THEORIZING ATONALITY: HERBERT EIMERT’S AND JEFIM GOLYSCHEFF’S CONTRIBUTIONS TO COMPOSING WITH TWELVE TONES

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The concept of atonality was introduced by Herbert Eimert in his 1924 work "Atonale Musiklehre," which was the first published text to describe a systematic approach to composing atonal music. This work contains significant contributions to the discourse on the early development of twelve-tone composition. Eimert uses the term "atonal" to describe his compositional approach, defining atonality as the presence of all twelve tones without repetition and as complexes not ordered in rows. Eimert's discussion of atonality differs from others of the same period because he focuses on vertical sonorities and introduces "interlocking complexes," where two separate statements of the aggregate can overlap by one pitch or a set of pitches. These complexes are an important feature of Eimert's string quartet "Fünf Stücke für Streichquartett," which was published in 1925 and composed at the same time "Atonale Musiklehre" was written.

In the foreword to "Atonale Musiklehre," Eimert clarifies that he is not the originator of the concept of atonality, rather he absorbed the ideas of Josef Matthias Hauer and Jefim Golyscheff. Twelve-tone complexes appear first in Golyscheff’s 1914 String Trio. He refers to them as “twelve-tone duration complexes” and labels them in the score. As the name “duration complexes” implies, there are examples of serial rotation of rhythm in the Trio, a technique that is not developed further until the 1950s.

Combined with the text of "Atonale Musiklehre," the compositions of Golyscheff and Eimert from the year immediately following the book’s publication provide insight into the early
development of “atonality” and twelve-tone compositional methods. Investigation of these documents that have not been thoroughly discussed in print provides a broader perspective of the development of these methods of composition.
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CHAPTER 1

THE HISTORICAL CONTEXT OF EIMERT’S ATONALITY

Introduction

Herbert Eimert published *Atonale Musiklehre* in 1924 and in so doing was the first to publically describe a method for composing, in his words, “atonal” music. Divided into two sections, the text first introduces a compositional approach that centers on use of all twelve notes of the chromatic scale and secondly, provides historical and philosophical support for this new means of constructing music. Eimert takes a firm stand against experimental music, composed from noise rather than pitch, and defines “atonality” as being completely controlled by the careful rotation through all twelve notes of the chromatic scale, without the hierarchy inherent in the diatonic scale. Rather than thinking of the twelve notes as ordered, in a row form, he thinks of them as an unordered pitch collection, which he calls a “complex.”

This distinction is critical because Eimert’s sense of “atonality” evolves without the idea of ordered pitches. His text describes a method for composing what is essentially twelve-tone music, but without the serial aspect of “rows.” The fact that Eimert’s method developed in this way can be attributed to Jefim Golyscheff, a Russian immigrant to Berlin who began composing with twelve-tone complexes as early as 1914. In the Foreword to *Atonale Musiklehre* Eimert credits Golyscheff for introducing him to this approach to composing “atonal” music.

Combined with the text of *Atonale Musiklehre*, the compositions of Golyscheff and Eimert from the year immediately following the book’s publication provide insight into the early development of “atonality” and twelve-tone compositional methods. This study aims to show a
broader perspective of the development of these methods through investigation into these important documents that have not been thoroughly discussed in print.

Before the discussion of Eimert’s text can proceed, however, his use of the term “atonality” must be placed in historical context. The term itself is very problematic, because the meaning varies greatly across the first third of the twentieth century and often includes a negative connotation when describing music that is either not twelve-tone or not tonal. To Eimert, the term “atonal” has no negative connotation and can be used synonymously with the idea of composing with all twelve tones. For this reason, it is important to investigate whence the term originated and how Eimert understood it during the early 1920’s as he wrote Atonale Musiklehre.

What is Atonality?

The term “Atonalität” first appeared in German music periodicals and reviews circa 1906. By 1907 the French had adopted the term “atonalité,” and by 1911 the Italians were using “atonalità.” It was not until 1920 that the word atonality appeared in English. Although the term existed as early as 1906, the precise definition was then, and remains still, unclear. In the pre-WWI sources, “atonality” was most often used in reviews and critiques of Expressionistic music¹, particularly works such as Erwartung and Pierrot Lunaire by Arnold Schoenberg. Egon Wellesz, who studied composition with Schoenberg, is the first to make a published reference to Schoenberg’s writings as atonal, although in translation Otto Kinkeldey

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changed the term from atonal to “atonic.” Kinkeldey’s new term highlights an important
distinction between Schoenberg’s twelve-tone theory and Eimert’s theory of “Atonality.” While
Schoenberg did not see twelve-tone composition as divorced from historical musical
development, Eimert saw “twelve-toneness” as a completely new method for composing. For
Schoenberg the notion of composing with twelve tones is born out of his idea that all chords,
chromatic or diatonic, are related to one another, whereas for Eimert, the twelve tones are
completely unrelated to one another.

By 1920, the term also referred to music with twelve equal tones. In Vom Wesen des
Musikalischen Josef Matthias Hauer defined atonality as the following:

There is no longer tonic, dominant, subdominant degrees, resolutions, consonances,
dissonances, instead only the twelve intervals of equal temperament. Its “scale” consists
of the twelve tempered half steps. In atonal melody, the purely physical, sensual, also
the trivial and sentimental are, so far as possible, ruled out. Its “law,” its “nomos” is that
within a specified succession of tones, no note is repeated and none is omitted.

Hauer expressed the idea that atonality refers to music without tonal function based on the
presence of all twelve tones. An interesting aspect of this statement is that Hauer rules out
traditional traits of expression in atonal music. Hauer’s description of the law of atonality is
actually that of twelve-tone music specifically as a succession of all twelve tones with no
repeated notes and all notes present.

Béla Bartók defines atonality in similar fashion to Hauer, also in 1920. He states:

The complete adoption of atonality began only...when the necessity was first felt for an
equalization of the twelve different tones of our twelve-tone system, that is, when
composers first attempted to use the twelve tones both vertically and horizontally in

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2 Bryan R. Simms, The Atonal Music of Arnold Schoenberg, 1908-1923 (United Kingdom: Oxford University
3 Cited in Simms, Atonal Music, 8.
any configuration whatever, not deployed according to an established scale system in which some tones are always accorded greater or lesser weight.4

Bartok’s comments here consider atonality as an established practice for composers using all twelve tones in any configuration. According to him, this compositional technique is present in Schoenberg’s works around 1911-13 and Bartok’s own works of this time.

The concept of employing the twelve pitches of the chromatic scale, as opposed to the seven pitches of the diatonic scale, is often credited to Schoenberg’s Harmonielehre of 1911.5 In the chapter on the minor subdominant, Schoenberg demonstrates harmonic progressions that contain modal mixture. In the paragraph preceding the musical example, Schoenberg criticizes functional progressions such as third and fifth relationships as being too limiting. Instead he advocates for the full chromatic scale as an explanation for all chord relationships stating: “Its [the chromatic scale’s] melodic power helps to connect what is more distantly related: such is the sense of chromaticism.”6 In context, this is hardly a radical demand for twelve equal tones, but it is possible that such an assertion leads to an exploration of twelve equal tones as the fundamental material for “chromatic” compositions.

By 1924, the publication year of Atonale Musiklehre, the term atonality carries two important connotations: first, that atonality is a result of a historical development of modern chromaticism and second, that atonality and composing with twelve equal tones are synonymous. An Italian review of a performance of Pierrot Lunaire, conducted by Schoenberg, was written in 1924 by Alfredo Casella. He describes atonality as “tonal negation” and goes on

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4 Ibid., 15.  
6 Ibid.
to state that “chromaticism in Germany has worn itself down to the atonal system.” He also says that the Italians have not accepted atonality as an attempt to construct a system in the same way that the more progressive French and German composers have. Again, it would seem that the discourse on atonality was common in several European countries.

In France, also in 1924, Darius Milhaud wrote an article to clarify the distinction between polytonality and atonality. According to his definition, polytonality is the combination of two different melodies or harmonies that are separately referential to a major or minor tonality. Atonality is the use of all twelve tones without any reference to tonality. The whole-tone scale, widely used in compositions at the turn of the century, is the pre-cursor to atonality, according to Milhaud. He describes chromaticism as the foundation of atonal music. He also states that triads and seventh chords may appear in atonal compositions but they must be isolated from one another. These sonorities are possible in Milhaud’s sense of atonality because melodies will always contain all twelve tones, but verticalities may not. For Milhaud, the next logical step away from tonality is the use of the quarter tone.

Erwin Stein, whose article “Neue Formprinzipien” appeared in 1924 after Atonale Musiklehre was published, set out to describe Schoenberg’s newly developed method of composition. He opens his article with the following statement:

For modern composition, the old keys are dead. Step by step, the development of harmony during the last century has robbed them of their purpose. It would lead us too far to name all the factors that have caused their disintegration. But in any case, the ambiguity of certain chords, their different possibilities of modulation, and especially formations like the diminished seventh chord which are common to several distantly

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7 Arnold Schoenberg rejected the use of the word “system” to describe twelve-tone composition. 8 Alfredo Casella, “Schoenberg in Italy,” Modern Music 1, no. 3 (1924): 7-10. 9 Darius Milhaud, “Polytonality and Atonality,” Pro Musica Quarterly 4 (October 1927): 4-18. 10 There is no evidence that Erwin Stein was aware of Eimert’s text.
related keys, had to blur the boundary-lines of tonality. Every new harmonic ‘audacity’
of our masters has contributed to this process of dissolution.\textsuperscript{11}

Stein, like Schoenberg, Milhaud, Casella, and others, also asserts that chromaticism is the
foundation of atonality and furthermore, that atonality is a compulsory result of the
“dissolution” of tonality due to the advance of chromaticism. Stein also goes on to discuss the
twelve equal tones. “Of the twelve notes, none is now a tonic, none the most important, the
dissonant chords can flow freely.”\textsuperscript{12} To Stein all of the “dissonant chords” existed before but
were under the control of a single tonic chord whereas now the hierarchal system no longer
exists. Both principles of atonality are clearly present, however he never refers explicitly to
atonality.

It is widely known that Schoenberg had a great dislike of the term “atonal.” In the
margins of his copy of Hauer’s \textit{Vom Wesen des Musikalischen}, Schoenberg wrote the following
note and dated it 1921:

The expression “atonal music” is nonsense. Tonal is that which pertains to tone: tonality
is used in the sense of a special application of this concept; since it must mean that in a
musical piece everything is referable back to one tone (the tonic), there is a significant
verbal imprecision here. Such a piece [as Hauer describes] would come to be called
monotonal. “Atonal” cannot be something in which tones occur, [instead] something
that does not pertain to tone, having no connection to it. Even in the sense in which
tonality is [commonly] used, atonal cannot be applied since a succession of tones that in
no way relate to one another is not a succession. One could perhaps say polytonal. In
any event: the expression atonal would have been applied before my music to Reger,
Mahler and Strauss, since the relation to a single tonic is not evident. Just as wrongly! I
have always rejected the term.\textsuperscript{13}

Later, in the preface of the 1922 edition of \textit{Harmonielehre}, Schoenberg published a similar
response to the term “atonal,” adding “one could perhaps say polytonal or \textit{pantonal}.” It is likely

\textsuperscript{12} Erwin Stein, “New Formal Principles,” 58.
\textsuperscript{13} Bryan R. Simms, \textit{Atonal Music}, 8-9.
that he did this because the term polytonal already exists and refers to a different compositional style. Similarly, he disparages the term again in his essay of 1923 “Hauer’s Theories” which was published much later in Style and Idea.\textsuperscript{14}

It is Schoenberg’s dislike of the term “atonal” that has led to further confusion of the definition. In current literature the term “atonal” is widely used to describe the music of Schoenberg, Webern, and Berg between 1908 and 1923. In 1923, Schoenberg began to employ solely the method of composing with twelve tones. His music from after 1923 is referred to as twelve-tone or serial. It is not that the texts discussed earlier view Schoenberg’s pieces from this period as being something other than atonal; it is that they do not make the distinction between atonality and composing with twelve equal tones.

In Atonale Musiklehre Eimert defines Schoenberg’s atonality as being “impure.”\textsuperscript{15} However, in 1924 the only “atonal” music by Schoenberg that Eimert had encountered were the pieces from Schoenberg’s pre-twelve-tone period. Consequently Eimert does not make a distinction between twelve-tone composition and atonality in the later Schoenberghian sense. For him, atonality is defined by the inclusion of all twelve tones without repetition or omission and therefore these works are not atonal.

In April of 1930, Alban Berg gave a radio interview in Vienna called “Was ist Atonal?” or “What is atonality?”\textsuperscript{16} Arranged by Anton Webern, the interview was intended to provide an introduction to some of the constructive principles in Berg’s Wozzeck, which would premiere in Vienna a month afterwards. Berg begins the interview by discussing the origins of the term

\textsuperscript{15} Herbert Eimert, Atonale Musiklehre, (Leipzig: Breitkopf & Härtel, 1924), 31.
“atonality.” According to him atonality was originally intended to refer to music that did not have the harmonic structure offered by tonality. In Berg’s view the definition of the term has evolved to describe music “—that is no music at all. Music that is without melos, rhythm or form—”17 Here it is clear that Berg’s definition is aligned with Schoenberg’s. He goes on to argue that the music of Schoenberg and his own contemporary music may not have the same harmonic structure and periodicity of tonal music, but that it is certainly not “atonal.”

Initially, given our modern sense of the terminology, it may seem unusual that Eimert considers atonality to be synonymous with twelve-tone composition but, on the contrary, that was the widely used definition of the term from Bartok to Milhaud to Hauer and finally to Eimert. Schoenberg’s dislike of the term is the primary reason why modern scholars do not refer to twelve-tone composition as atonal and instead, have adopted the term “free atonality” to refer to the music that pre-dates serialism.

Eimert’s definition of atonality is founded on the same principles as the above-mentioned definitions. He first believed that atonality is a historical development that is the result of advanced chromaticism. Second, he believed that as a system, tonality could not evolve any further, and as a result the twelve equal tones emerged as the only possible means of composing “atonal” music. The twelve equal tones are also a historical development from the technological advancement of tuning systems. Therefore, according to Eimert, when equal temperament arose, creating the twelve tones, the possibility for atonality was born.

Given that the term “atonality” has existed for more than a century, it should not be surprising that the use of the term has taken on multiple meanings over time. A critical

17 Ibid., 63.
component in understanding Eimert’s sense of atonality lies in investigating the meaning of the term as he understood it in 1924. Although Schoenberg’s criticism of the term was first published in 1922, it would appear that most writers were still comfortable with equating the idea of twelve equal tones with atonality. It is only as Schoenberg began to emerge as the leading figure in serial composition that the use of the term shifts. He would neither approve of the application of the term to his earlier compositions nor to his serial works. Nonetheless, as a term, atonality has adopted a historical meaning, rather than a technical one, as a description of Schoenberg’s pre-serial “atonal” compositional period.

Herbert Eimert: A Brief Biography

Herbert Eimert was born in April of 1897 in Bad Kreuznach.18 His musical talents can be traced to his father, Wilhelm Otto Eimert, who played the organ, violin, piano, and zither as an amateur musician. Wilhelm supported the family financially by working as an elementary school teacher and vice principal. Herbert Eimert’s mother was an adept businesswoman and made extra money for the family by managing a local hotel. Eimert excelled in school, although he did not complete his education because he voluntarily enlisted to serve as an artillery officer in the First World War. He enlisted in 1914 at the age of 17. In 1918, his unit was captured and he was imprisoned in Poland where he fell ill with pneumonia. He fled, and was the lone survivor

18 Christian Blüggel, “E.=Ethik + Ästhetik: Zur musikkritik Herbert Eimerts,” (Ph.D. diss., Heinrich Heine University, 2002) and Helmut Kirchmeyer, Kleine Monographie über Herbert Eimert, Abhandlungen der Sächsischen Akademie der Wissenschaften zu Leipzig, Philologisch-Historische Klasse 75, no.6. (Stuttgart, Germany: Hirzel, 1998). This biography is a summary of these two biographical sources on Herbert Eimert. The most extensive biography available is Kleine Monographie über Herbert Eimert by Helmut Kirchmeyer. These sources are in agreement with one another and therefore were both used equally in the creation of this biography. If a specific piece of biographical information mentioned in this section came from only one of these two sources, this is indicated in a footnote. Otherwise it can be assumed that the biographical material was present in both sources.
from his unit. Severely wounded and still recovering from pneumonia, he returned home and was awarded an “Eisernes Kreuz” (Iron Cross) first and second class for his bravery and service.

By the end of January 1919, Eimert had received special dispensation to enter collegiate study by a decree from the Prussian ministry, which waived the completion of his high school diploma. He pursued a degree at the music conservatory in Cologne where he studied violin, piano, composition with Franz Bölsche, and conducting with Hermann Abendroth. Although his musical skills were strong, his ideas regarding atonal composition were in conflict with his more conservative instructors, in particular with Bölsche. Despite this conflict, Eimert published *Atonale Musiklehre* in 1924 with Breitkopf und Härtel. As a result, he was no longer allowed to pursue his studies at the conservatory. Christian Blüggel states the following about Eimert’s expulsion: “Eimert had to leave the institute in 1924 because *Atonale Musiklehre* was written and published by Breitkopf & Härtel, against the conservative doctrine of the leading music theorist, Bölsche.” Breitkopf und Härtel also published Eimert’s composition *Fünf Stücke für Streichquartett* in 1925. After leaving the conservatory, Eimert began to attend the University of Cologne. He studied musicology under Ernst Büken and philosophy under Nicolai Hartmann and eventually earned his doctorate in 1931. His dissertation discussed form in music of the 17th and 18th centuries.

Beginning in the early 1920’s while he was a student, Eimert made a living by playing improvised piano music for silent films and writing performance critiques for the local newspaper. He met Jefim Golyscheff during this time while they both played piano and created

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19 These dates are unclear. All sources state that Eimert received dispensation to return to school in January of 1919 but also state that he did not return from the war until February of the same year.
21 Herbert Eimert, “Musikalische formstrukturen im 17. und 18. jahrhundert; Versuch einer Formbeschreibung,” (Ph.D. diss., University of Cologne, 1932)
film scores, often improvised. Eimert became a disciple of Golyscheff’s compositional approach and the two were lifetime friends. Eimert credits Golyscheff in the introduction to *Atonale Musiklehre* as an important influence on his work.

In 1930 Eimert began working as a music reporter for the *Kölner Stadt-Anzeiger* and in 1933 became an editor for the *Kölnische Zeitung*, a different paper from the same publishing house. The year 1937 was particularly good year for Eimert as he was chosen to update the renowned Storck Opera text and also married Adelheid Meis, the daughter of an Indonesian missionary. During WWII, Eimert continued his work at the newspaper as an editor and music critic.

After the war ended, Eimert took a position as the head of musical programming with the newly formed broadcasting company NWDR (which became WDR in 1955). There he worked under Hanns Hartmann, the station director, whose capable leadership resulted in Cologne becoming a cultural magnet for modern composers. NWDR Cologne established itself through the “Musikalischen Nachtprogramm” (led by Eimert), the studio for Electronic Music, as well as other non-musical programming. Thomas Mann’s *Doktor Faustus* was unveiled on Eimert’s first broadcast of the “Musikalische Nachtprogramm” on October 21 of 1948. Through Eimert and Hartmann’s leadership this program became the most important musical program of its time—a forum for the exchange of ideas and a haven for the avant-garde composer of that time.

In addition to hosting the “Musikalischen Nachtprogramm,” Eimert also acted as the director for the “Studio für Elektronische Musik.” As a composer, Eimert is most known for his

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23 NWDR is Northwestdeutscher Rundfunk and WDR is Westdeutscher Rundfunk.
work in electronic music in the 1950s. His studio was a major institution for composers to create many of the early masterworks of electronic composition. Composers who worked with Eimert at this time include among others Karlheinz Stockhausen, Ernst Krenek, György Ligeti. Eimert and Stockhausen collaborated on a journal called “die Reihe.” The eight-segment series was published by Universal Edition Vienna between 1955 and 1962 and offered information on the development and methodology of serial music. In 1965, Eimert returned to the Cologne conservatory as a music professor, teaching electronic music composition and serving as director of the school’s electronic music studio.

*Atonale Musiklehre* was the first of several texts Eimert wrote on twelve-tone composition. His *Lehrbuch der Zwölftontechnik* was published in 1950 and was widely read around Europe at that time as it was translated into Spanish, Italian, and Hungarian.24 His later text *Grundlagen der musikalischen Reihentechnik*, published in 1964, was more progressive and in line with his work at the Studio for Electronic Music. Eimert collaborated on *Lexicon der elektronischen Musik* with Hans Ulrich Humpert, although this text was left incomplete when Eimert passed away. During the second half of the 1960’s Eimert gradually withdrew from his public responsibilities. He gave his final broadcast for the “Musikalische Nachtprogramm in 1967 and retired from academic work that year as well. Eimert died in 1972.

Who was Jefim Golyscheff?

Jefim Golyscheff was born in Ukraine in 1897 to a wealthy Jewish family but was forced to move to Odessa as a young child due to the pogroms in the Ukraine.25 His father was a friend of Wassily Kandinsky and encouraged Golyscheff to pursue training in the arts. By 1905 he was such an accomplished violinist that he was taken on a “Wunderkind” tour of Russia, Rumania, and Poland playing as a soloist for the Odessa Symphony Orchestra. He also studied painting at this time at the Odessa academy. In 1909 he followed his brother to Berlin to study music. Golyscheff studied composition, music theory and painting until 1911 when he boarded “The Cleveland” cruise ship and took a two year working tour of the world. He spent his voyage abroad being promoted from deck hand to musician to conductor of the ship’s orchestra.

Golyscheff returned to Berlin and his studies in violin and music theory at the Sternsches Konservatorium where he was awarded the Reger prize.26 It was during his first year at the conservatory (1914) at the age of 17, that Golyscheff composed his “String Trio” which makes use of his compositional method called “Zwölftondauer-Komplex” (or twelve-tone duration complex).”27 Chapter 5 of this dissertation discusses the Trio and its approach to composition with twelve tones. Although most sources maintain the year 1914 as the composition date for this piece, it was not published until 1925.28

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26 With whom Golyscheff studied is not documented.
27 Jefim Golyscheff, Trio (Berlin: Robert Linau, 1925). He refers to the “Zwolftondauer Komplexes.”
28 No sources refute the date. The discrepancy between the date of the composition and when it is published are the most common points of discussion.
His years of study in Berlin and the composition of the Trio brought Golyscheff into contact with Ferruccio Busoni who acted as a mentor to Golyscheff. In 1915-16, Golyscheff composed a 75-minute symphonic poem titled *Das eisige Lied*, which was later performed by the Berlin Philharmonic Orchestra in 1919. The work was met with a number of negative reviews, having been described as a “visual spectacle” where the composer and conductor were both unaware of the chaos created by the orchestra playing in their own time signatures. The work was conducted by George Weller. Sadly, the score is presumed lost, as is the score of Golyscheff’s other large-scale multimedia work from the period *Cyrano de Bergerac*. Nevertheless, Leonard Sitsky claims it is possible the parts of *Das eisige Lied* are still in existence because the piece was performed by the Berlin Philharmonic. This piece used projections of text with a mix of traditional music and “concrete music.” Despite the unfavorable reviews by critics, Schoenberg, Busoni, and Strauss were all said to have recommended that *Das eisige Lied* be published. On that basis, it seems likely that they heard the piece performed.

Two important events occurred in the Berlin Art Scene in the spring of 1919: the Exhibition of Unknown Architects and the Berlin Dada Exhibition. Golyscheff was one of very few artists that showed his visual art at both events. He became associated with radical painters, sculptors, architects, filmmakers and musicians during this time and was a founding member of the Novembergruppe, a collective of many central figures of the Sturm, Dada, and

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30 Ibid., 73.
32 Ibid.
33 Ibid.
Bauhaus movements. Golyscheff was a co-signer of the Berlin Dada Manifesto “What is Dadaism and What Does it Want in Germany?”. The manifesto was more of an anti-manifesto that was at times even incoherent and was aimed at mocking the bourgeoisie by mimicking them.\textsuperscript{34}

Golyscheff’s musical and visual art pieces of this period were experimental. One piece called “Antisymphony in 3 parts (Musical Circular Guillotine),” featured Golyscheff at the piano performing highly dissonant music while a young girl, dressed as an angel spoke in a mechanized voice like a robot. The performers were accompanied by an orchestra made up of kitchen utensils. Later in his career, Golyscheff claimed that the title for the piece was in fact created by his colleague in the Dada movement, Raoul Hausmann.

