistic matters were often well synced. A poem by Mikhail Kuzmin follows Schoenberg's essay (p. 34), then an essay by the French poet and critic Roger Allard (p. 35–41; see also 261). Allard focused on "the great heritage of Cézanne," Cubism, and lauds the accomplishments of its founders, going on to champion many of the artists Apollinaire referred to as "Orphic." He also devotes a passage to criticism of Italian Futurism. However, he stressed in his essay's closing, "The new spiritual movement is also no longer solely French. The same search for renewal in art resounds abroad," presumably he means Germany and Russia given his dismissal of the Italian avant-garde in his earlier critique (p. 111). The Goethe quotation (p. 42) and von Hartmann's essay (pp. 43–52) follow Allard, and will be addressed below.

some readers.¹³ The inclusion of piano and vocal scores by Berg and Webern gave greater access to their music than other forms might have allowed. In an era before ready access to recordings, this would have been a powerful tool in the dissemination of the style. It should be noted that there were longstanding traditions of choral instruction in churches and schools, and rates of musical literacy in relation to textual literacy within Europe at this time were higher than they are now.¹⁴ Of the 1500 copies of the first edition of *Der Blaue Reiter*, many would have been seen by readers capable of getting a sense of the melodic and harmonic formations of these works, even if they could not fully perform such difficult scores. If nothing else, the section visually emphasized the musical aspect of the *Blaue Reiter* group's artistic program. Thorough analysis of the music in *Blaue Reiter* falls outside of the scope of this dissertation, but it is useful to characterize some of the unifying features and to speculate as to possible implications of the section's inclusion.¹⁵

Each of the three songs included in the almanac is a setting to a Symbolist poem, but in light of Schoenberg's argument in "Relationship of Music and Text," the usual descriptor might be less correct. A handwritten score of Schoenberg's *Herzgewächse*, op. 20, (1911) is the first of the three, a lied for soprano, celesta, harp, and harmonium, which

¹³ Schoenberg moved to Berlin and was teaching at the Stern Conservatorium in 1911, where he was joined by Berg and Webern. Schoenberg travelled frequently in Europe and Russia at the time, conducting performances of his works. He moved back to Vienna in 1915. See, for instance, a timeline on the website of the Schönberg Center, Vienna: <http://www.schoenberg.at>.

¹⁴ See, for instance, Carl Dahlhaus, *Nineteenth-century Music* (Berkeley: University of California Press, 1989), 105, 314, and 413. Kandinsky also serves as a good example of the kind of broad, classic education that was typical for affluent Russians and Europeans throughout the nineteenth century, which might also characterized his immediate circle and many others in the avant-garde.

¹⁵ I will undertake a brief analysis of Schoenberg's op. 11 in the following chapter, which will offer a more useful comparison to Kandinsky's work for the purposes of this dissertation, given its often noted relation to *Impression III* (Concert).

sets Maeterlinck's poem "Serres Chaudes" of 1885 to music.¹⁶ Calling it "perhaps [Schoenberg's] most extraordinary song," musicologist Malcolm MacDonald offers a useful summary of one of the most striking features of the composition: "Webern called this little Maeterlinck setting 'the summit of music', and it is chiefly famous for its immense difficulty, containing as it does one of the highest notes (a sustained F *in alt. pppp*) in the vocal repertoire."¹⁷ MacDonald further suggests that the overall tonal progression in *Herzgewächse* represented an "emotional progression towards spiritual fulfillment," comparing it to Schoenberg's finale for the Second String Quartet. It is important to note that the final movement of the Second String Quartet, op. 10, was the first in Schoenberg's oeuvre without a key signature, thereby introducing the composer's atonal idiom. It was immediately followed by "Three Piano Pieces," op. 11, which was his first composition to employ atonality throughout.

The text to Berg's *Aus dem "Glühenden von Alfred Mombert*, op. 2, no. 4, is from Mombert's *Der Glühende* (1896/1902).¹⁸ *Der Blaue Reiter* includes the fourth movement of Berg's lied. Siglind Bruhn asserts that the poems used by Berg follow Mombert's

¹⁶ From Maeterlinck, *Serres Chaudes* (Hothouses) (Brussels: P. Lacomblez, 1885). The source of the German translation here is unclear; it may have been Schoenberg's.

¹⁷ MacDonald, *Schoenberg* 248–49. As MacDonald observes, this ensured it was not publically performed until 1928. Musicologist Bryan Simms draws connections between the instrumentation of *Herzgewächse* (Foliage of the Heart) and Schoenberg's monodrama of 1909, *Erwartung* (Expectation), op. 17, relating the celesta and harp parts to poetic references to moonlight. Simms also notes the composer's use of the harmonium to mimic the effects of an orchestra. Simms, *The Atonal Music of Arnold Schoenberg, 1908–1923* (Oxford: Oxford University Press, 2000), 118–19. See also Bonny Hough, "Schoenberg's *Herzgewächse* and the *Blaue Reiter* Almanac," *Journal of the Arnold Schoenberg Institute* 7 (November, 1983), 197ff.

¹⁸ Mombert was a German Symbolist poet. Berg appears to have used the second edition of *Der Glühende* (The Glowing), 1902, which reorganized some of the poems. The composer used the fifty-sixth, fifty-seventh, and seventieth of Mombert's eighty-seven poems in the book. On Berg's adaptation of the texts and possible musical symbolism in the work, see Siglind Bruhn, *Encrypted Messages in Alban Berg's Music* (New York: Psychology Press, 1998), 118–119.

poetic development of the "existential dualism of life and death" through the figures of Hypnos and Thanatos, the antagonists of the first and fourth songs, respectively.¹⁹ For our purposes, it is especially important to note that while the key signatures employed in the first three songs of Berg's op. 2 are, as Bruhn observes, "without much significance for the actual tonalities of the songs," the fourth song is without a key signature at all. Within Berg's oeuvre, it served much the same role as Schoenberg's fourth movement to op. 10, demonstrating an evolutionary approach to atonality.²⁰ Here, in isolation, it announced his atonal allegiance to Schoenberg's methods in a manner similar to "Three Piano Pieces," op. 11.

Adorno noted the prominent glissando in Berg's op. 2, no. 4, calling it an "operatic gesture," and the "moment of greatest shock."²¹ The right hand ascends in an F-sharp major scale, using only the piano's black keys, while the left hand descends in C major, on the white keys. The sense of a dramatic rift is the shock described by Adorno. At the same time, the score demonstrates the same underlying organizational principles and acoustical justifications as Schoenberg's music and theories. Namely, it is based on the extension of the overtone series. In place of key signatures and traditional uses of dissonance and resolution, it operates outside of the established harmonic system by means of the expansion of pitch collections established within each work. As George

¹⁹ Ibid., 119, and quotes following. Bruhn further argues that the text "reveals the ambiguity of existence through the unification of its opposite poles."

²⁰ Ibid. Bruhn asserts that "the lack of any key signature at all, does not merely mirror the composer's musical development at the time. It may also be regarded as an overall compositional consequence of the development of *recognition*, which Berg wishes to reveal through his work" (p. 127). In other words, he took an evolutionary approach to atonality similar to that proposed by Kandinsky, as well as by Schoenberg.

²¹ Adorno, *Alban Berg, Master of the Smallest Link* (Cambridge: Cambridge University Press, 1991), 173.

Perle notes, these songs show Berg's "special interest in Schoenberg's early compositions" and illustrate the composer's "radical questioning of the traditional concept of a tonal center."²²

The text of Webern's *Ihr tratet zu dem herde . . . aus dem "Jahr de Seele"* come from Stefan George's 1897 book of poems.²³ Like the scores included by Schoenberg and Berg, this was not necessarily a major work of the composer's, but was an important part of his evolutionary approach to the new atonal idiom. This was among the compositions written immediately after Webern left Schoenberg's most direct tutelage. Webern described his early development and the inspiration he received from the more established composer in his book, *Wege zur neuen Musik*: "In 1906 Schoenberg came back from a stay in the country bringing the Chamber Symphony. It made a colossal impression. I'd been his pupil for three years and immediately felt "You must write something like that too!"²⁴ As Elliott Antokoletz demonstrates, Webern's early compositions were built around collections of pitches that were then "modulated" in various ways, independently of traditional tonal harmony. He did this, for example, by "symmetrically expanding the pitch content," in a manner similar to the way in which

²² Perle, *The Operas of Alban Berg: Wozzeck* (Berkeley: University of California Press, 1980), 4. See also Richard Stokes and Ian Bostridge, *The Book of Lieder* (London: Faber and Faber, 2011), 1835. Perle also quotes Adorno's statement that Berg's compositions of this period are "determined to develop . . . with severity and originality from the motivic and thematic structural principles worked out by Schoenberg" (see p. 7).

²³ George, *Das Jahr der Seele* (Berlin: G. Bondi, 1897), 118: "Ihr tratet zu dem herde" (Ye came to the herd . . . from the "Year of the Soul").

²⁴ Webern, *The Anton Webern Collection: Early Vocal Music, 1899–1909*, ed. Matthew Shafel (Carl Fisher, 2004), xi; from *Wege zur neuen Musik* (Paths to New Music) (Vienna: Universal Edition, 1960). While the editor of the volume rightly points out that Webern's style is distinct from Schoenberg's in many ways, and intentionally so, his work of this period nonetheless conforms to the principles I am describing as common between these composers.

Schoenberg used various unfolding and expanding pitch collections to organize and propel his music.²⁵

In the themes and styles of the poetic accompaniments, there are similarities to some of the elements of Kandinsky's writings, which is not surprising, given the artist's own enthusiasm for Symbolist poetry. Perhaps more importantly, the almanac's selection of scores gave artistic form to some of the general ideas concerning atonality that were proposed in Kulbin's and Hartmann's essays in *Blaue Reiter*. As Kandinsky intended, the musical section also gave response to the Futurists' nascent movement in Italy, positioning *Blaue Reiter* at the vanguard of new music as well as painting. Schoenberg's song, just written, emphasized radical newness, as well as the composer's close ties to the Munich group. Followed by songs from Berg and Webern, it also signaled the composer's significance for the future of music.

Sabaneev, "Scriabin's '*Prométhée*'"

As noted in the context of Kandinsky's comments in *Concerning the Spiritual*, Sabaneev received advanced training in music, mathematics, and physics in Moscow.²⁶

An influential critic and musicologist, he also composed, writing piano pieces as well as

²⁵ Antokoletz, *Twentieth-Century Music*, 19–23. As Antokoletz explains, "A collection of notes is symmetrical if one half of its intervallic structure maps into the other half through mirroring" (p. 19n). As he continues, "Any collection of two notes is symmetrical, since they are equidistant from an imaginary axis. If we add other pairs of notes to the first pair so that the two notes in each pair are equidistant from the same axis of symmetry, larger symmetrical collections result. The real axis, as opposed to the imaginary one, is represented by the pair of notes, either expressed or implied, that form the center of the larger symmetrical construction" (p. 20n).

²⁶ See ch. 3 at n. 76.

some works for strings. He was probably best known during his lifetime for his arrangement of Scriabin's *Prometheus* for two pianos.²⁷

Scriabin's late works, especially *Prometheus*, formed Sabaneev's primary object of study, as is demonstrated by his many publications, including his essay for the 1912 almanac, and by his piano reduction of the composer's orchestral work.²⁸ In his essay for *Blaue Reiter*, the author called from the start upon themes that fit particularly well with some of those advanced by Kandinsky in *Concerning the Spiritual*. Sabaneev wrote that Scriabin was engaged in "mystical action that leads to an ecstatic experience—to ecstasy, to the perception of more elevated dimensions of nature."²⁹ He went on to describe the various freedoms afforded to interdisciplinary art-forms, concluding that "if one penetrates deeply enough into Scriabin's mystical art, one realizes that there is neither reason nor right to classify it as music alone."³⁰ For Sabaneev, *Prometheus* represented a "crystallization" of Scriabin's innovations. While the author was critical of some of Scriabin's ideas about one-to-one color-music correspondences, he made particularly careful study of the complex and dissonant chord structures within the music.

²⁷ The score was published in 1911 in Moscow, Saint Petersburg, Berlin, Leipzig, London and New York by Rossiiskago muzykal' nago; by Breitkopf and Härtel in Brussels; and by Max Eschig in Paris. UR Research at the University of Rochester has republished eighteen of Sabaneev's scores, including *Prométhée, le poème du feu pour grand orchestre et piano avec orgue, choeurs et clavier à lumières. op. 60. Transcription pour 2 pianos à quatre mains par L. Sabaneiev* at <http://hdl.handle.net/1802/1438>.

²⁸ Scriabine, *Prométhée, le Poème du Feu, pour grand orchestre et piano avec orgue, choers et clavier à lumières*, op. 60 (Moscow: Edition Russe de Musique, 1911). Sabaneev's other studies of Scriabin included *Alexander Skrjabin: Werk und Gedankenwelt* (Berlin: Kuhn, 2006), a translation of Sabaneev's *Skryabin Rabota i mysli* (Scriabin: Work and Thoughts) of 1923; and *Erinnerungen an Alexander Skrjabin* (Berlin: Kuln, 2005), a translation of Sabaneev's *Vospominaniya o Skryabine* (Memories of Scriabin) of 1925, published shortly before he left the Soviet Union for Europe.

²⁹ Sabaneev, "Scriabin's 'Prometheus'," *Blaue Reiter*, 127. It is unclear to me exactly what he meant by "elevated dimension of nature," but he seems to generally intend a kind of Neoplatonic higher reality.

³⁰ *Ibid.*, 127–131. Sabaneev also compared *Prometheus* to church services and ancient rituals.

Before examining Sabaneev's essay for *Blaue Reiter*, it is necessary to briefly address his subject, Scriabin's *Prométhée, le Poème du feu* (1908/1911).³¹ Lighting was essential to the composition's conception and is incorporated into the work's instrumentation. The *tastiera di luce* (*clavier à lumières*), as it appears in the score, was a keyboard with a different colored light for each note of the scale.³² Technical difficulties appear to have limited this element in early performances. However, Scriabin originally intended for the colors to flood the stage, or even the entire concert hall. He even wrote of his hopes to have the audience dressed white "so that the projected colors would be reflected on their bodies and thus possess the whole room."³³

Scriabin's interest in the relationships between color and musical tone are attributed to his 1907 discussions with Rimsky-Korsakov, who had described a correspondence between colors and musical pitches and keys.³⁴ Scriabin would also have been encouraged in making this connection through his study of Theosophical texts, which began in 1905 after coming into the circle of the Belgian painter Jean Delville.³⁵

³¹ While frequently referred to in Russia as "*Prometey* (*Poema ognya*)," the score used the French.

³² The expository notes at the start are in Russian, German, and French. As typical, they list instrumentation, but also give brief comments explaining the keyboard with lights, which is given in French (and Italian in parentheses) within the Russian text. The part for "*luce*" varies between one and two colors, responds generally to the music, and is the most consistent part throughout the score (i.e. it is slow to change).

³³ See Johannes Deutsch, "Synaesthesia and Synergy in Art," *Sensory Perception: Mind and Matter*, ed. Friedrich Barth, et al. (Vienna: Springer, 2012), 222.

³⁴ See, for instance, Jonathan Powell, s.v. "*Skryabin* (*Scriabin*), Alexandr Nikolayevich," *Grove Music Online*, www.oxfordmusiconline.com. See also, Faubion Bowers, *Scriabin: A Biography of the Russian Composer, 1871–1915* (New York: Dover, 1990); Adrian Klein, *Color Music* (London: C. Lockwood, 1926); see also Sabaneev, "New Ways of Music Creativity" [1911], 1210ff and editor's note in Sabaneev, "Scriabin's 'Prometheus'" [1974], 131. In Rimski-Korsakov's system, for instance, C is white and D is yellow; in Scriabin's C is red, but D remains yellow.

³⁵ See Anatole Leikin, "From Paganism to Orthodoxy to Theosophy: Reflections of Other Worlds in the Piano Music of Rachmaninov and Scriabin" in Siglind Bruhn, ed. *Voicing the Ineffable: Musical Representations of Religious Experience* (Hillsdale, NY: Pendragon Press, 2002), 25–42. The figure of

As demonstrated above, there were abundant links made between color and sound, not only in Theosophical literature, but in the prevailing physical model of science during this era. *Prometheus* served as a powerful artistic statement underlining the perceived relationship between light and sound, in concept if not immediately in execution. Many of these elements paralleled Kandinsky's work and theories of the period, and Scriabin's quote above could almost describe *Impression III* (Concert).³⁶ As noted above, Kandinsky commented on Sabaneev's 1911 essay on *Prometheus* in *Concerning the Spiritual*, within the context of color music, and he remarked on Scriabin's tonality in his passage on new music.³⁷

Here, as in Kandinsky's text, Sabaneev addressed the relationship of color and music in *Prometheus* within a larger context: "All arts are united here in one harmonious whole" ³⁸ He noted that this notion of the *gesamtkunstwerk* was "vaguely formulated" by Wagner, but he argued that Scriabin offered the true expression of the unified arts. Sabaneev devoted a paragraph to the aspect of color-music in *Prometheus*, noting his series of articles in *Musik* of 1911, in which he described the "principle of corresponding sounds and colors," and the manner in which color reinforces the "mystical harmonies" of the work.³⁹ The element of color in *Prometheus* is often emphasized in literature concerning the composition, and not unjustly. Despite similar

Prometheus is also important in Theosophical teachings.

³⁶ Kandinsky appears to have been fairly specific about the topic and scope in his request from Sabaneev. See Lankheit, *Blaue Reiter*, 22.

³⁷ See at n. 213 (Sabaneev) and n. 230 (Scriabin).

³⁸ Sabaneev, "Scriabin's 'Prometheus'," 130.

³⁹ Ibid. 131. See also Sabaneev, "Novyye puti Muzyka tvorchestva" (New Ways of Music Creativity) in *Muzyka* (1911), 54:1210–13; 55:1242–47; and 56:1268–70.

innovations by A. W. Rimington and others around this time, Scriabin's color organ was relatively novel, and it was certainly emblematic of the growing trend of color-music. However, the tonality of *Prometheus* was at least as radical as its lighting.

"Let us study the musical aspect of *Prometheus*," begins Sabaneev's primary focus in the essay, which continues for seven pages and includes ten musical examples.⁴⁰ He begins by explaining the basis of Scriabin's *Prometheus* in his "mystical chord," a series of notes arranged first as a scale (C–D–E–F#–A–Bb), then as a harmonic iteration of the scale in intervals of fourths.⁴¹ Sabaneev goes on to describe the various permutations employed in Scriabin's late works. He emphasizes throughout that the chords and their root scale are extensions of the overtone series, and therefore, uniformly consonant: "The scale itself . . . is acoustically justified. These sounds are overtones of the so-called harmonic scale of sounds, that is sounds whose harmonics are a series of progressing numbers."⁴²

Sabaneev underscored the basis of Scriabin's scale in the eighth through the fourteenth tones of the overtone series, and asserts that it was an extension of existing standards of harmony, similarly rooted in the physics of sound. He writes that "the

⁴⁰ Sabaneev, "Scriabin's 'Prometheus'," 133–139. The musical examples total thirty-three measures.

⁴¹ As Antokoletz notes, the composer's incorporation of color was "coupled with . . . new types of scalar and harmonic constructions, including the alteration of certain degrees of the dominant-seventh chord (especially the lowering of the fifth), and the formation of super-tertian, whole-tone, and quartal harmonies" Antokoletz, *Twentieth-century Music*, 100–101. The dominant-seventh chord can be major or minor, consisting of a major or minor triad with an added seventh note of the scale. It was commonly employed but is dissonant, strictly speaking, and a tonal resolution would follow in traditional harmony. In lowering the fifth, Scriabin presents an unusually dissonant chord, often described as otherworldly. His whole-tone, super-tertian (built of intervals of thirds), and quartal (intervals of fourths) harmonies further distanced his music from traditional harmony and contribute to the feeling of his music.

⁴² Sabaneev, "Scriabin's 'Prometheus'," 134. As Antokoletz notes, Scriabin's fundamental chord "approximates the seventh to thirteenth partials of the overtone series (C–D–E–F#–G–A–Bb), and can be constructed in fourths, C–F#–Bb–E–A–D–" (see also n. 247 above).

resulting chord Scriabin considers to be a consonance. In fact it is an extension of the customary concept of a consonant chord, i.e., a chord that does not require a resolution." Although Sabaneev contended that "*not a single dissonance* is to be found," he nonetheless noted the "strange 'mystical' atmosphere in this single harmony."⁴³ As in his preceding analysis of the mystic chord's intervallic permutations, Sabaneev also emphasized the variety of new musical forms available through the extension of the overtone series.

Most of the essay is devoted to analysis of the mystic chord and its permutations in Scriabin's later works, with frequent return to its basis in acoustics. Sabaneev developed this idea further in his essays of 1911, explaining what he saw as a reinforcing of harmonies naturally available through the extension overtone series.⁴⁴ Essentially, he argued that just as staying within the initial tones of the overtone series produces a natural harmony, the later tones of the series complement one another. In this, his interpretation is similar to Schoenberg's concept of "more remote consonances." Providing a brief synopsis of his theory, immediately following his assertion that no dissonances exist in the composition, he writes, "This may also be explained by the fact that due to a great number of sounds in this harmony the composer can avoid all the changing and passing tones that are not included within it."⁴⁵ This hints at a facet of atonal music theory that was being hotly debated in the Russian avant-garde at the time.

⁴³ Faubion Bowers argues that the composer's late works employ a new form of tonality that consists of "consonances requiring no resolution," and which are "not dependent on the release of tension, yet containing all the necessary tension." Bowers, *The New Scriabin: Enigma and Answers* (New York, 1973).

⁴⁴ See n. 645 above (Sabaneev, 1911).

⁴⁵ Sabaneev, "Scriabin's 'Prometheus'," 134.

As noted above, Julia Kursell provides keen insights into the larger discourse surrounding intonation and atonality in her 2003 study *Schallkunst*, especially concerning the crosscurrents between German and Russian theorists. Kursell draws attention to Sabaneev's 1911 series of essays, where he clarified his theory of an evolutionary expansion of intervallic divisions that would better approximate the true tones of precise ratios.⁴⁶ Sabaneev again described an advanced stage of hearing and composition that would enjoy a fifty-three-note scale: "53-steps would satisfy the most delicate ear, even Avraamov."⁴⁷

The author was referring to composer, theorist, and microtonal advocate Arseny Avraamov. Despite similar goals, there was a bitter rivalry between the two men, and their respective publications document disputes over nearly every facets of this topic.⁴⁸ For the purposes of this dissertation, it is sufficient to note that these ideas were vigorously debated, especially within the Russian musical avant-garde. More importantly here, Avraamov's theories, like many others, depended on Helmholtz's studies of tone perception, even where their conclusions significantly deviated from Helmholtz's intent.⁴⁹

⁴⁶ Kursell, *Schallkunst*, 74 (see also n. 8, 246, and 291 above).

⁴⁷ Sabaneev, "Pis'ma o Muzyke" (Letters on Music) in *Muzykal'nyy Sovremennik* (Contemporary Music) 6 (October) 99–108: "53- stupennaya Udovletvorila by Samyy Tonkiy Slukh, Dazhe Avraamovskiy" (p. 101). Sabaneev's statement against his rival, Avraamov, seems also to echo to the notorious Wundt-Stumpf feud (see n. 656 below; see also, n. 340 above). See also, Avraamov, "«Ul'trakhromatizm» ili «Omnitonal'nost'» (gl. O Skryabine)," ("Ul'trachromaticist' or 'Omnitonalist' (ch. on Scriabin)") in *Muzykal'nyy Sovremennik* (Contemporary Music) 4–5 (1916), 38–45.

⁴⁸ See Kursell, *Schallkunst*, 65–74. In addition to microtonal disagreements, Sabaneev and Avraamov had already established a rivalry over their differing interpretations of Scriabin's mystic chord.

⁴⁹ Avraamov also drew on Riemann, Euler, Planck, and others, offering rich connections to many of the ideas addressed above, and even more with respect to artists within the Russian milieu that included Malevich.

In perhaps the most radical extension of what he saw as the underlying basis of Scriabin's "mystic chord," the overtone series, Sabaneev proposed a division of the octave far greater than the half-steps traditionally employed, with fifty-three increments of the octave instead of twelve. For Sabaneev, the expansion of available intervals would approximate the number of possible pitches or "true tones" that might be currently perceived by the human ear.⁵⁰ The perceptibility of true tones had been a significant concern in Helmholtz's *Tonempfindungen* of 1863 and in Wundt's studies and others in later decades.⁵¹ As noted above, this was also one of the more contested issues within the pages of *Muzyka* at this time, but it is sidestepped here.