By 1922 Golyscheff had distanced himself from the visual art world and began playing music for silent films, at which time he first met Herbert Eimert. Golyscheff worked with film music for much of the 1920s and composed a film score for the movie \textit{Igdentu} in 1930, which unfortunately does not survive. This is true for nearly all of Golyscheff’s compositions and visual art pieces. Many of his visual art pieces were destroyed in 1933 when Golyscheff’s 200 oil paintings and watercolors were confiscated by the police, forcing him and his wife to flee to Barcelona.\textsuperscript{35} It is not surprising that his name appears on the Goebbels’ list from September 1, 1935, which listed 108 composers who were blacklisted.\textsuperscript{36}

\textsuperscript{34} Raoul Hausmann and Richard Huelsenbeck, “Was ist Dadaismus and was will er in Deutschland?,” Dada Companion http://www.dada-companion.com/manifestos/1919_manifestos_dadaismus.php (Accessed May 19, 2014).
\textsuperscript{35} Sitsky, “Efim Golyshchev,” 324.
Although Golyscheff’s known correspondents include Kandinsky, Klee, Busoni, Thomas Mann, and Kafka, no letters have been preserved. Golyscheff suffered great losses during World War II, not only of his personal effects, but also of his remaining family members. His mother and brother were both known to have died in concentration camps. Golyscheff himself was presumed dead by many of his colleagues as he was in hiding in Paris and traveling around the French countryside to avoid Nazi capture.\(^{37}\)

By the end of World War II, Golyscheff and his wife moved to Brazil in the hopes of revitalizing his creativity after the years spent in hiding as well as a brief time spent in a prison camp. During his time in South America he renewed his correspondence with many colleagues, including Hausmann and Eimert. Golyscheff visited Germany in 1960, hoping to discover some of his visual art works hidden away in Dada safe-houses or kept in the homes of scattered family members. Unfortunately his search did not yield any results. He did visit with Eimert during this time while in Cologne and renewed their friendship. Ultimately Golyscheff spent his remaining years in Paris, where he died in 1970. His surviving artwork is predominantly from his final years in Paris.\(^{38}\) His only surviving musical composition is the String Trio, written when he was 17.\(^{39}\)

Literature Review

When *Atonale Musiklehre* was written, the first response was from Josef Matthias Hauer who praised Eimert for his “radical twelve-toneness,” but also expressed concern for not being

\(^{38}\) Ibid.
\(^{39}\) Sitsky, “Efim Golyshchev,” 324.
identified as the originator of “atonality.” Hauer’s comments appeared in an open letter between the two composers published in Die Musik in the fall of 1924. He states that he was using twelve-tone complexes in his own compositions as early as 1912 or 13 (years which notably pre-date Golyscheff’s String Trio) but was composing in this way “unconsciously.” He does concede here that all composers at this time were writing in a similar style, also unconsciously. In 1919, he discovered the method in his own compositions and developed the “twelve-tone principle,” which he then applied to his subsequent compositions. He goes on to state that he has documentation of his work that proves he is the originator of the idea. Furthermore, he believes that Atonale Musiklehre cannot begin to demonstrate evidence of atonality in the same way that study of his compositions would.40

Eimert’s response to Hauer, published simultaneously, begins by stating that he sees no need to discuss any further the issue of who “discovered” the twelve-tone principle. According to Eimert it is not possible to pinpoint the moment of discovery in a scientific way that can be documented, as Hauer suggests. Furthermore, Eimert reminds Hauer that Golyscheff was applying the principles of “twelve-toneness” consciously in 1914. He also cites theorist Bruno Weigl, who developed the idea theoretically, but whose book was delayed in publication due to World War I. Eimert argues that conscious application and development of the method is valuable—more valuable than unconscious application. He also traces the theoretical development of atonality back to François-Joseph Fétis’s “Theory of Harmony” from 1844 and

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his description of the *Ordre unitonique* and the *Ordre omnitonalique*. Eimert points out the principle of “twelve-toneness” developed slowly across many years of theory and practice. Eimert’s use of Fetis’s theory in support of atonality, however, is a misstatement of Féti’s theory because the *Ordre unitonique* actually describes plainchant and not music of the common practice period. Eimert also omits several stages that Féti includes in the treatise, such as the *Ordre transitonique*. The *Ordre transitonique* describes the music of composers such as Monteverdi, transitional, in Féti’s terminology, between “ancient tonality” and “modern tonality.” Fetis’s *Ordre pluritonique* described the “chromatic” music of Mozart and Rossini. Féti’s designation of *Ordre Omnitonalique* was a prediction of what was possible in the future of music, but was not a positive designation. Rather, Féti saw the weakening of the tonic through an “insatiable desire for modulation” as a “dangerous.”

Hauer’s desire for recognition as the first theorist to compose twelve-tone music extends well beyond his letter to Eimert. There is also a well-documented and oft-cited discussion between Hauer and Schoenberg as to who is the original creator of “twelve-tone composition.” There is little need to discuss these arguments in detail here. Suffice it to say that Hauer and Schoenberg both believe that they have developed this method of composition on their own. They also both firmly believe they are the first to do so. Hauer believes so firmly in his position as the creator of twelve-tone music that he would affix the following statement

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to all of his compositions: “The spiritual originator and (despite many imitators!) still the sole expert and practitioner of twelve-tone music.”

In his article, “Who First Composed Twelve-Tone Music, Schoenberg or Hauer?” Bryan R. Simms discusses this question of originality. This article was written as the result of the discovery of unpublished correspondence between Hauer and Schoenberg that provides insight into the nature of their relationship. They were in communication with one another as early as 1913 when Hauer sought Schoenberg’s opinion of his compositions. Hauer began to compose in his own “twelve-tone” style in 1919 and many of these compositions were performed in Vienna. Simms states that Schoenberg was “probably present” at one or more of these performances. None of Hauer’s music appears in Schoenberg’s library, although he did own some of Hauer’s writings and made extensive notes in them. In 1922, Schoenberg wrote, but did not send, a letter to Hauer that states that he first developed the general idea of the twelve-tone method in his 1910 *Harmonielehre* (actually published in 1911). He also asserts that, despite his lack of theoretical writings on the subject, his music has developed this method across the intervening decade.

Clearly both Hauer and Schoenberg feel their claim to the title of “originator of twelve-tone theory” is more certain than anyone else’s. Simms believes the true answer is not clear. First, he states, the answer depends upon the definition of twelve-tone music. Second, he

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47 Ibid., 120.
48 Ibid., 122.
49 Ibid., 109.
asks how much Schoenberg owes to Scriabin in the development of the twelve-tone idea.\footnote{Ibid., 125.} This is particularly important because the influence of Russian composers and theorists is a central tenet in other research on the development of atonality and twelve-tone composition. In his conclusion Simms says the following: “The question defies a simple answer not only because the dodecaphonic idea was embodied in different ways in the works of Hauer and Schoenberg, but also because it was the outcome of a gradual historical evolution.”\footnote{Ibid., 130.} Simms's conclusion here is accurate. It could be taken even further so as to say that the question of who first composed twelve-tone music is irrelevant. The “dodecaphonic idea,” as Simms calls it, was pervasive in Europe by the 1920s and owes the debt of its creation to more than one, or even two, composers.

Richard S. Hill mentions Eimert’s \textit{Atonale Musiklehre} in his 1936 article titled “Schoenberg’s Tone-Rows and the Tonal System of the Future”. In his historical overview of the development of twelve-tone rows, Hill mentions Eimert as the source for Golyscheff’s claim to the earliest “twelve-tone” composition.\footnote{Richard Hill, “Schoenberg’s Tone Rows and the Tonal System of the Future,” \textit{The Musical Quarterly} 22 (January, 1936): 18.} He also identifies Scriabin’s “Mystic Chord” as a predecessor of twelve-tone composition. He goes on to discuss Eimert’s distinction between a scale and a group of notes (a complex of all twelve tones) as comparable to Zofja Lissa’s idea a decade later of all of the tones of the aggregate acting as a “nucleus.” To Hill, the idea of a complex implies a collective harmonic unit, or, as he says, “simultaneity.” While not all the notes have to sound at one time, the “extracted parts” always refer back to the “whole.”\footnote{Ibid.} He sees the movement away from using the scale as an organizational principle as a simultaneous
movement away from the organizing principles of tonality. He also views this as “overcompensation” that will not be sustained as the method continues to develop.  

Hill postulates that it is impossible to know how much Eimert or Hauer’s theories contributed to the development of the idea of the “row.” He states (and it is undeniably true) that Hauer’s method and Schoenberg’s method are distinctly different. With Eimert, these distinctions are less obvious because the result of his rule that all twelve tones sound without repetition resembles rows very strongly. This is especially true in polyphonic examples, despite the fact that he does not explicitly state, nor even imply, that the pitches should occur in a particular order. According to Hill, this is also true of Golyscheff’s compositions nearly a decade earlier.

Hill reaches much the same conclusion that Simms reaches thirty years later. Historical development led many different composers down the path of serialism. For Hill, the twelve-tone idea was “in the air” and merely needed refinement and development. This process was advanced the most by Schoenberg’s compositions. Although Golyscheff may have written the first piece that employs twelve-tone complexes, Schoenberg deserves the credit for exploring and advancing twelve-tone composition.  

Schoenberg’s investment in and advancement of twelve-tone composition is vast and cannot be denied. Many other important things can nonetheless be gleaned from Hill’s article. First, in 1936, the question of who first composed twelve-tone music was still a topic of discussion. Furthermore, and even more importantly, Hill does not make the assumption that

54 Ibid.
Schoenberg was the first to compose in this way, nor that he was the first to theorize about
twelve-tone composition. Hill credits Eimert and Hauer’s texts (1924 and 1925 respectively) as
the first to do this and, following Eimert’s lead, he credits Golyscheff as the first to compose
(but not publish) a “strictly atonal” piece. Lastly, Eimert’s text must have been widely read
enough to reach Hill in the United States while he was studying at Cornell. Hill considers
Eimert’s text to be an important early description of “twelve-tone composition,” a method that
was perfected by the creation of “rows.”

In 1936 Schoenberg wrote an essay in response to Hill’s article.\textsuperscript{56} Schoenberg expresses
his concern over Hill’s use of the word “system,” stating that he considers twelve-tone
composition to be a compositional method and not a theory. For this reason, he does not
approve of Hill’s approach to his music. Schoenberg states the following “This is also the error
of Mr. Hill. He also is counting tones and wants to know how I use them and whether I do it
consequently.”\textsuperscript{57} This highlights an important distinction between Schoenberg and Eimert’s
ideologies. Eimert is fully invested in creating a system for composers to follow and recognizes
that there are few published musical examples. For this reason, he creates examples of his own.

A great deal of more current secondary literature has been devoted to the development
of the twelve-tone method as it was applied by the composers of the Second Viennese School.
As a result, the dominant view in music history and theory textbooks as well as in
commentaries on the subject is that Schoenberg was the originator of composition with all

\textsuperscript{56} Arnold Schoenberg, “Schoenberg’s Tone Rows,” 213-214.
\textsuperscript{57} Ibid., 214.
twelve tones\textsuperscript{58}. As Bryan Simms’s article mentioned, many of the sources from the early 1920s were unpublished. Many were also presumed lost during World War II. As a result, the works of the Second Viennese school, which retained their status as important works even after the war years, became the evidence of twelve-tone composition in scholarship. This is not to say that Eimert’s works were completely ignored, but rather, that his significance to the development of the practice of “twelve-tone composition,” which he considers to be atonality, has mostly only been discussed in summary, while his later electronic compositions have gained more scholarly attention. Since the 1970s a few theorists have tried to correct the assumption that the composers of the Second Viennese school are solely responsible for the development of twelve-tone composition by discussing the works and writings of other composers such as Scriabin, Lourié, Roslavec, Obukhev, Hauer, Eimert, and Golyscheff.

Detlef Gojowy, a German musicologist, completed a dissertation and several subsequent articles on the music of the Soviet avant-garde composers in the early twentieth century, up to the 1930s. His 1972 article “Twelve-tone Technique in Russia” states unabashedly that twelve-tone music was first composed in Russia. This music may not have been composed in the “Schoenbergian” sense, according to Gojowy, but it was composed with twelve self-sufficient tones exclusively (with no repeats) and with the concept of ordered series intact.\textsuperscript{59} He cites Lourié’s \textit{Zitomirskij} as containing “rows” and also lists Eimert and Golyscheff as early contributors to atonal theory and composition.\textsuperscript{60}

\textsuperscript{58} Ernst Krenek, “New Developments of the Twelve-Tone Technique,” \textit{The Music Review} 4 no. 2 (May 1943): 87. Here Krenek refers to compositions of Schoenberg and Webern as demonstrating the “Classical Twelve-tone method.” Statements such as these reinforce a history where Schoenberg and the Second Viennese School are the originators of the twelve-tone idea.


\textsuperscript{60} Ibid., 136.
In 1975, Gojowy published another article titled “Jefim Golyscheff: The Inconvenient Precursor”. He sees the dating of Golyscheff’s String Trio as being of utmost importance, primarily because of Schoenberg and Hauer’s debate as to who first composed twelve-tone music. Although the trio was not published until 1925, Gojowy is convinced that the 1914 composition date is correct. This composition brought Golyscheff into frequent contact with Busoni who encouraged Golyscheff’s compositional experiments. Gojowy also reports that Golyscheff and Schoenberg met (although the documentation is lost) and that Schoenberg reviewed Golyscheff’s compositions but held them for a very long time. After reviewing them at length, he wrote a discouraging letter to Golyscheff stating that he (Schoenberg) was the first to discover twelve-tone composition.

Gojowy’s contributions in the 1970’s are informational rather than analytical. They did, however, spark a few research investigations into Eimert’s and Golyscheff’s works. The article “Herbert Eimert: Pioneer of Twelve-Tone Technique” written by Hans Oesch, appeared in *Melos* in 1974. Oesch credits Gojowy’s dissertation for explaining that Russian music is the source for the beginning of twelve-tone composition. This method of composition developed completely independently of Western European methods and is seen in the compositions of Nickolai Andrcieviv Roslavac and Arthur Lourié. Oesch believes that Schoenberg and Hauer’s authority on this issue will never be questioned because the Russian method was reached completely independently. For Oesch, Eimert’s significance to the development of “twelve-tone technique”

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62 Ibid., 190.
is that he was the first to write down and publish a system for composing with twelve tones that was made “universally useable.” 64

Oesch, like other biographers, points out that writing *Atonale Musiklehre* created serious consequences for Eimert and resulted in his expulsion from the Musikhochschule in Cologne. Oesch notes that Eimert’s teacher found the text to be “frivolously incompetent.”65 Perhaps this judgment bears little relevance to our understanding of the general acceptance of *Atonale Musiklehre*, but it may also shed some light on the more conservative view of atonal theory and specifically of Eimert at the time that *Atonale Musiklehre* was published. It is also likely that Eimert’s teacher took greater offense and had greater distaste for the method because Eimert studied with him and was forging a different compositional path.

In this article Oesch provides a general summary and analysis of *Atonale Musiklehre*. He first mentions that in Eimert’s view of harmony, chords are not held together by nature, rather by his own new system, at the center of which is the count of twelve tones. In Oesch’s opinion, Eimert’s theory develops Golyscheff’s compositional practice of composing in twelve-tone blocks and incorporates a method for composing “atonal” or “twelve-tone” melody. He also looks at “Fünf Stücke für Streichquartett” as a model of Eimert’s approach to composing in this style. He notes that the movements were not all completed together. Movements I, III, and V being written at the same time as *Atonale Musiklehre* (roughly 1923) and movements II and IV written in the same year the quartet was published (1925). In this work, according to Oesch, Golyscheff’s twelve-tone blocks are really united with Eimert’s sense of atonal melody. Oesch also notes that although *Atonale Musiklehre* is usually mentioned in relation to atonal music, it

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64 Ibid.
65 Ibid.
has never been studied in great detail and that it would be worth pursuing further research on
Eimert’s text.

In 1988, Simon Miller completed his dissertation titled “Music and Art and the Crisis in
Early Modernism.” Miller focuses in greatest detail on the writings of Hauer but also explores
the research that Gojowy began in the 1970s, and therefore devotes some of his discussion to
both Eimert and Golyscheff. Miller’s premise is that dodecaphonic composition came about as a
result of crisis in music. As composers became more aware of their materials they began to
“spiritualize” them. Without a central key as an anchor, music had no internal sense of order
and as a result “twelve-tone structures were twitching in everyone’s fingers, not just
Schoenberg’s.” The sense of crisis, according to Miller, was also present in the visual arts and
manifested itself in the replacement of “objects” with “something else.”

Like Gojowy and Oesch, Miller does not seek to dethrone Schoenberg from his place of
significance in the development of twelve-tone composition. Rather, Miller discusses Golyscheff
and the other Russian composers’ works as a means of showing that the idea for twelve-tone
composition was far more widespread than just the techniques developing in Vienna.
Ultimately, the majority of his discussion is a biographical overview with particular emphasis on
Golyscheff’s involvement with the Dada movement. He also provides a brief analysis of the
third movement of Golyscheff’s String Trio which shows, as I discuss in greater detail in Chapter
5 of this text, that Golyscheff makes use of serial rhythmic values in this 1914 composition.

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66 Simon Thomas Miller, “Music and Art and the Crisis in Early Modernism: An Introduction to Some Non-
Miller also supports the 1914 date and states that materials confirming the date are in the possession of Golyscheff’s wife’s estate.67

Other sources include a monograph on Eimert, written by Hans Kirchmeyer, which is largely biographical. In 2004, Gojowy published another article on the development of the twelve-tone system in Russia. He identifies two factors that influenced Russian musical education at the turn of the century:—first that there did not exist in Russia as consistent a school of thought as there did in the Leipzig conservatory, and second, that Russians were intentionally not German in their approach to composition. As a result, the idea of composing with twelve-tones emerged in the music of Scriabin first and then spread to other Russian composers. He also asserts that without a systematic Russian musicology it is extremely difficult to verify and develop this line of scholarly discussion.68

Finally, in 2005, the book *Serial Music, Serial Aesthetics* written by M.J. Grant devotes a few pages to Eimert’s *Atonale Musiklehre*. Grant points out a subtle distinction between Eimert and Schoenberg’s theories. Schoenberg describes “twelve pitches related only to each other,” while Eimert calls for “twelve unconnected, independent tones.”69 This distinction is particularly interesting because it speaks to the differences in how the two methods approach composition—Schoenberg’s with “rows” (where the pitches are given an order or a means of relating to one another) and Eimert’s with “complexes” where the pitches are an unordered collection.

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67 Miller, “Music and Art, 121.
Grant sees Eimert’s theory as being divorced from nature or natural developments, such as the overtone series. She states, “for him [Eimert] music is natural as long as the ear can follow it, and otherwise has no direct correlate in nature.” The remainder of Grant’s discussion focuses on the influences of music psychology, and Ernst Kurth in particular, on Eimert’s theory of atonality. According to Grant, Eimert’s discussions of melody and polyphony are driven by his understanding of Kurth’s theories, but the central piece of Eimert’s theory—twelve-toneness, or the twelve-tone complex—does not coincide with Kurth’s ideas of force that unfolds in melody. Grant’s book is the most recent source to comment on Eimert’s text and is the only one to discuss the distinctions between Eimert’s theories and those of Kurth and Schoenberg.

Conclusion

Herbert Eimert’s *Atonale Musiklehre* is a compositional theory that provides insight into the context of 1920s “atonality” and the earliest developmental stage of twelve-tone composition. It is significant because it not only precedes other discussions of the method from the circle of composers in Vienna, but also, because it describes the twelve-tone complex independently from other schools of thought. What Eimert describes is an idiosyncratic twelve-tone complex. Eimert is clear about who has influenced his method:—Josef Matthias Hauer and Jefim Golyscheff.

My discussion of Eimert’s method is in line with the arguments of Gojowy, Oesch and Miller. The shift from tonality to twelve-tone composition is not confined to the ideas of one

---

70 Grant, *Serial Music*, 45.
school of thought. To discuss the question of origin, after realizing the breadth of sources from Russia to Cologne, to Vienna and beyond that were applying some technique for composing with all twelve-tones, is not a worthwhile pursuit. It is difficult to deny that the idea for twelve-tone composition was certainly, as Miller states, “in the air” in the 1920s. *Atonale Musiklehre* is part of a paradigm shift towards twelve equal tones.
Atonale Musiklehre was written by Herbert Eimert during his time as a student at the Musikhochschule in Cologne. In 1924 he completed this text as well as a string quartet that was composed using his twelve-tone approach that is developed and discussed in the Atonale Musiklehre. He studied violin, piano, conducting and composition. His professor Franz Bölsche, who was a known conservative, did not condone the composition of non-tonal music and disapproved of Eimert’s decision to publish Atonale Musiklehre. As a result of the text’s publication, Eimert was dismissed from the Musikhochschule and completed his degree at the University of Cologne, where he studied musicology and philosophy. There is only one edition of the text, published by Breitkopf & Härtel. That edition is the source for this translation.

In the chapter that follows this translation, there is an extended commentary on Atonale Musiklehre that addresses the text in greater detail. For that reason, this preface only discusses the peculiarities that arose while translating the text into English. In general, I took a more literal approach to the text, remaining as close to Eimert’s exact wording as possible. It is often very difficult to translate illustrative and idiosyncratic language into English. I tried to retain some of the idiomatic patterns, knowing well that they are not always common constructions in English. Anything found in square brackets was not in the original German, but was added to clarify the meaning in English.

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71 Franz Bölsche was a composer of piano and orchestral music who taught at the conservatory in Köln. Other students who are known to have studied with him include Paul Höffer, Arnold Schmitz, and Erwin Schulhoff.

Eimert’s text includes two footnotes which are indicated with lower case letters. All numbered footnotes are my references. His many musical examples are not consistently numbered in the original German text. For ease of reference, I numbered them all chronologically and did not differentiate between tables, figures, or musical scores. They are all labeled as examples. For the purpose of differentiating Eimert’s text from the rest of the document, a different font was used for the translation of the treatise.

In regard to terminology I first address Eimert’s use of the word “Zwölftönigkeit,” which I have translated as “twelve-toneness.” It is purposely not translated as “twelve-tonality” so as to avoid the problematic term tonality, which has so many other nuances of meaning. Eimert uses the term only to mean that all twelve tones are present. He does not ever use it as a replacement for or new definition of tonality. The term “Komplex” also appears many times in the text. As Eimert means “collection” and that is consistent with the musical-theoretical use of the term complex, I have translated it simply as “complex.”

A more difficult decision had to be made regarding the terms “Umkehrungen” and “Lagen.” Eimert himself puts both terms in quotations the first time he uses them in Chapter 2. In regard to Umkehrungen he says, “Naturally there are only twelve possible ‘inversions’ of the chord with all twelve tones (that is following the rules of harmony from the bass tone up), and there are the same amount of ‘counterinversions’ (harmonies from the top note down).”73 It is my conclusion that Eimert puts the word in quotations because he understands that ‘inversions’ can have tonal implications. For this reason he provides his own explanation of the term as a reorientation of the pitches above a different bass note. The term “Lagen” always

appears with “Umkehrungen” as its opposite. It is most closely translated as “positions,” as the term is typically used to refer to ‘soprano position,’ or the highest sounding note of a chord. There is no tonal term for the opposite of inversion and the term “retrograde” implies a function that Eimert is not suggesting. I therefore concluded that “positions” was appropriate.

In his introduction to the theory of “twelve-toneness,” Eimert refers to the pitch classes as “beziehungslos” and “selbstständig.” These two words are synonyms, which are aimed at expressing the lack of hierarchy in atonality (in other words, the independence of each individual note from the others). I have translated them as non-connected and self-sufficient, respectively. Each term expresses a different aspect of the twelve chromatic pitches—they are disconnected from the other pitches and also have their own intrinsic value apart from their relationship with any other note.

Throughout the text the German word “Ton” and the plural “Töne” appear frequently. I chose to translate them as ‘tone’ and ‘tones’ remaining as close to the original German as possible. Really, Eimert uses the word to refer simply to pitches or even more accurately to refer to pitch classes. Any choice of English word comes with problematic associations. To translate the word as note(s) implies a pitch that is written down which is not implied in the German. Pitch class is historically inaccurate as it came about much later in the discourse on non-tonal music. As a result of these implications, I chose the word tone because it refers to pitches of any kind (whether written down or not) and is more historically accurate. One should not, however, infer that the word tone, as it is used in this text, refers to ‘twelve-tone’ music or serialism as Eimert’s method for composition is not serial or ‘twelve-tone.’

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74 Eimert, Atonale Musiklehre, 3.
All of the musical examples that have been inserted into the text are scanned from the published document. Because Eimert uses Golyscheff’s notation system, these examples were best viewed as they originally appeared in the text. An appendix at the end of the text “translates” the examples into standard notation. Although Eimert may have disapproved of this appendix, it is intended to help readers engage more easily with the musical examples.

Translation\textsuperscript{75}

Title page from Eimert’s original publication.

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Foreword

The present text *Atonale Musiklehre* is the first systematic presentation of atonal technique. The vitality and meaning of a theory lies in its historical and logical foundation; atonal theory is able to meet the requirements of both. Lying exposed here in the principles of Atonality, is the finalization of the theoretical solution to the atonal problem. Inspired by the letters and compositions of Josef Matthias Hauer and through personal acquaintance with the Russian composer Jefim Golyscheff, the author absorbed, from both composers, this present founding idea of atonality (which is) systematically formulated and developed in this text. The author does not explicitly claim any “discovery” (to be clear and straightforward) for the probative value of the important knowledge of this theory, that is dealt with here as a development and not as a discovery.

For the author, special value is placed on the clear separation between pure theory and aesthetic views, unless there is a cause for more general comments by directly addressing tonal music. Thus the cohesion of the system is supported up to the degree that is necessary for a theory to become an incontrovertible dogma.

This text primarily represents one principal version of atonal technique, wherein knowledge of compositional technique, homophony, and contrapuntal construction are presupposed; along these lines the problem of form, which is related to all of the above, cannot be addressed more closely.

The extensive examples (exercises), to which this book gives a large amount of material, are a pre-condition for delving into the problem of Atonality. From a tonal standpoint, a statement on the atonal problem must always turn out to be one-sided. The widespread opinion that atonal and dissonant-noise-music are the same, shows the general confusion that is due to
the writings of some anarchist composers. Those who are nearer to dealing with atonal theory will recognize that atonality has little to do with modern dissonance music, but quite the opposite; it is the strongest unmixed purity of the tones and their relationships.

The creative results of atonal music, however, are currently not as convincing proof of the worth of atonal truth as desired. But the spirit of Atonality is clearly present and it paved the way for comprehension that a sensible and just regulation of the atonal question, which is undertaken here for the first time, will provide a useable increase of new musical-logical possibilities (and with it the growth of expressive possibilities).\textsuperscript{76} If in this sense, the present study is capable of providing suggestions for a just\textsuperscript{77} expansion of the foundations of musical logic, then its purpose is fulfilled.

Gummersbach, in March of 1924
Herbert Eimert

Part I: Theoretical-Practical Music Text

Chapter 1: General Foundations

Atonal music adopts from tonal music the twelve tones of the tempered system, their names, and their graphic representation. Atonality—as the word implies—knows no keys and no scales (major or minor); therein it neither knows the entire technical harmonic apparatus of tonal music: cadence, leading tone, suspension, resolution, enharmonics, alteration and so on; or the concepts of consonance and dissonance as modes of harmonic (not psychological) evaluation.

The material of atonal music is formed by the twelve non-related and self-sufficient tones of the

\textsuperscript{76} In short, Eimert is suggesting that by writing an explanation of the principles of atonality, he is increasing the possibility for compositions in this area. The principles must be regulated—to Eimert this regulation is “twelve-toneness.” It is important to specify this because there are musicians creating music with no regulation at all (Dissonante Lärmusik) and Eimert wants to distinguish atonality from this type of music-making.

\textsuperscript{77} Here Eimert uses the German word \textit{gesetzmässig}. The term ‘just’ refers to the legal use of the term in the sense of providing guidelines or regulations for the expansion of musical logic.
tempered system, which when they line up in order coincide with the chromatic scale. The foundation of atonal “tone material” is not, however, a series of tones (scale), but a collection of tones (complex) consisting of the possible number of different tones, i.e. the count of twelve tones.

A practical notation of these twelve tones can be seen in the notational system of composer J. Golyscheff:

Example 2.1

Such tones lead an independent existence; F♯, for example, is not to be mistaken for a raised F. Through this notation each tone is signified as being independent; it is independent of accidentals within the measure, of its constraint, and does not require the tonal differentiations of ♯, ♭, ♮, x, ♭♭, ♮♯ and so on. The notation of durational values is as follows:

Example 2.2

For practical reasons, atonal music uses tonal notation and names of the pitches. (Chapter 7 discusses the conflict between this notation and the atonal nature of the twelve independent tones).

Chapter 2: The Atonal Constitution of Twelve-toneness

The atonal constitution is the unconditional twelve-toneness in any form of melody or harmony. As long as the musical course was not carried out through the total count of the twelve
tones, atonality remains incomplete, impure.

The ultimate possibility of the tempered system is the sum of all the single parts of this system, a structure that combines all twelve tones as a unity. The temporality of music demands the breaking down of this abstract twelve-tone unity into a form perceivable as “art.”

The ultimate harmonic possibility of the tempered system is the chord consisting of twelve [different] tones, the ultimate melodic possibility is the melody consisting of twelve [different] tones.

Example 2.3

The twelve-tone line has 479,001,600 possible combinations. (With two tones there are 1 \( \times 2 \times 2=2 \) possible combinations, with three tones there are 1 \( \times 2 \times 3 = 6 \), with the seven tones of the [diatonic] scale 1 \( \times 2 \times 3 \times 4 \times 5 \times 6 \times 7=5040 \) possibilities.) Thus there are 479,001,600 different melodies and just as many different harmonies, not to mention the endless rhythmic possibilities. Naturally there are only twelve possible ‘inversions’ of the chord with all twelve tones (that is the definition of harmony from the bass tone up), and there are the same amount of ‘positions’ (harmonies from the top note down). From the union of the twelve possible “inversions” and ‘positions’ the following diagram evolves:

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78 Eimert is referring to the fact that music is experienced in time therefore all twelve tones will not always sound together at once, rather in close proximity to one another.

79 Here ‘tones’ can be thought of as pitch classes.

80 This is discussed in greater detail in the Translator’s Preface. The term used here refers to the position of the chord from the top note. In a tonal setting, this would refer to whether the root, third, or fifth was in the highest sounding voice, often referred to as soprano position.
None of the twelve twelve-tone melodies and none of the twelve twelve-tone harmonies are the same as the others. This complex of 144 tones represents the ultimate possibility of the tempered system; it contains everything that is possible melodically and harmonically on the smallest scale. The structure of the 144 tone complex relates to the law of mechanical necessity. Each further harmonic and melodic development brings something completely new until the cycle through the twelve tones has been completed and can start over again. Technically speaking, this cycle of twelve tones is a purely mechanical process. What appears to be a limitation from a tonal standpoint (namely the avoidance of repetitions of tones within the sequence of the twelve tones) proves to be a fundamental law and far outweighs the countless other possibilities, that tonal music does not know.

The logic of musical hearing belongs in the area of psychology and has only a limited connection with the laws of nature in the consonance of the triad with a major third (which atonal music knows just as well as tonal music). The logic of tonal harmonic progressions depends upon the leading tone and its trajectory towards resolution of the harmony. The spiritual law of tonality is called dissonance and consonance, striving and release; the spirituality of atonal music goes beyond consonance and dissonance (without ignoring their effect or even
avoiding their use) leaving the 12 tones unmixed by means of mechanical rotation, that is the absolute purity of the tones and their connections.

**Chapter 3: The Atonal Principle of Melody**

a) The Twelve-tone Melody

The simple atonal melody is, in principal, made up of all twelve tones. It is the highest expression of the atonal idea and therefore already requires a thorough knowledge of atonality. For methodical reasons, let us begin with this discussion of melody.

Example of single-voice twelve-tone lines:

Example 2.5. (Eimert’s Examples 1-3)

Example 1 [Example 2.5] is the schematic representation of the atonal line. In Example 3 the first eight notes emerge clearly as being tonal; as exercises such constructions should be avoided; just as the periodical organization of the melody should be avoided; this [periodicity] originated from the vertical architecture of (tonal) sonata form. (Regarding the fundamental difference between linear polyphony and classical melody construction see Kurth’s *Grundlagen des linearen Kontrapunks*). As previously mentioned, the number of possible twelve-tone melodies is 479,001,600 and it becomes infinite when considering the unlimited diversity of rhythmic construction. The numerical restriction of rhythmically uniform melodic possibilities
contradicts the essence and sense of music. Consequently, the usage of rhythmically uniform melodies as examples is absolutely pointless. From the outset, a distinct linear structure is demanded of the atonal line.

Example 2.6 (Eimert’s Examples 4-6)

Exercises of this kind need to gradually apply all means of compositional technique: dynamics, phrasing, rests and so on as well as the distribution of melody over two, three, four or more measures. Octave leaps are permitted as they are non-essential shadings of a tone.
b) The Polyphony of the 144 Tone Complex

The schematic organization of the 144 tone complex makes a second voice inevitable. The contrapuntal foundation of the second voice results in a structure that avoids counterpoint in unison and in octaves (double octaves etc.). Each voice is completely autonomous, independent, “linear.” Theoretically any dyadic combination is possible (even with the restrictions mentioned above). The practice can lead only to the general aesthetic requirement of the laws of linear-polyphony, regarding logical and “beautiful” voice-leading. This beautiful voice-leading is to be viewed entirely in the sense of the tonal aesthetic, which is valued in terms of the harmonic construct in the counterpoint. Harmony in atonal counterpoint, which inevitably results from voice-leading, is of secondary importance, but the aesthetic requirement for beauty of a polyphonic voice can certainly not be ignored. It should therefore be advised that continually harsh-sounding results are indeed “possible” and “correct” but in no way “beautiful.”

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81 This is a value judgment of Eimert’s rather than a statement of fact regarding atonal counterpoint.
intervals. Consequently there is no “hearing” of harmony in the traditional sense, but only the “hearing” of independent voices.

Polyrhythm is a self-evident requirement of the polyphonic structure.

Example of two voice twelve-tone lines:

Example 2.8 (Eimert’s Examples 10-13)

The addition of more voices abides by the same principles: polyrhythm, avoidance of unisons and octaves. Examples with three voices:
Example 2.9 (Eimert Example 14)

Four voices:

Example 2.10 (Eimert’s Example 15)

Five voices:

Example 2.11 (Eimert Example 16)
The greater the number of voices, the fewer the available rhythmic possibilities. With twelve voices the independence of rhythm of the individual voices must be renounced because they allow parallel rhythm only.\textsuperscript{82}

Twelve voices:

Example 2.12 (Eimert Example 17)

Such a theoretical accumulation of independent lines shows that also the “linear counterpoint” should be confined to just a few voices in order to meet the aesthetic demands of

\textsuperscript{82} Here Eimert refers to the fact that with 12 voices, the complex should be sounding at all times. If the rhythms diverge from one another, the purity of the twelve-toneness would be lost.
the music. The unbound spatial motion of polyphonic voices requires free harmonic treatment, but only as it is beneficial for the overall harmonic effect.

With more than six or seven independent voices, the resulting harmonies will naturally appear as being purely theoretical. Such multi-voiced examples should initially be regarded as exercises, however, they are essential. The question as to how exercises of seven, eight, nine, or more voices should sound and are to be performed is peripheral to this discussion. In contrast, the examples with a limited number of voices are certainly applicable to composition, so long as a distinction between individual independent voices is possible.

Chapter 4: The Harmonic Principle of Twelve-toneness, the Complex

The result of twelve-tone horizontal and vertical components is a line that is both melody and harmony at the same time:

Example 2.13

The rhythmic shaping of this line creates the realm of atonal harmony.

Example 2.14

Or the first ten notes can be viewed as an arpeggio:

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As a means of representation, the melody must be considered at this point, in a limited sense as a dismantled harmony; however, this fundamental error in musical thinking should in no way be reaffirmed.
Example 2.15

In this way the two-dimensional unity of atonal music, which is the twelve-tone complex, comes into existence. For the inner structure of a complex, no rules can be given, naturally just as no rules can be given for the formation of a twelve-tone line; the logic of harmonic relationships is based on the cycle through all twelve of the tones. The previously mentioned aesthetic of beauty applies here as well: natural voice-leading and harmonies pleasing for melodies.

In many ways, the tonal effect of a leading tone is achieved through a stepwise progression of voices. At a constant number of voices, the following possibilities of pitch organization are revealed:

With two voices:

Example 2.16 (Eimert Example 18-19)

In total, eleven possibilities, namely 11/1, 10/2, 9/3, 8/4, 7/5, 6/6, 5/7, 4/8, 3/9, 2/10, 1/11.
With three voices

| 10 | 9  | 8  | 7  | and so on, in total 55 possibilities.
| 1  | 2  | 3  | 4  |
| 1  | 1  | 1  | 1  |

Example 2.17 (Eimert Example 20-21)

With four voices 9-1-1-1, 8-2-1-1 and so on, 165 possibilities altogether.

Example 2.18 (Eimert Example 22-23)

With five voices, 330, with six voices 462, with seven voices 462, with 8 voices 330, with 9 voices 165 possibilities and so on. In addition there are the transposition possibilities of
the individual horizontal line; which with eleven tones, for example, amounts to 39,916,801, with ten tones 3, 628, 800 and so on. The simple, above-mentioned, twelve-voice complex 11/1 could, therefore, take on a number of different shapes, for example 39,916,801. From eight to twelve voices, the voice-leading narrows itself more and more as harmonic possibility is enhanced; until harmonic standstill occurs with twelve voices. The number of voices from seven to eleven forms an exact mirror image of the number of voices from six to two in terms of the possible distribution of the notes. The melodic maximum reaches a harmonic minimum, and vice versa. In between lies an immeasurable, self-regulating scale of possibilities. The indefinite variety of the twelve-tone complex also reveals itself in the distribution possibilities of the twelve tones to each individual voice and the rotational possibilities of the tones within each horizontal line. Numerically summarized, each complex consists of the following:

With 2 voices 11 possible distributions
With 3 voices 55 possible distributions
With 4 voices 165 possible distributions
With 5 voices 330 possible distributions
With 6 voices 462 possible distributions
With 7 voices 462 possible distributions
With 8 voices 330 possible distributions
With 9 voices 165 possible distributions
With 10 voices 55 possible distributions
With 11 voices 11 possible distributions
and in each horizontal line:

<table>
<thead>
<tr>
<th>Tones</th>
<th>Possible Rotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>39,916,800</td>
</tr>
<tr>
<td>10</td>
<td>3,628,800</td>
</tr>
<tr>
<td>9</td>
<td>362,880</td>
</tr>
<tr>
<td>8</td>
<td>40,320</td>
</tr>
<tr>
<td>7</td>
<td>5,040</td>
</tr>
<tr>
<td>6</td>
<td>720</td>
</tr>
<tr>
<td>5</td>
<td>120</td>
</tr>
<tr>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

The sum of all distributions and rotations results in the total possibility of each complex; so, for example, the two-voice complex has all together 87,909,426 possible shapes.

The calculations above, which can be continued up to the final total of the atonal “pitch scheme,” gives an impression of the unlimitedness of atonal possibilities. The formulaic expression in numbers serves here only to clarify the unlimited versatility of the atonal shape, particularly when rhythm is included; such calculations, as they have been carried out already for tonal music, have nothing to do with the expression of atonal music. (The theorist J.H. Knecht, 1792, counts approximately 3,600 fundamental chords).83

83 Justin Heinrich Knecht’s, Elementarwerk der Harmonie, als Einleitung in die Begleitungs- und Tonsetzkunst, wie auch in die Tonwissenschaft, (Munich: Falter, 1814).
An inconsistent number of voices yields the same unending variety of possibilities as in a complex with a stable number of voices. The similarity of the following complexes show that the same numerical variations are possible.

Example 2.19

<table>
<thead>
<tr>
<th>Voices</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3.</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

Consistent count of voices

Example 2.20

<table>
<thead>
<tr>
<th>Voices</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1</td>
<td>4</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>2</td>
<td>5</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>3</td>
<td>6</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td>7</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inconsistent count of voices

Example 2.21 Eimert’s charts for the Consistent and Inconsistent Count of Voices

Complexes with an inconsistent number of voices are particularly advantageous for harmonic settings. Examples of such complexes:
Chapter 5: The Union of Melodic and Harmonic Principles in Free Composition

Twelve-tone melody and twelve-tone harmony are the two fundamental principles of atonal music. The juxtaposition of twelve-tone complexes as the smallest cells of a musical form, creates melodies that are not twelve-tone.

Example 2.23 (Eimert Example 26)

Likewise, polyphonic treatment of several twelve-tone melodies develop harmonic complexes that are not twelve-tone.
Thus, there are also non-twelve-tone melodies and non-twelve-tone harmonic complexes in atonal music. Any melody is possible if it is tied to a twelve-tone complex; any harmony is possible if it is because it is the intersection of a twelve-tone melody. Consequently, shaping of music composition gains a breadth of expression that lawfully circumscribes even the ultimate possibilities of musical composition. From a purely technical standpoint, free composition consists of the combination of twelve-tone melodies and complexes in all possible variations. The absolute control of this technique is a pre-condition for the emersion into the spirit of atonal music. Finally, only a few hints on the nature of technical composition can be made in this chapter on “Free Composition”; because the problem of form arises here, and the approaches to a new formal design are still very much in their beginnings, therefore they cannot be discussed in the present theory.

What follows are some remarks and explanatory examples for the practice of free composition:

a) First an example of the simplest connection of the melodic and harmonic principle:

Example 2.25 (Eimert Example 28)
b) In the next example, the atonal principle is somewhat pushed to its extreme. Twelve-tone complexes caused by twelve-tone melodies (compare also Example 17):

Example 2.26 (Eimert Example 29)

Such examples are mostly calculations and therefore are more to be interpreted as exercises.

c) For practical purposes, however, it is very important to harmonize a twelve-tone melody, in which the individual melodic sections belong each time to a twelve-tone complex. Therefore the following example:

Example 2.27 (Eimert Example 30)

d) One of the two inter-related atonal melodic lines can be defined harmonically through rhythm. From this stems the exercise to harmonize a twelve-tone melody with a twelve-tone complex:
Example 2.28 (Eimert Example 31)

![Example 2.28](image)

e) With two or more inter-related twelve-tone melodies a harmonic filling can occur based on the twelve-tone complex [acting] as shown in the following example:

Example 2.29 (Eimert Example 32)

![Example 2.29](image)

f) The next example contains a melody in which the uppermost voice of the twelve-tone complex is not twelve-tone, but nevertheless appears as the leading atonal voice:

Example 2.30 (Eimert Example 33)

![Example 2.30](image)

g) The harmony-driven melody, in the sense of the harmonic practice of the Romantic era, is important for the practice [of atonality]. The fact of a harmonic center emerges
from the interpretation of the melodic force that is contained in harmony. The following are pieces of evidence:

Example 2.31 (Eimert Example 34-37)

h) This also includes embellishing notes, which come about through the breaking of harmonic structures:

Example 2.32 (Eimert Example 38)

i) Such “broken structures” emerge from deceleration:
Example 2.33 (Eimert Example 39)

j) Poor harmonic re-iterations, in the atonal sense, may result from the harmonization of such structures with complexes, for example:

Example 2.34 (Eimert Example 40)

Even though no technical limit can be given here, it can still be said that not only tone repetitions but also chord repetitions fundamentally contradict the sense of Atonality if they occur close together.

k) The following comparison shows the acoustic effect of rests:

Example 2.35 (Eimert Example 41)
In the first example, the slow tempo creates a false non-tonal melody, while in the second example each line is independent, and therefore is heard “correctly” in the atonal sense (compare, i).

l) Also to be noted are gestures that result from the piano setting, which suit that practice well, such as broken chords, octave doublings and the voice exchange in unisons and octaves (see also letter g):

Example 2.36 (Eimert Example 42-43)

m) Furthermore I wish to point out the possibility of two interlocking complexes:

Example 2.37 (Eimert Example 44)
The end of one complex overlaps with the beginning of another complex; the notes D#, F# or the intervening chord of Example B belong to both complexes. However, caution should be exercised in such formations, because the grounds of legitimacy could be easily abandoned; although there is not a technical limit here, only the aesthetic limit of atonal awareness, which still perceives the combination of the beginning and end of these complexes.

Finally there are two examples that transfer the dominant forms, up to this point, Fugue and Sonata, into the realm of Atonality. As mentioned previously, it is not possible to discuss the problem of form here. Only a partial formal structure can transferred because both Fugue and Sonata are based in the confrontation of tonal and modulating events. Even if in the following example the tonal contrast of the subject entries may stay intact, the modulating third part of the fugue must be ignored. With this it becomes clear that such a translation into Atonality is purely formal and is justified only as an exercise.

The numbers refer to the previous explanations and examples as an analysis.

Example 2.38 (Eimert Example 45 Atonal Fugue)
Also, in the beginning of a piano sonata that follows, the tonal determination of the form immediately creates a boundary. However, it is possible to adopt the contrast of the thematic characterizations from sonata form. One should refrain, however, from the continuation of the following example in order to keep the principle of neutrality regarding form. Because with the form one also translates the spirit [of the piece], and due to the extraordinary spiritual vagueness
of the current situation, the acceptance of form must be limited to the components [of the form].

As a means of representation of atonal possibility, an example such as this is certainly justified.

Example 2.39 (Eimert Example 46 Atonal Piano Sonata)

Some important suggestions are given with the atonal examples above. Further examples can be waived; the present examples suffice—and (this is the important point)—in order to convey the spirit of atonal music. A merely mechanical application of twelve-toneness means a latent lack of creativity. The present musical treatise attempts to avoid the risk of mathematization of music as it is in the creations of dogmatic atonal composers up to this point,
by focusing on the specific musical-logic, and by the adoption of generally valid harmonic and melodic phenomena. An artwork lives through creative forces, not through a theory; in this sense the present atonal theory is only a new technical tool but not a recipe for composing.

In the next section, I will offer some remarks about the spirit of atonal music as it is crucial for its historical development. However, so much has already been made clear from the technical perspective: atonal theory is entirely self-contained; it has no gaps or contradictions and it is supported by the compelling logic of a single possibility —that is inherent to the twelve-tone dogma.