Sabaneev addressed the reception of Scriabin's music, and the author's statements are well aligned with others in the almanac, including those of both Kandinsky and Schoenberg. Sabaneev writes, "To the listener who becomes absorbed in the world of these harmonies and feels its 'consonance,' the whole texture of *Prometheus* becomes highly transparent."⁵² This, Sabaneev described as "something that reminds one of a deep-sounding enormous bell; if played in a high pitch, it shines, radiates, irritates,

⁵⁰ Sabaneev, "New Ways of Musical Creativity," 1210: "istinnymi tonami" (true tones). See also, n. 231 and n. 641 above.

⁵¹ See Helmholtz, *Sensation of Tone*, esp. 148ff; and Wundt, *Outlines of Psychology*, 289ff. True tones and pitch differentiation are also tied to questions of intonation that had long been debated among within the study of music, for instance, Euler's *Musique mathématique* of 1766 addresses the issue at length. While closely tied to theories of atonality—especially microtonality—the nuances of varying theories of intonation go beyond the scope of this dissertation. These issues were also fiercely debated within experimental psychology. The question of the role played by musical training of the subjects participating in psychoacoustic studies involving pitch-differentiation contributed to a bitter rivalry between Stumpf and Wundt in the 1890s, both also claiming the other had misused the Weber-Fechner law. See Hui, *Psychophysical Ear*, 126–46.

⁵² Sabaneev, "Scriabin's 'Prometheus'," 134.

elevates, agitates."⁵³ In this appeal to variety and newness through an expansion of artistic material, and through means that might be deemed both pleasant and unpleasant, there is much that resonates with Kandinsky's theories, as well as many of those circulating within the Russian avant-garde. There are also echoes of vitalist experiments with the visualization of sound, such as Reichenbach's studies of Mr. Enter.⁵⁴ In the essay's conclusion, Sabaneev further described his experience of the mystic chord: "His 'single' harmony has the capacity to include the most diverse nuance, beginning with a mystical horror and ending with a radiant ecstasy and a caressing eroticism."⁵⁵ Like others of his era, such as Rochas, Sabaneev describes dissonance as capable of a range of expression, and underlined its highly affective nature.⁵⁶

Sabaneev's 1912 essay and its inclusion in *Blaue Reiter* are important indicators of a larger context of dissonance that was becoming increasingly relevant at this time. As noted above, his ideas often sparked disagreement from other microtonal theorists within this extended intellectual circle, but there were many points of concord, even among rivals. The more unifying points of his theories are the issue taken up here: the intrinsic organization of increasingly atonal music and its basis in the overtone series are the primary foci, with brief mention of color-music, and no mention of his somewhat divisive theories of microtonality. However, the case for quartertones is made in broader terms in the essay that comes next in *Blaue Reiter*.

⁵³ Ibid., 135.

⁵⁴ See at n. 376 (Reichenbach and Enters) above.

⁵⁵ Ibid., 140.

⁵⁶ See at n. 420 (Rochas on dissonance) above.

Kulbin, "Free Music"

While the proposal for a 53-note scale does not appear in Sabaneev's *Blaue Reiter* essay, the idea of microtonality is a central issue of Nikoli Kulbin's contribution, which immediately follows.⁵⁷ As noted above, Kulbin read the Russian text of Kandinsky's *Concerning the Spiritual* in Saint Petersburg in 1911, where he also presented his own paper, "Harmony, Dissonance, and Their Close Combinations in Art and Life."⁵⁸ In a letter to Schoenberg, Kandinsky wrote that "Kulbin knows everything, that is, he knows all of the artists of importance."⁵⁹ The Doctor General was a uniting figure among the Russian Futurist circle of artists, writers, and musicians, where he was among many who responded to P. D. Ouspensky's mystical and transrational philosophy.⁶⁰ Like Sabaneev, Scriabin, and Kandinsky, Kulbin also drew on Theosophical ideas.⁶¹

In the essay's opening section, "Theses of Free Music," the author declared that "the artist of free music is not restricted by tones and half tones. He also uses quarter tones and eighth tones and music with a free choice of tones. . . . In the beginning quarter

⁵⁷ Kulbin's text was self-published in 1909 as *Svobodnaia muzyka: Primenenie novoi teorii khudozhestvennogo tvorchestva v muzyke* (Free Music: The use of a new theory of art in music), then included in the 1910 book series *Studiia impressionistov* (Impressionist Studio) in expanded content, but with the abbreviated title of "Svobodnaia muzyka" (Free Music), which is the title it bore again in Kandinsky and Marc's 1912 almanac ("Die freie Musik"). It was published as *Svobodnaya muzyka: Primeneniye novoy teorii khudozhestvennogo tvorchestva v muzyke* (Saint Petersburg: Voyennaya tipografiya, 1909) and in expanded version as "Svobodnaya muzyka" in *Studiya impressionistov 1* (Saint Petersburg: Izdanie N. I. Butkovskoi, 1910), 15–26. While known among his circle at this time in Russia, Kulbin's essay became best known in its German form, through Kandinsky and Marc's publication, even in Russia. See Shatskikh, *Black Square*, 194. On Kulbin, see also John Bowl, *Russian Art 1875–1975: A Collection of Essays* (New York: Ardent Media, 1976), 116–17; and Bowl, *Russian Art of the Avant-Garde*, 13–14. Kulbin's 1908 essay (excerpt trans. in Bowl, see above) demonstrates an embrace of dissonance, but, perhaps, not yet atonality and the degree of freedom he suggested shortly thereafter.

⁵⁸ See Bowl, *Russian Art of the Avant-Garde*, 301.

⁵⁹ Schoenberg–Kandinsky, *Letters*, 58.

⁶⁰ See Henderson, *Fourth Dimension*, 239ff.

⁶¹ See Long, *Kandinsky, the Development of an Abstract Style*, 39ff.

tones are introduced."⁶² Kulbin's explicates this new system in the following section of the essay, "The Advantages of Free Music:"

New enjoyment of unusual tone combinations.

New harmony with new chords.

New dissonances with new resolutions.

New melodies.

The choice of possible chords and melodies is very much enlarged. The power of musical poetry is magnified. . . . Free music has many more possibilities for affecting the listener and exciting his soul.⁶³

Like Sabaneev, Schoenberg, Kandinsky and other avant-garde artist and composers in Europe and Russia, Kulbin appealed to the expressive possibilities in the expansion of artistic material. While Kulbin still followed the term "dissonance" with "resolution," when framed within the context of the "newness" of microtonality, it is akin to Schoenberg's notion of the new and expanded "consonances." Where Schoenberg advanced the idea of an expanded notion of tonality through the free use of all twelve tones of the traditional Western scale, Kulbin called for an even greater intervallic freedom of more than twelve tones.⁶⁴ He also suggests the transformative power of dissonance in the passage quoted above and throughout his essay. He further believed that in order to fully appreciate free music, "training" and "exercises are necessary for the student."

In an important connection to Sabaneev and Scriabin, Kulbin's "Free Music" asserted that the "study and use of colored music" facilitates advanced perceptive

⁶² Kulbin, "Free Music," in *Blaue Reiter*, 141.

⁶³ *Ibid.*, 142.

⁶⁴ This idea was of limited currency throughout most of the twentieth-century although with it has become far more common with electronic music. It had a brief popularity in Russia in the 1910s, which included Kulbin's circle, as well as. This will be addressed more fully in the conclusion of this dissertation.

capacities, which Kulbin tied to "close connections" in the spheres of sound and light.

Kulbin's concept of "close dissonances" forms the core of his essay and is central to his consideration of musical dissonance as the concept might be applied to the visual arts:

A series of still unknown phenomena is revealed: *the close connection of tones and the processes of close connection*. These connections of adjunct tones of a scale, of quarter tones or even lesser intervals, may still be called close dissonances, but they possess special characteristics that customary dissonances do not. These close connections of tones evoke unusual sensations in man. The vibration of closely connected tones is extremely exciting. In such processes the irregular beat and the interference of tones (which is similar to that of light) are of great significance. The vibration of close connections, their unfolding, their manifold play, make the representation of light, colors, and everything living much more effective than customary music does.⁶⁵

As it was for Sabaneev, Kulbin's advocacy of microtonality is rooted in his understanding of the physical properties of sound and their perception as defined by Helmholtz and Wundt, which should not be surprising given their respective backgrounds in science (Sabaneev in physics and Kulbin in medicine). Specifically employing Helmholtz's language of "irregular beats" and "interference of tones," Kulbin extended the physical manifestation of "excitement" to more fully include an aesthetic, and even spiritual, excitement which is similar to many of Kandinsky's ideas.

Kulbin's advocacy of freedom in art would prove even more important in Russia, especially among the group of artists, writers, and composers associated with the Stray Dog Café (*Brodyachaya Sobaka*) in St. Petersburg.⁶⁶ As noted in the context of Sabaneev's essay above, microtonality represented a significant issue within Russian music theory and criticism at this time. Some of the arguments among those advocating

⁶⁵ Kubin, "Free Music," 144.

⁶⁶ See Kursell, *Schallkunst*, ch. 2; and Shatskik, *Black Square*, 203.

different approaches involved interpretations of Scriabin's mystic chord, but the other main issue revolved around the questions of true ratios and ideal hearing. These may be considered refinements and elaborations of the general ideas expressed by Kulbin, and by others, most notably, Ferruccio Busoni, an Italian composer in Berlin, whom Schoenberg had recommended for possible inclusion in *Der Blaue Reiter*.⁶⁷

In his *Entwurf einer neuen Ästhetik der Tonkunst* of 1906, Busoni proposed a refined chromaticism that would employ intervals of "third-tones," or thirty-six divisions of the octave.⁶⁸ Kulbin's arguments closely mirror many of Busoni's, for instance, in his central appeal to "freedom" and "free music" through expanded artistic material, in his call for an evolutionary approach to stylistic change, and in his justification of it through the overtone series, among other similarities. Schoenberg had studied with Busoni briefly in 1903. The older composer also transcribed *Three Piano Pieces*, op. 11 (1909), annotating it with performance notes, and gave a public concert in Berlin that included the work shortly after its completion. Busoni's interpretation of op. 11 was something of a respectful critique of Schoenberg's theories.⁶⁹ In his *Harmonielehre*, Schoenberg comments on microtonality and allows its "inevitability," but at some far off future date, which was a polite critique of Busoni's ideas.⁷⁰

⁶⁷ See Edward J. Dent, *Ferruccio Busoni: A Biography* (London: Eulenburg Books, 1974). On Schoenberg and Busoni, see below.

⁶⁸ *Entwurf einer neuen Ästhetik der Tonkunst* (Leipzig: Insel-Verlag, 1906); see also *Sketch of a New Esthetic of Music*, trans. by Theodore Baker (New York: G. Schirmer, Inc., 1911); reprinted in *Three Classics in the Aesthetics of Music* (New York: Dover, 1962), 93–94.

⁶⁹ See Larry Sitsky, *Busoni and the Piano* (New York: Pendragon, 2009), 285–86.

⁷⁰ Schoenberg, *Theory of Harmony*, 25 and 384n (see also translator's note).

Schoenberg believed that such a development must be predicated on a "need" that was not yet present; for him, neither the instrumentation, the music, nor human hearing was yet sufficiently evolved for microtonality: "Probably, whenever the ear and the imagination have matured enough for such music, the scale and the instruments will all at once be available."⁷¹ Nonetheless, Schoenberg saw fit to recommend Busoni for inclusion in *Blaue Reiter* in a letter to Kandinsky of February 1912: "Wouldn't you also like to ask for a contribution from Busoni? He is very closely connected with us. Read the 1 February issue of *Pan* or his *New Aesthetics of Music*."⁷² There is no indication of a response to this suggestion. Within the context of *Blaue Reiter*, it is important to note that the almanac presented the most unifying stance on the issue of microtonality, from Kulbin, who also offered the most authoritative voice on the matter within this circle.

Immediately following his statement above concerning the special acoustical properties of "close connections," Kulbin again tied microtonality to visual form. He wrote, "These close connections also create musical paintings, which consist of special planes of color that merge to form progressing harmonies, similar to contemporary painting." It is particularly important to note that Kulbin's appeal to dissonant intervals

⁷¹ *Ibid.*, 25–26. I have been unable to resolve more definitively the likelihood of Kulbin's knowledge of Busoni's text. Schoenberg's suggestion that Busoni be included in *Blaue Reiter* makes the question all the more compelling. It seems possible, given the currency of the topic by 1911, and by suggestions of shared sources in early psychoacoustical research, that the ideas may have been independently developed. If that were the case, Kulbin might have been all the more reluctant to address Busoni's theories in his essay, even after becoming aware of them. However, this issue merits more thorough examination.

⁷² *Arnold Schoenberg–Wassily Kandinsky*, 45. Notably, Schoenberg's comments on Busoni comes in the same passage in which he compliments Stumpf (see at n. 340). Schoenberg also refers to a 53-note scale, however his source is a "young philosopher," Robert Neumann. Little is known about Neumann, but musicologist Walter Frisch believes that he may have written a dissertation on Goethe and Fichte at the University of Jena in 1904. See Frisch, *Schoenberg and His World* (Princeton, Princeton University Press, 1999), 254. A short tribute of Schoenberg written by Neumann appeared in *Arnold Schoenberg* (Munich: Piper, 1912), which Frisch translated and included.

highlights their value in extending both musical and visual material, and their combination in "musical paintings" of "planes of color." This evocation of total abstraction would soon be reflected in the paintings of the European and Russian avant-gardes. In his earlier text for "Free Music," the author included a pedagogical note: "Incidentally, from my own experience I advise painters to depict light with the help of discords. The results are convincing."⁷³

Dissonance in Kandinsky's *Blaue Reiter* Essays

The general organization of the almanac emphasizes the interdisciplinary intent of its editors. Kandinsky's essay "On the Question of Form" follows those by Sabaneev and Kulbin. Here Kandinsky makes a general defense of abstraction as a vehicle for artistic expression. As in similar arguments put forth in Kandinsky's other texts, this essay relies heavily on analogies between art and music, such as his description of the "great spiritual epoch" that "makes the spirit audible."⁷⁴ Kandinsky drew on cross-modal notions of perception and creation in his descriptions of "inner sound," introduced in *Concerning the Spiritual* and expounded here: "The same construction and the same subordination of the various elements under *one* sound may be observed in any lied, any piano piece, any symphony. And exactly the same procedure forms a drawing, a sketch, a painting."⁷⁵ This "inner sound," he writes, "is one of the most powerful and most profound means of expression in any composition." Later in the text, he extends the concept to include all

⁷³ See Bowlt, *Russian Art of the Avant-Garde*, 14n.

⁷⁴ Kandinsky, "On the Question of Form," in *Blaue Reiter*, 154.

⁷⁵ *Ibid.*, 167. For references to the "inner sound," see also 156, 166, 168 (multiple), and 174 (multiple).

matter: "*The world sounds. It is a cosmos of spiritually effective beings. Even dead matter is living spirit.*"⁷⁶ As noted earlier, the artist's notion of a universe of vibrations reflects a wide variety of sources, both spiritual/occult and scientific.

Kandinsky employs the vibrational model throughout his essays, for instance, suggesting that rather than experience "shock" at the variety of artistic approaches represented in the almanac, "from a votive painting to Delaunay, from Cézanne to a work of Russian folk art . . . ," the stylistic range should prompt "the soul" of the viewer/reader "to experience many vibrations and he will enter the sphere of art." Kandinsky further reinforced links between the arts in the illustrations that accompany his essay, including Matisse's *Music* (1910), which he touches on in his text as well as recent expressionistic self-portraits by Schoenberg. The paintings themselves are of less note here than the fact that they were executed by a prominent composer, highlighting the interdisciplinary nature of the effort as a whole.

After a short passage excerpted from Wassily Wassilievich Rozanov's *Italian Impressions*, Kandinsky in his essay "On Stage Composition" continued his argument for the unification of the arts, justified by a vibrational model of artistic transmission. Given the placement of Rozanov's text, brief consideration of its contents is warranted. The passage begins,

In contrast to modern art, the art of antiquity as a whole is not psychological
But perhaps the art of antiquity was more metaphysical?

In all those marble works we find the dimensions again and again, the measurements of the human corpus, the unending search for (and perhaps discovery of?) the definitive truth of these dimensions and of their harmony.⁷⁷

⁷⁶ Ibid., 173.

Within the intellectual context described above, Rozanov's text—and its use in *Blaue Reiter*—take on added cogency. The text calls up debates between overlapping disciplines and contrasting theories, such as Wundt's dismissal of Zöllner's metaphysics, and Fechner's unending measurements of proportions. The contemporary squabbles that might be read into the text are set into the ancient history of these ideas by Rozanov's ostensible subjects. The excerpt concludes,

And the sage Pythagoras considered the "number" to be the "essence of all things." "Each thing has its own number. He to whom the number of the thing has been revealed also knows the hidden essence of things." There is a specific mystery about numbers and measures; *God* is the measure of all things—*after* the Creation. *Before* the Creation, should he not be called the tailor of all things, "cutting" the world according to his heavenly meaning?

A brief note set between Kandinsky's two essays, there can be no question of the excerpt's significance to the artist. It served as another powerfully poetic statement about the potential of a deeper spiritual harmony in nature and in the arts.

Kandinsky's "On Stage Composition" offers a similar thesis. While he began by asserting that "each art has its own language, that is, its own methods," he argues that they are "wholly identical" in their "innermost core." According to Kandinsky,

The *final* goal (knowledge) is reached through delicate vibrations of the human soul. These delicate vibrations are ultimately identical . . . [D]istinct spiritual action (vibration) is the goal of the various methods of art. A distinctive complex of vibrations is the goal of a work When the artist finds the appropriate means, it is a material form of his soul's vibration, which he is forced to express. If the method is appropriate, it causes an almost identical vibration in the soul of the audience.⁷⁸

⁷⁷ Rozanov, "From *Italian Impressions* by W. Rozanov," *Blaue Reiter*, 187–89. See also, Rozanov, *Ital'ianskie vpechatleniia* (St. Petersburg: no publisher given, 1909), 81–82.

⁷⁸ Kandinsky, "On Stage Composition," *Blaue Reiter*, 190–206.

Drawing on the analogy of sympathetic vibrations in music, as he had done in *Concerning the Spiritual*, his addition of the repeated preface of the term "vibrations" with "delicate" here also hints at a range of additional meanings, connecting the occult, science, and music. For instance, it simultaneously recalls theories of microtonality, the tone perception debate noted above, as well as Besant's "unimagined beauties, exquisite sounds, [and] delicate subtleties."⁷⁹

In the essay, Kandinsky discusses the interaction of spiritual-artistic vibrations and those of the audience in a manner that also reveals his engagement with many of the themes addressed above:

A distinctive complex of vibrations is the goal of the work.
The refinement of the soul through the accumulation of distinctive complexes—
this is the goal of art.
Art is, therefore, indispensable and practical.
When the artist finds the appropriate means, it is a material form of his soul's
vibration, which he is forced to express.⁸⁰

Here, the artist is describing the purpose and utility of a process that is strongly similar to occult and Theosophical adaptations of acoustical and electromagnetic vibrational models.

For instance, the artist's statement above is similar to Leadbeater's ideas about the complex of sympathetic vibration relating the individual monad with the group-soul or

⁷⁹ See at n. 482 (Besant) and at n. 654 (tone-perception debate) above. Another of the many examples includes Rochas's description of the idea of vibrational photosynthesis (see n. 426 above).

⁸⁰ Kandinsky, "On Stage Composition," 191

with the divine.⁸¹ Like Leadbeater, Kandinsky extends his analogy to considerations of sympathetic vibrations and their results:

If the method is appropriate, it causes an almost identical vibration in the soul of the audience. This is inevitable. But this secondary vibration is complicated. It may be strong or weak; this depends on the audience's level of development and on the influence of the times (the absorbed soul). Second, these vibrations in the audience's soul will also cause other strings to vibrate in turn. . . . These strings of the soul, which vibrate frequently, will also vibrate when other strings are sounded. And sometimes so intensely that they drown out the original sound. . . . Therefore particular effects of a work are more or less colored by their different receptions.⁸²

The artist emphasized the significance of these secondary vibrational interactions, offering the notion of spiritual vibrations in decidedly psychoacoustical terms.

The essay introduces the underpinnings of Kandinsky's stage composition *The Yellow Sound*, which follows next in the almanac. At the same time, it connects these theories and the stage work to his larger goals for art and society. In this essay, Kandinsky again described his guiding principle as a reliance on "the inner sound."⁸³ He argued that "when the criterion of the inner sound is applied, the outer action is not only unimportant but also creates harmful obscurity."⁸⁴ Within the context of the stage, his discussions of action are essentially the same as his ideas about representational elements in his paintings. The answer here was "to eliminate the external action (= plot)."⁸⁵ This is

⁸¹ See at n. 512 above.

⁸² Kandinsky, "On Stage Composition," 191.

⁸³ *Ibid.*, 190.

⁸⁴ *Ibid.*

⁸⁵ *Ibid.*, 199 and 201.

evident in Kandinsky's *Yellow Sound*. The players are personifications lacking specific characteristics, such as "A Child," "A Man," or even "Vague Creatures."⁸⁶

In "On Stage Composition," Kandinsky writes that music, movement, and color are the three basic elements of his vision for theater.⁸⁷ He emphasizes the "independence" of forms throughout, much like his discussions of color and form in painting, and his remarks about the "independent voices" of Schoenberg's music elsewhere. Summarizing his position here, he explains, "All three elements [music, movement, and color] play equally important roles; they remain externally independent and are treated equally, i.e., they are subordinated to the inner goal."⁸⁸ Similarly, in earlier passages of the text, he describes parallels between the arts, or "repetitions" between music and visual form in the work of Scriabin, citing Sabaneev's essay in the almanac, but he stresses that it is "only *one* case, only *one* possibility."⁸⁹ Kandinsky expands on the idea, discussing Wagner, who "tried to intensify the means and bring the work to monumental heights by repeating one and the same external movements in concrete form," but that this is just "one of a series of even more powerful possibilities of monumental art."⁹⁰ In Scriabin's method, too, Kandinsky found that "the material is inexhaustible."⁹¹ Just as Schoenberg's essay for the almanac had made a similar case for inclusion and expansion, so too would von Hartmann's.

⁸⁶ Kandinsky, "The Yellow Sound," in *Blaue Reiter*, 207–225.

⁸⁷ Kandinsky, "On Stage Composition," 201 and 205.

⁸⁸ *Ibid.*, 206.

⁸⁹ *Ibid.*, 191–92.

⁹⁰ *Ibid.*, 194–95.

⁹¹ *Ibid.*, 192.

Von Hartmann, "On Anarchy in Music"

Of final note in this consideration of concepts of musical dissonance within the essays of *Blaue Reiter*, Thomas von Hartmann's essay, "On Anarchy in Music," is essential in deciphering Kandinsky's understanding and application of the theories discussed above. While Kandinsky was trained in music, it is clear that von Hartmann assisted Kandinsky in understanding the finer points of the new musical idioms. Given their close friendship, von Hartmann's essay may well reflect most closely Kandinsky's own position on musical dissonance at the time of all the essays in the almanac. A musician, better able to explain the theories, would have had more authority on the matter than a painter. It might also serve as a summary of the themes the two would have discussed at greater length around this time. At the very least, it is another important example of the ideas Kandinsky felt important enough to include in what he intended as a key expression of his goals for art. The essay also opens the section of the almanac that increasingly focuses on new music.⁹²

"On Anarchy in Music" is precise and insightful once some of the significant aspects of its musical, scientific, and philosophical contexts are recovered. Von Hartmann's title makes the essay's thesis clear. As Long has demonstrated, the notion of anarchy prescribed within this milieu was not only compatible with other beliefs held by *Blaue Reiter* members, but served to underlie and unify many of their theories:

⁹² "On Anarchy in Music" is immediately followed by an essay on Robert Delaunay by Erwin Ritter von Busse (a young scholar influenced by Worringer, see Lankeit, pp. 48–52, and 261), and an obituary for Eugen Kahler written by Kandinsky (pp. 53–55; like Kandinsky, Kahler was a former student of Stuck). Then, the order of essays is as follows: Sabaneev, Kulbin, Kandinsky's "On the Question of Form," Rosanov's excerpt, Kandinsky's "On Stage Composition," Kandinsky's *Yellow Sound*, and the musical scores.