Part II: Historical and Aesthetic Observations

Chapter 6: The Historical Development of Atonality

The contemplation of the historical development of atonality poses such an obvious abundance of problems of a historical, aesthetic, psychological and technical nature, that in the present context only the most pressing questions of harmonic technicality can be addressed; and its appropriate treatment would require no less than the treatment of the history of 19th century harmony. The profound development of the understanding of harmony of this century is typically expressed as three significant periods: [first,] the classical view of centricity (root, tonality), [second,] the Romantic worldview as it coincides with the idea of tones as aspiring forces in need of resolutions (leading tone, advanced tonality), [third and] finally the loosening of tonally-organized harmony in Impressionism (the idea of unrelated, a-tonal sonorities). The music theory of the entire 19th century, which was a kind of empirical thoroughbass theory, was not questioned before the emergence of Riemann, and remained complacent in regards to these developments, without particular merit. Not being aware of this development, the theory remained stalled for
decades in its fixed number of formulas and concepts. It was not before the tremendously spiritual restructuring, characterized by the detachment by Wagner, exercised an invigorating influence on the theoretical contemplation that it was now clear that it was not about a certain thoroughbass formula, but about the fundamentals themselves. These fundamentals were attacked by Impressionism—which by its artistic results—had a right to attack [these fundamentals] with the irrefutable argument of creativity. The dissolution of tonal harmony was so accelerated by the cadence-less floating character of Impressionistic music, that the question of theoretical clarification has not been solved, but yet it [the theoretical clarification] has received sufficient stimulus from other points of view. Because the Impressionistic way of hearing sonorities is always in some way tied to the tonal tendencies of the overtone series, one cannot actually speak of an Atonality of Impressionism. When attempting a theoretical groundwork of Impressionism, one immediately encounters the un-mergeable opposition of music-logical and aural-psychological functions. Only by repositioning the Impressionistic chord columns into several contrapuntal lines can the musical events of the concrete, be understood within the theoretically fertile ground of true harmonic and linear progressions. (In regards to the “sonic lines of development” and their consequences for modernity, see the groundbreaking work by Ernst Kurth Romantische Harmonik und ihre Krise in Wagners Tristan. In regards to the development of Impressionism, Die Musik der Gegenwart by Walter Niemann is put forward. The latest publication that discusses this general development is Fuhrer und Probleme der neuen Musik by Ernst Bücken with the central point being the chapter on Reger.)

The harmonic principle of tonal music is the cadence. From the point of view of Atonality the cadence is based on the cycle of the seven tones of the scale:
Example 2.40

Provided one sets aside the crucial tendency of the seventh scale degree as the essence of the cadence, the resultant subdominant-dominant-tonic clearly develops the atonal principle of the non-mixing of the chords. By the succession of these three functions, the progression of the keys are produced by means of modulation. Within (each key), the simple and natural urge for resolution of the harmonies is being expressed by the leading tones. Situated between one key and another, however, the leading tones occur with increased claims, they navigate towards a definite goal enforcing their own aspirational power. The tremendous level of energy that is accumulating in the leading tones first came into being in the Romantic era (see Kurth’s *Romantische Harmonik*). While modulation was only an extension of the old model in the early Romantic era, the modulation as melody-building force was exploited to an extreme in Wagner’s Tristan. With this extreme it was driven to the ultimate catastrophe in order to become the fate of music. As seen from the standpoint of Tristan, the power of the leading tone is already broken in Reger’s modulation-driven melody.

The development from classical to modern music is a constantly progressing compression and spatial reduction of the seven-tone tonal complexes by the means of modulation. Atonal music draws on the consequences of the previous development; the tonal principal of modulation driven to an extreme, results in something new with each harmonic and melodic progression. The resulting twelve-tone dogma is a compulsory product of logic and of historical development. It includes the potentiated tonal principle of modulation as a last possibility of the tempered system and thus means the beginning of the development that is liberated from tonal leading tones.
The efforts of theorists and psychologists run parallel with this development. The foundations of music theory based on the overtone series as it originates from Helmholtz, should be viewed as finally overcome by the investigations of Stumpf and Riemann. The more we admire the adaptability of our ears, the more we leave the process of musical hearing to psychology. The psychological assessment of consonance and dissonance persists even in atonal music. The “natural sound” is, in every music, the most ideal embodiment of a consonance. (In the atonal music of Hauer—whose quite sympathetic aversion to modern and “Dissonant Noise Music” has led to a psychologically not fully justifiable definition of the pitch as sound—one finds final chords that only consist of the root and fifth.) Tonal music does not know dissonance and consonance as technical values; their psychological evidence is based in the purity of chordal connections.

That this entire developmental process is happening on the foundations of cultural context, has been seen and interpreted even before the World War as a symptom of a healthy reaction to the excessive exploitation of the Emotional [emotion-ness] and the exclusive emphasis on a world dependent upon materialism. Whether the future, technically speaking, is one of non-tonal, leading-tone free music, or is one of a combination of tonal and atonal tendencies, cannot be decided at this time[.] After all, one has to consider that the stepwise progression of voices has an effect comparable to that of a leading tone even in atonal music. In any case, currently the development from the Romantic perspective of the function of the leading tone to that of atonal expression is still briskly moving forward.84

84 The German could be translated literally as “strongly ascending”: however, it does not refer to the rise in pitch of the leading tone but rather to the forward motion of this development.
To add sufficient evidence to the above-mentioned brief historical allusions, some final examples will be shown of tonal music that immediately wander in the direction of twelve-toneness.

An example from Reger, “Symphonic Prologue” op. 108 begins:

Example 2.41 Reger, Symphonic Prologue

or “Romantic Suite” op. 125, two measures before 10:

Example 2.42 Reger Romantic Suite

In Strauss, the acoustic effect comes to the foreground, for example in “Elektra,” Orest’s Recognition Scene:

Example 2.43 Strauss Elektra "Orest's Recognition Scene"
A particularly striking example is found in Schütz’s (1585-1672) “Dialogo per la Pascua” (Collected Works Vol. XIV, cited by Kurth):

Example 2.44 Schütz "Dialogo per al Pascua"

Compare that with the following three-part purely atonal phrase:

Example 2.45

The theoretical speculation of tonality has its boundaries here if it does not want to appear forced. Particularly in Reger, a melody of eight, nine and more tones (without repetition of a tone) is often found and represents the specific style of Reger. Here follows the attempt to interpret Reger’s melodic style, which was previously treated in the context of leading tones, as purely and mechanically atonal. Schönberg breaks with the traditional *Harmonielehre*, without harmonic arbitrariness; his [music] is the example of impure atonality. (With that, it should not diminish his spiritual position or significance). In 1914, twelve-tone music was found for the first time in the unpublished compositions of the Russian Golyscheff. Some years later, the idea of pure atonality took on a tangible form with the Viennese theorist and composer Hauer. Within this developmental line, this current musical treatise [Eimert’s] provides the first systematic presentation of atonal technique.
Chapter 7: Aesthetic Contributions

The theory outlined here is the only conceivable determination of non-tonal laws. Such a formulation, made in times of transition, where the old lives and the new is stuck in its beginning and therein the risk of “first-timeness” still exists, naturally can neither decide the dispute of opinions, nor claim a general acceptance of its results. The creative results of an art also determine its aesthetic value. The overwhelming abundance of masterworks of the previous epoch, to which atonal music has almost nothing to compare, means however, that there is still no scale of judgment because it would be short-sighted to play two centuries against two decades. Despite all of the scholarly investigations about the connections between natural sound and music, despite all of the well-founded aesthetics, which are rooted in the past—tonality has played its last trump with Reger. The atonal idea lives more today than ever before. It infuses musical thought more today, because of the natural necessity of organic justifications.

Even the fact that such a phenomenon and movement cannot be just artificially constructed, and that the creative instinct cannot be wrong in such scope, must cause even the eager advocate of a natural theory of sound to reconsider. Should hasty sides be taken in the dispute of “psychologists” on the one hand and “acousticians” on the other, the ground of objectivity would be left behind. Therefore, a short discussion of the dispute will ensue, although it will lead to atonal music as the only possible result.

The fundamental problem of every music-theoretical discussion is the foundation of the theory by acoustical-mechanical precedents and their respective detachment from the unchanging natural laws of physics. The octave, fifth and major third of a fundamental (which make up the natural sounds) are the intervals created by the overtone formation. The physical naturalness of these intervals has conveyed them to the ear as permanently fixed concepts of consonance, for all
music. However, the consonance of the minor third and of the minor triad, which can look back to a brilliant historical career in its development, does not require explanation as an acoustical phenomenon of the overtone series; all attempts so far at finding an acoustical foundation have failed. Since the fundamental investigations by Stumpf the knowledge has prevailed, that in the question of “consonance and dissonance” a psychological occurrence outside the laws of nature takes place. A fact that even Riemann recognizes after many an error (or various erroneous assumptions). By the emancipation of music from the undertones, one does not belittle the ground-breaking merits of Helmholtz. Our hearing of music is selective hearing, which even makes the natural consonance an ideal consonance as it is proved by their inversions, which are perceived and handled as consonantly as a fundamental chord.

In the progression of a piece of music, every normal ear hears only the fundamental and takes the overtones to be as self-evident as the eye takes the shadow of an object. It is significant, that in its essential expressions, Impressionism, where it prefers purely acoustical effects, does not allow for theoretical foundations. Already in 1754 Tartini tried to make the acoustically conditional phenomena useable in music. All attempts to build a bridge from the acoustical to musical consonance have failed, if not in their artistic exploitations, so then in the sense of the theory. As long as this fact remains, there is no self-evident reason to reject the tempered system as imperfect. For example, whether the famous seventh in the trio of the scherzo of [Beethoven’s] Eroica is played by natural instruments or by tempered (valved) instruments the correlation between the tempered system and tempered perception is in no way impeded. Also the distinction between tempered and non-tempered instruments, as stated by Hauer, is not

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b As in every art work, so Impressionism also has countless imitators, who have not grasped the organic course of a development, but the manner of the style; For these [imitators] the following recipe for composition is recommended: One writes a normal phrase according to the rules of harmony and adds to every chord arbitrarily seconds and fourths in conformity with the popularly accepted rules.
relevant for this. The whole issue of musical-hearing belongs to the area of psychology, even the natural [consonance] that coincides with the ideal consonance.

Primitive musicians of the 11th century, who without notable concern for acoustical and theoretical phenomenon, who were writing seconds, fourths and fifths without further reservations were as convinced of their art as we are today in ours. Music has no standard, no eternal image in nature as do other arts; its development always remains “natural” as long as the ear is able to follow. The relation with nature lies in the [equal] tempering of the system or rather in tempering and the system, wherein one views the natural interval of the octave as the framework of the system and the tones between the octave as “tempered.” A siren wailing up and down with all conceivable tones and overtones is pure, artless nature. The filtering of this pure nature by the ordered human spirit has (through a detour over the many earlier scales) led to the compromise of the tempered system. This currently much-debated tempered system, however, is not makeshift, as Schönberg means in his Harmonielehre, but rather the opposite, it is already art and still nature, the most ingenious power of the human ear.

The combination of chords—about which there is in many cases an utterly unclear debate—has nothing more to do with natural principles and physics, it is exclusively logical. The understanding that in atonal music the discussion does not focus on the tempered system, overtones, and the like, but solely on the logic of the music itself (musical surface), and that the emphasis of music-hearing lies completely in psychology, is to a large extent a pre-condition for any music-theoretical position on the problem of Atonality but not at all, to a larger extent than, for instance, its validity for Romantic music. Naturally it would be disastrous to confuse here the theoretical and aesthetic values and to conveniently push both onto the comfortable track of psychology.
If one researches the technical foundations of the dissolution of tonal harmony, one must note that the dissolving agent comes from the tonal sphere itself, namely from the idea of the vagrant chord. The augmented and diminished chords are always a means of modulation. The three diminished seventh chords, which allow for a twelvefold solution according to traditional harmony texts, together build a twelve-tone complex (see Example 23d) just as the four augmented triads do (see Example 21c). The most poignant representatives of the vagrant principle are the two whole-tone scales. They are tonal no more, but systematically vagrant so that, from a tonal standpoint, vagrant and atonal appear to be the same. It is an odd fact that with close consideration of atonal theory, two or more atonal voices do not make a vagrant impression, as one would expect from a tonal standpoint (see example 15). Here the [psychological] adjustment of hearing plays less of a role as the real musical-logical function of Atonality, which is an idiosyncratic, implicit, leading-tone free logic of atonal harmony.

With atonal music, the problem of notation also comes to the forefront. The five line staff is the most practical structure for the graphic presentation of tonal music. The spacing of the half steps, the naming of notes, intervals and alterations, the keyboard with its specific fixed order of the keys—everything is accrued from the spirit of tonality. Hauer (in *Vom Wesen des Musikalischen*) proposes the following staff system for atonal music. This solution does not satisfy because apart from the significant problem of “relearning,” it is still conceptually entirely tonal. Seen like this, it is no more than a graphical representation of the tonal keyboard. By consequent logic, the name F/F# or G/G# is already false in atonal music. In place of the previous system one must build a completely new graphical

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85 The source of the term “vagrant chord” will be discussed in greater detail in Chapter 3.
and terminological order. The notation utilized here, which sufficiently denominates each tone independently enough, hopes to provide a service to the practice, by choosing the lesser of two evils, and stays with the traditional notation wherein necessarily the distinction between # and b must fall victim to leading-tone-free logic.

Even if atonal theory does not yet have the striking ability, to take its evidence from examples of recognized masterworks, then one cannot accuse it of being a theory pre-dating the work of art, because its right to exist lies in its historical development as well as in its clear logic. The need to deal first with numbers and counting may lead aesthetically-biased judgment to prejudice. However, the present version of atonal theory is not at all designed for the beginner in music in general. The beginner in atonal music, however, would be so familiar with twelve-toneness quickly that he ceases to count.

The anxious ones, doubters, and skeptics however, as well as the “natural sound theorists,” will place the number twelve at the center of their critique, and conveniently in so doing, ignore its logical and historical foundations. Nevertheless, a small and well-crafted musical example can successfully and easily take up arms against a heavily-armored aesthetic.
CHAPTER 3

ATONALE MUSIKLEHRE: HERBERT EIMERT’S THEORY OF ATONALITY

Introduction

Many historical and compositional developments led to the birth of atonality despite the many theorists and composers who would love to take the credit for being the first. While Herbert Eimert does not claim to be the creator of either atonality or twelve-tone music (which to him are synonymous), he does claim to be the first to write out a systematic method for composing in this style. Atonale Musiklehre is a combination of a compositional method book, a philosophical treatise in support of atonality, and a brief historical outline.

His argument that he is the first to publish such a document is fairly accurate. Josef Matthias Hauer wrote two treatises, Vom Wesen des Musikalischen (1920) and Deutung des Melos (1923), both of which discuss composing with all twelve pitch classes as a method for creating atonality. While Hauer’s writings after 1923, particularly Zwölftontechnik:Die Lehre von den Tropen (1926) provide more musical examples and explanations of his compositional approach, Vom Wesen des Musikalischen and Deutung des Melos are less methodological and more focused on aesthetics, which does make Eimert’s text the first to describe a method for atonal composition.

Atonale Musiklehre is organized into two large sections. Eimert titles the first book “Theoretical-Practical Music Text” and the second “Historic and Aesthetic Observations.” The first book is comprised of five chapters, each of which focused to a different aspect of atonal composition. The first two chapters offer more general observations followed by more specific

chapters on melody, harmony and form. There are numerous examples in this section that
demonstrate what Eimert considers to be good and bad approaches to composing atonal
music. The second book contains only two chapters. The first provides the historical
background that led to atonality and the second discusses the aesthetic of atonality.

Eimert’s Guidelines for the Composition of Atonal Music

“Twelve-Toneness”

First and foremost, the goal of *Atonale Musiklehre* is instruction on composing atonal
music. Eimert assumes his audience is comprised primarily of composers who have already
studied the techniques for composing music and who have achieved competency with
counterpoint and the basic constructive principles of melody and harmony. For this reason,
Eimert’s text is rich with self-composed examples of the techniques he describes. These
examples, all of which are set in a non-standard notation system created for atonal
compositions, provide a view into Eimert’s definition of atonality. While the text explores the
nuances of composing atonal music, the central guiding principle is always the inclusion of all
twelve pitches- a principle that Eimert refers to as “twelve-toneness.”

If taken in the simplest of terms, the meaning of “twelve-toneness” appears to be clear:
all twelve tones must be present at all times. To actually compose in this way, however, would
be so limiting that it would remove all interest and creativity from the music itself. Eimert is
aware that the boundary of “twelve-toneness” must be flexible enough to allow for artistry
while it is rigid in its exclusion of those compositional techniques that create tonal relationships

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87 Eimert, *Atonale Musiklehre*, iii.
88 Ibid., 3-4.
between pitches. For this reason, Eimert rejects the notion of keys and scales, preferring instead to think of the twelve-tones of the tempered system as the aggregate which he refers to as a complex. Others who were branching out from tonality at this time were focusing their attention more towards creating linear models for including all twelve pitches of the chromatic scale, namely Schoenberg’s ‘rows’ and Hauer’s ‘tropes,’ both of which were not written theories but compositional practice at the time Eimert’s book was published. This is not to suggest that these models did not take vertical sonorities into consideration at all, but that Eimert’s theory expressly mentions and deals with vertical sonorities. His idea of completely rejecting scales, or ordering the pitches, looks forward to the way serialism developed in the 1940’s with such practices as combinatoriality and rotation. Eimert is championing aggregate theory, not serial theory.

This lack of series-like construction is immediately evident in the chart (Example 2.4 in this text) which shows all of the possible “inversions” and “positions” of the twelve-tone line. 89 At first, it appears to be a typical twelve-tone matrix but it is quickly evident that the order of the pitches is not the central focus of the chart. The far left column of the chart, typically the inverted from of the row, is simply the original row itself. In fact, the purpose of the chart is to show the possible vertical combinations of a twelve-tone line rather than to create a linear tool for composition.

89 Here twelve-tone is used to refer to all twelve pitches of the chromatic scale. It does not imply serialism.
The discussion of “inversions” (Umkehrungen) and “positions” (Lagen) is surprising in a text focused on atonality. The terms themselves, as discussed in the Translator’s Preface in Chapter 2, usually refer to inversions of triads and soprano position. That Eimert adopts these terms freely may seem unusual but he uses them as more specific terms for rotation. For the purpose of his discussion the terms are completely disconnected from the tonal sense of ‘harmony’ and refer only to the pitches that are the lowest (inversion) and highest (position) sounding notes in a stack of all twelve tones, the aggregate. When seen in this way, the chart in Example 2.4 only addresses one small set of possibilities in which the lowest and highest intervals are one half step (without considering octave displacement) from each other. In his own words, cycling through the twelve pitch class sets in the way that the chart in Example 2.4 demonstrates is “a purely mechanical process.”

Eimert devotes much of the first two chapters of *Atonale Musiklehre* to counting the possibilities inherent in atonal composition. It is possible that this is referential to theoretical treatises of the past, which often provide mathematical and acoustical proofs of musical principles. Examples include Quintilianus, Boethius, Zarlino and Rameau among many others. In this same way Eimert “proves” the validity of “twelve-toneness” with this approach, which conveys the seriousness of a theoretical and conceptual approach to this type of composition. There is also a defensive tone to these chapters, as Eimert is proving to his opponents that “Atonality” offers as many compositional possibilities as tonality. This tone comes through his statements like the following:

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90 “Umkehrungen” is not inversion in the sense of changing the fundamental bass of the chord, but rather a reordering of the pitches so that the bass note changes.  
What appears to be a limitation from a tonal standpoint (namely the avoidance of repetitions of tones within the sequence of the twelve tones) proves to be a fundamental law and far outweighs the countless other possibilities that tonal music does not know.92

This statement is also the most succinct definition that Eimert provides for “twelve-toneness.”

All twelve pitch classes must sound before one can be repeated. From this foundation, Eimert explores compositional techniques for creating atonal melodies and harmonies.

The Atonal Principle of Melody

Once Eimert establishes the guiding rule of “twelve-toneness,” he expounds upon how one practically applies this principle to composing melodies. Examples 3.1, illustrates simple, three measure melodies that each are comprised of all twelve pitch classes, using uniform rhythms of quarter notes in common time. The first is merely the chromatic scale and therefore will not be discussed in detail. Eimert says nothing about the second example, but describes the third example as evoking tonal constructions, despite its adherence to the principle of stating all twelve tones without repetition.

Example 3.1 Eimert’s simple twelve-tone melodies

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92 Ibid., 8.
There are two reasons why Eimert may have declared the first eight pitches of the third melody to be tonal, the first of which is the emergence of triads from the key of C minor. Measure one, with the exception of the F♯, outlines a C minor triad and measure two is a B fully diminished chord, the leading-tone chord to C. Here, the absence of rhythmic emphasis confuses the situation. If the rhythm made the F♯ the more prominent pitch in the first measure and the A♯ the most prominent pitch in the last measure, it could easily be heard instead as a succession of three different diminished triads. Example 3.2 illustrates this.

Example 3.2 Eimert’s melody rhythmically altered to subvert tonal relationships

This makes Eimert’s concern regarding this passage unclear. Is he saying this passage is unacceptable because it emphasizes C as a tonal center or is it that creating tertian harmonies is forbidden in Eimert’s “twelve-toneness”? If the latter is true, the second melody (Example 3.1 #2) is just as much at fault for creating tonal structures. The first three pitches arpeggiate an A♭ major chord obscured through the use of Golyscheff’s system which employs only sharps, the next three pitches create an A♯ diminished chord and the remaining five pitches spell a GMm7 chord with an added 9th. Ultimately, these examples do not clarify the question of how an atonal melody avoids creating tonal structures other than to suggest that arpeggiated tertian harmonies are still possible when using all twelve pitches but should be excluded from atonal melodies.
Eimert himself notes that these examples where rhythm is absent are “absolutely pointless” because an atonal line must have a “distinct linear structure.”93 The following three examples (Example 3.3), taken from Atonale Musiklehre, demonstrate this principle.

Example 3.3 Eimert’s twelve-tone melodies with rhythm

As with the previous set of examples, Eimert provides little insight into the specifics of what these melodies demonstrate. In terms of “linear structure” the first (4) and last (6) melodies both feature ascending lines while the middle melody (5) has more of a reverse arch shape. The range of each melody is a major 7th, a more dissonant interval, although such a range is not impossible in a tonal melody.

When broken into beat patterns, some interesting analytical problems arise. In the first melody, the beats themselves are highly chromatic, mostly made of up of half steps inside ranges of a fifth or less. If the first note of each beat is extracted, however, the first three beats spell a C# minor triad. A similar phenomenon occurs in the second melody where a chord of a split third emerges (B, D, and D♯). This also occurs on the first three beats of the third melody (C, D♯/E♭, E).

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93 Eimert, Atonale Musiklehre, 7.
If taken on interval content alone, each melody contains all twelve pitch classes without repetition. All three melodies contain dissonant leaps of tritones, sevenths, and minor seconds without the rules of resolution that are typical to tonal music. None of the three melodies specifically outline tertian sonorities, particularly not in the way that the previous melody (3) did. Taken together, the melodies in Example 3.1 and in Example 3.3 can provide insight into the ways in which a composer can either advance or subvert atonality within the framework of “twelve-toneness.”

Eimert’s discussion of atonal principles of melody includes a brief statement that octaves are allowed, consequently octave leaps are not considered tone repetitions. Octaves are also mentioned in Schoenberg’s *Harmonielehre* (1911) where he states the following:

> In general, it is obviously so for those who accept my view on the nature of dissonance. I firmly believe in its rightness, as do a number of others. The chromatic scale seems to be responsible for the progression of such chords. The chord progressions appear to be controlled by the tendency to place in the second chord those tones that are missing in the preceding one. These are usually a half-tone higher or lower, but within the individual voice itself, these semitone steps rarely occur. I have also noted that doubling—octaves—rarely are seen. This perhaps occurs since the doubled note would take on greater weight than the others and become a sort of fundamental tone, which it is not.94

Schoenberg later retracts this view on octaves. Because Eimert clearly states in Chapter 7 of *Atonale Musiklehre* that he is familiar with Schoenberg’s *Harmonielehre*, it is likely that he makes allowances for octaves here in response to his knowledge of this text. The examples he provides (Examples 2.11, 2.12, and 2.13) show octave leaps only; pitches are never repeated in a different octave with other pitches intervening.

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Polyphony and Atonality

As part of his discussion on creating atonal melodies, Eimert also includes an introduction to atonal polyphony. Here he refers to the “144-tone complex” instead of the twelve-tone complex implying that the number of possibilities only increases with the number of voices. While the sections on atonal melody and harmony cite the fundamental rule of their composition as “twelve-toneness,” Eimert’s statements regarding polyphony are much more specific. He demands that the voices must be rhythmically independent. He also forbids counterpoint in unison, and in octaves, although he allows for any two pitches to sound together as long as the voices are independent of one another. According to Eimert, atonal “harmony” is a natural consequence of two voices sounding together. This result is of secondary importance however, because unlike tonal counterpoint, there is not an emphasis on consonance and dissonance in atonal counterpoint.