Many artists, poets, and intellectuals with whom Kandinsky associated before 1914 in Germany and Russia found inspiration in both occult thought and various anarchistic attitudes for their search for an underlying, unifying force that would emerge after the artificial structures of society were removed. Overlapping circles of intellectuals who were willing to explore new processes of thought in religion, science, art, and politics created a climate in which experiment in the arts could be envisioned as a challenge to the established authoritarian societies in both countries.⁹³

For instance, Steiner associated with John Henry Mackay, author of *Die Anarchisten*, and the poet Mikhail Kusmin, whose writing appears in the almanac, was in the circle of fellow-poets Georgii Chulkov and Viacheslav Isanov, who held strong mystical and anarchistic beliefs.⁹⁴ Furthermore, Long stresses that, for Kandinsky, the idea was also tied to his "search for a new way to 'shock' his audience out of lethargy into involvement, to prepare the struggle for the great utopia."⁹⁵

For communal anarchists like Chulkov and Isanov, the term anarchy connoted a freedom based on fundamental natural laws and simultaneously called for the disruption of entrenched norms. The first sentence of "On Anarchy in Music" also defines as follows: "External laws do not exist."⁹⁶ The essay continues, "If the inner voice does not rebel, everything is permitted." The meaning of "inner voice" here corresponds to Kandinsky's use of the same term elsewhere, and is largely interchangeable with "inner

⁹³ Long, "Occultism, Anarchy, and Abstraction," 38.

⁹⁴ Ibid., 39; and "Poem by M. Kuzmin," in *Blaue Reiter*, 103.

⁹⁵ Long, "Occultism, Anarchy, and Abstraction," 43.

⁹⁶ Von Hartmann, "On Anarchy in Music," 113–18. The quotations following come from pp. 113–15 and are given in the order in which they appear in the essay. The title of the essay further links it to Kandinsky's own texts in the book. While it was a common device in titles, Kandinsky's two essays and von Hartmann's essay are the only three that begin with "Über," which suggests further connections to Kandinsky's publication of the previous year.

necessity."⁹⁷ The use of these terms here further connects the ideas to concepts of anarchy and freedom within this circle: "In all the arts, and especially in music, every method that arises from an inner necessity is right."

Elaborating on the idea of inner laws that could help guide composition, von Hartmann described a situation that seems a direct response to critiques of the January 1, 1911 concert of the "Vienna cacophonist" in Munich, such as characterizations of his music as pointless and random. Von Hartmann described a "present theory" that might consider anarchic music "cacophonous," but that the artist must respond to an inner voice. The argument that develops is concerned first with the question of how to best express the inner voice, once the composer is freed from external laws (i.e. traditional harmony). After noting that scandal over the transgression of tradition often overshadowed the artist's constructive intent, considerations turn to the evolution of acceptable harmony. "On Anarchy in Music" advances the same ideas as Kandinsky's statement that "the 'dissonances' of today are the 'consonances' of tomorrow," asserting, "What musicians in former times thought wrong is harmony to the contemporary ear." This introduces a consideration of the future of music that combined, not only new music theory, but also relatively new findings in experimental psychology:

Undoubtedly the germ of the future ideal function of hearing is already present in the ears we now have, and the laws of ideal hearing will basically be related to the laws of our present hearing, despite its great distance from our time. On the other hand, what we think to be a law of our hearing is often not a law at all. In studying these laws, theoreticians frequently consulted not the master in the field,

⁹⁷ See above at n. 175 and n. 176.

our ear, but its neighbor, our reason, which unfortunately is not very competent in the field of art.⁹⁸

The theoreticians described in the quotation above were of the musical sort, whom he contrasts with those who seek out natural laws, which would seem to suggest those studying psychoacoustics.

Von Hartmann's essay is clearly giving primacy to artistic exploration of the bounds of natural laws determining "ideal hearing," but the statement also incorporates new findings from the scientific realm in support of these ideas. His argument is consistent with Lipps's notions of expanded tonality, and the passage quoted above particularly suggests Fechner's "from below" approach to aesthetics, but Von Hartmann is too vague to offer any certainty regarding specific sources.⁹⁹ Nonetheless, the essay does make abundantly clear the rich array of new musical ideas in circulation at this moment, as well as highlighting their connection to concepts of perception advanced by science.

"On Anarchy" then addresses what von Hartmann terms a "complete *unreliability* of present music theory during the last ten years as far as new sounds are concerned."¹⁰⁰ In this, we might read some consternation, but at the same time, the statement again suggests the currency and complexity of theories surrounding expanded tonality. The conclusion to this thread of the argument further reinforces this idea: "But this unreliability cannot undermine the belief in new explorations into the law of hearing

⁹⁸ Ibid., 116–17. This quotation also bears close resemblance to Kandinsky's statement in *Concerning the Spiritual* about undeveloped "nerve fibers" that could better receive spiritual vibrations. See at n. 529 above.

⁹⁹ See at n. 348 (Lipps) and at n. 387 (Fechner) above.

¹⁰⁰ Ibid., 117, and quotations following.

because these laws undoubtedly exist." This statement again seems to assert the critical relationship between new music theory and the emerging science of Gestalt psychology.

These considerations brought the essay to the question of whether "our inner voice . . . correspond[s] to the real laws of our senses (in our case—the ear) . . . ," and of equal importance, "Is it necessary . . . to have the conscious assistance of the laws of the senses?" In other words, does consciousness figure into expressions of inner voice? For von Hartmann, the answer to both questions was yes. He asserted that inner voice and natural laws necessarily aligned, and consciousness was necessary for "translation." In fact, he argued, consciousness was probably more important than was realized. However, with respect to acts of artistic creation, von Hartmann refined his answer to note that *theories* of natural law should be used to explore and expand artistic means, and not to restrict or dictate what the inner voice demands.

Throughout the essay, there are hints at potential disagreements, not only among music theorists, but also among those studying hearing. Whether intended or not, this could easily be applied to the Wundt and Stumpf debate, or Lipps's derision of Stumpf, recalling that Lipps was also in Munich. Stumpf, meanwhile, was directly praised by Schoenberg in *Harmonielehre*. The Sabaneev and Avraamov feud is even present within the subtext of the former's contribution. There were frequent disputes among these passionate intellectuals. The almanac itself offers other examples of the nuances distinguishing the various theories of expanded tonality in circulation at the time, for instance, the advocates of microtonality versus the circle of Schoenberg.

Von Hartmann's essay was probably addressing all of this, and repositioning the matter by arguing that these ideas could be compatible on a larger, yet undiscovered level. As elsewhere in the publication, the suggestion here is that historical artistic expressions derived from their authors' inner voices could be harmonious on this higher plane as well: "These methods [of future music theory] will perhaps be related to earlier ones." The argument concluded that unlike "external laws" that limit artistic choices, "By discovering the new laws, art should rather lead to an even greater, more conscious freedom—to different new possibilities."¹⁰¹

The Dissonant *Grundbaß*

The placement of "On Anarchy in Music" within the almanac is significant. As noted above, it immediately follows the page devoted to the quotation of Goethe's *Grundbaß* analogy for painting: "In 1807 Goethe said: ' . . . In painting the knowledge of the thorough bass has been missing for a long time; a recognized theory of painting, as it exists in music, is lacking.'¹⁰² It would seem for some scholars, Kandinsky's use of the thoroughbass idea was a major contradiction to his statements about new music. For instance, Peter Vergo seems to suggest it as evidence of Kandinsky's musical unsophistication: "[Kandinsky] also tries, not altogether successfully, to illustrate his views by recourse to the musical notion of the *Generalbass*, or 'figured bass,' using the term to symbolize that balance between logic and inspiration which, he believed, could

¹⁰¹ Ibid., 118.

¹⁰² Kandinsky and Marc, ed., *Blaue Reiter*, 112.

be neither taught nor learned, but only felt."¹⁰³ For Kandinsky, like Goethe, Schopenhauer, and others, the *Grundbaß* stood for a system that was rooted in fundamental rules, but which allowed some degree of personal expression. However, it would be a useless system if it could not be transmitted. The aspect of personal expression is limited in the thoroughbass system, but where the idea does factor in, it probably best corresponds to Kandinsky's notion of "inner necessity." As discussed in chapter three, for Kandinsky, this was related to what might be deemed inspiration, but it was also a well developed and highly nuanced artistic theory that goes beyond inspiration.

If the quote's inclusion in *Blaue Reiter* is taken literally and in isolation, it might suggest a conflict with new music. To be clear, the *Grundbaß* system of notation and performance is not compatible with Schoenberg's music. The thoroughbass has its basis in eighteenth-century rules of harmony. While it allowed some individual flexibility and variation among different performances of the same score, its use in this context certainly might seem anachronistic. However, we must remember that it was also a well-known synecdoche for harmony; in the nineteenth century, the term *Grundbaß* was interchangeable with the very notion of harmonic rules.¹⁰⁴ Taken in the general sense of the term, there is nothing incompatible with any of the arguments for atonality being advanced by the authors discussed above. The deployment of the Goethe quote here again

¹⁰³ Vergo and Lindsay, *Complete Writings*, 116–17.

¹⁰⁴ Schoenberg discussed the thoroughbass ("figured bass") in this manner in *Harmonielehre*, see, for instance, pp. 13–14.

suggests an expansion of the existing rules. In *Concerning the Spiritual*, Kandinsky's only quotation of Schoenberg was also a statement to this effect:

Almost alone in severing himself from conventional beauty is the Austrian composer, Arnold Schoenberg. He says in his *Harmonielehre*: "Every combination of notes, every advance is possible, but I am beginning to feel that there are also definite rules and conditions that incline me to the use of this or that dissonance."¹⁰⁵

When the larger context of von Hartmann's statements in "On Anarchy in Music" is recovered, the *Grundbaß* quotation becomes far more compatible with concepts of dissonance. At its heart, thoroughbass compositions had the same basis in the overtone series as Schoenberg's music, as well as that of Berg, Webern, Scriabin, and many other avant-garde composers of the era. Traditional harmony was simply based upon a lower aspect of the overtone series, both literally, and for these theorists, metaphorically.

Unlike the Italian Futurists, for instance, Kandinsky and his colleagues never suggested that all past art or music was irrelevant. Far from it, *Blaue Reiter* presented a wide geographic and temporal range in its illustrations, including art of the seventeenth and eighteenth centuries, when the *Grundbaß* reigned in music.¹⁰⁶ One of Kandinsky's points, here and elsewhere, is that art must respond to its time. As noted above, "On Anarchy in Music" also argued for the embrace of past artistic expressions in a vision for future music; it made room for all that hailed from the "inner voice." For von Hartmann and Kandinsky, the seeming contradiction between system and anarchy was never

¹⁰⁵ Kandinsky (quoting Schoenberg), *Concerning the Spiritual*, 16–17.

¹⁰⁶ For instance, El Greco's *St. John* (p. 99), although this is not to say that there are not definite characteristics that are consistent among images presented, such as a general tendencies towards expressiveness and stylization.

present, as they are reconciled then through the concept of the inner voice, which corresponds to natural law.

"On Anarchy in Music" is thus on one level a response to Goethe's *Grundbaß* quotation, demonstrating an evolution of musical theory compatible with Kandinsky's notion of the spiritual pyramid. The *Grundbaß* represents an underlying system that was first validated, and then expanded by the physical, physiological, and psychological notions of musical harmony. Musicians, composers, and theorists such as von Hartmann, Sabaneev, and Kulbin—who were well versed in scientific and occult literature—also adopted many of these concepts. The juxtaposition of Goethe's quote and von Hartmann's essay speaks to this intersection of ideas. It is a recasting of Goethe's quote.

Kandinsky used the thoroughbass more as an allegory than as a simple metaphor.¹⁰⁷ His quote even begins, "In 1807 . . . ," stressing its anachronism. This relatively old idea embodied, for Kandinsky at the time, his idea of a future artistic system guided by inner necessity. He still drew on Goethe in his later theories, but he articulated his ideas about an underlying system rooted in "inner necessity" and "inner sound" in different terms. Perhaps misunderstandings soured what might have seemed an inspired juxtaposition; the artist does not seem to have used the thoroughbass allegory again after 1912. However, as we shall see below, Kandinsky continued to explore the notion of natural laws compatible with his own inner necessity. This pursuit was becoming increasingly tied to ideas of dissonance and atonality artistic practice as well.

¹⁰⁷ As Bruce Clarke has written, "Allegories fluctuate between obsolescence and the critique of obsolescence. Allegorical structures are typically in transit to obsolescence: They produce even as they resist the obsolescing of the materials they preserve." Clarke, "Dark Star Crashes: Classical Thermodynamics and the Allegory of Cosmic Catastrophe," in *From Energy to Information*, 59.

Unifying Themes in *Blaue Reiter*

In their presentation of various theories and themes of new music in the almanac—such as Scriabin's "mystic chord," various theories of microtonality, and the "free atonality" of the Vienna circle—the editors take no particular stand on the direction of new music. Instead, the almanac emphasizes common bonds between the ideas. Each of the authors stressed the wealth of new artistic material available through various "dissonant" elements. They also emphasized that when set within new formal structures, these dissonant elements become the "consonances of tomorrow."

For Kandinsky and others, atonality of the twelve-tone variety and microtonality were both attempts at the radical expansion of traditional harmony, and its replacement with new systems, while remaining true to fundamental laws. Both approaches to the redefinition of dissonance were rooted in the physical understanding of sound and hearing. Contemporary science extended these vibrational models of acoustics to theories of the ether. Vibrational theories and concepts of dissonance were intrinsic to considerations of perception within experimental psychology. Concepts of dissonance were further applied to acoustical models already in place within occult literature, where it became a vehicle for transformation as well as part of an innate ability to communicate with the divine. Similarly, metaphysical wave models and appeals to harmony were well established within the philosophical discourse of nineteenth-century Europe, although for Nietzsche, dissonance also became a powerfully creative force.

Even more than *Impression III* (Concert) of the previous year, *Blaue Reiter* offered Kandinsky a platform for prolonged consideration of the concept of dissonance,

in addition to many other facets of the book. Moreover, Kandinsky's own art in the almanac is a testament to his mounting belief in the constructive power of dissonance. The abundant crosscurrents of creative dissonance within this culture helped propel Kandinsky's initial formulation of a totally abstract artistic idiom, as evident in his work of 1913.

Chapter 8

Kandinsky ca. 1913: *Klänge*, *Composition VII*, and the Quest for Meaningful Abstraction

The Problem of Meaning

Klänge: Compound Sounds and Unfixed Meanings

In 1912 and 1913, the recognizable forms remaining within Kandinsky's paintings were becoming increasingly abstracted. During the same period, musical subjects were becoming ever more prominent in his art. Like *Der Blaue Reiter* and *The Yellow Sound*, Kandinsky's woodblock album of poems, *Klänge*, attempted to synthesize the arts.¹ In addition to the title, which situated the book within the audible sphere, some of the individual poems take their titles from musical instruments, such as "Bassoon," "Bell," and "Oboe."² There are also subtler synaesthetic references throughout the text. For instance, the poem "In the Wood" describes "Corresponding colors" in a manner reminiscent of Baudelaire's "Correspondances" in *Fleur du Mal* of 1857.³ Kandinsky conceived of *Klänge* as "musical," and as a synthesis of media.⁴ His poems demonstrated a special concern for the sound of the words, and an attempt to develop tensions within pluralities of meaning, as has been noted in the literature on the work.⁵

¹ See Kandinsky, "Sounds," in *Complete Writings*, 293–340 and editor's notes, 882–83. See also, Hans Roethel, *Kandinsky, Das Graphische Werk* (Cologne: M. DuMont Schauberg, 1970), 476; Hanfstaengl, *Wassily Kandinsky: Zeichnungen und Aquarelle im Lenbachhaus München* (Munich: Prestel Verlag, 1974), 63ff.

² See Kandinsky, "Sounds," in *Complete Writings*, n.p. (after p. 292).

³ See n. 57 (Baudelaire, ch. 2) above: "La Nature est un temple où de vivants piliers / Laissent parfois sortir de confuses paroles; L'homme y passe à travers des forêts de symboles / Qui l'observent avec des regards familiers."

⁴ Roethel, *Kandinsky, Graphische*, 445; see also Lindsay and Vergo, *Complete Writings*, 291.

⁵ For instance, Lindsay and Vergo argue in *Complete Writings*, "In these prose poems, the author's fascination with the sounds of words and with the gulf between sound and sense is clearly apparent" (pp.

However, art historians writing about Kandinsky's *Klänge* rarely note the way in which the translation "Sounds" is not precisely equivalent.⁶ It is particularly important for our purposes to address the greater complexity of the term's meaning and the challenge faced in defining it within its context here. While in a general sense *Klänge* was roughly equivalent to "sounds," the term embodied finer distinctions, which were significant issues within the disciplines of science and music theory during this era. In these senses, the term might be better explained as "compound sounds," or even "compound musical sounds," which also better reflect the "synthetic unity" and musicality that Kandinsky's sought in the project.⁷

In fact, a refined concept of *Klang* formed the basis of all of the acoustical and psychoacoustical research addressed in chapter four of this dissertation. To briefly recapitulate and expand on a few ideas here, Helmholtz did much to establish the acoustical definition of what constituted a *Klang* in his *Tonempfindungen* of 1863.

Making an important distinction from earlier definitions offered by Olm, Seebeck, and

291–92). This is similar to the approach taken by Italian Futurists, Dadaists, Russian Futurists, and many others around 1912 and 1913. See also Elizabeth R. Napier introduction to the English translation, *Sounds* (New Haven: Yale University Press, 1981); and Roethel, *Kandinsky, Das Graphische*, 445ff.

⁶ Vergo and Lindsay provide the German title, *Klänge*, as they do for other titles in *Complete Writings*, but it is translated as "Sounds" without further comment on the term's meaning (p. 291–92 and 882–83). The same is true of Vergo's *Music of Painting*, pp. 171–72. This is by far the most common approach, for instance, Dickerman, *Inventing Abstraction*, pp. 56–57, and Hoberg, et al., in the 2009 Guggenheim catalogue, *Kandinsky*, p. 292, and even Napier's translator's introduction to *Sounds* (see note above). In *Kandinsky and Old Russia*, Weiss uses the term *Klänge* without any translation, situating it in a musical context (p. 110). Harold B. Segal, in *Turn-of-the-Century Cabaret: Paris, Barcelona, Berlin, Munich, Vienna . . .* (New York: Columbia University Press, 1987) gives the translation as "Sounds or Resonance" (p. 350). In *Kandinsky at the Guggenheim*, Barnett translated *Klänge* as "Sounds" and gave an additional explanation: "By sounds Kandinsky meant the 'inner resonance' or 'spiritual vibration' emanating from pictorial elements" (p. 42). While useful, this still does not address the word's full meaning or context. Matthias Haldemann, in *Harmonie und Dissonanz: Gerstl, Schönberg, and Kandinsky*, notes the important distinctions made concerning the term *Klang* by Helmholtz, by Stumpf, and by Schoenberg (pp. 27 and 29), but he does not explore the term's attendant issues.

⁷ Regarding the goal of "synthetic unity," see, for instance, Lindsay and Vergo, *Complete Writings*, 292.

others, for Helmholtz *Ton* was a simple sound of one vibrational rate, while he designated *Klang* as a compound sound, made of the primary tone, the overtones resulting from it, and their interactions.⁸

Helmholtz further stressed that previous definitions of *Ton* and *Klang* had failed to distinguish between "the nerve's sensory reception and the psychological processes" involved in hearing.⁹ He focused his research on sensation, but his awareness of perceptual factors and the cognition of hearing inspired Wundt, Lipps, and others to examine this aspect of sound. Early experimental psychologists largely adopted Helmholtz's general designation of *Klang* for compound tones, but theories of specific interactions within them and the perception of them both remained important subjects of study and debate. For Helmholtz, Wundt, and Lipps these ideas were framed within their respective theories of consonance and dissonance.

Lipps's *Psychologische Studien* of 1905 provides an example of the centrality of the concept of *Klänge* in psychoacoustical studies. The entire summation of Helmholtz's theories, representing the foundation of Lipps's chapter on consonance and dissonance, consists of a description of the physicist's theory of what constitutes a *Klang*.¹⁰ Lipps's summation of Wundt's theories centers on interactions between overtones in multiple *Klänge*.¹¹ In his book, Lipps first addressed the concept in his chapters on vision, where it served a comparison between senses. Discussing the perception of movement, he argued that a *Klang*, unlike a simple sound, imparts a sense of movement within the harmonic

⁸ Helmholtz, *Sensations of Tone*, 6ff. See also Cahan, *Helmholtz*, 285–86.

⁹ *Ibid.*

¹⁰ Lipps, *Psychological Studies*, 153–71.

¹¹ *Ibid.*, 209–22.

overtones themselves.¹² He also wrote about both visual and auditory "fusion," comparing tonal "color" produced in the overtones of *Klänge* and what he described as "subjective differences of sensations" of vision.¹³

In his development of Helmholtz's theories in his chapters on hearing, Lipps argued that perceptions of dissonance in some *Klänge* are based largely on "degrees of fusion" within the overtones produced.¹⁴ For Lipps and others in his field, questions remained regarding the degree to which these compound sounds were combined or remained separate, the ways in which they might change, the subjective roles of perception, memory, experience, and other factors. However, in all of its nuances within this field, the term *Klang* specifically designated a musical tone *and* its overtones. The "tonal color" of the sounds was a defining feature of the term.

Concepts of *Klang* and *Klänge* were also frequently discussed by musical theorists. For instance, the idea was central to Schoenberg's theories and their justification for atonality in his *Harmonielehre*. Beginning his primary argument for an expanded definition of harmony in the chapter "The Major Mode and the Diatonic Chords," he briefly described the major scale and its history, concluding that it was intuitively based on the fundamental properties of the tone.¹⁵ He continued, "The natural model, the tone, exhibits the following characteristics: 1. A musical sound (*Klang*) is a composite, made up a series of tones sounding together, the overtones; hence, it forms a chord. From a fundamental, C, these overtones are:" Schoenberg then provided the

¹² Ibid., 30–31.

¹³ Ibid., 70–73.

¹⁴ Ibid., 198ff.

¹⁵ Schoenberg, *Theory of Harmony*, 23.

overtone series and proceeded to outline his argument for the use of unresolved dissonances, redefined as more remote consonances of the series.¹⁶

The term *Klänge* still commonly denoted sounds in a general sense and it is a fair translation, but considerations of Kandinsky's album benefit from additional context. The artist's use of the word reflected an awareness of its more nuanced musical, acoustical, and psychological meanings, which were suggested and debated throughout the literature of these fields around the turn of the century. The meaning of the term *Klänge* was far from absolute, making it even more appropriate for Kandinsky's use here.

Visiting Munich in 1912, Hugo Ball was deeply inspired by Kandinsky's aesthetic philosophy, his paintings, and especially by his publication *Klänge*.¹⁷ He later read some of the poems at Cabaret Voltaire and included "See" from the album in his 1916 review.¹⁸ Ball's colleague and fellow-Dadaist Hans Arp later wrote, "Kandinsky has conjured up out of 'pure being' beauties unheard-of in this world. In these poems sequences of words and sentences cropped up such as had never previously existed in poetry . . .

¹⁶ Ibid., 23–31. The book's translator, Roy E. Carter, gives the original word, *Klang*, in parentheses within the text, as quoted above. The concept of *Klang* was also important in the theories of Hugo Reimann and others at this time. See, for instance, William Dwight Whitney and Benjamin E. Smith (eds.), *The Century Dictionary and Cyclopaedia, with a New Atlas of the World; a Work of General Reference in Twelve Volumes* (New York: The Century Company, 1911), 2:1026; and Benjamin Steege, *Helmholtz and the Modern Listener* (Cambridge and New York: Cambridge University Press, 2012), 201–202.

¹⁷ Ball, *Flight Out of Time* (Berkeley: University of California Press, 1996), especially pp. 7–10 and 222–34, an essay extolling Kandinsky's use of "inner necessity" to create visual and poetic form independent from fixed meaning.

¹⁸ Ibid., 7.

anthropomorphic shapes dissolve into teasing phantasms."¹⁹ Arp's description of Kandinsky's poems could easily be applied to the album's images as well.²⁰

There was much in Kandinsky's writings and art that would appeal to later Dadaists. Preceding the statement above, Arp wrote that "Kandinsky's poetry lays bare the vacuousness of phenomena and of reason."²¹ It is clear that Kandinsky was considering fluid relationships between symbols and meanings, in language, in musical tonality, and in visual art, not separately, but rather, in relation to one another and as a whole. This is evident in his painting and writing of this period. Specifically, he was advancing the idea of a disruption and dissolution of the fixed meaning of words, musical tones, and visual forms, which he believed would allow a greater plurality and freedom as well as expanded perception. These new freedoms and sensations would reveal a higher order, in which spiritual relationships would become apparent, not only within particular media or disciplines but also between them.