This use of the term harmony as a synonym for “notes that sound at the same time,” is extremely important. Typically the term “harmony” carries with it the implications of consonance; however, Eimert’s use of the term here denies such implications. It is clear that he defines harmony as vertical sonority. This is very important to his discussion of atonal harmony, which follows his statements on atonal polyphony. He does clarify that in a polyphonic setting you do not hear the harmonies, but the individual voices.

Example 3.4 shows Eimert’s four musical excerpts of two-voice polyphony. Triads are present between the two voices on nearly every beat. First, an F# minor triad, then A major, then C major. A G#/B dyad on the upbeat of beat two is followed by a Bb major chord on the last sixteenth note. The lower of the two voices is especially interesting when compared to
Example 3.1. Notice that the third melody which contained tertian sonorities that were to be avoided, bears remarkable similarity with this melodic line. Both melodies have C and D#/Eb in close proximity to a descending B fully diminished chord. All of this consonance may be serving as an example of “beautiful voice-leading” which Eimert believes is important to atonal counterpoint. He nonetheless cautions that “continually harsh-sounding results” are possible.

Example 3.4 Eimert’s examples 10-13 demonstrating polyphonic atonal melodies

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95 Eimert uses the term “hartklingende”
The second example shows imitative counterpoint at the octave in the style of an Invention in which the imitation is not strict. This example clarifies that Eimert’s instruction to avoid counterpoint in unison and octaves did not refer to the interval of imitation and must therefore refer to the intervals between the voices or perhaps to the doubling of voices. While there are still thirds between the voices in this example, they are less prevalent than in the previous example. The third counterpoint example is a canon between the two voices, also at the octave, where the imitation is strict. There is an octave leap in the first measure of the melody that serves the purpose of expanding the register. Half steps are the most prominent interval in the melody.

As the number of voices increases, the rhythmic independence of the voices decreases. Eimert provides examples of three, four, and five voice counterpoint. In three and four voices, no independence is lost. In the five-voice example, however, the rhythmic differences between the voices begin to wane for the sake of maintaining the flow in each of the voices. There is still some rhythmic flexibility, but less than in the previous examples. In Eimert’s final polyphonic musical example he writes for twelve voices. Here, the rhythmic independence is completely lost as all of the voices play the same rhythm. Each line of this example presents a complete complex at the same time that each vertical sonority is a complete complex. It is the ultimate example of the principle of “twelve-toneness.”

There are many inconsistencies in these examples. For example, Eimert states that there are an infinite number of possibilities available to the composer of twelve-tone music, but he also does not write rhythmically independent counterpoint beyond five voices. In fact, he states

96 These examples are Examples 2.18, 2.19, and 2.20.
97 This is Example 2.21.
that the independence of the voices is lost after five voices. There are many examples of polyphonic settings that employ six or eight independent voices. J.S. Bach’s “Musical Offering” contains a six voice fugue and Thomas Tallis’s “Spem in Alium” was composed for 40 voices. Furthermore, Eimert frequently champions a leading-tone-free logic, although many of his examples exhibit voice-leading that contains leading-tone-like resolutions. Take the canon in Example 3.4 (Eimert’s Example 12). The Canon begins on G and ends with a D that steps down to C#. This could easily be harmonized as a half cadence in the key of the dominant. Inconsistencies such as these undermine Eimert’s clarity in his methodology for composing atonal music.

The Atonal Principle of Vertical Sonorities

In *Atonale Musiklehre*, Eimert devotes a section of his methodology to atonal harmony. It may seem surprising that he uses the term “harmony” because of its aforementioned associations with tonality, but it should be understood here to mean any vertical sonority. The first examples of this section all show that harmony, to Eimert is verticality (see Example 3.5). Obviously, there is no tonal connotation to the collection of pitches in the example. In fact, the only constructive force is that the aggregate is present in each case. They do not have to sound simultaneously and can be the result of melodic motions that are heard as a united collection.

Example 3.5 Atonal Verticalities as Defined by Eimert
Despite his discussion of harmony as its own entity, Eimert still approaches it as a product of polyphonic voices. Again he calculates the possibilities based on the ratios for how many notes will appear in each voice, given the number of voices. For example, if there are two voices there are eleven possibilities for how the twelve pitch class sets might be distributed between the voices to create atonal harmony. One voice might sound ten pitches and the other two or they might each play six unique pitches. Example 3.6 demonstrates some of these possibilities. Each of the demonstrations of atonal harmony contain a perfect fifth between the bass tone and the highest sounding pitch. Again Eimert’s constructions contain references to tertian constructions.

Example 3.6 Eimert’s Harmonic Proportions for Atonal Melodies

In a sense, these examples make Eimert’s definition of atonal harmony less clear. How, in other words, is this discussion any different, than the discussion on polyphony that preceded it? The answer is that, for Eimert, atonal harmony is achieved when all twelve pitch classes are
heard. It is about verticality, but it is also about a complete presentation of the twelve-tone complex. This could happen in one beat or several beats but until the complex is complete, the harmony is not atonal. He does, however, recognize that all twelve voices cannot sound simultaneously for the entirety of a composition as that would create “harmonic standstill (Stillstand).”

The definition of atonal harmony is even less clear when the final sonorities of each of these examples (Eimert’s 18a and b as well as 19) are examined. The first example (18a) ends with a chord of the split third where E is sustained with both G and G♯ stated above it. In 18b, the final sonority is also a third: it is obscured by the use of Golyscheff’s system, but the two pitches sounding are Bb and D. Finally Example 19 is made entirely of minor 3rds and sixths moving in predominantly parallel motion. Indeed, all twelve chromatic pitches are present; however, these examples are not at all divorced from the tonal demand for consonance.

In his 1924 publication “Neue Formprinzipien,” Erwin Stein discusses “harmony” in Schoenberg’s pre-serial compositions in a similar fashion to Eimert. 98 He also calculates the possibilities. Taking a slightly different approach that focuses more on immediate verticalities, Stein finds “55 constitutionally different three-note chords, 165 four-note chords, 330 five-note chords, 462 six-note chords.” This comparison is particularly interesting because these same numbers appear in Eimert’s discussion of the distributional possibilities of vertical sonorities given the number of voices. He just does not use the term “chord.”99 Stein also points out the increased possibilities that come with considerations such as texture and spacing, even

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99 Stein’s term for chord here is “Akkorde.”
referring to the term “positions.”

The preceding discussion does not suggest that either author knew of the other’s position on the matter of atonal harmony. There is no evidence that Eimert knew Stein, nor that he is even aware of Schoenberg’s method for composition with twelve tones. It is more interesting to see the similarities between the two as evidence of a shift in compositional practice that is broader than one composer or one school of thought.

Free Composition: Melodic and Vertical Atonality United

Chapter Five of Eimert’s text brings together his theory of atonal melody and harmony. While, in earlier chapters, atonal melody and harmony can only exist if all twelve pitches have sounded without repetition, here Eimert allows for melodies and harmonies that are not “twelve-tone.” Example 3.7 shows Eimert’s non-twelve-tone melodies, which result from complexes that are harmonically complete within each measure.

Example 3.7

In the soprano melody the pitch B is repeated three times and C twice. According to Eimert, however, this is allowable because all twelve pitch classes sound harmonically every three beats.

Example 3.8 shows Eimert’s representation of non-twelve-tone harmonies that come about as a result of the “polyphonic treatment of several twelve-tone melodies.”¹⁰¹ This example is particularly surprising because every single vertical sonority spells a tertian harmony (the analysis is shown below the score on the example). Naturally, the triads are not functioning in a tonal way, and do not sound functionally tonal, but their inclusion is surprising nonetheless. This is especially true because Eimert cautions composers in Chapter Three to avoid constructions that contain all twelve pitch classes but evoke tonal sonorities.¹⁰² In his melodies (seen in Example 3.1 of this chapter) it appears that he is forbidding exactly what he demonstrates in this example.

Example 3.8

This discrepancy is precisely what Eimert intends to put forward at this point in the text: the notion that in free composition, any verticality is possible if it is the result of a melodic twelve-tone complex. Likewise, any melody is possible if it comes about due to a vertical statement of a complex. The composer is free to create music in the context of “twelve-toneness” without the rigidity of every harmony and every melody presenting a complete complex. According to Eimert, however, a composer must learn to “control of this technique as

¹⁰¹ Ibid., 16.
¹⁰² This refers to Eimert’s commentary on his third musical examples where he warns that the first two measures emerge as “clearly tonal.” In German he states “Bei Beispiel 3 treten die ersten acht Noten deutlich als tonal hervor”
a pre-condition for emersion into the spirit of atonal music.”103 Due to the inconsistencies in his own examples, his exact meaning here is unclear.

Following this note of caution to composers, Eimert demonstrates passages where twelve-tone melodies overlap with harmonic complexes. (See Example 3.9) In this example each measure contains all twelve pitch classes harmonically, while a twelve-tone complex sounds melodically in the upper voice. This practice of writing multiple complexes where the pitches from each complex overlap with one another is very similar to the serial practice of combinatoriality. This is the first written discussion of atonal composition to approach the idea of combinatoriality that does not appear in compositions until later in the 1920’s (ie. Schoenberg’s Variations for Orchestra) and is not defined until the 1950’s when Milton Babbitt coins the term.104

Example 3.9 Simultaneous twelve-tone melody and harmony

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103 Eimert, Atonale Musiklehre, 16.
The remaining guidelines for free composition wrestle with the limits of what is and is not admissible in the practice of atonal composition. Example 3.10 shows Eimert’s demonstration of a “melody-driven harmony,” which in Eimert’s words is related to the harmonic language of the Romantic era. Here the melody could be considered an embellishment of the vertical sonority. The reverse could also be true—wherein the harmony is a reduction of the melodic material. Interestingly enough, he does not forbid writing in this style although he does describe these examples as having a harmonic center.

Example 3.10 Eimert’s Melody-Driven Harmonies

Embellishing tones that cause repeated pitches and gestures that emulate arpeggiation, particularly in piano compositions, are also demonstrated without comment as to whether they are permissible in Eimert’s concept of atonality.

Example 3.11 shows another technique, described by Eimert as “Interlocking complexes.” This technique allows complexes to share pitches, while still maintaining their own

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105 This exact melody appears in the fourth movement of Eimert’s String Quartet, discussed in Chapter 4.
completeness. In the example provided below, three different means of creating such complexes are demonstrated. First, a single tied pitch (F) belongs in both the first and second complexes in the example. Next a vertical sonority including three pitches (D#, F# and B) creates an intersection between the second and third complexes. Finally, in b), the voices are set in chorale style and the four central pitches (F#, D#, A, and C) are shared by both complexes. Despite the fact that Eimert does not assign a particular order to the pitches in a complex, the practice of interlocking complexes looks ahead to serial techniques of later years.

Example 3.11 Interlocking Complexes

Form and Atonal Composition

Throughout *Atonale Musiklehre*, Eimert refers to the “problem” of form. In the Foreword to the text he explains that the “problem of form” cannot be discussed in detail. Chapter Five, which addresses free composition, refers again to the “problem of form,” stating that new principles for formal design are too premature to be discussed in detail.\(^{106}\) Despite these statements, Book I of *Atonale Musiklehre* devotes the two longest musical examples and

\(^{106}\) Eimert, *Atonale Musiklehre*, 16.
its final pages to the idea of formal structure in atonal composition. Although the author seems reticent to discuss large-scale form, he does not opt for simple examples, such as Binary or Ternary, that have fewer tonal restraints. Instead he provides examples of an atonal fugue (see Example 3.12) and an atonal sonata (Example 3.13).

Example 3.12 Eimert’s Atonal Fugue
In the past fugues have been governed by the principles of tonal relationship. They begin and end with reference to the same key and are driven by modulations to closely-related keys. Subject imitations occur at tonally functional intervals, such as fifths or octaves. To create a non-tonal fugue, logic would suggest that one would first have to create an atonal subject which is free of centricity. It might also be encouraged that imitations that occur at more dissonant intervals, such as the tritone or the second, might be preferable to more tonal intervals.

Despite Eimert’s attempt to avoid reference to tonality, he could have done more to subvert a tonal center or sense of key. The subject begins with a stepwise ascent that could
easily be in A minor until it reaches the D#, which resolves as a leading tone would.

Furthermore, the pinnacle of the line is an E, making the initial ascent a perfect fifth. The subject ends on G#, the leading tone to A, which is also common to fugue subjects that often move towards the dominant. The first answer is at the interval of a fifth, starting on E with the same minor scale ascent. After the sixth pitch of the answer, it does not follow the same interval pattern as the subject. Example 3.14 shows where the two melodies begin to differ. The subject steps up a half step while the answer steps down.

Example 3.14 Eimert’s Fugue Subject and Answer

The decision to alter the answer is a result of the repeated octaves that would have occurred between the soprano answer (on E) and the bass answer (on D). Example 3.15 shows what the subject and answer would have sounded like without any changes in the interval content of the first answer. The octaves are indicated on the score. In this example it becomes clear that Eimert alters the subject in order to create a more dissonant fugue. Where there would have been predominantly octaves and thirds (in Example 3.14) there are instead sevenths and seconds.
It would be false, however, to state that the fugue contains primarily dissonant vertical sonorities. Example 3.16 shows the fugue, written in standard notation, with all of the tertian vertical sonorities labelled. Obviously there is no discernible key and the sonorities, although tertian, do not function like tonal harmonies. Taken with his earlier guidelines for melodic composition wherein the melody should generally avoid constructions that evoke a sense of key, this fugue provides a great deal of insight into Eimert’s theory of atonality. It is not about a lack of consonance, rather a lack of functionality in the order of the harmonies or vertical sonorities. In fact, if taken as an example of atonality, the fugue shows an obvious preference for vertical consonance over dissonance.
Example 3.16 Eimert’s Fugue with Tertian Vertical Sonorities Labelled
On the original score of the fugue, vertical lines show where there are octaves in close proximity between voices. The theme is also labelled and indicated using brackets. Another set of brackets on the score include numbers that reference earlier musical examples from the text. Although Eimert states that the examples act as an “analysis” of the fugue, the relationship is not always clear.

The first bracket indicates that Example 2.7 (i.e. Examples 7-9 in Eimert’s text) should function as an analysis of the subject of the fugue. Unfortunately, there is no obvious connection between them; Examples 7-9 demonstrate appropriate uses of octaves in atonal composition and the fugue subject does not contain any repeated pitches, at the octave or otherwise. Eimert’s Example 20 (see Example 2.17 of this dissertation) is referenced repeatedly throughout the fugue. It demonstrates possible distributions of a twelve-tone complex between multiple voices. As the fugue has three voices, this connection is obvious in a broad sense but any deeper connection between the content of Example 20 and the marked sections of the fugue is unclear. In m. 6 of the fugue, Example 44 (Example 2.36 of this dissertation) is indicated as a source. This is one of the clearest references as both this section of the fugue and Example 44 contain interlocking complexes.

As a demonstration of formal principles, the fugue is fairly complete. It contains three expositions each separated by a short section of free counterpoint, like an episode. At the end of the fugue the theme appears in diminution, a device typical to fugues of the Baroque era. Aside from a modulation and sequential episodes, the fugue achieves the majority of the formal devices typical to a fugue. True modulations cannot be achieved in a non-tonal setting, which
Eimert addresses in his comments prior to the fugue. Sequences would require repeated pitches that are also not permitted if one remains true to the principle of “twelve-toneness.”

While the fugue is fairly complete, the piano sonata demonstrates only a first theme. Eimert states that “the tonal determination of the form immediately creates a boundary.” For this reason he chooses not to write a more complete sonata, despite his reassurance to readers that it is possible to create thematic contrast without modulation. Example 3.17 shows Eimert’s piano sonata.
As with the fugue, the piano sonata also has brackets that reference earlier musical examples. Examples 34 (Example 2.29), 42 and 43 (Example 2.35) each demonstrate gestures that are typical to piano literature, such as arpeggios and melody and accompaniment style, that Eimert allows in his theory of atonality. The piano sonata obviously uses gestures that are typical to tonal piano literature, such as block chords and octaves.
Vertical sonorities in the sonata are clearly tertian, in fact there is no strict adherence to the principle of “twelve-toneness” (see Example 3.18). The brackets on the score indicate complete complexes and the circled notes are repeated pitches. As with the fugue, the sonata provides insight into Eimert’s sense of atonality. This example makes it very clear that tertian harmonies are not only acceptable but are preferable. Octave repetitions are not only allowed but occur repeatedly, as is typical to the style of a piano sonata.

Example 3.18 Eimert’s Piano Sonata with Complexes Bracketed and Repeated Pitches Circled

This example is the last one in the text that demonstrates compositional principles and it is also the last one composed by Eimert. Both the fugue and the piano sonata raise more questions in regard to Eimert’s definition of acceptable compositional practice in atonality than they answer. The “problem of form” as it relates to atonal music is certainly not resolved by these examples, especially not by the piano sonata which maintains so much of the gesture of
tonal sonatas that it does not strictly adhere to Eimert’s own definition of atonality as it demands complete statements of twelve-tone complexes. As a compositional theory, Atonale Musiklehre leaves many questions to be answered by the practice of atonal composition, rather than by the author. He acknowledges that atonality is an emerging theory, and as a result, that examples from music literature are still forthcoming.  

Musical Notation and Atonality

As soon as one imagines music without the restraints of keys and key signatures, the standard practice for notation is called into question. If all twelve pitches are to be present at all times, should a composer use no key signature and repeatedly employ accidentals? Should sharps and flats be used interchangeably? Are double-sharps and double-flats automatically unnecessary? Does such a plethora of accidentals create a problem for performers and readers of the score?

Eimert discusses the notation problem several times in Atonale Musiklehre and addresses it by adopting a new notation system that he credits to Jefim Golyscheff. This system does away with accidentals by using open noteheads with an ‘x’ in them for notes that are one half step higher than their natural counterparts. Example 3.19 shows Eimert’s demonstration of Golyscheff’s system.

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107Eimert, Atonale Musiklehre, 24.
Example 3.19 Golyscheff’s Notation System

The use of open noteheads for some pitches raises the issue of differentiating between quarter note and half note rhythms. This problem is resolved through the use of larger noteheads with bolder outlines for half notes and whole notes. (See Example 3.20)

Example 3.20 Differentiating Half Notes and Quarter Notes in Golyscheff’s System

The first chapter of *Atonale Musiklehre* makes the argument that standard notation is an insufficient representation for atonal composition where, unlike tonal music, a Gb and an F# are the same thing. To Eimert, even naming the note as a sharp, or raised F implies that an F# is related in some way to F which it is not, according to his theory. In order for atonal composition to proceed without what Eimert views as the restraints of tonality, the tones must be independent of one another. Golyscheff’s notation system tries to solve this problem by removing accidentals from the visual representation of pitch. For this reason, Eimert sets all of the examples in his text using Golyscheff’s system. Of course, in tonal theory an F and an F# are not related to one another functionally by key or scale. In fact, two pitches with the same name cannot be a part of the same diatonic collection.

Furthermore Golyscheff’s system does not change the actual visual location of the pitches on the staff from where they appear on a typical five line staff. Thus an F# is still located on the same level as an F natural and the accidental is simply moved from outside the pitch to
inside the notehead itself. One could say that this is a qualitative concept of chromatic notation as the pitches are in the same location but bear a different quality. The use of all raised pitches, does obscure obvious tonal relationships, even when they are still present, as previously discussed. For example and A# and a D appear visually dissonant or non-diatonic but are actually a major third or minor sixth from one another. Other systems from this time explore a more quantitative approach where the location of pitches that once bore accidentals is altered visually so that the accidental is no longer required. In other words, lines are added to the staff so that a change in pitch results in a change of visual location on the staff.

Eimert’s desire to adopt a different notation system for atonal music is as much a philosophical concern as it is a practical one. In Chapter 7 he states:

With atonal music, the problem of notation also comes to the forefront. The five line staff is the most practical structure for the graphic presentation of tonal music. The spacing of the half steps, the naming of notes, intervals and alterations, the keyboard with its specific order of the keys—everything is accrued from the spirit of tonality...In place of the previous system one must build a completely new graphical and terminological order. The notation utilized here, which sufficiently denominates each tone independently enough, hopes to provide a service to the practice, by choosing the lesser of two evils, and stays with the traditional notation wherein the distinction of # and b must fall victim to leading-tone-free logic.108

Atonal music, according to Eimert, requires a new notation system that is free of the restraint of the leading-tone. If such a system completely abandoned the five-line staff and all of the standard means for communicating pitch and rhythm, it would place a burden on performers to comprehend the new notation. Golyscheff’s system supports the visual independence of the twelve-tones while remaining close enough to the traditional system that composers and performers need not completely re-learn how to read music.

108Eimert, Atonale Musiklehre, 35.
Eimert is not the only theorist to seek a better platform for the notation of atonal music and Golyscheff is not the only composer to create a new system. In fact, *Atonale Musiklehre* Chapter 7 references Hauer’s suggested adaptation of the staff to appear more like the keys of the keyboard (see Example 3.21). According to Eimert, this solves little as it is still fundamentally tonal in its relationship to the tonal keyboard. Furthermore it would require that performers completely revise their music-reading practice.

Example 3.21 Hauer’s Staff

Other notation systems from around this period include Busoni’s 1909 adaptation, wherein he devised a four stave system more suited to keyboard music that placed all the white keys in spaces and the black keys on lines. This approach is similar to Hauer’s and pre-dates it. It has the same problem of ‘relearning’ that Eimert sees as a fault in Hauer’s system. Busoni’s desire for new notation practices stemmed more from his desire to make reading music more visually simple for the performer, not from a philosophical viewpoint of making the system less centered on tonality. In fact, Busoni created new editions of Bach keyboard works using his notation system.

Arnold Schoenberg also made two different proposals for alterations to the current system. First he suggested that all natural notes be free of accidentals and all other notes contain either the flat or sharp sign at all times. Later he sought a complete overthrow of standard notation and created instead a three-line stave that included all the pitches in the

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octave with altered noteheads. Example 3.22 shows his own handwritten demonstration of this method. Without the changing of the staff from five lines to three, this method is the closest to Golyscheff’s as both choose to alter the appearance of the notehead as a new means of indicating an accidental.

Example 3.22 Schoenberg’s Three-line Staff

Different speculations have been made as to why so many composers at the turn of the century began to find the standard notation system to be inadequate. Richard Rastall’s text *The Notation of Western Music* states that standard notation is inherently tonal and therefore most suited to tonal music. Eimert’s theories certainly support this statement. Despite the expressed need for an atonal notation system, none of these methods were ever widely adopted. Eimert’s deduction that any new system must not require much relearning on the part of the performer is the most likely cause for the lack of adoptions of a new system. In fact, Eimert’s own string quartet (which is discussed in Chapter 4 of this dissertation) is written in standard notation. As Schoenberg suggested, it avoids excessive accidentals by never using the natural sign. It is highly likely that this was a decision of the publisher as much as Eimert himself. Golyscheff’s published String Trio (Chapter 5 of this dissertation) does use his system however, which demonstrates that at least some publishers were open to the idea of non-standard notation.

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Dissonante Lärmmusik, Musical Anarchy and Eimert’s Atonality

In the Foreword of *Atonale Musiklehre* Eimert takes a firm stand against the equation of “dissonante Lärmmusik,” or dissonant-noise-music, with atonality. He attributes the confusion to the writings of “anarchist composers.” Later, in Chapter 6, where he discusses the historical development of atonal music, Eimert mentions Hauer’s dislike for “dissonant-noise-music.” The term “Lärmmusik” is most often associated with the Dada art movement, and in particular with the Cabaret Voltaire in Zurich. This club, founded by artist Hugo Ball in 1916, was a nightclub that also provided a venue for experimental artists to display and perform their works. Although the club did not remain open for long, the Dada movement spread quickly around Europe so that by the end of WWI, there were Dada newspapers, manifestos and gatherings around Europe and in the United States. Such gatherings took place in Cologne, where Eimert worked and studied, as well as in Berlin where Golyscheff was living at the time.