Mauthner's Law: A Note on Meaning

In a brief text written underneath a small sketch, Kandinsky provided a useful clue to one element of his synthesis of ideas concerning meaning and abstraction.²² He wrote,

¹⁹ Arp, "Der Dichter Kandinsky," *Wassily Kandinsky* (Paris: Maeght, 1951), 147; translation from Lindsay and Vergo, *Complete Writings*, 292.

²⁰ In general, Kandinsky's graphic style was more highly abstracted than his painting style in the years 1911–13, in part, no doubt, because of the conventions of the medium.

²¹ *Ibid.*

²² A small reproduction of the page was published in Erika Hanfstaengl's *Wassily Kandinsky Zeichnungen und Aquarelle: Katalog der Ammlung in der Städtischen Galerie im Lenbachhaus München* (Munich:

Flying Lightning.

People.

Natural beings, who are little able to conceive its necessity other than by words (Mauthner, Spinoza) p. 56

In painting, the object is replaced by the painterly = abstract form.

The meaning is not the object, but the inner sound of this form.

In literature, the word is replaced by the literary sound.

Sense — not a word, but the inner sound of its sounding.

In this way, humanity leaves for the first time the area identified by the law of Mauthner.

This is precisely the feature that, if not the largest, is yet one of the greatest epochs of human history.

The epoch of spirituality, of the spirit.²³

The line appears immediately below the drawing at the top of the page, which might be interpreted as stylized lighting crossing the sky, or, alternatively, as a highly abstracted

Prestel-Verlag, 1978), 175, no. 296, with the Russian text given in German translation. Barnett and Friedel, *Kandinsky, Colorful Life*, illustrate the side without text, arguing that its orientation is incorrect in Roethel (pp. 422, 494, and fig. 108: Study for an Unknown Etching, 1913–14; GMS 525). The image is reproduced again in Barnett's *Kandinsky Drawings: Catalogue Raisonné* (Munich: C. H. Beck, 2006), where the author provides most of the Russian text, and gives the date "from late 1913 or early 1914." Barnett comments briefly on Mauthner, providing a citation to the original publication, and she notes that the topic of the text concerned "the inner sound in painting and music." She goes on to explain that Mauthner "was a close friend of Gustav Landauer, a member of the Forte Kreis" and that "Kandinsky was in contact with . . . members of the peace organization" at least by early 1914. The only other scholar who seems to connect Kandinsky and Mauthner does so in a general sense. Martin Gaughan suggests a similarity in the ideas asserted by Mauthner, Kandinsky, and Ball in "Dada Poetics: Flight out of Sign?," *Dada: The Coordinates of Cultural Politics*, ed. Stephen C. Foster (New York: G. K. Hall, 1996). Gaughan asserts that Kandinsky and Nietzsche were the two "immediate sources for Ball's theorizing and experimental practice" (p. 36). He went on to argue, "Nietzsche and Kandinsky need not necessarily be the only models available to Ball," noting Mauthner in passing among a list of names (p. 38).

²³ See Hanfstaengl, *Kandinsky Zeichnungen*, 175 (German translation); and Barnett, *Kandinsky Drawings*, 171 (partial text in original): "Polet moln./ Liudi/ Naturwesen, die so wenig im Stande sind, ihre Notwendigkeit anders als durch Worte zu begreifen (Mauthner, Spinoza) Ctr.56/ V zhivopisi predmet zameniaetria zhivopisnoi formoi = abstraknoi./ Smysl - ne predmet a vnutrennyi zvuk etoi formy./ V literature slovo zameniaetsia literaturnym zvukom./ Smysl - ne slovo, a vnutrennyi zvuk etogo zvuka [preceding text from Barnett; continuing as translated in Hanfstaengl] Auf diese Weise verläßt die Menschheit zum ersten Mal den Bereich des von Mauthner aufgezeigten Gesetzes./ Eben das ist das Merkmal wenn nicht der größten, so doch einer der größten Epochen der Evolution [Hanfstaengl's note: statt wörtlich "Evolution" evtl. besser: 'Menschheitsgeschichte.']/ Die Epoche der Geistigkeit, des Geistes."

couple reclining. similar to motifs elsewhere in his work of these years.²⁴ The text is in Russian, except for Kandinsky's quotation from Fritz Mauthner's book *Spinoza* of 1906.²⁵

In the original text, Mauthner discussed one of Baruch Spinoza's letters on the limitations to conceiving of the divine through the human senses. Arguing against ascribing human characteristics and emotion to God, Spinoza wrote in his 1674 text, "I believe that, if a triangle could speak, it would say, in like manner, that God is eminently triangular."²⁶ Mauthner developed this point at length. The sentence from which Kandinsky quoted reads in full, "We humans are triangles that can speak; natural beings, who are as little able to conceive its necessity other than by words, so it is necessary that we ascribe human characteristics to human language."²⁷ Mauthner's comments about Spinoza's letter concerned the idea of a necessary "existence of the highest essences," which were unknowable to the human senses, Aristotelean logic, language, or any other reductive system.²⁸ He immediately went on to discuss Kant and Schopenhauer in relation to Spinoza, agreeing on many points, but emphasizing what he believed to be their limitations.²⁹

²⁴ Long has written extensively on this motif, which will be addressed again below.

²⁵ Mauthner, *Spinoza* (Berlin: Schuster and Loeffler, 1906), 56.

²⁶ Spinoza, "Letter 56, to Hugo Boxel (1674)" in *The Complete Works*, trans. Samuel Shirley, ed. Michael Morgan (Indianapolis, In.: Hackett Publishing, 2002), 903.

²⁷ Mauthner, *Spinoza*, 56.

²⁸ *Ibid.*, 55–56.

²⁹ *Ibid.*, for instance: "Schopenhauer hat 200 Jahre später ein geistreicheres Buch über die Unfreiheit des Willens geschrieben; der Beweis ist bei Schopenhauer ebenso scholastisch, weil von der Apriorität des Kausalitätsbegriffes ausgegangen, also eigentlich gar nichts bewiesen wird; und in der Kritik des Willensbegriffs selbst, also des Wortes 'Wille,' bleibt Spinoza unerreich" (pp. 57–58).

Mauthner attended the University of Prague in the early 1870s.³⁰ He studied law at his father's behest, and passed his preliminary examinations before abandoning the pursuit for his writing. He later claimed that the only philosopher he read at the university was Schopenhauer, and that the only lectures that held any significance for him were those of Ernst Mach, whose *On the Conservation of Energy* Mauthner borrowed from the author. He later wrote that "Mach's epistemological positivism was active in my subconscious" as he wrote his three volume *Beiträge zu einer Kritik der Sprache* (Contributions to a Critique of Language), which he began in 1893, and published in three volumes in 1901 and 1902.³¹ During this time, Mauthner worked as a theatre-critic for the *Berliner Tageblatt*. In Berlin, Mauthner was closely associated with Gustav Landauer, an anarchist activist and writer whom Kandinsky later befriended.³²

In addition to his critique of the notion of fixed meaning in language, Mauthner connected his ideas to visual representation and to musical tonality. As in his later book on Spinoza, *Kritik der Sprache* can be viewed, in part, as a further radicalization of Spinoza's ideas, strongly informed by Schopenhauer's skepticism, but taking a different approach to the critique of knowledge through a focus on language. Much of Nietzsche's spirit of the Dionysian is also reflected in Mauthner's *Kritik*, along with the philosopher's embrace of dissonance and the concept's associations with freedom. Mauthner compared the limitations of language to classifications of color and tone:

³⁰ Gershon Weiler, *Mauthner's Critique of Language* (Cambridge: Cambridge University Press, 1970), 335.

³¹ *Ibid.*, 307, 319, and 335; and Mauthner, *Beiträge zu einer Kritik der Sprache: Zur Grammatik und Logik* (Stuttgart and Berlin: J. G. Cotta'sche Buchhandlung Nachfolger, 1902).

³² On Mauthner and Landauer, see Weiler, *Mauthner's Critique*, 319 and 338. Landauer discussed Mauthner as a source for some of his theories in his *Skepsis und Mystik* (Berlin, 1903). On Kandinsky and Landauer, see Long, "Occultism, Anarchism, and Abstraction," 39–43.

The ideal requirement of a logical classification cannot meet the poverty of language. Contained within the octave, if you could howl like a wolf (as the old musician said), are an infinite number of different tones, of which we designate only seven or twelve by signs; just as between red of the color spectrum and violet there are an infinite number of colors and tones, and our words distinguish only six or seven.³³

Continuing, Mauthner argued that "under current physics," the named colors and tones correspond to "simple ratios of their frequencies," but he argued that it was the ratios that were fundamental, not the designation of certain "numbers of vibrations" as a particular tone or color, which he considered arbitrary.³⁴

In *Kritik der Sprache*, Mauthner speculated that "perhaps we really are today again approaching the teaching of Pythagoras, namely that the true world is based on a harmonious relationship of numbers."³⁵ However, he also complicated the idea, arguing that numbers themselves simply hint at a still higher link, which transcends human understanding. For Mauthner, this was especially apparent in the natural sciences. In an earlier passage focused on molecular models, he wrote, "The chemical Kekuläsche Six is avowedly a pictorial way of expressing an unimaginable reality, a metaphor."³⁶ He concluded that theories relying on the measurement of "the number of oscillations" are

³³ Mauthner, *Kritik der Sprache*, 313: "Der idealen Forderung einer logischen Einteilung kann die arme Sprache nicht entsprechen. Die Oktave umfasst, wenn man den Wolf heulen liesse (wie die alten Musiker sagten), eine unendliche Reihe verschiedener Töne, von denen wir durch Zeichen nur sieben oder zwölf unter scheiden; ebenso gehen vom Rot des Farbenspektrums bis zum Violett unendlich viele Farbentöne und wir unter scheiden durch Wortzeichen genau doch nur sechs oder sieben."

³⁴ Ibid.: ". . . so würde die Physik ja nur lehren, aus welchem Grunde die sieben Töne und Farben leichter zu merken, das heisst zu benennen sind als die unendlich vielen andern."

³⁵ Ibid., 314: ". . . Reihe möglicher Pflanzen und Tiere aus zeichnen, vielleicht nähern wir uns heute wirklich wieder der Lehre des Pythagoras, dass nämlich die Wirklichkeits welt auf harmonischen Zahlenverhältnissen beruhe"

³⁶ Ibid., 148: "Das chemische Kekuläsche Sechs ist eingestandenermassen eine bildliche Ausdrucksweise für eine unvorstellbare Wirklichkeit, eine Metapher. Man hat sich in der Physik nur noch nicht darauf besonnen, dass auch die Zahlen der Schwingungen Metaphern sein mögen für einen Vorgang, den wir nicht beschreiben können."

merely "metaphors for a process that we cannot describe," but that the universe vibrates in unfathomable accords of infinite varieties. Clearly, there is much in common between Mauthner's ideas and Kandinsky's, where vibrational models were an all encompassing metaphor for artistic creation, reception, and spiritual transcendence.

Notions of a plurality of apparent meanings that were united on a higher level were evident throughout *Der Blaue Reiter* and *Klänge*. This idea was closely tied to Kandinsky's theories about poetry, painting, and music. In "On the Question of Form," Kandinsky wrote, "Everything can be represented as a mathematical formula or simply as a number. But there are various numbers: 1 and 0.3333 . . . have equal rights and both are living beings with an inner sound. Why be satisfied with 1? Why exclude 0.3333 . . . ?"³⁷ Earlier in the essay, he wrote, "Here $2 + 1$ is less than $2 - 1$," an idea he related the concept to a "spot of color."³⁸ Both statements and others are similar to many of Mauthner's concerning the arbitrary designations of numbers.³⁹ In an essay of 1919, Kandinsky related these ideas to the visual and grammatical characteristics of the point or period and the line or dash. He argued that language "serves as an outwardly expedient sign with a factual meaning," thus "dividing us from its inner essence" and "stifling its inner sound."⁴⁰

³⁷ Kandinsky, "On the Question of Form," 180 (ellipses in original). Kandinsky continued, "This raises another question: Why restrict artistic expression to the *exclusive* use of the triangle and similar geometric forms and figures." He wrote that the Cubists express an "essence" and a "necessity" though recognizable objects and through purely formal means, which he argued, "finally leads to pure abstraction."

³⁸ *Ibid.*, 163.

³⁹ For instance, in *Kritik der Sprache*, Mauthner wrote about an *Oktavensystem*, which he argued would have arisen in place of the decimal system if humans had eight fingers instead of ten (p. 140).

⁴⁰ Kandinsky, *Complete Writings*, 423.

Kandinsky's quotation of Mauthner in the "Flying Lighting" note concerned the same idea of an unrealized natural law that formed the thesis of von Hartmann's "On Anarchy in Music," where an infinite range of artistic expression could issue from inner sound.⁴¹ It was also the thesis of Kulbin's essay, "Free Music," in *Der Blaue Reiter*.⁴² It might even be considered the primary thesis of all of Kandinsky's writings, on one level. Mauthner repeatedly stressed that it was the relationships of elements that mattered, not their symbols.⁴³ Kandinsky's writings highlight this idea with increasing regularity after 1912. While the two authors' emphases were different, with Mauthner stressing the problems inherent in communicative systems and Kandinsky underscoring the potential benefits of a new artistic freedom, their respective formulations of the fundamental problem and solution to these epistemological and even metaphysical questions seem to have been much the same.

Mauthner's ideas were just one part of the larger complex of ideas that Kandinsky was building as he moved further towards abstraction, but they would have especially helped to bolster the artist's theories concerning the unfixed meaning of signs and symbols. For both men, these might be words, objects, or musical tones, and these elements could be connected on a higher level, even if appearing disjunctive to the senses. In fact, according to both men's theories, such disjunctions could disrupt thinking in a constructive manner, helping to reveal higher or more essential states. For Mauthner, words, objects, and tones were not absolute values in their material expression, they were

⁴¹ See at n. 149 and n. 574 (Hartmann) above.

⁴² See at n. 663 (Kulbin) above.

⁴³ Mauthner, *Kritik der Sprache*, for instance, p. 181.

given meaning through formal structures and relationships. At the same time, the variety of available values within these structures was infinite, allowing a complete freedom of artistic material. Clearly these ideas were similar to many of those expressed in *Der Blaue Reiter* and throughout Kandinsky's published writings of the 1910s.⁴⁴ Whether or not Mauthner's writings introduced some of these ideas to Kandinsky or not, they offer an important reflection of contemporary ideas on the essential problem and goal of meaningful abstraction, including the themes of vibration, music, and dissonance.

General Statements on Meaning and Abstraction, ca. 1913–19

Kandinsky's published writings of 1913 and the years following further connected ideas of a plurality of meaning with his move towards abstraction, and to notions of constructive dissonance. In his essays, he specifically identified themes in *Composition V* (1911), *Composition VI* (1913), and other paintings. Kandinsky completed *Composition VII* in November of 1913, but his remarks about it, his last major painting before the war—and the most abstracted of them to date—are far less clear than those concerning his earlier *Compositions*. Nonetheless, his published writings of the period provide numerous statements about his general intent. These remarks suggest ways in which he was conceiving of his more abstracted motifs and the ideas they embodied. They also become clearer when compared to pages of notes and sketches, such as the one discussed above, and others that I will address below.

⁴⁴ Of course, there are also similarities to a host of other theories of language and epistemology developed around the same time and published in the years following, including elements of the theories of Ludwig Wittgenstein, Ferdinand Saussure, and Henri Bergson, to name a few of the more prominent authors who advanced similar ideas.

In a 1919 article written in Moscow, "Malen'kie stateiki o bol'shim voprosam: O toche; O linii" (Little Articles on Big Questions: On the Point; On the Line), Kandinsky continued to build on the diverse synthesis of ideas first presented in *Concerning the Spiritual*.⁴⁵ Many of Kandinsky's statements here suggest a greater incorporation of theories drawn from structural linguistics, like Mauthner's, and incorporated into the artist's existing synthesis of ideas. Kandinsky wrote,

The outer expediency and practical significance of the entire world around us have concealed the essence of what we see and hear behind a thick veil. And often we do not even suspect the resonance of phenomena or their radiant emanations.

This thick veil hides the inexhaustible material of art. And yet, beyond it there live innumerable beings—each with its own essence, its own destiny. From among their infinite number the various arts could and soon will—indeed, have already begun to—select their requisite materials of construction.⁴⁶

Here, Kandinsky again suggested the inherently unfixed and plural meanings of artistic forms, which were defined only by structural relationships.⁴⁷

In the larger passage and elsewhere, Kandinsky often described these interactions as contrasts, but he stressed that they were in accord and connected in their higher "essence." In the statement above, he argued that humans only perceive hints of the full range of "radiant emanations," again suggesting an expansion of artistic material and a freedom of expression, as well as an extension of perception. These statements are also

⁴⁵ Kandinsky, *Malen'kie stateiki o bol'shim voprosam: O toche; O linii* (Little Articles on Big Questions: On the Point; On the Line) for the journal *Iskusstvo: Vestnik Otdela IZO NKP* (Moscow 1919) in *Complete Writings*, 421–433.

⁴⁶ *Ibid.*, 423. Kandinsky's use of the phrase "radiant emanations" is significant and will be addressed below.

⁴⁷ Moreover, the idea of a "destiny" of infinite freedom suggests anarchistic ideas, his remarks about "resonance of phenomena or their radiant emanations" echoed scientific literature, while his emphasis on the limitations of sensory knowledge reflected the philosophical traditions of skepticism addressed above.

consistent with the vibratory model that was so prevalent in *Concerning the Spiritual* and *Der Blaue Reiter*.

In 1919, Kandinsky also contributed an essay in the third person for a series in the periodical *Das Kunstblatt*. In "Selbstcharakteristik" (Self-Characterization), he again addressed the roles of structural relationships and pluralities of meaning in abstraction. He began by reasserting a major premise of *Concerning the Spiritual*: "Kandinsky's theories are based on the principle of 'inner necessity,' which he defines as the guiding principle in all realms of spiritual life."⁴⁸ Continuing, he emphasized his belief that elements of line and color were "founded upon the psychic effect that form produces upon the individual." However, "He rejects . . . attempts at a purely formal solution and asserts that the question of construction can only be of relative value: every work of art selects its own form, depending solely upon internal necessity."⁴⁹

In other words, Kandinsky's paintings were intended to operate on multiple levels. They were meant to spiritually affect the viewer with themes suggested by vestigial representation, but they were increasingly creating meaning from purely formal relationships as well. More importantly, the two modes of communicating meaning were intended to operate in relationship to one another.

Continuing in his self-characterization, Kandinsky brought together many of the ideas addressed above in a statement that again mirrored his assertions in *Concerning the*

⁴⁸ Ibid., 432.

⁴⁹ Ibid.

Spiritual and *Der Blaue Reiter*, as well as those in his notes from this period, while building further upon them:

Every formal element has its absolute physical effect (= value); construction selects from among these resources, making an absolute into a relative value, so that, for example, a warm element can become cold and a sharp form blunt. The interval or chord thus produced offers unlimited possibilities. It is internal necessity that limits the artist's freedom . . . Kandinsky regards the end of the nineteenth century and the beginning of the twentieth as the beginning of one of the greatest epochs in the spiritual life of mankind. He calls it "the Epoch of the Great Spiritual."⁵⁰

In his "Cologne Lecture" of 1914, Kandinsky called the previous years a "period of transition to pure painting, which is also called absolute painting."⁵¹ He was continuing to incorporate religious and metaphysical themes in his work, but "objects began gradually to dissolve more and more."⁵² Continuing, he wrote, "And yet, objects did not want to, and were not to, disappear altogether from my pictures. . . . I did not want to banish objects completely." Later in the essay, he explained,

[O]bjects, in themselves, have a particular spiritual sound, which can and does serve as the material for all realms of art. . . . Thus, I dissolved objects to a greater or lesser extent within the same picture, so that they might not all be recognized at once and so that these emotional overtones might thus be experienced gradually by the spectator, one after another.⁵³

In addition to describing his dissolution of recognizable forms, Kandinsky was again bringing his vibrational model to bear. As before, he distinguished between primary

⁵⁰ Ibid., 433.

⁵¹ Ibid., 393. Kandinsky further defined this as "the attainment of the abstract form." The term "absolute painting" also recalls the distinction between programme music and absolute music.

⁵² Ibid.

⁵³ Ibid., 396.

artistic-spiritual vibrations, and secondary "overtones" in a manner consistent with Helmholtz, who introduced the term.⁵⁴

Kandinsky's ideas of plural meaning and of abstract form were framed within a vibrational model of artistic creation and transmission throughout his writings of the period. In his "Rückblicke" (Reminiscences) essay, published in October of 1913, he used recollections from his youth to express his contemporary concerns. Kandinsky described his experiments with painting while attending university, writing that he had sought "to capture on the canvas the 'chorus of colors' (as I called it) that nature, with staggering force, impressed upon my entire soul. I made desperate attempts to express the whole power of its resonance, but in vain."⁵⁵ In the 1913 essay, he observed that in the 1880s, his paintings were still far too tied to objective form to express his "inner sound."

Kandinsky then connected these idea of a color-chorus and a drive for abstraction to ideas of social struggle, and to his vibrational model of dissonance. Writing of his part in the student activist "disturbances" in the mid-1880s, he asserted that "student autonomy continually brought new experiences in their train and thus made the strings of one's soul sensitive, receptive, exceptionally ready to vibrate."⁵⁶ As in *Der Blaue Reiter*, Kandinsky linked ideas about abstraction, a synthesis of the arts, and constructive dissonance, to ideas of social struggle and even spiritual transcendence, all of which he explained within his larger vibrational model of interactions.

⁵⁴ See at n. 250 (Helmholtz–overtones) above.

⁵⁵ Kandinsky, *Complete Writings*, 361. In its suggestion of color music, this statement is similar to his often-quoted remarks about his reaction to Wagner's *Lohengrin*, which are also in this essay (p. 364).

⁵⁶ *Ibid.*, 361. However, he also followed by noting that he believed he chose the better path in his spiritual and artistic pursuits over politics, economics, and law.

Statements connecting abstraction, plurality, construction, dissonance, a higher order, and a fundamental essence are abundant throughout Kandinsky's "Rückblicke." Reasserting and expanding on earlier ideas, he wrote, "In *On the Spiritual in Art*, I define present-day harmony as the collision and dramatic struggle of individual elements among themselves. I sought for this harmony even at that time, but I never had the inner desire to take it to its limits"⁵⁷ Earlier in the essay, he similarly described his work in terms of cosmic and musical disturbances leading to a new transcendent order:

Painting is like a thundering collision of different worlds that are destined in and through conflict to create that new world called the work. Technically, every work of art comes into being in the same way as the cosmos—by means of catastrophes, which ultimately create out of the cacophony of the various instruments that symphony we call the music of the spheres. The creation of the work of art is the creation of the world.

In this way, I derived spiritual experiences from the sensations of colors on the palette⁵⁸

Kandinsky's Circle ca. 1913: The Motif and its Meanings

In the 1995 catalogue *Kandinsky: Compositions*, Dabrowski summarizes the themes of Kandinsky's *Composition VII* as follows:

The complex iconography . . . as has been pointed out by several scholars, combines the themes of the Resurrection, the Last Judgment, the Deluge, and the Garden of Love. The motifs relating to all of these subjects are recognizable among the turbulent abstract and semi-abstract shapes, and can be identified on the basis of those present in the numerous preliminary studies.⁵⁹

⁵⁷ Ibid., 396–97.

⁵⁸ Ibid., 373.

⁵⁹ Dabrowski, *Kandinsky: Compositions*, 44–45.

Kandinsky wrote about the theme of the Deluge in *Composition VI* in the 1913 *Der Sturm* monograph that included "Rückblicke."⁶⁰ He reaffirmed this thematic identification, along with that of *Composition V*, in his "Cologne Lecture" of 1914: "I calmly chose the Resurrection as the theme for *Composition V*, and the Deluge for the sixth."⁶¹ Similar motifs in earlier paintings that more clearly represent Gabriel blowing his trumpet and the boat help clarify their roles in this later work, as do the many related studies for each of his *Compositions*.

Along with the trumpet and the boat, a concentric circle motif crossed by lines plays a significant role within the *Composition VII* (fig. 8.1). The largest iteration of the motif is situated near the middle of the composition, roughly centered on the diagonal axis between the boat and trumpet. Kandinsky also included concentric circles in different color sequences throughout the canvas, along with semi-circles in related colors.