The Dada movement encouraged artists to break with tradition and bourgeois culture in particular. Artists created photomontages, collages of newspaper clippings, poetry from random words, and “noise music.” Part of “dissonant-noise-music” included creating new instruments out of non-conventional materials. Golyscheff is known to have experimented with inventing instruments and writing in non-traditional styles. Unfortunately none of these endeavors are extant.

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Although Eimert credits Golyscheff as an originator of atonality, he is clearly referring to Golyscheff’s twelve-tone compositions and not to his more experimental works. Golyscheff’s *String Trio* is his only remaining musical composition. It is discussed in more detail in Chapter 5 of this dissertation. The *Trio* employs a twelve-tone method and labels the twelve-tone complexes on the score. It was published within a year of Eimert’s string quartet. Chapter six of *Atonale Musiklehre* does reference unpublished works by Golyscheff that date to 1914, which is the composition date given to the string trio. This makes it highly likely that Eimert had at least heard of the trio, if not seen it.

**Eimert’s History of Atonality**

Although Chapter 6 is titled “The Historical Development of Atonality,” Eimert immediately draws the conclusion that to provide an in-depth history would be a task fraught with difficulties. As a result, he provides only a broad description of the history focusing on the harmonic developments of the 19th century that lead to atonality. Eimert’s historical timeline for the development of atonality outlines three periods—the Classical (rooted in tonality), the Romantic (rooted in the energy of the tones and their desire for resolution), and Impressionism (rooted in “unrelated, a-tonal sonorities”).

Music theories of the Classical period were firmly rooted in thoroughbass methods. According to Eimert, these methods remained in place until Riemann’s writings and Wagner’s music pushed beyond a view of harmony as a thoroughbass formula. Impressionism brought with it a freedom from cadences, and thereby a freedom from the force of the leading-tone. While Eimert does not believe this music is truly atonal, he sees it as a historical development
towards atonality wherein the force of the leading tone is weakened. According to him the
cadence and the leading tone are the critical components of tonality. As they become
weakened through the introduction of increasing chromaticism, he maintains, the path to
atonality emerges. For Eimert, atonality has developed out of an inherent logic within music
that moved from a seven-note complex to a twelve-note complex by means of modulations
that introduced increasingly more chromaticism into music.

Eimert provides evidence of this development with four musical examples taken from
the literature, rather than self-composed as previous examples were. The first, taken from
Reger’s “Symphonic Prelude” contains a melody with eight different pitches (Example 3.23). It
begins and ends on the pitch E and does not function as a tonic or dominant. Leading-tone
function could be implied, but the presence of a Cb weakens F as a possible tonal center. The
next excerpt, taken from Reger’s “Romantic Suite,” comes much closer to demonstrating
“twelve-toneness” (Example 3.24). Eleven pitch classes are present in this short passage and
while the vertical sonorities are tertian, they are highly chromatic and do not immediately
suggest a single possibility as the tonic. The only missing pitch is A. Similarly, the third example,
which is an excerpt for Strauss’s Elektra contains a nearly complete complex where only G#/Ab
is absent (see Example 3.25). The most striking of these examples is the Schütz excerpt which
cycles through eleven different pitches in only six vertical sonorities (see Example 3.26).

Example 3.23 An excerpt from Reger’s Symphonic Prologue
Although Eimert does not discuss the excerpt in detail, the chromatic tones are obviously a product of stepwise voice-leading procedures and not of atonality. However, this section of Eimert’s text is aimed at showing how atonality is a musical-logical historical development. In that sense, the juxtaposition of these vertical sonorities in a work dating back to the 16th century is particularly compelling, however the fundamental bass movement and the root progression make it completely tonal in nature.
Twelve-tone theory, which is synonymous with atonality for Eimert, is the result of historical development. He concludes Chapter 6 with a discussion of current theorists. He first mentions Schoenberg’s *Harmonielehre* as an example of “impure atonality.” He views Schoenberg’s atonality as impure because it does not demonstrate his principle of “twelve-toneness.” Eimert is referring here to the 1911 edition of that text and, despite his communications with Hauer, does not seem to be aware that Schoenberg was developing a system of twelve-tone composition of his own in Vienna. Eimert may have had access to the 1922 edition of *Harmonielehre*, but it cannot be verified.

Golyscheff and Hauer, both of whom were previously mentioned as influences on Eimert’s theory, are discussed here as well. Eimert declares Golyscheff to be the first to compose atonal music using a twelve-tone method in his unpublished composition of 1914.\(^\text{118}\) Finally, Hauer is credited with the development of “pure atonality.” As Eimert does not expound upon this idea and continues to credit himself as the first to provide a systematic approach to atonal composition, he can only be referring here to Hauer’s compositions.

Eimert’s Aesthetics of Atonality: Music Psychology and Musical-logic

Throughout chapter six and seven of *Atonale Musiklehre*, Eimert refers many times to psychology and “hearing,” as central to the understanding of both the historical development and aesthetics of atonality. As mentioned previously, Eimert viewed Impressionism as being characterized by “unrelated, a-tonal sonorities.” Although he defines Impressionism as “a-tonal,” what he means is not tonally harmonically functional and this is why he inserts a hyphen

\(^{118}\) Ockman, “Reinventing Jefim Golyscheff,” 72.
into the word, so as to create a distinction between a-tonal and atonality. For Eimert, the
difference between true atonality and Impressionism is how the two styles are “heard.” While
Impressionistic music may not appear to be tonal in a strict sense, it is heard that way and
therefore cannot be considered atonal.

Ernst Kurth’s energetics theories factor heavily into Eimert’s understanding of tonality
and atonality alike. Eimert references Kurth’s Romantische Harmonik und ihre Krise in Wagners
Tristan as a “ground-breaking work” on the “sonic lines of development and their consequences
for modernity.” Other more subtle references to Kurth’s theories include Eimert’s discussion
of leading tones. In Chapter Two he states “The logic of tonal harmonic progressions depends
upon the leading tone and its trajectory towards resolution of the harmony. The spiritual law of
tonality is called dissonance and consonance, striving and release; the spirituality of atonal
music goes beyond consonance and dissonance.”

Eimert’s language evokes that of the Energeticists through use of the words “trajectory,
striving and release.” In Chapter Six Eimert describes leading tones as “aspiring forces” and
later states:

Within (each key), the simple and natural urge for resolution of the harmonies is being
expressed by the leading tones. Situated between one key and another, however, the
leading tones occur with increased claims, they navigate towards a definite goal
enforcing their own aspirational power. The tremendous level of energy which is
accumulating in the leading tones first came into being in the Romantic era (see Kurth’s
Romantische Harmonik). While modulation was only an extension of the old model in
the early Romantic era, the modulation as melody-building force was exploited to an
extreme in Wagner’s Tristan. With this extreme it was driven to the ultimate
catastrophe in order to become the fate of music. As seen from the standpoint of

119 Eimert, Atonale Musiklehre, 28.
120 Ibid., 6.
121 Ibid., 31.
Tristan, the power of the leading tone is already broken in Reger’s modulation-driven melody.\textsuperscript{122}

Eimert views atonality as a historical development that results from the dissolution of the energy of the leading tone through modulation. Modulation creates a tonal context for non-diatonic notes. As music developed historically the “seven-tone complexes” were brought closer to one another through increasingly more remote modulations. Eventually, twelve-tone music evolved from this development, and in so doing liberated music from the “force” of the leading tone.

Ultimately, Eimert distinguishes the practice of music theorists from that of psychologists when he states that the “process of musical hearing should be left to psychology.” He sees atonality as a historical and most importantly as a musical-logical development. Consonance and dissonance, which come from the overtone series, are then relegated to psychology and apply to both tonality and atonality as physical principles. Here Eimert mentions “dissonant noise-music” as having confused the idea of pitch with sound. Pitch, according to him, is established by the overtone series and by aural perception or psychology. By referencing the overtone series he refers to the acoustical properties of sound, while the psychological perception of that sound is what provides meaning or context to the listener.

The influence of “energetics” on Eimert’s theory of atonality is especially clear in the final chapter on aesthetics. He states:

Despite all of the scholarly investigations about the connections between natural sound and music, despite all of the well-founded aesthetics, which are rooted in the past—tonality has played its last trump with Reger, and the atonal idea lives more today than

\textsuperscript{122} Ibid., 28-29.
ever before and infuses musical thought more today, because of the natural necessity of organic justifications.\textsuperscript{123}

There is an inherent contradiction in this paragraph. Eimert’s initial statement suggests that many theorists have connected natural sound and music and that this connection stands in opposition with atonality. His conclusion that atonality is continuing to develop due to the “natural necessity of organic justifications” suggests that nature is actually compelling atonality into existence. Kurth’s theories of Romantic harmony are influencing Eimert at this point.

Kurth’s notion that the tones are controlled by an energetic force that is present both in the driving force of a melodic line and in the potential energy created by a vertical sonority create a foundation for Eimert’s understanding of consonance and dissonance. In Kurth’s theory the chromaticism of the late 19\textsuperscript{th} century came about because of natural forces. For Eimert, that chromaticism paved the road to atonality by creating the potential for complexes of more than seven notes. Eventually the logical path for composers to follow is one that includes all twelve tones as the creative force of the music. This is not in agreement with Kurth’s theories, which strictly rejected the use of his analytical approach as a support for atonality.

From this perspective, Kurth’s theories are a strong influence on the structure of Eimert’s entire text. His belief in the natural forces of melody and harmony are realized in the structure of his text into compositional techniques of melody and harmony. Counterpoint and form are two of the critical components of Kurth’s theory and Eimert’s text dedicates a section of the text to both atonal polyphony and the “problem of form.”

\textsuperscript{123} Eimert, \textit{Atonale Musiklehre}, 32.
Eimert’s final declaration against tonality is that it became corroded from within by means of the “vagrant chord.” This term comes from Schoenberg’s *Harmonielehre*. Schoenberg first refers to “vagrant chords” as his term for “foreign chords,” and describes them as calling the sense of key into question. Later in the text, he provides a musical example of such chords and the majority of the “vagrant” chords in the example are augmented triads. One of the primary principles of a “vagrant” chord is that is easily respelled enharmonically. This refers to chords such as fully diminished seventh chords, augmented triads, dominants, and the Neapolitan chord. Such chords contain the potential for enharmonic respelling in a new key and therefore create a neutrality in the sense of key. Schoenberg coined the term to replace “enharmonic chords.”

Conclusion

When *Atonale Musiklehre* is cited in secondary literature, it is usually because it is the first published theory of twelve-tone composition. There is much more that is of interest in this text than its historical significance as the first to publish on the theory. Later in 1924, Erwin Stein published his article “Neue Formprinzipien” which outlines Stein’s view of Schoenberg’s method for composing with twelve-tones. Eimert himself credits Hauer and Golyscheff with the origination of the idea. Obviously being the first to publish on the topic does not imply in

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125 Ibid., 298 f.
127 Stein, “Neue Formprinzipien.”
any way that Eimert was the first to consider composition with all twelve tones as an approach to atonality. This is not what makes *Atonale Musiklehre* a worth subject for study.

First, Eimert’s compositional approach to atonal music as a process of composing with twelve-tone complexes captures the essence of the development of serialism. Although Eimert champions the use of twelve-tone complexes dogmatically, the amount of freedom he allows for the composer within the boundary of “twelve-toneness” is too great to undo a deeply ingrained sense of tonality. Eimert’s examples, especially the fugue and piano sonata reveal that his theory is not fully-formed. His training as a composer of tonally functional melodies, verticalities, and phrases is evident in most of his self-composed examples. His theory lacks the internal sense of order that rows provide, but Eimert does directly address atonal verticalities, something that is often overlooked in serial methodology.

Second, by introducing Jefim Golyscheff as a contributor to twelve-tone theory, Eimert remains one of the only contemporary sources that discuss Golyscheff’s career as a musician and composer. Assuming that the date of 1914 is a correct date for the completion of “String Trio,” Golyscheff is the first to compose music using a twelve-tone approach. The twelve-tone complexes are, in fact, indicated on the score. Without Eimert’s mention of Golyscheff, his work may have been completely lost.

*Atonale Musiklehre* provides a window into the early development of twelve-tone theory as it was still in formation. It reveals the lack of distinction between “Atonality” and twelve-tone composition. The lack of clearly demonstrated “twelve-toneness” in Eimert’s examples sheds new light on the powerful notion of the “row” and the sense of order it creates for composing music that does not have a key or tonal center. *Atonale Musiklehre* broadens
the scope of the present discourse on atonality, not because of the uniqueness of the theory, but because of the widespread nature of the theory. It was not only Schoenberg or Hauer that were investigating the possibilities of composing in this way; rather the idea was more widespread than just one school of thought. Although it is not of central importance that Eimert was the first, it is important that he was the first of many to discuss twelve-tone composition.
CHAPTER 4

EIMERT’S FÜNF STÜCKE FÜR STREICHQUARTETT: THE PRINCIPLES OF ATONALE MUSIKLEHRE REALIZED IN MUSICAL FORM

One year after Breitkopf & Härtel published Atonale Musiklehre (1924) they also released the score to Eimert’s first published composition Fünf Stücke für Streichquartett (1925). Unlike his text, the publication does not use Golyscheff’s notation system but rather applies accidentals to every sharp or flat note. The distinction between sharp and flat seems not to matter, as both are used interchangeably. It is unknown whether the decision to use standard notation was one made by the publisher or the composer, though it seems likely that the piece would be more marketable in standard notation. Golyscheff’s trio, published in the same year by Robert Linau, does use his notation system.

There is no indication of meter given in the score, nor are there barlines. All rhythms follow the standard proportional relationships to one another and tend to evoke beat patterns typical to simple rather than compound meter. The duration of rests creates an interesting problem because one cannot simply use a whole rest to indicate a whole measure. The type of rest chosen usually depends upon the rhythmic values in the other voices. The rests are measured proportionally to the other voices. Tempo markings are given at the beginning of each movement and do not fluctuate often. Sectional divisions are marked by changes in articulation, dynamics, rests, or unisons.

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128Schoenberg proposes this type of notation as well although he also suggests that the notation system be completely reconsidered to accommodate atonal composition. Arnold Schoenberg, trans. Leo Black, ed. Leonard Stein, Style and Idea (Berkeley: University of California Press, 1975), 350-351.
Many of the principles of atonality that Eimert asserts in *Atonale Musiklehre* are present in this string quartet—in particular, an atonality that emphasizes twelve-tone complexes but does not employ serial techniques. Eimert’s text refers to this as “twelve-toneness.” (*Atonale Musiklehre* begins by defining atonal melody and harmony and progresses to such larger-scale concerns as harmony and the “problem of form.”) This chapter will follow the same order as Eimert’s chapters in *Atonale Musiklehre* in its discussion of *Fünf Stücke für Streichquartett*.

**Eimert’s Atonality**

Twelve-toneness is certainly the guiding principle for Eimert’s own string quartet. The rotation of all twelve pitches, whether in vertical or melodic form, is undoubtedly the constructive force behind the work. Throughout the string quartet Eimert uses many different ways of presenting all twelve tones. The music is predominantly polyphonic with the twelve tones sounding in each voice contrapuntally as is shown in Example 4.1. The boxes show the twelve-tone complex in each voice. At times the texture is homophonic as in Example 4.2, where the viola and cello play an accompaniment that presents the full twelve-tone complex, while the second violin plays a more melodic figure. At other times the twelve tones move through more than one polyphonic voice as seen in Example 4.3.

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129 The details of Eimert’s theory are discussed separately in Chapter 3 of this text. The focus of this section is Eimert’s compositional practice as it is manifested in this composition.
Example 4.1 Polyphonic twelve-tone complexes in Movement III

Example 4.2 Homophonic twelve-tone complex from Movement IV

Example 4.3 Twelve-tone complex shared by two polyphonic voices
This is not to say that Eimert never repeats pitches without having first cycled through all of the other tones. Both the melody of Example 4.2 and the whole of Examples 4.4 contain passages wherein Eimert writes with less rigid attention towards the strict rotation of the twelve-tones. Example 4.2 goes further than repeating pitches inside the presentation of one complex; it demonstrates a centricity around the pitch F# by repeating it ten times, stating it in multiple octaves, and giving it emphasis with the staccato articulation change. In fact, this passage appears five separate times in movement four. Emphasizing a particular pitch in this way is not forbidden in Eimert’s non-serial atonal theory. It is significant to note, however, that sections such as these are mostly internal to the movement and rarely at the beginning or end.

In the example below it is clear that all twelve pitches are present in some voice or another, but that there is no strict guideline keeping a tone from sounding before all the other members of the complex have sounded as well. Beyond the free use of the twelve tones here, Example 4.4 also demonstrates an unusual use of accidentals—one that might even be more cumbersome in performance. Both the viola and the cello switch back and forth between enharmonically equivalent pitches creating what appear to be leading tone resolutions. In the middle of the staff, the viola contains an Ab that is slurred to a G# while the cello plays an Eb tied to a D#. This D# resolves to E. Perhaps this notation is aimed at addressing the flaws in the notation system when applied to atonal music, a fact that Eimert discusses in great detail in his text.
Example 4.4 Movement V- Pitches repeated before the twelve-tone complex is complete

Eimert’s general foundation allows for such repetitions. He states that “the temporality of music demands the breaking down of this abstract twelve-tone unity into a perceptible form as an ‘art’.”\textsuperscript{130} Because music happens in time, the composer is free to take some liberties so long as he maintains the general sense of “twelve-toneness.”\textsuperscript{131} This freedom given to the composer ultimately results in a lack of clarity that is demonstrated throughout Eimert’s string quartet which is not very strict in its own “twelve-toneness.”

Eimert states that atonality, in his understanding, avoids the use of tonal techniques such as “cadences, leading tones, suspensions, resolutions, enharmonics”\textsuperscript{132} One need only glance at the first page of Eimert’s string quartet to see an absence of some of the most basic

\textsuperscript{130} Herbert Eimert, \textit{Atonale Musiklehre} (Breitkopf & Härtel, 1924), 4. Quotation taken from the translation in Chapter 2 of this dissertation.
\textsuperscript{131} The obvious tonal implications in this example are discussed in greater detail later in the chapter.
\textsuperscript{132} Herbert Eimert, \textit{Atonale Musiklehre}, (Leipzig: Breitkopf & Härtel, 1924), 3.
The exclusion of a time signature or barlines immediately negates many of these principles even before one considers the melodic or harmonic framework for the piece. To remove notated meter from a piece means that cadences, suspensions, and resolutions are also obscured. One would have to insert a sense of meter back into the flow of the piece in order to convincingly create such tonal devices. Mixed meter is present in the string quartet; however, it is also obscured by the lack of barlines and time signatures. Enharmonic equivalents, as mentioned earlier, are applied freely. Although he maintains that they have no relation to a key or scale, the string quartet shows an obvious preference for raised note resolutions to higher pitches, as previously mentioned. Example 4.4 shows that Eimert prefers to label pitches with all flats or all sharps rather than mixing the two indiscriminately. Of course, the application of accidentals could also have been under the purview of the editor at Breitkopf & Härtel.

In the first two chapters of *Atonale Musiklehre* Eimert provides two foundations for the composition of atonal music. First, do not use tonal materials to create atonal music. This will not work. Second, all twelve pitches must be present at all times for atonality to exist. However, much of the actual demonstration of this principle is left to those who would compose music. In Eimert’s reasoning it is not for him to explain the minute details of how to compose with all twelve tones, it is for the composer to take this principle and create a work. Eimert himself does this in *Fünf Stücke für Streichquartett*.

**The Atonal Principle of Melody**

Eimert’s rules for the composition of atonal melodies discuss both single melodies and
polyphonic melodies. Of course the most basic rule of atonal melody is that it contains, in some way, all twelve tones. Eimert allows for the repetition of pitches at the octave and describes such repetitions as shadings of the tone and not true repetitions. Example 4.5 demonstrates such octave leaps as they appear in the second movement of the quartet.

Example 4.5 Octave leaps from Movement II

![Example 4.5 Octave leaps from Movement II](image)

In Example 4.6, taken from Movement III, the pitch leaps the octave but acts as a link between the two complexes. One could read both octaves as belonging to both complexes just as easily as one could read the lower pitch as part of the first complex and the octave leap as part of the second. Overlapping complexes will be discussed in greater detail in a later section of this chapter.

Example 4.6 Pitches an octave apart that link two twelve-tone complexes in Violin I

![Example 4.6 Pitches an octave apart that link two twelve-tone complexes in Violin I](image)
Eimert also takes no issue with a single pitch holding while others from the complex sound above it. He not only writes this into his quartet (see Example 4.7), but also includes examples of the various mathematical combinations of tones within the complex (see Example 4.8). In Example 4.7, the Violin II and Cello are playing sustained pitches from the complex while the Violin I and Viola complete the complex. There are several repeated notes in this section.

Example 4.8 is a musical example from *Atonale Musiklehre* where Eimert shows the possible ways in which two voices could play all the notes of a complex with varying rhythmic proportions. Eimert cautions that one should exercise caution in prolonging pitches because it could create a false atonality where one pitch begins to be more important than the others.

Example 4.7 Sustained pitches in Movement V

Example 4.8 *Atonale Musiklehre* Example 18a with sustained pitches
Example 4.9 shows the opening of the first movement of the string quartet, which uses only violins and the cello in a homophonic setting. Each voice is stating its own complex. The intervals between the voices are indicated in the example. Eimert does not avoid consonance although the overall effect is still rather dissonant. The phrase markings are different between the voices; this creates a slight independence despite the lack of polyrhythm.

Example 4.9 Intervals between voices in Movement I

In Example 4.10, the closing portion of the first section of the first movement is shown. This example is of particular interest because all of the voices come together on a single Eb and are followed by a quarter rest of silence. Furthermore, all the voices create the twelve-tone complex polyphonically rather than linearly, as indicated by the box. The complex is indicated on the example with a box. The two circled notes are repeated pitches. Although the homophonic texture is similar to the opening of the piece, the vertical sonorities as well as the fact that the pitches come together on a unison Eb make the effect different. The complex is also incomplete: it is missing the pitch C. Consequently, the final unison of the piece is on a C (shown in Example 4.11).
Eimert’s other rules for polyphonic atonal composition are closely related to the dyads rule.

First, he states that the listener should never perceive harmony but only independent voices. Of course, the feasibility of this statement should be questioned as a listener will perceive vertical
sonorities even with the most independent of voices. Secondly, he asserts that polyrhythm is required to achieve this independence. Here, one should not assume that Eimert believes that polyphony is the only possible means for creating atonal vertical sonorities—he is merely focusing his writing on melodic principles at this point. He allows for vertical sonorities and even refers to them as “atonal harmony.” Both polyphony and non-linear vertical sonorities are present in his string quartet. He is stating here that if there is atonal polyphony, the voices must be independent, employ polyrhythm, and avoid general rules of consonance and dissonance between voices in favor of beautiful, independent, atonal lines.

Although the beginning of Movement I (shown in Example 4.9) is homophonic in texture, it clearly abides by his guidelines stated in *Atonale Musiklehre*. According to Eimert, it is not consonance that needs to be avoided, but rather the laws that govern consonance in a tonal logic. The first two pitches in both the Violin II and the Cello parts create consecutive minor 7ths, consecutive major 2nds occur between all three voices. Dissonance is never prepared or treated as if it should be handled in a particular manner. Consonance between the voices is not favored over dissonance. The vertical sonorities in this example will be discussed in greater detail later in this chapter.

The Atonal Principle of Harmony

As one may expect, Eimert’s first principle for atonal harmony is “twelve-toneness.” The twelve-tone complexes can be the result of polyphonic voices creating vertical structures, as was shown and discussed in Example 4.10. It can also appear in a melody and accompaniment style—a technique which he demonstrates in the piano sonata he writes in *Atonale Musiklehre*
(Example 2.39) and which is used occasionally in the string quartet. While polyphony is the primary technique employed by Eimert in the string quartet, Movement I demonstrates a complex shared between voices in both a melodic and harmonic context (see Example 4.12).