Long's seminal study of Kandinsky's themes and their role in his development of an abstract style recovers an additional theme in *Composition VII*. She relates the motif of a reclining couple that appeared in Kandinsky's work of this period to a circular form that is often surrounding them, forming the Garden of Love or Paradise motif.⁶² Long charts the reoccurrence of this theme throughout Kandinsky's work of this period and has also demonstrated the ways in which it and others were linked to Kandinsky's anarchistic

⁶⁰ Kandinsky, "Komposition 6," in *Kandinsky, 1901–1913* (Berlin: Verlag Der Sturm, 1913), xxxv–xxxviii; translated in *Complete Writings*, 385–388.

⁶¹ Kandinsky, "Cologne Lecture," 399.

⁶² Long, *Kandinsky*, 125–28 and 133.

ideas. She suggests a range of sources, including Nietzsche's philosophy and Landauer's political circle in Berlin.⁶³

As Long notes, the central circles in *Composition VII* recall circular and ovoid forms in other paintings of the period, such as *Picture with the White Edge* (or *Painting with White Border*) of late 1912.⁶⁴ This is among the paintings Kandinsky described in his 1913 essays. He used various metaphors and visual descriptions that further link some of the ideas addressed above. In his short essay "Picture with the White Edge," Kandinsky called the circular form at the center of the painting an "egg-shape" and a "flower springing out of the soil," both suggesting birth.⁶⁵ He described two "centers" of the painting, one in which a "zig-zag . . . bestows upon the rather melancholy character of the curve shape the overtones of an energetic 'inner boiling'."⁶⁶ Earlier in the essay, he also wrote about "overtones" as "dimly perceived vibrations" that were "awaken[ed] in the soul."⁶⁷ Kandinsky also repeated the phrase "inner boiling" to describe a dark element in the upper-left of the painting. The intended effect of the circle is particularly telling. Kandinsky wrote, "Following this edge with one's eye, one experiences an inner sensation like a succession of waves."⁶⁸

⁶³ For instance, Long, "Occultism, Anarchism, and Abstraction," 38–45.

⁶⁴ Kandinsky gave the painting the title *Kartina s beloy kaymoy*. Long, *Kandinsky*, 125–28, 133, and 184n.

⁶⁵ Kandinsky, *Complete Writings*, 390

⁶⁶ *Ibid.*

⁶⁷ *Ibid.*

⁶⁸ *Ibid.*

As noted above, Ringbom began recovering the Theosophical and occult sources that were significant to Kandinsky's initial theories of abstraction.⁶⁹ Henderson first demonstrated ways in which scientific concepts of electromagnetic vibrations in the ether, the electron theory, and other newly-discovered invisible aspects of reality strongly contributed to Kandinsky's theories and art, and has shown how these were also closely tied to occult theories of the era.⁷⁰ There were also any number of visual sources from which Kandinsky could have drawn for examples of vibratory emanations and interactions. In both scientific and occult literature, Chladni plates were popular examples for visualizing the effects of waves. Theosophists such as Besant also referred to Watts-Hughes voice-figures. Baraduc's thought-photographs served a similar role in occult literature, offering the visualization of vital emanations. The "Forms Built by Music" illustrated in *Thought Forms* are often compared to Kandinsky's work of this period.⁷¹ Many scholars have interpreted elements of *Composition V* as the sound of Gabriel's trumpet, in much the same way that the yellow form has been read in *Impression III* (Concert) of 1911.⁷²

⁶⁹ See n. 29 above (Ringbom). On *Compositions VII*, Ringbom argued, "The work of art, as well as the cosmos itself, is according to Kandinsky's conviction, the outcome of catastrophes which finally emerge as a symphony, as the music of the spheres. Catastrophes may be constructive when they herald a rebirth, be it in the creative mind of the artist, in the evolution of humanity or even in the cosmos" (p. 166).

⁷⁰ See n. 30 and n. 468 above (Henderson). For instance, writing about *Composition V* in his 1913 essay, Kandinsky compared the non-specific feeling being "neither close nor far away . . . just somewhere" to a steam bath, which Henderson relates to ideas about the ether, where "ether vibrations as well as synaesthetic sound waves were central to his approach to painting," (Henderson, "Abstraction," forthcoming, p. 10). See also, at n. 521 (Morrison), and at n. 33 and n. 241 (Enns and Trower) for other examples of the relationships between these ideas.

⁷¹ Ringbom, *Sounding Cosmos*, 94ff.

⁷² Long 115–16, Dabrowski, *Kandinsky: Compositions*, 45; Dabrowski, *Kandinsky* (2003), 89; Weiss, *Kandinsky and Old Russia: The Artist as Ethnographer and Shaman* (New Haven: Yale University Press, 1995), 99.

The vibratory model tied all of these ideas together, and as demonstrated above, concepts of vibratory transmission were increasingly coming to incorporate positive roles for dissonant ratios by the turn of the century. The ideas of spiritual-artistic communication and transformative dissonance that were embodied in *Impression III* (Concert) were also significant in *Composition VII*. Both paintings served both as a metaphor for and as a literal attempt at vibratory spiritual communication. As in *Impression III* (Concert), the notion of visual dissonance played a key role in 1913, and by this time, these concepts were further developed in Kandinsky's writing and in his art as he continued to incorporate new ideas that complicated and expanded his existing theories.

Peg Weiss draws connections between Kandinsky's circle motif and shamanistic symbols, such as "Lapp and Siberian drum drawings," as well as a "Chuckchee precedent from Bogoras," where, Weiss argues, the drums served as a "cosmogonic 'map' of the universe."⁷³ Weiss also addresses later iteration of motifs in work from the 1920s. For instance, she writes, "These works triggered an avalanche of variations on the theme of horse and rider, St. George and dragon, riding shaman and drum that are marvels of disassociation and reconstruction" ⁷⁴

⁷³ Peg Weiss, *Kandinsky and Old Russia*, especially 91–92, and 150. Chuckee (or, more commonly, Chucki) are indigenous people of the Chucki peninsula in the Arctic Ocean; "Lapps" are now more regularly referred to as Sami, of the area of Sápmi, which spans northern Norway, Sweden, Finland, and the Kola Peninsula of Russia.

⁷⁴ Weiss, *Kandinsky and Old Russia*, 150. She goes on to argue of his paintings of the mid-1920s, for instance, Kandinsky's *Tension in Red*, 1926: "Clearly, Kandinsky had by now thoroughly subsumed the signifiers . . . into one multesignificant motif: the circle" (p. 151). Weiss continues, "In this series of St. George paintings, the circle had become an integral part of the St. George/World-Watching-Man/drum conglomerate," and she calls it a "return to a theme of the Munich period."

Scholars have noted the frequent occurrence of the horse and rider motif in Kandinsky's art of this period, with St. George slaying the dragon embodying spirituality defeating materialism.⁷⁵ Like the artist's other major themes, the motif became highly abstracted by 1912. The horse and rider and their colorful oval setting are closely related to each other in a series of studies for the cover of *Der Blaue Reiter*.⁷⁶ In studies for graphic works, the elements become almost indistinguishable. For example, an ink painting of the horse and rider used for the stationary of the *Blaue Reiter* group bears a particularly close resemblance to the central form in *Composition VII* (fig. 8.2).⁷⁷ The horse and rider surrounded by a circle also appear together in *Painting with a White Border* of May 1913.⁷⁸

Kandinsky strongly suggested a link between his major motifs and their subsumption by the circle in a statement for Paul Plaut's *Die Psychologie der produktiven Persönlichkeit* of 1929:

If I have, e.g., in recent years so frequently and so enthusiastically made use of the circle, the reason (or the cause) is not the “geometrical” form of the circle, or its geometrical characteristics, but rather my own extreme sensitivity to the inner force of the circle in all its countless variations. I love circles today in the same way that previously I loved, e.g. horses—perhaps even more, since I find in circles more inner possibilities, which is the reason why the circle has replaced the horse.⁷⁹

The problem, it would seem, is not so much one of how to find meaning within highly abstracted motifs such as the concentric circles. There are many meanings, all of

⁷⁵ See, for instance, Grohmann, *Kandinsky*, 78ff; and Long, *Kandinsky*, 92–95.

⁷⁶ See Barnett, *Kandinsky: Colorful Life*, 346–53, figs. 407–414.

⁷⁷ See *Der Blaue Reiter*, 247–48. Compare to fig. 8.1a, addressed below.

⁷⁸ Long, *Kandinsky*, 126–27; see also Hoberg, *Kandinsky*, 186.

⁷⁹ Kandinsky, *Complete Writings*, 740.

them supported within Kandinsky's writings and art. The problem is that when a single abstract element encompasses so many themes, it becomes less clear how that form might convey its meanings. The question becomes, in what way did Kandinsky apply his vibratory complex of ideas and constructive notions of dissonance to abstraction? How did he attempt to couple theme and form in non-representational ways? Or put another way, how did he attempt to relate meaning and structure?

The Problem of Structure

Art and Music: Continuing Questions of Parallels

And so, gradually, the different arts have set forth on the path of saying what they are best able to say, through means that are peculiar to each.

And in spite of, or thanks to, this differentiation, the arts as such have never in recent times been closer to one another than in this latest period of spiritual transformation.

In all that we have discussed above lie hidden the seeds of the struggle towards the nonnaturalistic, the abstract, towards inner nature. . . .

From this effort there arises of its own accord the natural consequence—the comparison of their own elements with those of other arts. In this case, the richest lessons are to be learned from music.⁸⁰

This argument opened Kandinsky's chapter "The Pyramid" in *Concerning the Spiritual*, in which he described his ideas of societal transcendence. As noted above, scholars have taken various approaches in interpreting statements such as these. Leggio's analysis of Kandinsky's Bauhaus paintings and writings and their relationship to musical forms has

⁸⁰ Ibid., 153–54.

been met with broad acceptance.⁸¹ On the artist's pre-war paintings, more general statements about the dissonant music embodied in *Impression III* (Concert) are the norm.

However, the conclusions of most scholars who have considered specific relationships between music and painting in Kandinsky's paintings from the period before the war seem to be largely characterized by Klaus Kropfinger's assertion that "direct comparisons between individual works of painting and music . . . even limiting our focus to works by Kandinsky and Schönberg—are, strictly speaking, not possible."⁸² While such relationships would no doubt be exceedingly difficult to demonstrate, ruling out the possibility of limited correspondences seems unwarranted. Any such links would be unlikely to offer entirely direct or faithful parallels between media, given Kandinsky's statements in *Der Blaue Reiter* and elsewhere, in which he criticized Wagner's and Scriabin's parallelisms. Von Hartmann's "On Anarchy in Music" also emphasized that any system should be used as a guide, rather than dictating form. This would certainly complicate any effort to find structural relationships between visual art and music, but perhaps modest in-roads are possible.

Vergo outlines the essential goal and problem of relaying meaning in abstract form via the model of atonal music. In *The Music of Painting*, he poses the question, "But if music could manage without tonality and still be structurally comprehensible, as Schoenberg had claimed, why should painting not attempt something similar?"⁸³ Indeed,

⁸¹ As noted above, Leggio's "Kandinsky, Schoenberg and the Music of the Spheres," serves as the sole source for Dickerman's assertion that there was some "structural borrowing" from music within modern art. Dickerman, "Inventing Abstraction," 37, n.85. See also n. 123, n. 542, n. 581, and n. 717 above.

⁸² Kropfinger, "Latent Structural Power," in *Schönberg and Kandinsky*, 23.

⁸³ Vergo, *Music of Painting*, 185.

this seems to have been just what Kandinsky was asking in 1911 and 1912. Vergo then considers Schoenberg's music, writing, "Nor was the emancipation of dissonance from any tonal function mere 'willfulness' — or so he argued."⁸⁴ Here, Vergo begins to prescribe limitations. He continues, "Alas, Kandinsky's somewhat limited understanding of purely musical matters did not permit him to appreciate fully the difficulties Schoenberg was facing. Nor could he see the illogicality of the arguments deployed by the latter in order to justify the use of unresolved dissonances."⁸⁵

Vergo's unwillingness to recognize organizing principles at work in Schoenberg's early atonal compositions appears to hamper his study of possible relationships between Kandinsky's art and Schoenberg's music. Vergo makes the following argument about Schoenberg's theories:

In his *Harmonielehre*, [Schoenberg] wrote: 'The positive gain of a work of art is dependent upon other conditions than those expressed by rules: neither can it be reached by way of rules.' But discarding 'rules' is one thing; being unable to define, or even describe the 'laws' which governed his 'choice of this or that dissonance' is quite another; and Schoenberg is thrown back on threadbare phrases such as 'divine intervention' in order to be able to give *any* account of his creative progress.⁸⁶

Both Kandinsky's and Schoenberg's ideas about the relationship between rules and inner necessity are complex, but far from irresolvable, as demonstrated above. This is especially evident in von Hartmann's essay in *Der Blaue Reiter*, where the seeming

⁸⁴ Ibid.

⁸⁵ Ibid., 186.

⁸⁶ Vergo, "Music and Abstract Painting," 62. Vergo also writes, "Just as for the painter the crucial question remained 'What is to replace the object?', so too for Schoenberg the crucial question, though he never formulated it in this way, was 'What is to replace a sense of key?'" (p. 61).

contradiction between rules and freedom is a major focus.⁸⁷ Vergo argues that Schoenberg failed to account for his "creative progress" in his written theories. Yet, Schoenberg's statements in *Harmonielehre* are far more specific than Kandinsky's in *Concerning the Spiritual*. More importantly, for both Kandinsky and Schoenberg, writing was secondary. Judgments of Schoenberg's compositional strategies must include consideration of his music.

Vergo also appears to dismiss the possibility of specific structural links because of composer's vague and self-questioning statements in *Harmonielehre*.⁸⁸ However, one must bear in mind that statements such as these are set within more than four-hundred pages of detailed theory regarding harmonic construction. Like Kandinsky, Schoenberg was still finding his way at this point, but both men were exploring specific strategies within new structures. Neither was willing to commit in full to one approach, but their writings still explain many of their goals and processes. Like Kandinsky, Schoenberg had more questions than answers, especially concerning "rules" that might be applied broadly, but that did not preclude localized structures or specific organizing strategies that broke from conventional tonality.

I will return to Schoenberg's early atonal compositional strategies below. For now, it will suffice to point out that Vergo notes that the overtone series served as the

⁸⁷ See at n. 700 ("On Anarchy") above.

⁸⁸ On the subject of Schoenberg's self-questioning and his vague statements about possible overarching "rules," personality and writing style must also factor into our considerations. However, it should prove unnecessary to devote further attention to this particular premise of Vergo's argument for dismissing the possibility of Kandinsky's exploration of structural links between atonality and abstraction.

composer's underlying justification for his atonal idiom.⁸⁹ Moreover, as my analysis of *Der Blaue Reiter* in chapter six of this dissertation demonstrated, the common justification among many of the different theories of atonality in circulation at this time was an expansion of acceptable intervals within the overtone series.⁹⁰ Helmholtz's term "overtones" also appears throughout Kandinsky's writings, including *Concerning the Spiritual*, where, as noted above, it is used in a manner that is consistent with its original meaning.⁹¹

My point here is not to suggest that Kandinsky painted music. His position was clear: "I do not want to paint music."⁹² However, he was equally insistent in his belief that a relationship existed between light and sound, and between sight and hearing. He stressed repeatedly that music offered not only a justification for abstract art but also gave clues to how it might operate in meaningful ways. Dissonance embodied a number of related concepts for Kandinsky while at the same time offering a structure by which to organize abstract elements in a way that could affect the viewer and cause "vibrations in his soul."⁹³

Development of the Circle: Notes, Sketches, and Color Studies

Returning to the circle motif, there is abundant evidence that it was significant to Kandinsky in 1913. The central element in *Composition VII* consists of concentric circles

⁸⁹ Vergo, *Music of Painting*, 186; and Vergo, "Music and Abstract Painting," 60.

⁹⁰ See at n. 576 (Schoenberg on overtones), at n. 648 (Sabaneev/Scriabin), at n. 672 (Kulbin), and n. 674 (Busoni).

⁹¹ Kandinsky, "On the Spiritual," in *Complete Writings*, 147, 182, 183, 193, 194, 201, 204, and 205.

⁹² Kandinsky, *Complete Writings*, 400.

⁹³ See at n. 183 (piano analogy) above.

in different colors, and this passage was among the first parts of the canvas that the artist painted once he began the final version, as evidenced by Münter's photographs of the work in progress.⁹⁴ In many of his ink and watercolor sketches, the motif is the subject of focused study that seems to have been as intensive as any undertaken by Kandinsky to date (for instance, fig. 8.3).⁹⁵ Concentric circles of color are the subject of sketch pages from this time as well.

"Observations on Color Theory and Sketches" (*Kochen* note)

A loose page with notes and sketches now in the Münter archive in the Lenbachhaus, Munich, shows Kandinsky's deep interest in the inherent possibilities of the concentric circle form. The page is referred to as "Observations on Color Theory and Sketches" (*Farbtheoretische Betrachtungen und Skizzen*), with the date given as "probably 1913" (fig. 8.4).⁹⁶ One side of the sheet has eight squares in four rows of two columns. The top four squares each contain a concentric circle motif with color notations. Each of the two lower circles is labeled "*Kochen*" (boiling, as translated by Vergo and Lindsay in Kandinsky's other writings), and each suggests movement. Both squares have an additional vertical line inside of them, to the right of the circle, about a quarter of the distance from the right edge of the bounding square. In the left square, arrows point

⁹⁴ See, for instance, Barnett, *Kandinsky: A Colorful Life*, 447.

⁹⁵ *Ibid.*, 452–461 (pl. 516–528), 464–471 (pl. 531A–536A), for other examples of the studies identified as being related to *Composition VII* where the circle motif is prominent.

⁹⁶ Titles of works of art that were given by the artist are in italics, while those applied by others are in Roman font and capitalized without italics in this dissertation. Where adding a title given by the artist, descriptions are in parentheses, while those serving in lieu of a given title are in quotation marks. There does not appear to be any definitive indication of front or back to this sheet, so rather than *recto* and *verso*, I will refer to these sides as the *Kochen* and *Beispiel* notes, respectively, after the first word appearing on each.

towards the circle. In the bottom right square, the circle is surrounded by three numbered ovals made of dotted lines. The general arrangement is similar to those describing orbital patterns, which could be cosmic or atomic.

Kandinsky's text underneath these bottom two schema is as follows: "Boiling at the boundary, the fermata is formed = promising contact with inhibition. Can desperation heighten? This remote boiling sends broadcasts: 1. over the fermata 2. from the fermata, powerful sloping 3. from the fermata, exhausted falling."⁹⁷ These numbers appear to correspond to the three ovals inscribed by dotted lines. The first oval extends beyond the vertical line to its right, the second goes up and to the left, and the third extends downward and to the left.

Kandinsky wrote a numbered list to the right of the sketches: "1. delimit 2. dissolved 3. varnish 4. overflowing and also foaming (white, and other color)."⁹⁸ It is uncertain if this referred to the four iterations of the motif, but it seems likely. The note also seems to relate to other studies Kandinsky prepared around this time, which I will address below. The style and content also strongly resemble Kandinsky's short essay on *Painting with White Border*, where he twice wrote of an "inner boiling," once in reference to the "egg-shape," which caused "dimly perceived vibrations" or "overtones" to "awaken in the soul."⁹⁹ At the same time, the forms in the sketches more closely

⁹⁷ Hanfstaengl, *Kandinsky: Zeichnungen*, 447: "Das Kochen an der Grenze, die Fermata bildet = hoffnungsvolle / Berührung [?] der Hemmung. Kann die Verzweiflung steigen? Das Kochen entfernt kann Ausstrahlungen senden: 1. über Fermata / 2. von Ferm. kraftvoll fliehend / 3. [von Ferm.] ermattet fallend".

⁹⁸ Ibid.: "1. abgegrenzt / 2. aufgelöst / 3. lasiert / 4. übergeflossen auch schäumend (weiß, od. andere Farbe)".

⁹⁹ See at n. 777 and n. 808 above.

correspond to the concentric circles in *Composition VII* than earlier iterations of the circle motif.

Kandinsky's initial comments in the *Kochen* note concerning inhibition and heightened desperation might relate to the social and personal concerns addressed by Long in relation to the Paradise motif. At the same time, the artist seems to employ terms drawn from chemistry and physics. In addition to the connotations of the term *Kern* (core), which can refer to the nucleus of an atom, he used it in relation to the term *Kochen* (boiling, simmering, or cooking), which was used in chemistry, as well as in its primary culinary context.¹⁰⁰ In his note, the boiling sends *Ausstrahlungen*, which was a term used to describe broadcasts or emanations, for instance, in the sense of telegraphic transmissions. The term was also applied to various forms of radiation, including unstable atoms, Röntgen rays, and the Odic force.¹⁰¹

Kandinsky also employed musical terms here, the fermata being the most prominent. In music, a fermata is held element, either a note or a rest, the timing of which is at the discretion of the performer or conductor.¹⁰² In this way, it resembles Kandinsky's earlier use of the *Generalbaß*, with its expressive leeway within fairly strict rules.¹⁰³ It is clear from the note that Kandinsky envisioned an emanation from the core of the form in at least some version. His use of the term fermata might suggest an added factor of

¹⁰⁰ See Heinz Messinger and Helmut Willmann, *Langenscheidt's Standard German Dictionary* (New York: Langenscheidt Publishing, 1993), 1110. For examples where both terms appear together, see *Chemiker-Zeitung* (Cöthen: Verlag der Chemiker-Zeitung, 1898), 255, 384, 1440, 1484; and *Chemisch-Technische Repertorium* 34 (Cöthen: Verlag der Chemiker-Zeitung, 1910), 532.

¹⁰¹ For instance, Reichenbach, *Odisch-magnetische Briefe* (Stuttgart: Cotta'sche Buchhandlung Nachfolger, 1852), 132 and 194.

¹⁰² See, for instance, s.v. "fermata" *Grove Music Online*, www.oxfordmusiconline.com.

¹⁰³ See at n. 203 (*Generalbaß*) above.

expressive subjectivity. Taken more literally, it could describe the shape of the form, or at least half of it, as a fermata is a dot surrounded by a half-circle.

Kandinsky also used the term "fermata" in *Concerning the Spiritual*, discussing the abstract qualities of representational formal elements, which, he wrote, could "serve various purposes," such as creating a "kind of closing to which I give the musical name *fermata*."¹⁰⁴ As noted above, radiating semi-circles are present throughout *Composition VII*, and they are even more prominent in *Composition VI*. In many cases, they are located relatively near the edge of the canvas, a formal relationship that is also suggested by the two drawings immediately above the statements about fermatas in the *Kochen* note. Kandinsky appears to have used the form in different ways, depending on its location within the canvas. It could be a closing, as described in *Concerning the Spiritual*, or it could temporarily restrain a build-up of tension, or boiling, which would eventually overflow its bounds.

Fermatas are pauses that can suggest closure at the end of a musical section. Whether coupled with a note or a rest they can help delineate parts of a piece. However, when used in the middle of a passage, they are often used to build tension. Kandinsky was probably intending all of these uses of the concept of *fermata*, the meaning shifting within the textual and visual contexts. Kandinsky's use of the term *entfernt* (remote or distant) might also be significant. This was the same word Schoenberg used to describe his concept of "remote consonances," which he would later call "emancipated

¹⁰⁴ Kandinsky, *Complete Writings*, 217.

dissonance."¹⁰⁵ It was also the term used by the critic of the *Münchener Post*, who described the composer as the "Professor of Remote Consonance."¹⁰⁶

"Observations on Color Theory and Sketches" (*Beispiel* note)

The other side of the page has two squares, each with a series of concentric circles (fig. 8.5). Unlike versions of the motif in the *Kochen* note on the other side, which were roughly symmetrical, these are set at opposite angles, with one pointed upward to the right, and the other pointed upward to the left. The text begins to the right of the drawings and is underlined: "For Example" (*Beispiel*).¹⁰⁷

Underneath, Kandinsky's text directly tied the concentric circle form to the concept of musical dissonance: "Outer disharmony = inner harmony."¹⁰⁸ He continued the text below the drawings, describing the motif in more specific terms than in his *Kochen* note. Under the left box of this *Beispiel* note, where the circles are angled up to the right, he wrote, "Matte color dissolves in the light or dark environment." Under the other version, he wrote, "Upward and to the left is the same / *must* have a core (e.g., brown in gray-blue-matte)."¹⁰⁹ These notes were paired with drawings. The remaining text fills the rest of the page:

Matte color is faint, especially when it dissolves in the environment.
Faintness tends to sink, flowing down.