Example 4.12 Movement I example of polyphonic voices

The first complex in the example begins in the Viola and moves to the Violin II by way of an octave leap and shown in Example 4.12 with the oval. The Violin II continues and presents a complete complex above the Viola and Cello who share a complex in the ratio of 10:2, where the Viola plays ten pitches against two sustained pitches in the cello, using Eimert’s terminology (Example 4.8). As the Cello completes the line, the first and second violins enter with a shared complex in the ratio of 8:4. This presentation is even more complex because the Viola enters below the upper voices, presenting a complex of its own that is only complete if the Gb and G from the Violin II are considered a part of the complex below. This example demonstrates many of the techniques that Eimert addresses in *Atonale Musiklehre*. The passage clearly contains all twelve tones and with minimal repetitions but is constructed with independent polyphonic voices as the driving force.

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133 This refers to the ratios for the voices in polyphonic textures found in Ch. 2 of *Atonale Musiklehre*
Although the majority of the writing is clearly polyphonic, there are several sections where all four parts play a similar line at a particular interval from one another. Example 4.13 shows the first system from the opening of Movement II. Here the voices each have their own line, with the exception of the bass, but the first and second violin are each playing the exact same melody at the distance of a perfect fourth from one another. The Viola begins on the same pitch as the other voices but on the second beat sounds a sixth below Violin II and a ninth below Violin I, and then plays an inverted leap on beat 3. The cello begins and ends with the same pattern from the violins but quickly deviates in the middle sixteenth notes. Only the first violin part is complete. This is the direct result of the other two voices being a transposition of the upper voice. All the voices begin on a unison Ab. This Ab is the only pitch missing from the subsequent 11 sixteenth notes that make up the remainder of the complex. In the other voices, the Ab is repeated and therefore, because they are basically a transposition, they are each missing one pitch from the complex (an Eb in the Violin II and an F# in the Cello).

Example 4.13 Beginning of Movement II
This example is a perfect demonstration of Eimert’s notion that having all twelve tones present in a melodic context can actually create a non-twelve-tone harmony. Here, the voices create a support to the Violin I wherein one pitch is repeated while others are left out, for the purpose of creating a twelve-tone line. He also asserts that the reverse is true: a twelve-tone harmony can create a situation where twelve-tone melody is not possible. Because of the polyphonic nature of the string quartet, there are no examples of this in the work.

The Relationship between Melodic and Harmonic Principles in Free Composition

Eimert’s concluding chapter of Part I incorporates both his harmonic and melodic principles into a method for composing atonal music. As in previous chapters, he continues to formulate broad principles rather than specific rules but he always includes examples that demonstrate the idea. Of the thirteen principles that are explained in this chapter, the one that bears the most significance for a discussion of Fünf Stücke für Streichquartett is the principle of “Interlocking.”

“Interlocking” refers to the idea that two complexes can share a pitch or pitches, overlapping where one ends and the other begins. Not only is this idea well ahead of its time, but Eimert demonstrates it in several different contexts in his string quartet. In Example 4.14, the most basic type of interlocking occurs. Taken from the Viola part of Movement IV, this example shows the first complex being completed by an Eb and the second system beginning on the same pitch. The brackets show the beginning and end of each complex and interlock around the Eb to show that both complexes share that pitch. This same procedure is repeated
again in Movement IV when the opening motive returns. Here a chain of interlocking pitches occurs in all of the voices, as shown in Example 4.15.

Example 4.14 Interlocking Complexes

Example 4.15 Chain of Interlocking Complexes

Another type of interlocking is found in Movement IV and is shown in Example 4.16.

Here a more complicated technique is used where the four middle pitches of the accompaniment voices (Viola and Cello) are shared between the two complexes. The melody is also a complex, but one with several repeated pitches. Not only do the four accompaniment pitches interlock, but the final pitch of the Viola line (C) is also interlocked with the next passage.
Throughout the string quartet there are many examples of interlocking complexes. It is a technique that Eimert employs often, both melodically and harmonically as shown in the previous examples. There are many more examples that could be drawn from the string quartet but these serve the purpose of showing this technique, which is often considered to be more in the practice of serial composers from the 1930’s and later, as an important constructive part of this 1925 string quartet.

The Problem of Form

Throughout *Atonale Musiklehre*, Eimert refers repeatedly to the problem of discussing form in the context of a text on atonality. Although he is reticent, on the one hand, to make remarks about how a composer should face the problem, he also writes the beginning of an atonal fugue and piano sonata as examples for his text. He addresses the concern that such forms have obvious tonal restraints such as the expectation of modulation or the periodicity of
phrase structure, but he also seems to believe it possible to move beyond such notions and continue to evolve the forms to meet the practice of Atonality.\(^\text{134}\)

His work *Fünf Stücke für Streichquartett* both avoids and addresses the problem of form. In terms of the large-scale form of the piece, Eimert cleverly sidesteps the problem by writing five “pieces” instead of something that could be construed as a sonata. At the same time, there is a continuity to the five pieces that suggests they are intended to be a consistent cycle, as one would play a multi-movement work, and not to be considered separate from one another. The greatest commonality between the pieces is a polyphonic approach. Examples of this style abound throughout the work. The polyphonic lines are long and flowing, particularly in the first, fourth and fifth movements. Phrases and sections often close on unisons and octaves in all voices. Movement I alternates between homophonic and polyphonic sections and Movement III begins with imitative entrances at the fifth, and Movement I has an imitation at the octave in an internal section. Even the lack of barlines creates an effect similar to that of the music of the Renaissance where consistency of beat is more audible than regularity of meter.

While commonalities exist between the movements, each one has unique methods for delineating between sections of the piece. Most of the movements do not provide a clear presentation of a simple form, such as binary or ternary. Beginning with Movement I, discerning the exact form of the piece is complicated by different types of sectional dividers that contradict one another. First, there are four different locations in this movement where all of the voices reach a unison note that is either sustained or followed by a rest. Each of these unisons creates a point of repose in the music that divides what preceded from what follows.

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Each of the unisons is shown in Example 4.17. At first glance, these unison stopping points appear to be the most obvious dividers between the sections; however, they are not equally spread out and the final two unisons are part of the same concluding phrase.

**Example 4.17 Unison stopping points in Movement I**
A repeat of the opening material of the string quartet enters on the second system of the second page of Movement I. One of the most fundamental principles of form is that repeated music indicates a new section of the piece. This repeat, however, only confounds the problem. It is located between the first and second unison stopping points and it is in the middle of a passage defined by soloistic cadenzas first in the cello and then in the first violin. Texturally, the piece could easily fit into a binary form where the A section ends at the first unison Eb on the third system of the first page and the B section begins with the imitative entrances that follow the unison. The only clear thing about the form of the first movement is Eimert’s avoidance of clarity.

Movement II is through-composed but is constructed around a single twelve-tone complex that is presented in the Cello and controls the repetitious passages of the other voices. Example 4.18 shows the first system of this movement which serves as an example of how the piece is structured as a whole. The Cello part plays only the twelve notes of one complex in the whole movement. Each note sounds in staccato sixteenth notes followed by three beats of rest.
The other voices join the Cello in octaves for each pitch of the complex. In between the Cello’s pitches, the upper three voices present a complex of their own in continuous sixteenth notes. The Violin I part is the only one that typically presents a complete complex. The other voices, which play in transposition to the first violin part, typically repeat the Cello’s note at some point, thereby leaving out a note of the complex. Because all of the notes are present between all of the voices, Eimert would consider his idea of “twelve-toneness” to be intact, despite repeated pitches.

Example 4.18 Movement II Structure

The only exception to this very meticulous structure comes at the end of the piece where the distance between the final two notes of the Cello’s complex is two beats instead of three. Above the two beats of rest in the Cello part, the other three voices sound a final complex, although the pitch Eb is missing from the collection. It is nonetheless repeated in the previous section. The movement ends with an additional set of sixteenth notes on B natural i.e. the final note of the Cello complex.

Movement III is written in the style of a fugue. Although it is much more rhythmically complex than the fugue in Atonale Musiklehre, it begins with imitations on the same pitches (A
and E) as the fugue example from Eimert’s text (see Example 2.39). In this movement, the subject is introduced in the first violin and is answered at the fifth in the second violin. The subject is then stated at a fifth from the Violin II in the Viola and answered, again at the fifth, in the Cello. This same pattern is repeated twice more, however, after the first entry, all of the voices continue with counterpoint and the subject is never again heard on its own.

As previously stated, the first subject entry begins on E and the answer begins on A, followed by a subject on D in the viola and an answer on G in the cello. At the second statement the first violin begins on C, the second answers on F, the viola then enters on Bb and is answered by an Eb entry in the cello. The final set of entries begins, again in the first violin, with a G# answered by C# and then an F# answered by B. These entry pitches form their own twelve-tone complex. Despite the conventional use of imitation at the fifth, Eimert’s statement of the theme on all pitches of the complex completes the “twelve-toneness” of this fugue. Example 4.19 shows the first four entries of the theme.

Example 4.19 Subject Entries at the beginning of Movement III
The fourth movement is the longest and most formally complex of the five pieces. It is in ternary form and each A section has a written out repeat, although the final repeat of A is truncated. The movement begins with a unison, stepwise presentation of three interlocking complexes. After the unison passage, the lower voices play an accompaniment part while the upper voices play a short theme, characterized by repeated F#s, which returns several times later in the work. An exact repeat of this opening material then begins and closes out the first A section on the fourth system of page seven.

Even the formal sections of Movement IV interlock at the close of the A and opening of the B sections of the piece. On the third system of page seven, the repeated F# theme is passed from the second violin to the first violin. As the line moves into the upper voice, the viola begins to play in counterpoint with the upper voice instead of playing accompaniment figures as on the third and fourth systems of page six. The counterpoint is made up of the scalar pattern that opened the quartet; however, by the time the first violin has completed the repeated F# theme, the second violin has entered with new melodic material that continues polyphonically with the viola. The B section of the piece begins very subtly with new melodic material and changed the texture of the piece to a polyphonic, rather than homophonic, texture before the A section finished. By the time the listener realizes they are in a new section of the piece, it has already begun and is spinning out new motives. Example 4.20 shows this overlap between the formal sections of the piece.
On the second system of page eight, the first violin introduces a new theme, which comprises a complete complex, and comes to define the B section of the piece as another fugue-like formal unit. The theme begins with a rising stepwise motion to a minor third and then soars upwards, ending nearly two octaves above where it began. The cello plays in counterpoint with the first violin during this entrance. The second violin enters with the same theme, now a half step lower than the first entrance. Rather than waiting until the first entrance is complete, the second entrance sounds two octaves below the final note of the theme. The cello enters with a third iteration of the theme, again a half step lower than the previous statement, and also beginning on the last note of the prior statement. The B section continues with counterpoint between the upper three voices, each one playing a descending stepwise motive, where each pitch is repeated. This motive is derived from some of the contrapuntal material that was presented during the fugue section.
Again, an interlocking complex occurs between the end of the B section and the return of the A section (Example 4.21). The repeated pitch descent motive in the upper voices continues on the first system of page nine while the cello enters below with the opening A theme now at a piano dynamic. For a passing moment, the listener is hearing both the conclusion of the B section material and the subtle return of the A theme in counterpoint with one another. Were the return to repeat the A material exactly, the upper voices would enter in unison, but instead they enter one at a time, and in thirds with the other voices. When the viola enters on the second system of page nine, it is at a minor third above the cello. The second violin enters on the third system, at first a major sixth above the viola, but then moving to a diminished seventh above in the middle of the system. While the lower voices become increasingly dissonant, the first violin enters two systems early with the closing portion of the repeated $F\#$ theme.

Example 4.21 Overlapping B and A sections in Movement IV
The unison figure from the original A section finally surfaces on the fourth system of page nine and continues through an exact restatement of the repeated F# theme. By the third system of page ten, the final page of this movement, the return of A has been restored. All of the voices enter with the ascending scalar motive, again in unison. Rather than continuing on to another sounding of the repeated F# motive, they all move to a unison B natural, first in Violin I and Cello and then in the inner voices. This unison pitch, a half step below the opening unison, ends the movement.

The final movement is one of the most clear in terms of form. Like Movement IV, it is in ternary form. Sectional divisions, however, are clearly defined and do not overlap with one another. The B section of the piece, which begins on the first system of page 12, maintains some motivic continuity with the A section. Example 4.22 shows the opening of both sections. One can clearly see that the A theme is transposed a half step in the first violin part in the opening of the B section. The textures are completely different, however, as is the exactitude of the twelve-tone complexes. In the cello, in Example 4.22, repeated tones are prevalent. The tonal aspects of this motive will be discussed in greater detail later in this chapter; however, it is worth noting that the cello part with the opening motive served the function of completing the complex, while in this new B section, none of the voices present a complete complex, neither separately nor together. The return of A comes on the first system of page 13 and is an exact repeat of the opening section, with a short homophonic codetta which ends on an Ab minor chord.
Polyphonic texture dominates the movement and complexes are presented mostly in single voices. The greatest exception to this is at the beginning (and the repeat of the beginning as well) where the second violin and the cello share the complex. Each ending of the piece as well as the entirety of the B section are less precise about presenting the complexes, instead maintaining motivic unity over exactness of the twelve-tone material. This is not to say that the
“twelve-toneness” is not maintained, rather that Eimert is less precise here than in most of the rest of the quartet. It is impossible to know if there is a reason for the lack of precision here and there is nothing in the music to indicate the necessity for less exactness in the presentation of the complexes. Perhaps, it is simply explained by Eimert’s notion that the composer need not be so forceful in using the twelve-tone complexes, that the art is lost. Music happens in time and not all twelve tones will be sounding at every moment in a given piece. The composer has license to compose, while maintaining the “spirit of Atonality.”

Eimert’s *Fünf Stücke für Streichquartett* and Serialism

It is not difficult to see the relationship between Eimert’s text *Atonale Musiklehre* and his composition *Fünf Stücke für Streichquartett*. Many of the principles and techniques found in the text are clearly present in his compositional practice. Twelve-tone complexes make up the material for the vast majority of the work and also provide formative structure. This is particularly seen in Movement II where the complex in the cello is the structural force of the piece and in Movement III where the fugue entrances present a complex of their own. Both harmony and melody in *Fünf Stücke für Streichquartett* are infused with “twelve-toneness.” The inconsistencies of Eimert’s musical examples in *Atonale Musiklehre* are equally present in this piece.

What bears further investigation is the relationship that Eimert’s string quartet bears to the larger discourse on principles of atonality and serialism in the 1920s. This piece fills a gap between the freely atonal writing of the previous decade and the more strictly serial writing of the mid to late 1920’s in Vienna. There is an underlying principle of order to Eimert’s string
quartet but without the constraints of true serialism because there is no series, only a complex. In this sense, Eimert’s music is not serial but is also not entirely tonal either.

While there are themes in the piece that are constructed from complete twelve-tone complexes, they do not function as rows would for several reasons. First, rows maintain a sense of order, even in harmonic structures and Eimert’s string quartet does not use ordered pitches in a harmonic context. Second, rows are typically transformed using more than simple transposition. Eimert’s themes are only transposed and often not exactly. Third, rows permeate the music and pitches that do not belong to the row are the rare exception. Eimert’s complexes are not consistently direct, complete, obvious statements. Their intervallic content bears no relationship to the content of other complexes in the piece, most of the time. It is easy to see that Eimert’s string quartet is not serial.

Although Eimert does carefully avoid cadence-like structures, suspensions and certainly periodicity, there are other aspects of tonal music that are still present in his string quartet. He does not include them in Atonale Musiklehre as being contradictory to atonality. Two remnants of tonality, in particular, are seen repeatedly in the string quartet and will be discussed here. The first is Eimert’s propensity for ending phrases and movements on consonances, often perfect consonances, even unisons. The second is the tertian constructions that occur throughout the piece.

Consonance plays an important role in defining formal units in Eimert’s Fünf Stücke für Streichquartett. Movement I is marked by four different occasions where all the voices come to unison, the first of which is of particular importance to the structure of the piece. The pitches of the unison moments are Eb, G, Eb, and C which are also consonant when considered together.
Example 4.17 shows each of these unison moments, as they were previously discussed as important parts of the form of Movement I. Unison repeated sixteenth notes create the entire structure for Movement II. While Movement III does not end on a unison, it does finish on an open fifth between G and D. What is perhaps more interesting about the open fifth is that it is reached using the cadence pattern of the Phrygian mode, although masked slightly by the respelling of Ab as G#. This is shown in Example 4.23.

Example 4.23 Phrygian cadence pattern in Movement III

Movement IV begins and ends with all voices in unison but also contains several internal consonances at structurally significant moments. The first is found on the bottom system of page six, immediately preceding the repeat of the opening stepwise theme (Example 4.24). Here the upper three voices end this section of the piece on an inverted F# minor triad. Later in the piece, when the A section returns, the cello and viola bring back the opening theme but now play it in thirds with one another. Finally, when the movement ends, not only are all the
voices on a unison B natural but it is reached using the same Phrygian cadence that occurred on G at the end of the third movement (Example 4.25).

Example 4.24 F# minor triad

Example 4.25 Phrygian cadence pattern in Movement IV

The final movement also contains consonances at structurally important moments in the work. The closing sonority of the first section, found on the third system of page 11, is an inverted G minor chord, with D in the cello. This chord continues to sound in the cello part as the B section begins, but this will be discussed in greater detail in the later section on tertian harmonies. The
opening notes of the B section outline a B half diminished chord while the final sonority of the section is an ambiguous C sonority, where both the major and minor third sound in the cello part against open fifths in the upper voices. Both of these consonances are seen in Example 4.26. Perhaps the most striking structural consonance of the whole work is the final sonority which is a root position Ab minor triad. The final section of the piece is shown in Example 4.27.

Example 4.26 Half diminished chord outlined

Example 4.27 C major/minor triad
Consonance and dissonance are both discussed in *Atonale Musiklehre*. Eimert neither condemns nor condones the use of consonance. He states, “the spiritual law of tonality is called dissonance and consonance, striving and release; the spirituality of atonal music is beyond consonance and dissonance (without ignoring their effect or even avoiding their use) leaves the twelve tones unmixed by means of mechanical rotation that is the absolute purity of the tones and their connections.” ¹³⁵ From this it can be discerned that Eimert believes that consonance and dissonance can exist in atonal music, so long as the music is thoroughly twelve-tone. He later cautions against creating music that uses all twelve tones to evoke tonal structures, but he certainly does not forbid the use of consonance and dissonance as a principle. Within Eimert’s concept of atonality, they are permissible.

In fact, Eimert in no way forbids the use of triads or traditional tertian harmonies anywhere in *Atonale Musiklehre*. It is evident in *Fünf Stücke für Streichquartett* that Eimert does not see the use of triads as being contradictory to atonality. There are passing triads scattered throughout the polyphonic passages of the entire string quartet but to point each one out would be pedantic and not particularly useful. The most consistent, blatant, and interesting use of triads is found in the final movement of the piece, which, as was mentioned before, also contains the largest passage of music in the quartet that does not systematically present complete complexes.

As previously stated, the A section of Movement V ends on a G minor triad. This triad is immediately arpeggiated in the cello part, which repeats every pitch of the triad in its ascent. After one beat of rest, the cello outlines most of an Ab major triad—although the third is

replaced with a Db in this case. The cello arpeggios are all included in Example 4.27. As the cello completes these arpeggios, the first violin takes over, first with a D major triad which is followed by an Eb major triad. This is shown in Example 4.28. For the next two systems the arpeggios disappear but on the top system of page 13, the piece reaches its climax on a Db Major chord, which sounds at fortissimo in all voices. The only voice not sounding a member of the triad is the viola which plays a double-stop A natural, a striking dissonance with the other voices (Example 4.29).

Example 4.28 Violin I triad arpeggiations
Example 4.29 Db major arpeggiation

Having spent several pages pointing out consonances and triads in Eimert’s string quartet, it seems important to note that these occurrences do not diminish the twelve-tone undercurrent that informs the structure of the whole piece. They actually serve to affirm Eimert’s notion that atonality moves beyond a reliance on consonance and dissonance. While both are present in the string quartet, Eimert does not follow the tonal practice of preparing or resolving dissonance. For Eimert, atonality is not entirely dissonant music, rather the twelve tones are stated freely without requirements for how they relate to one another.

The same is true for the triad structures from Movement V. Tertian structures, like other consonances, are not forbidden by Eimert. Writing them in such a way so that they place emphasis on one pitch above another, however, is contradictory to the atonal spirit. Although he includes arpeggiation in the B section of the movement, none of them function tonally in relation to the other voices. Both the cello and first violin arpeggiation are immediately

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transposed a half step within a beat or two. This type of transposition, as well as the non-tonal material in the other voices negates the tonal effect of the arpeggiations.

Concluding Remarks

Herbert Eimert’s *Fünf Stücke für Streichquartett* is among the first pieces of published music to be composed according to the principle that all twelve tones independent tones must be present in order for atonality to exist. The sense of twelve-toneness permeates the work from the smallest level of single vertical structures and motives to the large-scale formal units of organization that define the piece. Many of the techniques employed in the string quartet do not become a part of the compositional practice of other atonalists and serialists until two or more decades later. Examples of such innovations include the meterless and measureless score and especially the use of interlocking complexes.

Due to the string quartet’s close proximity in publication dates with Eimert’s text *Atonale Musiklehre* and the fact that *Fünf Stücke für Streichquartett* is recognizable immediately as a non-tonal composition, a comparison of the two is appropriate. As has been discussed in this chapter, the similarities between Eimert’s method and his actual practice of composition are many. He remains very true to his own principles of atonality in *Fünf Stücke für Streichquartett*, while also exceeding the artistry of his text’s musical examples by tenfold. An analysis of this work is not only a complement to *Atonale Musiklehre*, but also provides insight into the development of atonality and twelve-tone composition in the 1920s.
Jefim Golyscheff’s String Trio is comprised of five movements and was composed in 1914, according to Eimert. Each movement is titled according to a tempo marking or a dynamic as follows: I. Mezzo-Forte, II. Fortissimo, III. Piano, IV. Pianissimo, and V. Adagio. Tempo markings are indicated for the first four movements, but the final movement does not indicate a dynamic. The “Trio” is set using Golyscheff’s own notation system with a brief introduction provided between the title page and the first movement. The musical example provided in this introduction is the exact same example that appears in Eimert’s Atonale Musiklehre. The title page of the work describes the contents as “Zwölftondauer-Musik” (“twelve-tone duration music”). On the score, boxed numbers show where each “twelve-tone duration complex” begins. A complete score of the Trio can be found in Appendix C.

Twelve-Tone Duration Complexes

These “twelve-tone duration complexes” apply to both the rhythms and the pitches of the piece. For each complex indicated in the score, the twelve pitches of the chromatic scale are sounded without repetition, with only one or two minor exceptions. Example 5.1 shows the first twelve-tone duration complex from the first movement of the “Trio.” All the pitches of the chromatic scale are present and each pitch has its own unique rhythm. Example 5.2 shows which rhythm is assigned to each pitch. Repetitions of pitches inside one complex are mostly indicated on the score with dotted lines and typically occur on subsequent beats where the
pitch is restated in another voice. There are only two occurrences in the entire “Trio” of repeated pitches with another note sounding between them.

Example 5.1 The Twelve-Tone Complex

Example 5.2 The Duration Complex

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Both atypical pitch repetitions occur in the fourth movement of the piece. The first, shown in Example 5.3, is almost inconsequential as the interfering tone is a grace note and therefore rhythmically and aurally less significant. This is the only time that the pitch B sounds in this complex, however, and therefore it must be considered as important to this complex. Just a few measures later, the second unusual repetition occurs. This is shown in Example 5.4.
Several pitches are repeated in this example before the entire complex sounds. Transfers to other voices are shown on the score with lines, while repeated pitches are circled. This is the only example in the entire Trio of this freer use of the twelve-tone collection. Stylistically, it is more similar to Eimert’s use of the twelve-tone complex in his string quartet of 1925. Following this statement of the complex, a new section of the music begins that is marked by a change from the melody and accompaniment style of the first half of the piece to a chorale style ending that is monorhythmic between all of the voices.