¹⁰⁵ For instance, "Dissonances are only different from consonances in degree; they are nothing more than remoter consonances" (p. 97). See also n. 576 above.

¹⁰⁶ See at n. 554 ("Prof. of Remote Consonance") above.

¹⁰⁷ Hanfstaengl, *Kandinsky: Zeichnungen*, 447.

¹⁰⁸ Ibid.: "äußerer Disharmonie = innere Harmonie".

¹⁰⁹ Ibid.: "Matte Farbe zerfließt in der hellen oder dunklen Umgebung / Dasselbe nach oben links muß einen Kern haben (z. B. braun in grau-blau-matt)".

If such a spot is brought up and rotated (especially to the left) it becomes unnatural (inner dissonance).

But a core (especially powerful—the mysterious Brown! what lives hidden there?) is a hidden force (inner boiling!) and so we believe in the rotation of the faint spot in itself.

So this brings the inner spot of harmony, which is only explained internally—not outwardly (it can be a conventional disharmony, but inwardly perceived as harmonious) and the more foreign the external faintness of the inner spot, the greater!!¹¹⁰

It is important to note that Kandinsky's comments about inner versus outer seem to refer to his longstanding notion of inner necessity or inner sound, which he contrasted to external sensations (i.e. visible form). Kandinsky described the central element of the external form he used here as a "core" (*Kern*). His purpose seems to be to find a way to create inner (spiritual) harmony arising from an external (material) dissonance, which would then emanate outward and upward.

Unlike the page's *Kochen* side, the colors of the circles are not indicated on the sketch here. However, Kandinsky was more specific in the text itself. His description of "brown in grey-blue-matte" and "the mysterious brown" seem to be related to the central form in *Composition VII*, which contains grey-blue matte, and a matte green-brown circle.¹¹¹ The colors described in the note also appear to correspond to similar ones in other studies from this period.¹¹²

¹¹⁰ Ibid.: "Die matte Farbe ist schwach, besonders wenn sie in der Umgebung zerfließt. / Schwäche neigt zum Sinken, Herunterfließen. / Wenn also ein solcher Fleck nach oben (und besonders links) gedreht ist, so entsteht Unnatürlichkeit (innere Dissonanz); / ein Kern aber (besonders kräftiger- das geheimnisvolle Braun! was lebt dort versteckt?) ist eine verborgene Kraft (inneres Kochen!!) und so glaubt man an diese Drehung des an sich schwachen Fleckes. / So bringt hier der innere Fleck Harmonie, die nur innerlich zu erklären ist- keinesfalls äußerlich (es kann äußerlich conventionell disharmonisch sein, wird aber innerlich als harmonisch empfunden- und je fremder äußerlich der innere Fleck dem schwachen ist- desto mehr!!"

¹¹¹ See fig. 8.1a.

¹¹² For instance, see Barnett, *Kandinsky: A Colorful Life*, figs. 531A, 525, 534A (green-brown, then red and blue), and fig. 8.14a here.

"Color Study with Concentric Circles" ("Color-Overtones Study")

Kandinsky's concentric circle motif appeared in its most isolated iteration in a study referred to as "Color Study with Concentric Circles" (Farbstudie mit konzentrischen Ringen), 1913, executed in watercolor, gouache, and pencil on paper (fig. 8.6). It consists of a yellow-brown circle set slightly off-center and surrounded by concentric circles in blue, red, green, and orange, with some of the colors repeating themselves, and some overlapping. If the color series is read from the central circle moving leftward, it can be described as follows: 1) yellow-brown, 2) yellow, 3) blue, 4) yellow, 5) red, 6) green, 7) yellow, 8) purple, 9) light blue, 10) blue, 11) orange.¹¹³ The overtone series is as follows: 1) C [initiating pitch], 2) C, 3) G, 4) C, 5) E, 6) G, 7) Bb, 8) C, 9) D, 10) E, 11) F, 12) G, 13) A.¹¹⁴

These two series do not line up perfectly, but they come very close (see fig. 8.7). Discrepancies arise in the sixth position of the overtone series, where a second blue circle representing another G would come between the innermost red and green circles. Instead, there is a pronounced gap. The second occurrence of red (E) in the tenth position is also absent. There are also some variations in the order of colors in the outer circles.

The overtone series listed by Schoenberg in his *Harmonielehre* was the same one Helmholtz described as issuing from the piano, based on an initiating tone that was one octave below middle-C. However, it is important to reiterate that the series varies slightly

¹¹³ There are no clear indications of orientation for the study on the page itself. My references are to the sheet's appearance in reproductions.

¹¹⁴ There is some variation in the overtone series at different root pitches and among different instruments. This is the series given by Schoenberg in his *Harmonielehre*, p. 23.

for different instruments and with different initiating pitches. Helmholtz differentiated between brass, reeds, and strings; within strings, he also studied differences between hammered, plucked, and bowed initiation of the tones.

The identified motif of Gabriel's horn in many of Kandinsky's paintings from this period, including *Composition VII*, might suggest an overtone series of a horn. A natural trumpet or bugle is a horn without valves, and is probably the closest modern equivalent to the instrument suggested in Kandinsky's paintings. Its available notes are prescribed by the overtones of the fundamental tone inherent to the instrument, again, primarily determined by its size and shape. The first six notes available to a natural trumpet are the same intervals produced by the overtones of a piano, those described above. For practical purposes, the series is roughly the same as the piano's in the higher range as well, but with greater variation depending the specifications of the instrument.¹¹⁵ Greater variation is also possible in the upper ranges of natural horns because of the role of the embouchure of the mouth, which requires adjustments to switch between any of the notes.

While the overtone series of the natural trumpet does not seem to provide a perfect fit to Kandinsky's study, it nonetheless demonstrates an important point. The overtones produced by different instruments are relatively constant among the inner tones of the series, while greater variation occurs among the more remote overtones.

Whichever overtone series might be compared to Kandinsky's study, it is largely

¹¹⁵ See, for instance, *Oxford Companion to Music*, natural trumpet (see also trumpet, 2): C, C, G, C, E, G, B-flat (approximate), C, D, E, F (approximate), G, A (approximate), B-flat.). It should be noted that B-flat has become standard tuning for most horns, but this varied greatly in earlier centuries.

consistent, and matches completely in the first five positions. These positions are where the major triad appears in the overtone series, and where the primary colors are introduced in Kandinsky's study.

Kandinsky's use of yellow as a central element here recalls its importance in *Impression III (Concert)* and well as *The Yellow Sound*, both of which suggested connections between color and sound, and embodied the artist's vibratory model of constructive dissonance and spiritual-artistic communication. These ideas were also suggested in his *Kochen* and *Beispiel* notes addressed above. Kandinsky's addition of brown to the center of the form here seems related to his remarks in the notes as well, where his comments about the "mysterious brown" were made in relation to a "core." According to Kandinsky's notes, the inclusion of brown was intended to impart mystery and power, but at the same time, faintness and external dissonance (inner harmony). Within the sequence here, it could easily represent the initiation of a tone. It is clearly related to the first circle around it, the brown having been mixed into the yellow underneath, while it is also a distinct form with a defined edge.

Kandinsky's application of the overtone series in his considerations of color relationships here is almost certain.¹¹⁶ As evident throughout *Der Blaue Reiter* and in Schoenberg's *Harmonielehre*, the justification for atonality involved the inclusion of more "remote overtones" of the series. Here, too, we find resonances in Kandinsky's

¹¹⁶ One might calculate the odds of a random parallel between the series of overtones and the color study in different ways. Even excluding the secondary colors, a series of four chosen from three elements yields 4^3 (1:64), which would be a strong coincidence. If taking the six colors present in the image as the available variables, the random probability of a matching sequence of even four (for instance, yellow, blue, yellow, red; and C, G, C, E) is $1:4^6$ (1:4096 or 0.00024) or less than three-one-thousandth of a percent. Taking the other similarities between the two series into account lowers the odds of a random match much more.

writings, where the terms "overtones" and "remote" both appear regularly, and in manners consistent with their use in music theory and acoustics.¹¹⁷ In overtones, the ratios become more complex moving outwardly in the series. Here, the colors become more complex moving outwardly from the center; secondary colors occupy the more remote edges of the form, often blended to form even more complex colors.

As noted in various contexts above, there were abundant connections made between colors and musical tones within various spheres of study during this era. Kandinsky specifically discussed Sabaneev's analysis of Scriabin's color-tones in *Concerning the Spiritual*, and Sabaneev commented on this aspect of *Prometheus* in his essay for *Der Blaue Reiter*.¹¹⁸ Kandinsky also knew Aleksandra Zakharina-Unkovskaya's color-music chart, which was in the pamphlet he possessed.¹¹⁹ Schoenberg used a color crescendo in *Die Glückliche Hand*.¹²⁰ Much of the literature Kandinsky read suggested possible color-tone correlations of one type or another.

While there could be any number of ways in which Kandinsky might have applied his "Color-Overtones Study," many theorists before him had used a circular arrangement similar to the color wheel, with a corresponding chromatic scale of musical notes.¹²¹ If the colors in the study are arranged in the order in which their corresponding notes appear in the scale, there are portions that correspond to Goethe's color wheel (see fig. 8.8). However, there is a marked discrepancy between the positions of some of the colors. As

¹¹⁷ See, for instance, at n. 854 (overtones) and n. 576, n. 816, and n. 817 (remote) above.

¹¹⁸ See at n. 648 (Sabaneev) above.

¹¹⁹ See at n. 830 (Zakharina) above.

¹²⁰ See, for instance, Gage, *Color and Culture*, 244–45.

¹²¹ *Ibid.*, esp. 227–46.

in Kandinsky's parallel between overtones and colors, he takes liberties if this is the model for his color relationships. When arranged by corresponding music tones, the colors do not entirely correspond in their order in the color wheel Kandinsky provided in *Concerning the Spiritual* either.¹²²

It is important to note again that Kandinsky was somewhat critical of direct one-to-one color-music correlations in his writings, as was Sabaneev throughout his essays on Scriabin.¹²³ Similarly, Kandinsky, von Hartmann, and Schoenberg wrote against reinforcing parallels between text and music in *Der Blaue Reiter*.¹²⁴ Goethe had also denied such one-to-one connections in his *Color Theory* of 1810:

Before we proceed to the moral associations of color, 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 always been 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: Color 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 this higher law. Could some investigator rightly adopt the method in which we have connected the doctrine of colors with natural philosophy generally, and happily supply what has escaped or been missed by us, the theory of sound, we are persuaded, might be perfectly connected with general physics¹²⁵

¹²² Kandinsky, *Complete Writings*, 190.

¹²³ See, for instance, at n. 636 (Sabaneev on Scriabin parallelism).

¹²⁴ Kandinsky, "On Stage Composition," in *Der Blaue Reiter*, 190. He was critical of Wagner's *Lohengrin* for making such direct correlation, saying he "tried to intensify the means...by repeating one and the same external movement in two concrete forms. His mistake was to believe that he had a universal method at his command."

¹²⁵ Goethe, *Theory of Colors* (Cambridge, Mass.: M.I.T. Press 1970), 278. It should be noted here that a literal application of the principles of sound in color would involve doubled vibration rates. In colors, which result from electromagnetic waves, this would quickly necessitate paintings with elements invisible to human vision, reflecting only ultraviolet light and x-rays. While this in itself offers an attractive parallel to occult theories, the technical means available for something like that at the time would be limiting. However, it is tempting to think that Kandinsky's use of violet in a central element of *Composition VII* might have related to the color's high frequency within the spectrum of visible light.

While Goethe's statements might have bolstered Kandinsky's belief in higher connections between artistic media as much as it discouraged direct material links, the approach suggested in the study might seem to present an additional complication as well. As noted above, Kandinsky's use of yellow, red, and blue corresponded to the major triad, the most fundamental harmony; the individual intervals between any of the two colors would represent a major third or a major fifth. His use of red, yellow, and blue here corresponded to the most consonant intervals after the octave, and the most traditional chord in modern music.

At the same time, Kandinsky regularly described juxtapositions of primary colors as strong contrasts, especially red and blue. This discrepancy might be explained through his differentiation of inner and outer with regard to harmony and dissonance. His earlier definition of color contrasts might be taken in a non-reflexive manner, where the contrast is one of cultural tradition.¹²⁶ Kandinsky's remarks about the profound spiritual harmony the juxtaposition engenders would support such a reading. Even if this explanation is somewhat reasonable, a seeming conflict remains, because he was equating new color harmony with old musical harmony. I will return to this issue once I have introduced additional studies of this period.

There are also other factors worth considering here, the most important of which being that in every response to and adaptation of existing sources, Kandinsky modified the ideas in whatever manner best fit his overall goal. His primary concern was visual expression; in his writings, painterly concerns trumped any set formula. There is no

¹²⁶ On reflexive versus non-reflexive consonance and dissonance, see at n. 17 above.

reason to suspect this would not have been even truer in his artistic practice. Moreover, Kandinsky's ideas about various effects of color were already fairly established by 1913, judging from his descriptions in the *Concerning the Spiritual* of 1911. While he made musical analogies to describe the spiritual nature of colors, Kandinsky, like so many others, saw music and art as being connected on a plane once removed from sensory understanding. It was only through the spiritual that one could grasp the inner, or get beyond "Mauthner's law" of arbitrary relationships to discover fundamental links. Furthermore, Kandinsky's notions regarding the nature of colors probably developed independently of any need to codify them, and they were certainly more nuanced than the system suggested by this study.

At this point, Kandinsky seems to have been searching for a structure in which to situate colors and further develop his ideas about them in relation to one another. The concentric circle offered a means to juxtapose colors in a manner similar to harmony in music. Each form is compact enough to be read simultaneously. Concentric circles could also suggest outward movement, as in the visual examples from scientific and occult literature addressed above. In that sense, the form suggests a sequence, more like melody. In both cases, the motif created a degree of regularity with which Kandinsky could establish the progress and development of intervallic relationships of color throughout a composition.

"Color Study—Squares with Concentric Circles" ("Twelve Square Study")

Another related work in the Münter archive is known as "Color Study—Squares with Concentric Circles," 1913, and is in watercolor, gouache, and crayon on paper (fig. 8.9).¹²⁷ Since the descriptions commonly given for many of these studies would prove ambiguous within the current context, I will refer to Color Study with Concentric Circles (fig. 8.6), discussed above, as "Color-Overtones Study;" I will refer to "Color Study—Squares with Concentric Circles" as the "Twelve Squares Study," since twelve squares fill the sheet in three rows. Each square contains a central circle surrounded by concentric rings.

An analogy might be suggested between the twelve iterations of the motif in this study and the twelve notes in the musical scale, but this does not appear to factor into the artist's intent. If the study were modeled after the chromatic scale in any ordering, one would expect the colors of a constant element within the motif to differ each time (e.g. the central circle, the background, or at least one of the concentric circles), like the chromatic scale, but this is not the case. Nor do the sequences here correspond to those of the overtone series, so it does not appear that Kandinsky was employing that approach with different color combinations. Nonetheless, it would seem plausible that the color-tones defined by the overtone study informed the more complex study here. In light of the "Color-Overtones Study," the "Twelve Square Study" seems to suggest chords or collections of tones.

¹²⁷ See Barnett, *Kandinsky: A Colorful Life*, 433; and Hangstaengl, *Kandinsky: Zeichnungen*, 113.

In the "Twelve Square Study," Kandinsky used every primary and secondary color, along with various tertiary colors. He also introduced variation within individual circles and throughout the study with different hues and values. Each motif has at least four circles and a background. Often, one of the elements (e.g. the central circle, a concentric ring, or the background) is modified to introduce additional color pairings. There are at least one-hundred-eight color juxtapositions on the page. Even if read as individual "chords," the variables prove daunting.

Such complexity hinders a complete analysis of the "Twelve Square Study" within the context of this dissertation. However, it will be useful to highlight a few more of its significant characteristics. Classified by level within the traditional color wheel, primary colors outnumber secondary colors, and tertiary colors appear even less frequently in the study. More than half of the central circles of the motifs are a primary color. Furthermore, motifs in which the central element is a primary color generally include more primary colors in their outer circles than those with a core in a secondary or tertiary color. Such features of repetition and variation within sets of limited elements, and the regularity of some of the relationships, suggest structural parallels to musical chords.

"Color Studies with Technical Explanations" ("Seven Square Study")

The "Twelve Square Study" is also closely related to another color study, which is known as "Color Studies with Technical Explanations" (Farbstudien mit Angaben zur

Maltechnik), 1913 (fig. 8.10).¹²⁸ It is divided into twelve square like the other study, but only seven are filled, so I will refer to it as the "Seven Squares Study" for clarity here. Three squares at the edges of the page have concentric circle motifs, while four central squares create a larger form in the top-center, which is made of different colored diagonal lines, joining to form a concentric diamond within a square. This larger form has three brief texts associated with it, which seem to describe color juxtapositions. A line pointing to the intersection of light yellow and orange-yellow is connected to the phrase "varnished over hot yellow."¹²⁹ The other two notes are located underneath the bottom-middle squares: "stained with hot red (pink)," and "glazed with cold green, Green IV (blue)."¹³⁰

These terms echo those Kandinsky used in the *Kochen* and *Beispiel* texts. In both instances, he described "varnished" and "stained" colors. In the notes, he also wrote about colors overflowing their boundaries, and here, many of the colors overlap one another or are blended together. The "Twelve Square Study" and the "Seven Square Study" have a greater variety of colors than the "Color-Overtones Study," but the basic forms correspond, as do the hues of the colors used most regularly.¹³¹

The color variations in the "Twelve Square Study" complicate a direct application of the musical intervals suggested by the "Color-Overtones Study," but some elements

¹²⁸ Ibid., 432 and 640.

¹²⁹ Ibid.: "lasiert / über gelb warm / (501)".

¹³⁰ Ibid.: "lasiert mit / rot warm (rosa)," and "lasiert mit / grün kalt / Grün IV/ (bläulich)".

¹³¹ Since the works appear together in the same publication, are in the same collection, use the same materials and support, are of similar size, and have the same credit for photographer, it is relatively safe to assume that the colors are faithful in relation to one another throughout the different studies addressed here.

may be related. Comparisons between the "Color-Overtones Study" and the "Seven Square Study" are somewhat easier, since it has fewer concentric circle motifs and fewer elements within each of them than the "Twelve Squares Study." The central circles of the corner motifs in the "Seven Squares Study" are unpainted, but the tones suggested by the inner circles of the left form would begin with G–E (keeping C as the arbitrary base note), a major sixth reading outwardly. This is a consonant interval. The background of the square is alternatively red, purple, orange, yellow, and green, which would correspond to E, D, A, and Bb in the "Color-Overtones Study." This would provide a variety of harmonies, both consonant and dissonant.

The top-right iteration of the motif is similar, but simpler, with red and blue surrounded by a gradation from red to yellow through orange. This would suggest the same first two notes in reverse, E–G, or a major third, an even stronger consonance than its inversion.¹³² The next color-tone would range from E to C, through A. However, the discrepancies with the color wheels that I have noted above might undermine such an interpretation here. While red offers a clear gradation through orange to yellow on the color wheel alone, if one is moving tonally around the combined color wheel and musical scale (as in fig. 8.8), this would require the introduction of green or blue.

While such a reading would be inconsistent with the top-right motif, the sequence of the one on the left more closely corresponds to the color-music overlay (compare figs.

¹³² Harmonically, the two-note sets are the same, whether or not they are inverted.

8.8 and 8.10).¹³³ Even so, it is unclear whether these two color studies with concentric circles were intended to combine colors in ways that would directly parallel musical intervals. One possibility is that Kandinsky began the series of studies addressed here with the "Color-Overtones Study." He might then have used it to begin the studies with multiple motifs, the "Seven Square Study" and the "Twelve Square Study," making the *Kochen* and *Beispiel* notes in response to these. The corner motifs in the "Seven Squares Study," especially, seem an attempt to apply the color-overtone series to color chords. However, Kandinsky does not seem to have applied the link rigidly, even initially. The artist's main concerns were artistic and spiritual, and there is no reason to believe he would not modify any initial formulation of color-music correspondences that might be suggested by their material properties to better reflect his own beliefs.

It is unclear if the motifs in the "Twelve Square Study" are intended as a set or as twelve individual studies, but the texts of his *Kochen* and *Beispiel* notes addressed above seem to be related to them. For instance, the colors of the inner circles of the top-left motif in the *Kochen* note are red and blue, the same as those in the corresponding motif in both color studies. The remarks in the notes suggest that Kandinsky was looking to refine his understanding of color relationships within the concentric circle form. Moreover, as the *Beispiel* note indicated, his primary concern here was the idea that "inner harmony = outer dissonance." The "Color-Overtones Study" demonstrates that he was thinking about

¹³³ The two series match except for the red area of the "Seven Square Study" motif's background. In the color-music wheel overlay, red is located on the other side of the wheel. The progression of colors in Kandinsky's study does not correspond to Kandinsky's color wheel in *Concerning the Spiritual* either, where yellow and green are in the opposite order as here (p. 190).

dissonance in terms of an extension of the overtone series, as many of his published statements of the period also suggest.

As in his discussion of color contrasts in *Concerning the Spiritual*, the juxtaposition of red and blue appears to have been an important concern throughout these studies. Yellow seems to have played a significant role as well. As noted above, in Kandinsky's "Color-Overtones Study," his pairing of the primary colors aligned with the major triad, the root of traditional harmony and a possible contradiction to other statements he made. In *Concerning the Spiritual*, he wrote, "For example, the juxtaposition of red and blue, these physically unrelated colors, is today chosen as one of the most strongly effective and most suitably harmonious because of the great spiritual contrast between them."¹³⁴ The colors were a "modern harmony," but continuing, he wrote, "It is remarkable that this very juxtaposition of red and blue was so popular with the primitives (the ancient Germans and Italians, etc.) that it has been preserved until the present day in the remaining fragments of this period (e.g., in religious folk-carvings)."¹³⁵ Kandinsky often suggested that music was the most abstract, and hence, the most spiritual, of the arts. Therefore, the argument could be made that painting had deviated from natural laws in ways that music had not. In such a case, red and blue might align with traditional harmony in music. Kandinsky's sometimes shifting perspectives concerning harmony and contrast make some of his statements ambiguous, but his studies help clarify his goals.

¹³⁴ Barnett, *Kandinsky: A Colorful Life*, 193–94.

¹³⁵ *Ibid.*, 94.

Whether or not Kandinsky was thinking in terms of harmonies and dissonances of color throughout the more complex color studies, his "Color-Overtones Study" and the *Kochen* and *Beispiel* notes suggest that he might have been reconsidering the effect of juxtaposing red and blue in a manner informed by new theories of music. In the "Seven Squares Study," the central elements of the top two concentric circle motifs are red and blue. The top-left motif of the "Twelve Squares Study" also begins with red and blue, and contains the other primary and secondary colors. However, Kandinsky introduced more complex colors in the "Twelve Square Study" than the "Seven Square Study," especially in motifs that are lower in the composition.¹³⁶ Translated to tones, the colors in these studies offer a range of intervals and chords, both consonant and dissonant. With the color gradations, many would even correspond to microtonal intervals. However, if there is a sequence at work, or an identifiable progression of color intervals that might directly correspond to a specific musical work or a logical collection of musical chords, it is not evident to me. Even so, comparisons with other studies provide additional insights on a structural level.

Compositional Studies

Before examining Schoenberg's music and the concluding discussion of *Composition VII*, I will briefly discuss the central motif in six of the larger studies for *Composition VII*, although there are many others. The order in which the artist completed

¹³⁶ The orientation of the "Twelve Square Study" is suggested by the text of the "Seven Square Study."

them is not clear, and they are all referred to as Study for *Composition VII*, with occasional variations; I will refer to them by their figure numbers as introduced here. In figures 8.11–14, red within blue circles form the central motif (see details, figs. 8.11a–14a). These most closely correspond to the top-right motif in the "Seven Square Study." The motifs in figures 8.11–14 are all bounded by yellow to varying extents, and in 8.11 and 8.13 they are also juxtaposed with orange. Figure 8.12 includes light blue, and the central element of 8.14 has a small yet clearly deliberate point of contact with purple. All of these color combinations are present in the studies addressed above.

In addition to the common feature of red and blue circles, Kandinsky introduced a yellow core surrounded by green in figure 8.13. The central core in 8.14 is empty, as in 8.12, but a faint circle of violet is present around the core, in turn, surrounded by brown-green. The blue circle here is also represented by two different hues, unlike 8.11–13. In 8.14, the outermost circle is similar to the others, but a darker value is used in an additional circle set just inside the primary blue. Figures 8.11–14 chart an increased complexity of color and form, from two, to three, to four, to six central elements of the core.

In figures 8.15 and 8.16, Kandinsky again left the core of the motif blank and used violet for the innermost circle. The second inner circle of 8.15 is yellow. The corresponding circle is light green in 8.16, which also has a teal outer ring, with a dark green ring just inside of it. These colors appear in both the "Seven Square Study" and the "Twelve Square Studies," but they are more prominent in the latter than the former. Of the extant studies for *Composition VII*, the central motif in 8.16 comes the closest to that

in the finished painting (fig. 8.1, see detail, fig. 8.1a). Besides demonstrating a relationship between these studies for *Composition VII* and the color studies addressed above, this focus on the concentric circle motif strongly suggests a development of greater complexity of color, moving away from primary colors towards the use of more secondary and tertiary colors. This would suggest a coupling of dissonant intervals and more complex colors.

The "Color-Overtones Study" takes musical theory and acoustics as its starting point, but other concerns appear to dictate in the end. Nonetheless, it is clear from the *Beispiel* note that the concentric circle motif reflected Kandinsky's continued consideration of atonal musical theories of harmony, now focused on how the concept might be embodied in color and form. He used the concentric circle motif in different color combinations throughout *Composition VII*, which might further suggest his intent. I will apply these findings to analysis of the finished painting below. It will first be useful to more fully examine the compositional strategies and organizing principles that Schoenberg used in his early atonal works, which should facilitate comparisons between Schoenberg's music and Kandinsky's art.

Formal Analysis of Schoenberg's "Three Piano Pieces," op. 11

Schoenberg wrote in general terms about harmonic construction in his *Harmonielehre*. However, understanding his specific compositional strategies requires an examination of the music itself. While any of his compositions written shortly after op.

10 could be used to demonstrate the basic principles of structure and development in his early atonal works, op. 11 seems appropriate here, given its earlier significance to Kandinsky.¹³⁷ "Three Piano Pieces," op. 11, of 1909 was Schoenberg's first consistently "atonal," or, as he preferred, "pantonal" composition. In each of the three pieces, the composer used what would traditionally be considered "dissonant" elements throughout the work. In the non-reflexive sense, all of the harmonic and melodic elements are dissonant. In the reflexive sense, suspension and resolution are defined within a system dictated by the composition itself. In this way, traditionally defined or non-reflexive dissonance, in all of its complexity, could be used throughout the work while new structures became the equivalent of tonal resolution. While a full analysis of "Three Piano Pieces" exceeds the scope of this dissertation, it will be helpful to examine the main elements of the first of the three pieces in detail, and the overall structure of the composition as a whole.

"Three Piano Pieces" relies on a basic organizing element that musicologist George Perle has described as an intervallic "cell," consisting of three notes. According to Perle, "A cell is a microcosmic set of fixed intervallic content, stable either as a chord or as a melodic figure or as a combination of both."¹³⁸ Introduced as the first three notes of the first of the three pieces, this intervallic cell is used to generate additional formal

¹³⁷ Schoenberg, *Three Piano Pieces: Drei Klavierstücke, op. 11* (New York: Associated Music Publishers, 1942). It is not my intent to suggest that Kandinsky was necessarily responding to "Three Piano Pieces" in *Composition VII*, but using the musical work as an example here has the added utility of supporting my earlier assertion that *Impression III* (Concert) does not reflect the work's structure or Schoenberg's compositional strategies.

¹³⁸ Perle, *Serial Composition and Atonality: An Introduction to the Music of Schoenberg, Berg, and Webern*, 5th ed. [1962] (Berkeley: University of California Press, 1981), 9.

structures as the work unfolds, for instance, symmetries. The initial occurrence of the cell, hereafter referred to as *cell a*, is B–G-sharp–G, the first three notes of the piece, and part of a larger first theme: B–G-sharp–G–A–F–F–E (figs. 8.17 and 8.18). This intervallic cell is based on intervals 3, 1, and 4, where each number represents a musical half-step, with twelve such half-steps in each octave (figs. 8.19 and 8.20). Or, in more traditional terminology, as a minor third, minor second, and major third.¹³⁹ *Cell a* appears throughout the work in various forms, in both melodic and harmonic statements and is transformed in various ways.

We can separate musical compositions into two broad structural spheres, melodic and harmonic. Melody is a linear, horizontal concept involving the thematically ordered succession of notes as they unfold in time. This notion of the linear relationship of notes to one another forms the basis of thematic content, where the ordering of notes and their adjacency is essential to understanding their meaning. Conversely, in musical notation, harmony is a vertical concept dealing with "spatial" relationships rather than temporal ones.¹⁴⁰ In music, when analyzing a harmonic structure, the spatial relationship of a collection of intervals provides meaning, while their actual ordering is irrelevant.

¹³⁹ Perle's concept of the intervallic cell proves more appropriate for Schoenberg's music than standard forms, given the new harmonic foundations and organizational structures at work. Similarly, it is useful to apply Perle's pitch-class numbering notation, using 0 through 11, rather than describing chords or even notes in Schoenberg's atonal music, since it is removed from traditional tonality.

¹⁴⁰ Of course, the vertical aspect is a musical convention from notation, in turn, perhaps based on spatial metaphors for pitch. In physical terms, pitch, hence harmony, is a rhythmic relationship; constant rates of the vibration of air within a certain range are interpreted by the ear as tone, as Helmholtz demonstrated. In acoustical terms, harmony could also be described as *Klänge*, a combination of various tones and their overtones sounded in unison.

Just as Schoenberg's need for new expressive possibilities led him to develop a new idiom of music, musical analysis also had to adapt. Whereas tonal musical compositions are centered around a particular key and its prescribed chords, music of Schoenberg's early free-tonality finds its structure in the establishment of a basic cell. Schoenberg's op. 11 is based on unordered pitch collections or cells. While *cell a* is used to generate themes in the piece, there is no consistent ordering of the elements; the only thing that defines a cell is its intervallic content. *Cell a* is transformed in op. 11 through harmonic inversion, a spatial reordering of intervals. For instance, B–G-sharp–G, when inverted, is B–D–D-sharp, so the intervals 4–1 descending are reversed to 4–1 ascending. Thus, intervals 4–1 are changed to 1–4 with the semitone previously on the bottom now on top (fig. 8.21).

Except in its initial thematic form, *cell a* (B–G-sharp–G) does not appear in any consistent linear ordering. However, as a harmonic entity (as at measures 34-36 and 46-47), it is quite prevalent. In these harmonic manifestations, the inverted form of the cell is clear, as in the following sequences, e.g., mm. 34-36: E–D-flat–F, C-sharp–B-flat–D, C–A–D-flat; mm. 46-47: A–C–C-sharp. C–E-flat–E, E-flat–F-sharp–G, etc. (figs. 8.22 and 8.23). These sequences establish the importance of inversion in the piece. Sequences of inversions of *cell a* accompany a transposition of the basic theme, closing the “Development section,” which will be addressed momentarily. Here, it is important to recapitulate that Schoenberg established a localized structure in the work in the first three notes of the composition. This unordered set of intervallic relationships was then

transformed in a manner that generated additional forms, specifically through the inversion of its intervals.

As Schoenberg wrote, “A centralizing power comparable to the gravitation exerted by the root is still operative in these pieces.”¹⁴¹ Contrary to contemporary critics' cries of "pointless experimentation," the music of "Three Piano Pieces," like so many early atonal compositions, simultaneously reveals an attempt to break away from traditional means while still conveying meaning and order. This is achieved partly by its structural organization. As Antokoletz explains in *Twentieth Century Music*, “In this as well as other twentieth-century compositions, symmetrical pitch constructions are also a significant means of progression for the transposition of themes or cells away from, and back to, original pitch-levels.”¹⁴² A basic process in op. 11, for instance, involves a construction that is somewhat hidden within the opening materials. The first occurrence of *cell a*, B–G-sharp–G (mm. 1-2), consists of minor third and a semitone. Immediately following this linear articulation of the cell, the first harmony is presented in B–G-flat–F. The later form retains the semitone, but expands the minor third to a perfect fourth, i.e. the total interval content, 3–1–4, is expanded to 5–1–6 (fig. 8.24).

In measure twelve, Schoenberg introduced a transposition of this expanded collection of intervals (5–1–6) in E-flat–A–D–G-sharp, generating the third theme of the work. This is a symmetrization of the 5–1–6 collection, and, in turn, it is an expansion and symmetrization of *cell a* (fig. 8.25). The expanded collection can be shown as E-flat–

¹⁴¹ See Leonard Stein, ed. *Style and Idea, Selected Writings of Arnold Schoenberg*, trans. Leo Black (Berkeley and Los Angeles: University of California Press, 1984), 86–87.

¹⁴² Antokoletz, *Twentieth-Century Music*, 13.

G-sharp/A–D, which implies the interlocking of the 5–1–6 intervals and their inversion. In turn, this combination produces a larger symmetry, giving the six-note symmetry of measure six (fig. 8.26). In other words, Schoenberg created a new means of musical progress based on the initial iteration of unit, and then its expansion through inversion and symmetrization. What would have been "unresolved dissonance" within traditional harmony was redefined by Schoenberg as the equivalent of a tonal center in the work. In this way, it could be used to propel development through new forms of tension and resolution. At the same time, the entire work could be composed from the remote portion of the overtone series. Thus, it could provide constant dissonance in the acoustical sense, even while operating within a redefined system of harmony.

Schoenberg also used *cell a* (intervals 3–1–4) to generate other expanded structures at measures four and five. The second theme of op. 11 opens with *cell b*: E–C–B-flat, intervals 4–2–6 (fig. 8.27). This cell is a segment of the whole tone scale, which contains larger intervals than *cell a*. *Cell b* is inverted and symmetrized in the left hand part (D–F-sharp–G-sharp, intervals 4–2–6). Together, these two inversionally related, symmetrical *b cells* produce the complete whole-tone collection (C–D–E–F#–G#–Bb). The emergence of this whole-tone structure is then projected into the large-scale level of organization for the work's progression.

Schoenberg used the augmented triad as part of this expansion. The augmented triad is a collection of three notes formed from two major third intervals. In the key of C, it is expressed as C–E–G-sharp, a major triad with the fifth note raised half a step. The major thirds (interval 4) so prominent in *cell b* are already found in one of the intervals of

the *cell a*, the interval four boundary. Indeed, the opening theme shows another level of expansion. Two major thirds unfold in the first theme itself: A–F and F–D-flat. These major thirds can be directly associated with *cell a* because the theme’s closing on E in the third measure fills in the second major third, giving an inverted form of *cell a* (fig. 8.28). Thus, expansion and symmetrization should be seen as part of a continual process in the succession of different cell forms and a key organizing feature of the composition.

Schoenberg’s op. 11 is also loosely based on the Sonata form, which was essential in classical music of the eighteenth-century, and fully developed by composers such as Haydn and Mozart. In the typical Sonata—or “First Movement Form”—there is a recognizable succession of sections. The “exposition” presents thematic material of the work, often one of two themes in different keys with a transition between them. The “development section” follows the exposition, and it develops and expands the thematic material introduced in the exposition into different keys. Finally, there is the “recapitulation,” where the thematic content returns to the tonic key initially introduced. Schoenberg used a similar organizing principle in “Three Piano Pieces,” except the new idiom defined sections by pitch level, rather than by key.

To return to the grammatical terminology of reflexive versus non-reflexive, Schoenberg’s op. 11 was non-reflexively dissonant in its relationship to the existing canon of music. In traditional terms, it was all unresolved dissonance. In the reflexive system of the composition itself, the organizing principle is established within the opening notes. Consonances and dissonances, or tensions and resolutions, work together

to suggest musical progression. Consonance or dissonance represent a continuity or discontinuity, of what depends on the system in place.

Composition VII, 1913

The musical analysis above should help facilitate considerations of possible connections between the compositional strategies of Schoenberg and Kandinsky. However, to reiterate my intent, I hope to illuminate strategies that might have informed *Composition VII* and related works. I am not suggesting that the artist ever attempted to translate existing music into visual form in any of his finished paintings. Rather, Kandinsky's studies of possible relationships between music and art, as well as his broad readings regarding the concept of dissonance, informed his nascent abstract style, allowing him to draw together various themes and unite them in what he saw as a universal form.

Schoenberg's approach involved introducing a collection of intervals that generated additional material and propelled the piece. I would argue that this is comparable to the concentric circles at the center of *Composition VII*. The colors themselves might be considered dissonant within traditional color theory, where violet and green are across the color wheel. At the same time, the two shades of green in the central motif suggest a closer intervallic relationship comparable to the minor second (G-sharp–G) in the second and third notes of the opening passage of "Three Piano Pieces."

In its central placement, the concentric circle motif suggests an opening passage for the painting. In this way, it might serve a role similar to what Perle described as a

"cell" in Schoenberg's compositions. While the overall visual effect is evident at a distance, the painting's large size necessitates viewing the composition in portions, just as he painted segments of it. Moreover, Kandinsky suggested this approach to viewing other paintings of the period. For instance, his comments addressed above where the viewer would experience "an inner sensation like a succession of waves," or his remarks about an "inner boiling" that produces an "overflow of boundaries" resulting in "overtones."¹⁴³

The repetition of concentric circles and semi-circles throughout *Composition VII* supports this reading. Both the form of the central motif and its colors are separately repeated numerous times in the painting; the motif appears in different colors while the tones of the central motif appear in different forms throughout the composition. The repetitions of the central color are usually larger and spread out, which is an expansion. For instance, most of the colors used in the boat motif repeat those in the central motif of concentric circles. Principles of inversion might also be described in *Composition VII* and many of its studies, where sequences of colors are reversed. Inversion is suggested by the relationship of red and blue in the top two concentric circle motifs in the "Seven Square Study," or in the ordering of teal and green in the central motif in *Composition VII* to their reversed appearance in the boat (fig. 8.1a and 8.1b).

Applying the structural analogy further, the red and blue concentric circle motif in *Composition VII* would be comparable to *cell b* in "Three Piano Pieces." The form is related to the central motif, yet the colors are distinct. Moreover, the musical triad of the primary colors in the Color-Overtones Study might suggest further connections, since

¹⁴³ See n. 777, n. 808, and n. 821 above.

Schoenberg's *cell b* is an augmented triad, formed in part from the same interval represented by blue and red, the major third. Whether a link is intended here, both interval collections represent a structural relationship where the materials, the specific notes and colors are different, but one structural relationship between two elements in each set is the same. Both motifs contain an interval of pronounced distance, pink and green or yellow and teal in the central motif, and red and blue in the outer motif. In the central motif, like *cell a*, there is also a more subtle tonal relationship (shades of green, and a minor second, respectively).

If reading from the center of the canvas, the red and blue motif is introduced after the initial collection of violet, teal, and green. The red-blue motif is expanded and developed in a manner to the expansion of the central motif. The colors from both motifs are evident throughout the upper section of the canvas, and the small spot of yellow in the central motif has become especially expansive at the left of *Composition VII*.

More specific interpretations of directionality within *Composition VII* would have to refer to the analytical sketches that Kandinsky made for the painting. It will be useful to briefly note general elements of two of the compositional sketches that appear to most closely correspond to the finished painting. The oblique oval in figure 8.29 seems to suggest an orbit around a central point, indicated by a "x." In addition to this general arrangement, it is worth noting that lines suggesting waves occupy the area that includes the boat motif in the finished painting.

Figure 8.30 resembles the finished painting even more closely, with major elements of *Composition VII* indicated. The boat motif is in the lower right-hand corner,

as in the finished painting. In the upper right, where scholars have identified Gabriel and his trumpet in *Composition VII*, Kandinsky drew a circle with a cross. He connected this form and the boat in a straight diagonal line across composition. Kandinsky drew the central motif as a series of roughly concentric circles with a sharply angled v-shaped wedge crossing them. The central motif is situated between the largest diagonal line connecting the bottom left and upper right, and other compositional lines indicated on the study, most of them diagonal. Diagonal compositional lines in themselves suggest dynamism. In their abundance here, they interlock to form a larger structure. It is worth noting that the red-blue concentric circle motif is also indicated on this study, among the relatively sparse yet significant elements.

Finding Meaning in Structure

The trumpeting archangel and the boat of the deluge are connected in *Composition VII*, as the compositional studies indicate, and as the finished painting suggests. The concentric circle motif is at the center of this complex. The circle has been related to St. George, Paradise, and other themes, by the artist and by scholars. The concept of emancipated dissonance (or more remote consonance) connected all of these themes, while offering specific structural parallels that might be applied to painting. For Kandinsky, the concentric circle was a means by which abstract form could embody larger ideas. This is evident in the "Color-Overtones Study," as well as in the *Beispiel* and *Kochen* notes. Atonal musical strategies such as those Schoenberg used in "Three Piano

Pieces" would have helped Kandinsky conceive of meaningful formal relationships within abstract paintings like *Composition VII*.

Chapter 9

Conclusion

Summarizing Kandinsky's Engagement with Dissonance

Composition VII represented another grand synthesis of Kandinsky's ideas, and it is clear that the concept of dissonance played an important role. Like many of the theories addressed above, Kandinsky's writings and art demonstrate a concept of dissonance that was constructive, transporting, and transformative. Dissonance might serve as a means of disruption, as well as the foundation for new ways of relaying meaning through formal relationships. This structural response to an otherwise arbitrary situation bears close resemblance to suggestions in Mauthner's writings, examined in the previous chapter of this dissertation. While an analogue to Mauthner's proto-structural linguistics might have offered a partial solution to the problem of conveying meaning in abstract form, Kandinsky wrote that he sought to "get beyond Mauthner's law" and find a new idiom with rules inscribed on a spiritual plane.¹ Dissonance was often related to ideas about expanded perception in the literature of this era, within music, science, and the occult, thereby offering paths there as well.

With *Impression III* (Concert) of January 1911 and his initial letter to Schoenberg, written shortly thereafter, Kandinsky signaled his deep interest in musical dissonance. The painting also marked the start of his move towards total abstraction. In his writing of the period, Kandinsky demonstrated a sophisticated understanding of ideas concerning

¹ See ch. 8 at n. 45 above.

the expressive power of dissonance, which he expressed through color contrasts and abstracted forms in the painting.

As I have established in chapters three and six above, in *Concerning the Spiritual in Art* Kandinsky had a fairly advanced understanding of the state of new music, but there is no indication in his writings or in his paintings of 1911 that he understood Schoenberg's compositional methods and new atonal structures at this point. Nonetheless, Kandinsky's growing interest in the expressive freedom afforded by atonal musical idioms is strongly evident in the *Blaue Reiter* publication of 1912, where he and Marc drew together various constructive ideas surrounding dissonance. Here, his inclusion of Schoenberg's score and those of his pupils provide the best indication of the direction he would soon take.

With his 1913 book of poetry, *Klänge*, Kandinsky grappled with issues of unfixed meaning and polyvalent structures within written language, exploring ways in which he might impart new meanings. These notions were also related to his ideas concerning dissonance as a means for the expansion of artistic material. These ideas concerning the artistic freedom inherent in dissonance were crucial in Kandinsky's formulation of an abstract visual language, and his efforts at synthesizing a conceptual framework for abstraction culminated in his studio over the course of late 1913 during the creation of *Composition VII*.

Like *Impression III* of 1911, *Composition VII* of 1913 visually represented transformative ideas about dissonance that were circulating at the time. However, with the painting, Kandinsky went much further in using music as a source than he had been

capable of doing in his painting of two years earlier. In *Composition VII* and related studies, there are strong suggestions of the artist's attempts to employ strategies drawn from Schoenberg's methods, including using a of localized or reflexively dissonant structure as well as its repetition and variation to impart meaning, as argued in chapter eight of this dissertation.

The concentric circle was both a symbol and a composition element for Kandinsky. It served a structural function, providing a foundation for his new visual language of abstraction. It also represented the kind of spiritual transfer Kandinsky described in his writings at the same time it allowed him to further develop his ideas about relationships of colors divorced from representation of the visible world. On a superficial level, the concentric circles might be related to various representations of wave forms within scientific and occult literature. On a deeper level, the motif could also embody the rich array of ideas associated with these vibration models of dissonance.

Composition VII of 1913 realized fully an idea first articulated in *Impression III* (Concert) of 1911. Here he incorporated positive notions of dissonance into existing vibrational models of transmission from other disciplines, such as music, philosophy, science, and occultism. For Kandinsky, the effect of "outer dissonance = inner harmony" that he sought in his paintings, would help charge the dynamic he described repeatedly and in a variety of ways: spiritual-artistic "sympathetic vibrations," an "inner-sound," "Klänge," or "overtones" of a painting could "cause vibrations in the soul."² The waves of light reflected from the canvas represented the divine waves of sound issuing from

² See ch. 8 above, n. 23 and following.

Gabriel's trumpet, bringing both the Apocalypse and the Resurrection. They also showed the great waves of the Deluge, tossing the boat that would ensure salvation and continuation within a new spiritual harmony. These ideas of divine vibration were embodied in the concentric circle motif as well, which offered its own means of formal expansion and development through the concepts of the remote consonances of the overtone series, as well as the principles of atonal composition arising from them. As in Kandinsky's writings, what might at first seem vague often reveals a precise and thoroughly intentional network of related meanings when larger contexts are recovered.

The growing interest in dissonance in the late nineteenth century that I have traced in various contexts—musical, philosophical, artistic, scientific, and occult—all contributed to Kandinsky's understanding of the concept and its potential for his abstract language of form and color. To generalize, occult literature of the late nineteenth century adopted the longstanding vibrational model of spiritual transmission and reception, which had been employed by Mesmer and Reichenbach earlier. Occultists extended it in a number of ways, many of which drew from science, and these authors used new scientific findings to justify their theories of astral and vital vibrations. During the same period, positive notions of dissonance were advanced by philosophers like as Nietzsche, studied by scientists like Wundt and Lipps, and made all the more compelling by the music of the era, where the notion of dissonance was also constantly being redefined.

The Theosophists' notion of infinite melodies suggested that dissonance does not exist on a higher level, an idea which represents a reflexive definition of dissonance. Kandinsky employs both the reflexive and non-reflexive senses of dissonance, arguing

for the validity and necessity of its redefinition of the "consonance of tomorrow," while at the same time embracing its disruptive nature: "Clashing discords . . . opposites and contradictions—this is our harmony."³ In this dual perspective, his views before the war had more in common with those of Gessmann, Rochas, and Baraduc, whose writings more strongly suggested the transformative power of dissonance than did most Theosophical literature, but these ideas were all closely connected. Kandinsky's application of these principles would have only been further inspired by his collaboration with Schoenberg and other musical advocates of atonality in 1911 and 1912, such as von Hartmann, Sabaneev and Kulbin.

Other Resonances of Dissonance

As I noted in chapter two of this dissertation, Kandinsky was neither the first nor the last artist to use musical concepts of dissonance to understand and explain abstract elements in painting. Nor was he alone in seeking to include new music as part of his larger artistic program. In looking at the broader theme of constructive dissonance within modern art, the Russian avant-garde of this era offers abundant comparisons with my study here.

As I have addressed in chapter seven above, Kandinsky was in close contact with leading theorists within artistic circles of St. Petersburg and Moscow, and composers and writers such as Nikolai Kulbin and Leonid Sabaneev served as important sources in his consideration of atonality. Their influence was even stronger within their immediate

³ Kandinsky, "On the Spiritual," in *Complete Writings*, 193.

circle, and theories of microtonality appear to have been an important part of the aesthetic theories of the Russian Futurists and some of the totally abstract styles that soon followed.

In 1918, Malevich wrote, "The unexpected character of the meeting of two anatomical structures creates a dissonance, giving rise to a force of extreme tension Thus we have preferred the dissonance of objects to the possibility of representing the totality of the object."⁴ As noted above, recent studies by Julia Kursell have drawn important links between theories concerning musical dissonance and Russian Futurist poetry.⁵ However, connections between musical and visual theories of dissonance in Malevich's Futurist and Suprematist paintings have not been explored. Malevich, like Kandinsky, was in close contact with avant-garde musicians, and he was thus exposed to many of the same radically new theories of composition that informed Kandinsky's artistic theories. Malevich worked with the composer Mikhail Matyushin on the avant-garde opera *Victory Over the Sun* in 1913, and Malevich latter suggested that his work on the opera helped him to develop his Suprematist style.⁶ Charlotte Douglas has asserted that the relationship between Malevich and Mikhail Matyushin was "one of the most crucial relationships for the history of Russian art, perhaps one can even say in the history of Modernism, or even go so far as to declare in the history of Western art as a whole."⁷

Douglas and others have done much to describe the philosophical topics and sources

⁴ Kazimir Malevich, "From Cézanne to Suprematism" [1918], in Gilles Néret, *Malevich* (Cologne: Taschen, 2003), 40.