Example 5.3 Repeated pitch from Complex 9 of Movement IV

Example 5.4 Repeated pitches in Complex 12 of Movement IV

Aside from these two examples, the Trio never departs from the strict statement of all twelve pitches of the chromatic scale without repetition. These “complexes” as both Golyscheff
and Eimert call them are presented both melodically and harmonically in the Trio. Although the music is not serial, in the sense that the pitches are not all in an ordered row, Golyscheff comes closer to approaching ordered rows than Eimert does in his composition. In the second movement a group of tetrachords moves between the three instruments and each tetrachord is played in retrograde. Example 5.5 shows each tetrachord and its retrograde form. Example 5.6 shows the full score with each tetrachord labeled. Although the rotation through the tetrachords is the larger structural force in this passage, Golyscheff clearly considers the order of the pitches because he presents them in the same order in reverse thereby approaching the serial notion of the ordered row.

Example 5.5 Retrograde Tetrachords

Example 5.6 Tetrachords in Context
Golyscheff’s Durations: Rhythm in the String Trio

Pitch content is not the only thing that Golyscheff refers to when he describes his music as “Twelve-Tone Duration Music.” He is also referring to rhythm as indicated in Example 5.1. His use of rhythm in this way is not nearly as strict as his rotation through the twelve pitches of the chromatic scale. The assignment of one pitch to one rhythm as is seen in measure 1 only occurs in the first and last movements of the piece and only in one presentation of the twelve pitches each time. The durations presented in the first measure of the first movement however, do form the basis for the rhythmic constructions used throughout the pieces. As seen in Example 5.1, the opening of the “Trio” shows a proclivity for 3:1 rhythmic relationships whether the result of dots or ties. The music does not set up a clear beat pattern and although the music is in 3/4 it is indicated with only a 3 at the beginning of the score. Each movement contains a single number at the beginning indicating how many quarter notes are in the measure.

As movement one continues, the number of rhythmic values decreases but the rhythmic motives of the first measure remain. Example 5.7 shows the first two complexes of the first movement. The first complex, as already mentioned has twelve rhythmic values. The second complex, however, has only eight values. The chart shown in Example 5.8 is comparable to the chart in Example 5.2. In Example 5.8, the pitches D#/D, A#/C, F#/C# and A/E all share the same rhythmic value as pairs. The chart shows the rhythmic pairs in ascending chromatic order at the top and the remaining single rhythmic values below. The dotted and tied figures of the first complex remain, but there are fewer values and more rhythmic continuity between the voices.
Example 5.7 Duration Complexes

Example 5.8 Chart of the Duration Complex 2

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In the fifth movement, there are three occurrences of a complex paired with twelve unique rhythms. Examples 5.9 shows the first four measures of the movement which includes the first two complexes. Example 5.10 is a chart of the rhythm and pitch relationships for each complex that proceeds from the longest value to the shortest. The longest rhythmic value and the three shortest rhythms are identical between these two complexes. As in movement one, there are many dotted and tied values and the beat is obscured. Although the rhythms
between the first and second complex are not exactly the same they share the same emphasis on dotted and tied values as the complexes in the first movement. The final movement ends as it began with a complex that has a rhythmic value assigned to each pitch. Complexes 18 and 19 from Movement V are shown in Examples 5.11. Example 5.12 is a chart of the rhythms assigned to the pitches in each complex.

Example 5.9 Complex 1 and 2 from Movement V

Example 5.10 Chart of the Duration Complexes in Complex 1 and 2 of Movement V

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Example 5.11 Complex 18 from Movement V

Example 5.12 Chart of Duration Complex in Complex 18 from Movement V
Most of the examples of “Duration Complexes” in the Trio occur in the same manner as the examples provided above. In each of these examples the rhythms are similar to one another but the exact pattern does not continue to the next complex. In the opening of the third movement, however, the rhythmic value assigned to each pitch rotates up one half-step in the next complex.¹³⁷ These opening measures are shown in Example 5.13 and the chart that shows the rhythms assigned to each pitch for both complexes is in Example 5.14. This rotation only occurs in this one portion of the Trio and does not appear again.

It is significant that rotation of this kind occurs in Golyscheff’s work at this early date, even if one is only taking the 1925 publication date into consideration. Composers of the 1950’s including Pierre Boulez and Olivier Messiaen, among other, began to experiment with serial rotation of rhythmic values, often referred to as a “rhythmic series.” Total serialism, which includes both rhythmic and pitch series is most often considered to originate with Webern and Messiaen.¹³⁸ Golyscheff’s duration complex, which is paired here with the most simple twelve-tone “row” (the chromatic scale), is the earliest example of this common 1950’s serial technique. Although one can only speculate as to these composers awareness of Golyscheff’s Trio, Webern, Messiaen, Boulez, Stockhausen and Eimert were colleagues as a result of Eimert’s

involvement with WDR and the Darmstadt school. It is not outside the realm of possibility that Eimert mentioned Golyscheff’s compositions to these composers.

Example 5.13 Complex 1 and 2 of Movement III

Example 5.14 Rotated Duration Complexes in Movement III

<table>
<thead>
<tr>
<th>Pitch in Complex 1</th>
<th>Rhythmic Value</th>
<th>Pitch in Complex 2</th>
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In the first movement of the “Trio,” a rhythmic pattern appears that first decreases each rhythm by a fixed value and then returns to larger values in an additive process. This coincides with the statement of the third, fourth, and fifth complexes. Example 5.15 shows these three complexes. It is the first time in the “Trio” that all of the voices have come together on one rhythmic value. The first value, a dotted half note, is decreased by one eighth note to a half note tied to an eighth note. This pattern of decreasing by a value of one eighth note continues until the fourth complex begins when the decrease is reduced to a sixteenth note. At this point the pattern breaks as the dotted eighth note is followed by a longer rhythmic value, that of a 16th note tied to a double dotted eighth. Beginning with the fifth complex, the pattern reverses itself but at a faster rate and in a less consistent order than the decreasing pattern. The first two pitches of complex 5 are a 32nd note, followed by a 16th note in the Violin. The 16th note is paired with a dotted eighth, although an eighth sounds on the following beat in the cello. The

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<tr>
<td>G#</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>A</td>
<td></td>
<td>A#</td>
</tr>
<tr>
<td>A#</td>
<td></td>
<td>B</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>C</td>
</tr>
</tbody>
</table>

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increased rhythmic values do not appear in order as they previously did; however, a quarter note, dotted quarter, half note, half note tied to an eighth, and a dotted half are all present in the fifth complex, with the longer values sounding at the end of the complex. This is the only rhythmic pattern of its kind in the “Trio.”

Example 5.15 Complexes 3 through 5 from Movement I

Rhythmic shift of a simple pattern with only four rhythmic values occurs in Movement III. Example 5.16 shows Complex 13 from this movement where the rhythmic shift occurs. The first time the pattern appears it contains an eighth note pick-up. This movement has two beats per measure but the pattern has two and a half beats. As a result, each time the pattern appears, it is shifted in position by one eighth note value. The pattern is played five times so
that the last time it sounds the rhythms have all shifted back to their original metric positions.

Each of these examples shows Golyscheff’s experimental approach to rhythm in the “Trio.”

Example 5.16 Shifting Rhythmic Pattern from Movement III

Although Golyscheff’s use of pitch materials follows strict guidelines, the rhythmic aspect of the “Twelve-Tone Duration complexes” is much freer and is often experimental in nature. As mentioned previously, Golyscheff avoids establishing a consistent beat pattern through repeated use of tied and dotted note values. Rhythms that would be uncommon or rare in most music, such as a triple dotted quarter note, are so common in the “Trio” that they are the foundation for rhythmic unity. The dotted eighth/16th note pairing and the dotted 16th/32nd note pairings which are established in the first movement are a consistent presence in the entire work. Grace notes are introduced towards the end of the first movement and become an important rhythmic motive in following movements, particularly in the “Fortissimo” (Movement II) where there are grace notes in nearly every measure. Both the rhythmic materials and the consistent rotation through the twelve tones provide a unity both internal to each movement and to the piece as a whole.
Unifying Sonorities: Melodic and Vertical Patterns

Golyscheff’s unique approach to rhythm is central to the larger structure of the “Trio,” however, there are also vertical sonorities and melodic figures that provide consistency in the pitch material between each movement. This consistency goes beyond Golyscheff’s twelve-tone complexes to smaller collections within the whole. In particular, three patterns emerge throughout the piece: the whole tone collection, half step clusters with one outlying pitch, and chromatic expansions and contractions from one central pitch.

Whole tone sonorities appear predominantly as verticalities in the “Trio” and are rarely complete statements of either whole tone collection. Complex 3, shown in Example 5.17, alternates between the even whole tone collection {0, 2,4,6,8,10} (where C=0) and the odd collection {1,3,5,7,9,11}. As the example shows, the pattern begins with the odd collection on the pitches F and B and then alternates on each subsequent rhythmic value with the even collection. Later in the same movement, when Complex 9 is stated, a similar alternation occurs, but this time with collections that are nearly complete. This is shown in Example 5.18. Again, the odd collection sounds first, followed by the even collection. Movement III ends with this same structure, a vertical odd whole tone collection followed by the even collection as is shown in Example 5.19.
Example 5.17 Complex 3 from Movement I

Example 5.18 Complex 9 from Movement I

Example 5.19 Complex 26 from Movement III
Whole tone collections are present in each of the movements; however, as the “Trio” continues they are often presented with one pitch that is not from the collection. This first occurs in the second movement with the statement of third complex, shown in Example 5.20. The grace notes present five pitches from the odd whole tone collection—only C# and F are missing. On the first true beat of the measure, half of the even collection sounds, however both C# and F are present in what follows so that the even collection is muddied with missing notes from the odd collection. Similarly, when Complex 6 is presented a few measures later, the first 16th note sounds four pitches of the even collection, but on the dotted eighth that follows, there are two pitches from both whole tone collections, D and A# from the even collection and F and G from the odd collection. The following measure presents the remaining pitches of the odd collection. This is shown in Example 5.21. Most of whole tone verticalities in the “Trio” occur with one or two misplaced pitches, as in the examples shown below.

Example 5.20 Complex 3 from Movement II
Example 5.21 Complex 6 from Movement II

Just as the whole tone collections often have one pitch from outside the collection there are also melodic chromatic clusters that have one outlying pitch. An example of this phenomenon occurs in Complex 8 of the first movement. Example 5.22 extracts the Viola melody and displays the ordinals below each note. It is not difficult to see that this melody contains pitches that are chromatic—put in ascending order the pitches are D, D#, E, F, F#, G, A#. Although the D leaps to another register, it could be left out of the collection and the A# would still be an outlying pitch next to the other notes that are all a half step apart from one another.

Example 5.22 Viola from Complex 8 in Movement I

Complex 4 in Movement II is also constructed using melodic chromatic clusters with one outlying pitch. This is shown in Example 5.23. Here each voice has its own cluster figure. In the Violin, the F is the outlying pitch, with C, C#, D and D# forming the cluster. The interval distance
between the cluster and the outlying pitch is only a whole step here. That distance increases in the other voices. In the Viola, the E is the outlying pitch and it is a minor third away from the cluster of G, G#, A. The Cello has the largest distance with the outlying F#, a perfect fifth away from the cluster of B and A#. In best normal order, however, the distance is actually a major 3rd.

Example 5.23 Complex 4 from Movement II

In Complex 4 of the Adagio (Movement V), this sonority occurs with one outlying pitch that stands between two chromatic clusters. This Violin melody, which is doubled by the Viola is shown in Example 5.24. Beginning on an A4 the melody descends to a B3 sounding eight of the twelve chromatic pitches. The first five pitches of the melody, form a chromatic cluster descending from A with the lowest sounding note of the cluster as F, although they are not played as a descending chromatic scale. The D# 32nd note breaks the chromatic pattern and acts as an outlying pitch, but is immediately followed by C and B which complete the descent. Melodies such as this are found repeatedly in the “Trio” and provide a melodic unity.
The chromatic scale is an important constructive force in this music. Aside from the chromatic clusters, the Trio also features chromatic expansions and contractions where an ascending and descending chromatic line move outward from or inwards to a central pitch. One small-scale example of this occurs in the cello line of Complex 12 in Movement IV shown in Example 5.25. Beginning on the third eighth note grouping, the pitches move inwards from a minor 3rd to a unison B. A similar figure appears in the fourth complex of Movement III (shown in Example 5.26) where the Viola melody moves inward to a G, although F natural is missing from the ascent.

Chromatic expansions and contractions appear most often in Movement II. The Violin Melody from Complex 15 of this movement is shown in Example 5.27. Melodically, there are two voices in this melody: the descending upper voice and the ascending lower voice. After the first pitch, B, the two voices move two notes at a time towards the final F#. This same pattern is
reversed in the Violin melody from Complex 21 of this movement, shown in Example 5.28.

Similarly, two different voices are contained in the melody although in this example, the voices alternate one pitch at a time, instead of two. E is the central pitch and the expansion ends on a major 7th leap between A in the upper voice and A# in the lower voice. In both Examples 5.27 and 5.28, the chromatic contraction and expansion (respectively) present a complete twelve-tone complex.

Example 5.27 Violin Melody from Complex 15 of Movement II

Example 5.28 Violin Melody from Complex 21 of Movement II

Movement II begins with a large scale chromatic expansion shared between the Violin and Cello. This expansion also centers on E and is seen most clearly in the Violin part. Example 5.29 shows the first six measures of the second movement. The Violin part contains the exact same expansion that appears later in the movement and was discussed in Example 5.28. The Cello plays the same expansion but each segment of the pitches is reversed so as to alternate with the Violin part. While the Violin sounds descending intervals moving away from E, the intervals of the Cello ascend. Measure 5 of the Cello part does not maintain the intervallic distance, moving only a half step between the pitches rather than a major seventh leap as in measure 6 of the Violin part. Despite the fact that all twelve pitches are present in every
measure when combined with the Viola melody, Golyscheff labels the first six measures collectively as Complex 1. To Golyscheff, the expansion in the outer voices is more important to the larger structure than the exact statement of a single complex. Melodic and vertical unity in the “Trio” comes largely from Golyscheff’s consistent use of the twelve-tone complexes. Inside the complexes, however, whole tone verticalities, chromatic clusters with outlying pitches and chromatic expansions and contractions provide a deeper unity across the separate movements of the “Trio.”

Example 5.29 Complex 1 of Movement II
Golyscheff’s “Trio” and Herbert Eimert’s Fünf Stücke für Streichquartett

In *Atonale Musiklehre*, Eimert attributes the development of his compositional method to Golyscheff’s work. Both of their pieces were published in 1925, although Golyscheff’s was written earlier. Despite Eimert’s statement that he absorbed much of his method for composition from Golyscheff, the two works sound very distinct from one another. Most of the similarities between the two pieces relate to large-scale structure. Both works were written for a small string ensemble and both have five movements. In Golyscheff’s “Trio” the movements alternate between slow and fast tempos and Eimert’s follow the same pattern. Golyscheff uses a non-standard time signature and experiments with rhythm. Eimert’s work contains no notated meter and no barlines. Golyscheff’s second movement centers on a chromatic expansion that spans several statements of one complex. Eimert’s second movement is constructed on a single complex that is stated across the entire piece in unison 16th notes played by all parts that are interspersed with statements of the complex. Beyond these surface level comparisons, the deeper relationship between the two works is how they establish formal structure in the absence of tonal constructs such as cadence and phrase. Both composers use rests in all voices, changes of orchestral texture and exact repetitions of material to establish the formal structure of the piece.

These features have already been discussed in regards to the Eimert quartet so the focus of this discussion will be on the Golyscheff “Trio.” In Movement I there are two places where the music comes to a complete stop with rests in all voices separating one section of music from the next. These occur after Complex 5 and Complex 21. When the instruments re-

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139 As previously mentioned, the complete score for Eimert’s string quartet can be found in Appendix B and the score of the *Trio* is located in Appendix C.
enter after Complex 5, the texture changes from a denser orchestration to a single melody that is passed between the three instruments. Similarly, after Complex 21 the texture changes back to a denser orchestration that is more monorhythmic between the instruments. The rests and the changes of texture define the formal boundaries of Movement I into three sections.

Movement II is structured around exact repetitions of musical material. The opening of the movement features the chromatic expansion previously discussed. In measure 11 a new melody is introduced in the Violin and is accompanied by tremolos in the Viola and Cello. Measure 17 reintroduces the chromatic expansion exactly as it originally appeared. The Violin melody from measure 11 is then heard in the Viola at measure 23. New material appears in measure 27. This material contains the rhythmic motives discussed earlier but new pitch structures. At measure 35, the Violin melody reappears, this time played by the Cello. The section that begins in measure 39 compresses the expansion from six measures down to three measures and then reverses this procedure. This melody was shown in Example 26. New material follows that was originally shown in Example 6 and contains retrograde tetrachords. Following this section, the Violin melody returns again to its original instrument in measure 61. It is immediately followed in measure 65 by the chromatic expansion from the opening of the movement. Complex 11, a one-measure statement of a complex, then ends the movement. This movement is structured around exact repetitions of sections of the piece, much like the ascending scale pattern of Movement IV of Eimert’s String Quartet.

The form of Movement III is mostly governed by changes in texture and short motives that appear throughout the piece. It is unlike the other movements in that the form is not very distinct and is primarily written without any repetitions of large sections of material. Movement
IV is also controlled by changes in texture but unlike the third movement it has two clear sections. The first section features a rhythmically active melody that occurs primarily in the Violin and is accompanied sparsely by the other two instruments. The section ends after the twelfth complex with a rest in all voices. When Complex 13 begins the texture is entirely different and is monorhythmic between the voices, much like the closing section of the first movement. Like Movement III, Movement V is primarily held together by the repeated rhythmic motives of dotted notes.

Golyscheff’s “Trio” does contain one Interlocking Complex that Eimert could have used as a model for the many such complexes that appear in his quartet. The final two complexes of Movement V, and of the piece as a whole, share one pitch: a G that sounds in both the Violin and the Cello. These complexes are shown in Example 5.30. It could be argued that G in the Violin belongs solely to Complex 19 while the G in the Cello belongs only to Complex 18 but because they sound simultaneously, a strong case could be made that this demonstrates what Eimert would call an Interlocking Complex.

Example 5.30 Interlocking Complex from Movement V
Eimert’s Interlocking Complexes are a much more developed concept and are used in several different ways throughout his quartet as was demonstrated in Chapter Four. This is true of much of what Eimert absorbed from Golyscheff’s “Trio.” Eimert’s compositional method and technique are much less rigid than what Golyscheff demonstrates in this work. He develops the idea philosophically in order to allow for creative license when composing an “atonal” work. For Eimert, repeated pitches are acceptable as long as no one pitch becomes more central than another. From Golyscheff, Eimert acquired the twelve-tone complexes, but he developed the concept and the philosophical foundation for it beyond the material of Golyscheff’s “Trio.”
CHAPTER 6

CONCLUDING REMARKS

Music history remembers Herbert Eimert for his later works, for his involvement with the creation and advancement of Electronic Music, and for his associations with the Darmstadt School. Jefim Golyscheff is remembered more as a visual artist and for his connections to the Dada movement. However, in the early 1920’s these two composers entered into a discourse, both textual and musical, on the development of “Atonality.” Their contributions to this discourse may not have been widely known at the time, but are nonetheless important to understanding the formative years for twelve-tone composition.

*Atonale Musiklehre*, according to Eimert, is a “systematic” approach to composing “atonal” music. This systematized approach to describing atonal composition is what is responsible for many of the inconsistencies in the text. Schoenberg makes the distinction between “system” and “method” and this is a critical distinction for understanding Eimert’s text. A system describes a theory that precedes practice and is therefore untested. Eimert admits that there is not a large body of twelve-tone masterworks and consequently creates his own examples to describe his system. In so doing, he published some of the earliest attempts at composing with twelve-tones. The attempts may be flawed but the system was still being formulated.

Eimert contributed to the discourse on atonality and twelve-tone composition without a fully-developed approach to composing in this way. Despite the resulting inconsistencies, Eimert’s complexes also created opportunities for theorizing aspects of twelve-tone composition that are less accessible in serial theory. The first of these is a description of
atonal verticality. Without the “order” of serial rows, Eimert was free to consider the boundaries of atonal vertical sonorities. Secondly, the concept of interlocking complexes can be defined far more easily if the order of the pitches is of no concern. In a row, a composer must find two forms of the row that contain the same pitches before one can create interlocking complexes. Without this order, it is simple to do so. Finally, Eimert is able to theorize beyond what he is able to replicate in the examples or in his string quartet. He is able to imagine an atonality that is completely divorced from what came before. While it may not have come to immediate fruition, his idea that musical composition would stretch beyond the limits of natural sound may have been the earliest seeds of his later involvement in electronic music composition. In each of these ways Eimert made a contribution to the discourse.

This discourse is now extensive, spanning the works of many composers across many decades. Still the origins of twelve-tone composition have remained under debate. Eimert is very aware that he is not the “originator” of the idea of twelve-tone complexes. He ascribes credit to Hauer and Golyscheff. Having read Hauer’s writings and having seen Golyscheff’s “Trio,” Eimert acknowledges that he is entering a discourse that has been initiated by other composers and theorists. As he responds to Hauer in their open letter, it is pointless to debate who deserves credit for the method.

He is right about this. The central purpose of this text has not been to identify Herbert Eimert or Jefim Golyscheff as the creators of twelve-tone composition. It is to acknowledge the broader discussion of “Atonality” and of composition with twelve tones as it existed in the early 1920’s. Eimert’s text provides insight into the terminology of this discussion as well as the philosophical framework for twelve-tone composition. Golyscheff’s “Trio” demonstrates that,
as early as 1914, composers were using the twelve pitches of the chromatic scale as the constructive force for musical composition. These works reveal that the idea of composing using the aggregate was not a solitary phenomenon but a broader development.

Eimert argues that twelve-tone composition develops organically from equal temperament. He sees it as a logical, historical result of advanced chromatic harmony. Schoenberg makes a similar argument. Statements such as these could be viewed as protection from critics who accused this music of breaking away from its historical roots. While this may be true, these statements also leave the possibility open for other composers to have reached the same compositional result. Truly, twelve-tone composition was not a singular phenomenon, it was a broader paradigm shift.

Herbert Eimert and Jefim Golyscheff were each a part of that shift, even if their contributions have gone mostly unrecognized. In his compositions Golyscheff experiments with the creation of the twelve-tone complex. Both Eimert’s writing and his composition test the boundaries of Golyscheff’s complexes by allowing for and acting upon creative freedom for the composer. Together Eimert and Golysceff theorized “atonality” through the invention and development of twelve-tone complexes.
APPENDIX A

ATONALE MUSIKLEHRE MUSICAL EXAMPLES IN STANDARD NOTATION
Example A.7

Example A.8

10.

11.

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Example A.9
Example A.18

Example A.22

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Example A.23

26 a)
Example A.24

Example A.25

Example A.26
Example A.36

Example A.37

44. a)

44. b)
Example A.38

45. Fugue

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APPENDIX B

ERBERT EIMERT’S *FÜNF STUCKE FÜR STREICHQUARTETT* (FIVE PIECES FOR STRING QUARTET)
Five Pieces for String Quartet

I

Herbert Eimert
Five Pieces for Sting Quartet

III

Herbert Eimert
Five Pieces for String Quartet

Vln. I

Vln. II

Vla.

Vc.

Vln. I

Vln. II

Vla.

Vc.

pp
Five Pieces for String Quartet

Vln. I

Vln. II

Vla.

Vc.

Vln. I

Vln. II

Vla.

Vc.
Five Pieces for String Quartet
Five Pieces for String Quartet

V

Herbert Eimert

Score

Calm

Violin I

Violin II

pp

Viola

Cello

pp

Vln. I

Vln. II

Vla.

Vc.

mf

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APPENDIX C

JEFIM GOLYSCHEFF’S TRIO
II
Fortissimo

Jefim Golyscheff
BIBLIOGRAPHY