⁵ See ch. 1, n. 9; and ch. 6, n. 67.

⁶ See, for instance, Camilla Gray, *The Great Experiment in Russian Art* (London: Abrams, 1962), 134ff.

⁷ Douglas, "Mikhail Matiushin i Kazimir Malevich" in *Experiment 6*, ed. Alla Povelikhina (October 2000), 12.

discussed by Malevich and Matyushin, such as the transrational philosophy of P. D. Ouspensky, but textual sources have dominated such studies; little has been said about music.

Consideration of music as a source for Malevich is warranted, not only by his collaboration on a radically-dissonant opera and by his friendship with Matyushin, but also by Malevich's artistic production, much of which features musical themes and motifs. In her recent analysis of *Black Square* of 1915 and Malevich's development of his totally abstract style, Aleksandra Shatskikh has underscored this point from a different angle, highlighting some of the other composers with whom Malevich associated, such as Nikolai Roslavets and Arthur Lurie.⁸ Malevich also intended that music play a key role in his Suprematist movement, as demonstrated by the prominence of Roslavets's theories in *Supremus*, the group's unrealized journal. The ideas advanced by Scriabinists such as Roslavets deserve further examination in relation to Malevich's theories.⁹

Matyushin's Overture for *Victory Over the Sun* can be described as an exercise in quartertone recognition. It begins with a doubled B and then moves up a quarter-step to

⁸ Aleksandra Shatskikh, *Black Square: Malevich and the Origin of Suprematism*, trans. by Marian Schwartz (New Haven: Yale University Press, 2012), 192ff.

⁹ Other parallels to Kandinsky's concerns include an interest in science and in the occult. For instance, one of his curtain designs for *Victory Over the Sun* included the phrase "putting ether inside," along with other scientific terminology. See Benedikt Livshits, *The One and a Half-eyed Archer* [1933], trans. by John E. Bowlit (Newtonville, Mass.: Oriental Research Partners, 1977), 163. On Malevich's interest in contemporary science and occult theories, see also Douglas, "Energetic Abstraction: Ostwald, Bogdanov, and Russian Post-Revolutionary art," in *From Energy to Information*, 76–94; and Henderson, *The Fourth Dimension and Non-Euclidean Geometry in Modern Art* (Princeton: Princeton University Press, 1983; and Cambridge, Mass: MIT Press, 2013), ch. 5; and Henderson, "Vibratory Modernism," in *From Energy to Information*, 126ff.

the quartertone between B and C.¹⁰ With each set of doubled quarter-tone steps, the pitch is raised an octave, so in a measure and a half, Matiushin has demonstrated the same principle—the audibility of quartertones—in four octaves. In this, it was an example of the ideas put forth by Kulbin in his "Free Music" essays, addressed in chapter seven above.

Matiushin's music takes its meaning from subtle, dissonant, formal relationships of tone, using intervals smaller than those with which we are accustomed. Malevich's Suprematist paintings, like all totally abstract paintings, rely entirely on relationships of form to provide meaning. This has been clear to artists, critics, and scholars in subsequent decades, whether proponents of purely formalist criticism or those seeking to place these works within their larger, cultural context. It has been equally clear that paintings like *Black Square* bear intentionally embedded meanings. Like Kandinsky's *Composition VII*, considerations of dissonance—now microtonal dissonance—in relation to Malevich's *Black Square* might also prove productive, where the painting's visual power lies in the minute but strikingly dissonant relationship between the form and the frame.

As noted in chapters two and seven above, the Italian Futurists were also keenly interested in new and dissonant music as part of their artistic program, most clearly evident in the work of Luigi Russolo. Similarly, in England, Ezra Pound specifically related Vorticist painting to atonal music in his writings championing the compositions of George Antheil in the 1920s. In his Vorticist essays for *Blast* in 1913 and 1914, the poet

¹⁰ See Aleksei Kruchenykh, Kazimir Malevich, et al. *Victory Over the Sun*, trans. by Patricia Railing (East Sussex, England: Artist Bookwoods, 2009), n.p.

often hinted at the greater innovation of visual artists. Summarizing his position in 1924, Pound wrote that "*The Vorticist Manifestos of 1913–14 left a blank space for music, because, he claimed, 'there was in contemporary music, at that date, nothing corresponding to the work of Wyndham Lewis, Pablo Picasso or Gaudier-Brzeska.'*"¹¹

While Pound would write in modest praise of Stravinsky and Debussy, it was not until he became acquainted with George Antheil in 1923 that he would see a musical parallel to Vorticist painters. Even so, in the 1910s, he often explained the highly abstracted paintings of Vorticists like Lewis through the standard analogy to music. Pound drew together various iterations of the idea in circulation in his 1914 essay "Vorticism," which begins,

It is no more ridiculous that a person should receive or convey an emotion by means of an arrangement of shapes, or planes, or colours, than that they should receive or convey such emotion by an arrangement of musical notes.

I suppose this proposition is self-evident. Whistler said as much, some years ago, and Pater proclaimed that 'All arts approach the conditions of music.' The painters realize that what matters is form and colour. Musicians long ago learned that programme music was not the ultimate music.¹²

Later in the essay, Pound argued of the new painting that a viewer "can do worse than approach it in the spirit wherein he approaches music."¹³ In his closing statement of the essay, he made a particularly revealing, if indirect, criticism of the Italian Futurists, Russolo in particular. There he suggested a connection between Russolo's *intonarumori*

¹¹ Pound, *Antheil and the Treatise on Harmony* (Chicago: Pascal Covici, 1927), 35. Originally published in Paris in 1924, substantial portions of the text were printed throughout the year in the *Transatlantic Review* and in *The Criterion* 2 (March, 1924), 321–31. See also William Walter Hoffa, "Ezra Pound and George Antheil: Vorticist Music and the *Cantos*," in *American Literature* 44 (March, 1972), 52–73. The passage also appears in the collection of Pound's music criticism edited by R. Murray Schaffer, *Ezra Pound and Music* (New York: New Directions Publishing, 1976), 252–53.

¹² Pound, "Vorticism," in *Fortnightly Review* 96 (September 1, 1914), 461–71.

¹³ *Ibid.*, 471.

(noise-makers) and programme music, as well as contrasting this with the Neo-Platonic tendencies of the Vorticists: "A new vorticist music would come from a new computation of the mathematics of harmony, not from a mimetic representation of dead cats in a fog-horn, alias noise-tuners." Pound's reference to a "new computation of the mathematics of harmony" suggests his understanding of the underlying justification for atonal music that was often proposed by avant-garde composers and theorists of the era, such as Schoenberg, Kulbin, and others.¹⁴

In his 1924 publication *Antheil and the Treatise on Harmony*, Pound writes that "chords are like colors."¹⁵ Here, he reversed the usual art-music analogy—in line with his longstanding argument for the superiority of avant-garde visual art—using vision as an analogue for hearing:

[Chords] are a complex of sound occurring at a given instant of time, a minimum of audible time, as colour is a complex of light vibrations thrown off by a given spot, or minimum visible, of space or surface. There remains the given succession of sounds; and the given delimitation of points, whence lines, surfaces, volumes. Here endeth our retrospect.¹⁶

¹⁴ Describing the Vorticist photographs of Alvin Corburn, scholar Anne McCauley has drawn connections between Coburn's musical and strong occult interests in the years after 1914. See Anne McCauley, "Witch Work, Art Work, and the Spiritual Roots of Abstraction: Ezra Pound, Alvin Langdon Coburn, and the Vortographs," in *Vorticism: New Perspective*, ed. by Mark Antliff and Scott Klein (Oxford: Oxford University Press, 2013), 156–171. In addition to an interest in the visual model of piano rolls, McCauley noted that, "Music, for Coburn like many modernists and their Platonic forebears, was the model for abstraction, and he became an avid fan of the latest composers, including Sergei Rachmaninoff and Modest Mussorgsky (by 1913), and Igor Stravinsky, Arnold Schoenberg, and Alexander Scriabin (by 1914)" (p. 168–69).

¹⁵ Pound, *Antheil and the Treatise on Harmony*, 35.

¹⁶ *Ibid.*, 40–41. As in Pound's other musical analyses, the text is highly idiosyncratic, with abundant references and a unique syntheses of ideas, all of which deserve greater consideration, but fall outside of the scope of my current study. It is worth noting here that while Pound refers to Schoenberg on a number of occasions in the text, where positive, his statements are somewhat misrepresentative and entirely self-serving. Elsewhere, he is particularly critical of Schoenberg's focus on harmony, which he called "a technical morass, undefined rhythms, tonal slush" (p. 47); and "anaemic and unmusical but marvelously vertically-calculated" (p. 56).

The text as a whole serves much more to expand on Pound's ideas expressed in 1914 than it does to explain Antheil's intent in 1924. Most notably for our purposes, despite the stances Pound took in contradiction to nearly every composer he mentioned, like many new theories of harmony proposed earlier in the twentieth century, his argument rested on a consideration of the vibratory nature of sound and hearing, which he used to draw direct connections between music and avant-garde painting. Lewis also advanced the idea of dissonance, taking the idea of contrasts further in his work than he claimed others had. Recognizing this trait in Kandinsky, Lewis wrote in positive terms that Kandinsky was "original and bitter," but that he still left additional "fields of discord untouched."¹⁷

Following World War I, the European avant-garde, on the whole, emphasized notions of order and harmony. These tendencies paired especially well with geometrically abstract styles like *De Stijl*. However, as is the case with Kandinsky's work of his Bauhaus period, the emphasis on harmony has often evaded scholarly consideration of what kind of harmony these artists intended. Piet Mondrian's essay "Dialogue on the New Plastic of 1919 is written as a conversation between "A Singer" and "A Painter." After he describes many of his Neo-Plastic goals and theories, Mondrian turns to the fundamental question of the nature of harmony. Here, it is clear that he takes an expanded view of tonality, where it is the painter who convinces the singer of the validity of music without melody:

A [A Singer]: I agree that the essential of art is the creation of *harmony*, but . . .
B [A Painter]: But harmony does not mean the same thing to everyone and does not speak to everyone *in the same way*. [. . .]

¹⁷ See Antliff, *Vorticism: New Perspectives* (Oxford: Oxford University Press, 2013), 61.

A: Then this leaves room for naturalistic painting and melody in music. But do you mean they will be outgrown in the future?

B: The more purely we perceive harmony, the more purely we will plastically express relationships of color and of sound; this seems logical to me.¹⁸

In the spring of 1930, many of these styles came together in Paris during the sole exhibition of the abstractionist group *Cercle et Carré*, led by Michel Seuphor.¹⁹ The opening marked the first time Kandinsky and Mondrian met. While Malevich was not associated with the group, his former associates Alexandra Exter and Wanda Khodasevich Grabowska (later Nadia Léger) were both in Paris at the time and took part. Fernand Léger was a prominent member, as were many of his students at the Académie Moderne in Paris. The Italian Futurists were also represented, most notably by Russolo, who performed his noise-music at the closing event for the exhibition. Even sound-poetry was represented through a reading by Seuphor. Just as there was a simultaneous interest in anarchy and order for Kandinsky before the war, reflected in the new conceptions of harmony addressed in my study above, the freedom afforded by redefined concepts of dissonance remained after the war as well.

This is not to say that avant-garde artists' interest in dissonant music was homogenous or unchanging. The examples I have touched on above offer a range of approaches to interpreting the overarching ideas of the transporting, transcending, and constructive power of dissonance. For Kandinsky, Schoenberg's approach seems to have

¹⁸ Piet Mondrian, "Dialogue on the New Plastic," in *The New Art – The New Life: The Collected Writings of Piet Mondrian*, eds. and trans. Harry Holtzman and Martin S. James (Boston: Da Capo, 1986), 75ff.

¹⁹ On *Cercle et Carré*, see especially Marie-Aline Prat, *Peinture et avant-garde au seuil des années 30* (Lausanne: Age d'Homme, 1984), and my own essay, "Inscribing a Circle," in *Cercle et Carré and the International Spirit of Abstract Art*, ed. Lynn Boland (Athens, Georgia: Georgia Museum of Art, 2013), 8–55.

offered the most productive means for applying atonal musical theory to abstract visual art, where localized structures were established and varied. Malevich was in close contact with microtonal compositional theories, where minute formal differences were intended to expand artistic choices and the receptive capacity of the audience. Russolo believed that the ultimate expansion of artistic material required abandoning the restriction of "tone" altogether, embracing the use of what Helmholtz had defined as "noise."

While each approach was markedly different, the underlying justifications and goals were much the same. In each of the artistic movements described above, the development of new systems for art and music were based, in part, on current scientific understanding of energy vibrations within physical models of the universe. This was a common theme throughout the European and Russian avant-garde. A similar set of sources and ideas also formed the basis of new theories of harmony developed by Schoenberg and other composers of the era, who often drew upon Helmholtz and subsequent acoustical studies to defend expanded tonal systems. Nietzsche's concept of the Dionysian, a simultaneously anarchic and constructive force giving way to a new freedom, also helped establish positive connotations for dissonance. While the specific theories of these composers and artists would still vary greatly, they all shared a belief in both the transcendent and constructive potential of dissonance as an extension of existing methods, however radical that extension might be.

Figures

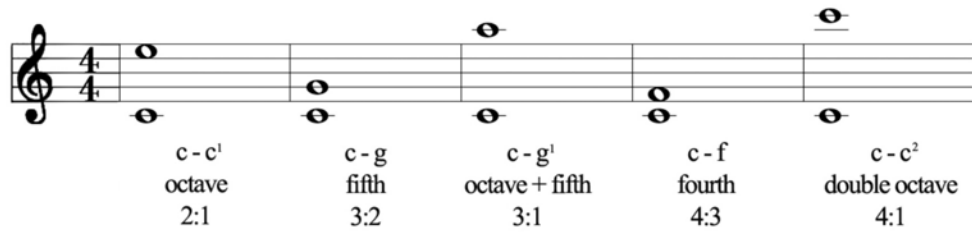


Fig. 1.1: Musical intervals and Pythagorean ratios in the key of C.

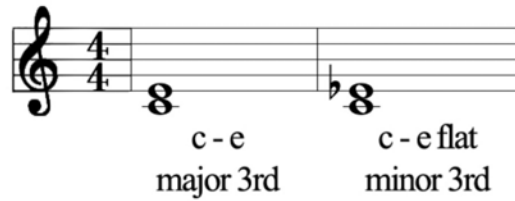


Fig. 1.2: Major and minor thirds in the key of C



Fig. 1.3: Dissonant musical intervals in the key of C



Fig. 1.4: Consonant musical intervals in the key of C

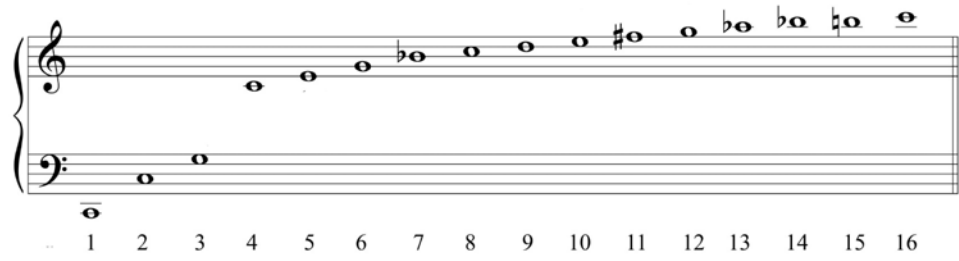


Fig. 4.1: Overtone series

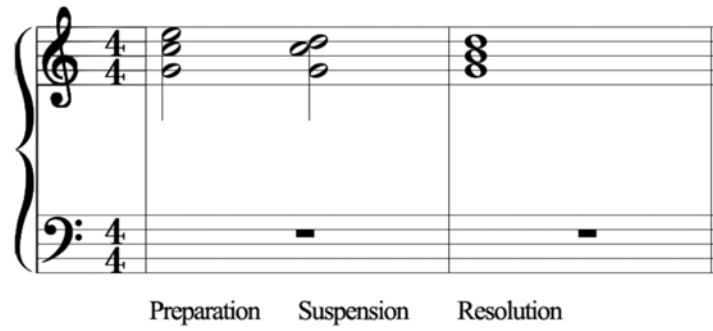


Fig. 4.2: Helmholtz's examples from *On Sensations of Tone*

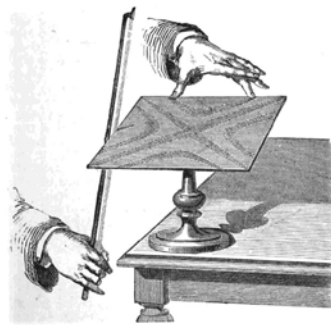


Fig. 4.3: Chladni plate

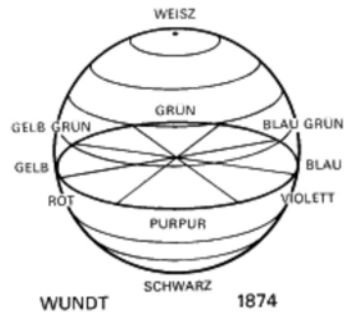


Fig. 4.4: Wundt's color diagram

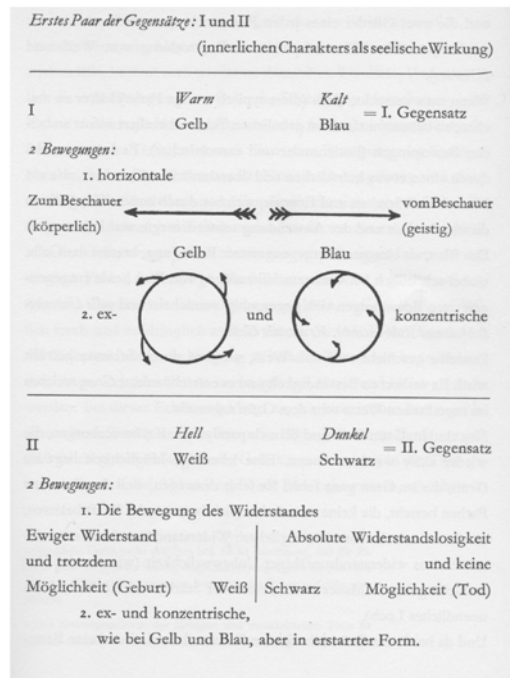


Fig. 4.5: Kandinsky's "Table 1" from *Concerning the Spiritual in Art*

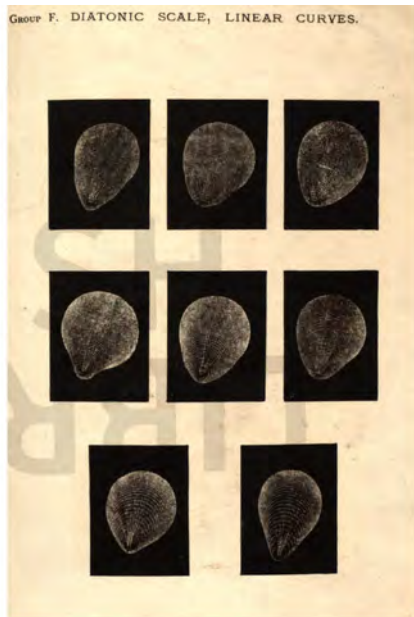


Fig. 5.1: Watts-Hughes's "Voice Figures"



Fig. 5.2: *Thought-Forms*, Mendelssohn's *Songs without Words*



Fig. 5.3: *Thought-Forms*, Gounod's Soldier's Chorus from *Faust*



Fig. 5.4: *Thought-Forms*, Wagner's Overture to *Die Meistersinger*



Fig. 6.1: Kandinsky, *Impression III (Concert)*, 1911



Fig. 8.1: Kandinsky, *Composition VII*, 1913



Fig. 8.1a: detail

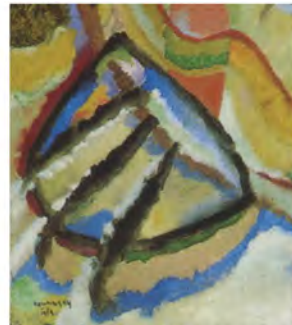


Fig. 8.1b: detail



Fig. 8.1c: detail



Fig. 8.1d: detail



Fig. 8.2: Woodblock print from *Blaue Reiter* group stationary



Fig. 8.3: Study for *Composition VII*



Fig. 8.4: Observations on Color Theory and Sketches (Kochen note)



Fig. 8.5: Observations on Color Theory and Sketches (Beispiel note)



Fig. 8.6: Kandinsky, Color Study with Concentric Circle (Color-Overtone Study)

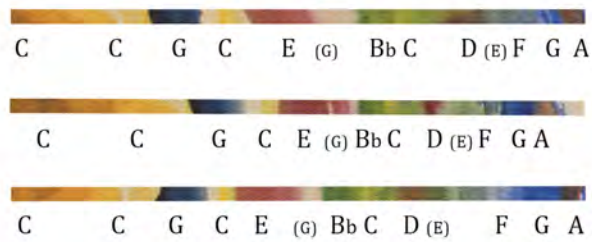


Fig. 8.7: Three cross sections from fig. 8.6



Fig. 8.8: Overlay of Goethe's color wheel and the color-tones suggested by fig. 8.7



Fig. 8.9: Kandinsky, Color Study—Squares with Concentric Circles, (Twelve Square Study) 1913



Fig. 8.10: Kandinsky, Color Studies with Technical Explanations (Seven Square Study) 1913

Figs. 8.11—16: Kandinsky, Studies for *Composition VII*, 1913



Fig. 8.11



Fig. 8.12



Fig. 8.13



Fig. 8.14



Fig. 8.15



Fig. 8.16

Figs. 8.11a–16a: Kandinsky, Studies for *Composition VII* (details), 1913

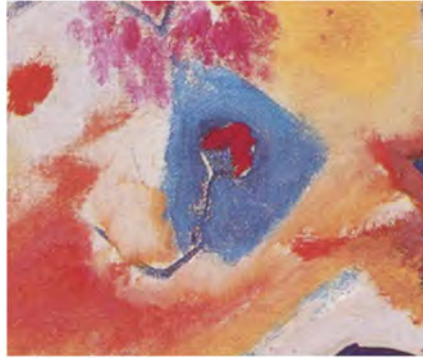


Fig. 8.11a



Fig. 8.12a



Fig. 8.13a



Fig. 8.14a



Fig. 8.15a



Fig. 8.16a

Mäßige **First theme**

mm. 1-3

Fig. 8.17

Mäßige **Cell a**

Fig. 8.18

cell a intervals

mm. 1-2

Fig. 8.19

cell a intervals

Fig. 8.20

Cell a and inversion

Fig. 8.21

mm. 34-35: **Cell a inversions**
fließender

Fig. 8.22

mm. 45-46:
cell a inversions

Fig. 8.23

mm. 1-2

Mäßige *cell a* (3-1)

p

cell a expansion (5-1-6)

Fig. 8.24

Symmetrization and expansion of 5 - 1 - 6 (m. 12)

viel schneller

ppp

mit Dämpfung bis (3. Pedal)

Fig. 8.25

Six-note symmetrization (m. 6)

Fig. 8.26

Cell b (mm. 4-5)

Cell b

Fig. 8.27 *Cell b inversion and symmetrization*

mm. 1-3

Mäßige

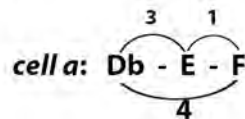
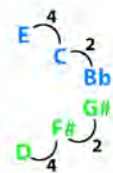
p

A - F F - Db E

Fig. 8.28

Whole tone segment:

Bb C D E F# G#



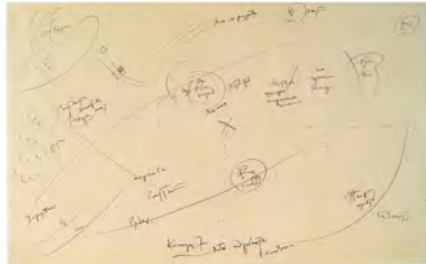


Fig. 8.29: Kandinsky, Study for *Composition VII*, 1913

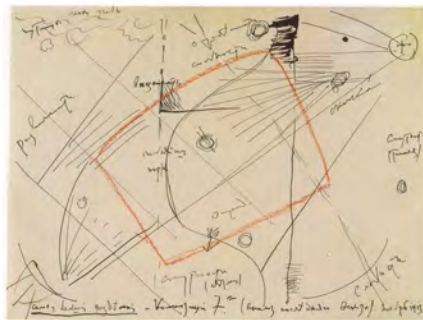


Fig. 8.30: Kandinsky, Study for *Composition VII*, 1913

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