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RICE UNIVERSITY

**ANALYSIS or INSPIRATION?**

**A Study of György Ligeti's *Automne à Varsovie***

by

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A THESIS SUBMITTED  
IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE

**Doctor of Musical Arts**

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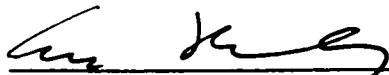
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## ABSTRACT

This thesis begins by tracing the rise of the piano étude from Chopin to Ligeti, establishing historical and compositional precedence for Ligeti's *Études pour piano*. Special emphasis is given to the formal, virtuosic, and rhythmic development in the étude in the hands of selected composers, as these are the central features to be discussed in Ligeti's music.

Formally, examples drawn from Debussy's études show experimentation in defining form using sonority and figuration. Technically, the études of Liszt and Rachmaninov set a new level of proficiency at the keyboard with their dazzling virtuosity. Excerpts showing polyrhythmic passages and the manipulation of rhythm are extracted from the études of Chopin, Scriabin, Bartok, Prokofiev and Stravinsky. These examples also show hemiola as a starting point for rhythmic and temporal complexity.

A compositional and pianistic overview of Ligeti's three books of *Études pour piano* and a brief chapter on Ligeti's life and musical style follow. However, the core of this document is an in-depth analysis of *Automne à Varsovie* and a discussion of formal principles and the effect of "chaotic order" as achieved through the manipulation of rhythmic perception.

The basic structural musical shape of *Automne à Varsovie* consists of an expectant build to climax followed by a sudden sabotage of musical momentum. This is achieved primarily through the accumulation and subsequent disintegration of texture, dynamic, and rhythmic complexity, as shown through numerous music examples.

The effect of chaos is achieved through the manipulation of rhythmic perception--in particular, Western notions of such. Central African music and the player piano music of Nancarrow are discussed as non-traditional influences. Further, extensive illustration of the

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## CHAPTER I

### THE RISE OF THE PIANO ÉTUDE

The following survey traces the rise of the piano étude from Chopin to Ligeti in an effort to establish historical and compositional precedence for Ligeti's *Études pour piano*. Special emphasis is given to the formal, virtuosic, and rhythmic development in the étude in the hands of selected composers, as these are the central features that are discussed in Ligeti's music. The idea of a work constructed around a single technical or musical idea was opposed to the principle of sonata form and the notion of contrasts. In this way, the étude is closer in spirit to Baroque genres--in particular, the prelude. Before the early part of the nineteenth century, the piano étude was primarily a vehicle for pianists to exploit the instrument and to demonstrate their technical ability.

It was not until Chopin published his three collections--Op.10 (1833), Op.25 (1837), and *Trois nouvelles études* (posthumously, in 1839)--that the étude was firmly established as a serious musical genre that presented sophisticated musical ideas and technical figurative work in a balanced and integrated relationship.<sup>1</sup> Many of Chopin's études address specific technical problems (such as thirds, sixths, octaves, arpeggios, etc.) against a background of innovative harmonic structure. Further, Chopin's use of intricate voice leading and irregular rhythmic

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<sup>1</sup>Alexandra Townsend, "The Problem of Form in Gyorgy Ligeti's *Automne à Varsovie*, from *Études pour piano, premier livre*," (D.M.A. Thesis, The University of British Columbia, 1997), 4.



grouping to create textural interest define his études as outstanding examples of the genre.

While Liszt also wrote études, his *Paganini*, *Transcendental*, and *Concert Études* move in a more purely technical direction. Of these, the set of *Transcendental Études*, written in the 1830s and revised in 1851, are the most important. In these works, Liszt took piano technique to a different level by introducing a new pianistic virtuosity designed to exploit the performer's power and skill at the keyboard. Liszt's études exploited the massive amount of sound that was newly available to a pianist through the invention of the one-piece, cast-iron frame in 1825. Ten of the *Transcendental Études* have descriptive titles, and some carry specific programmatic associations (such as *Mazeppa* and *Eroica*). In *Chasse-neige*, Liszt uses a tremolo accompaniment and chromatic scales to suggest the wind and blowing snow.

The *Transcendental Études* are challenging and pianistically novel; however, for the most part, virtuosic effect is the goal of the music. In general, they employ limited musical materials and often present harmonic schemes that are not well integrated.<sup>2</sup> For example, *Mazeppa* takes bombastic virtuosity and display to an extreme.<sup>3</sup> Nevertheless, Liszt's studies are important in the development of the genre because they introduce a new type of pyro-technique at the keyboard.

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<sup>2</sup> Townsend, "The Problem of Form," 6.

<sup>3</sup> *Ibid.*, 6.

Alexander Skryabin was a Russian composer who was greatly influenced by Chopin's music. Skryabin's études, catalogued as Op. 2, No.1, Op. 8, Op. 42, and Op. 65, and written between 1887 and 1912, exploit various technical problems also addressed by Chopin, such as octaves and sixths. However, Skryabin's harmonic and rhythmic language reaches new levels of complexity. For example, the three études of Op. 65 (1911-12) show the dissolution of tonality by relying extensively on chromatic harmony (the first étude is devoted entirely to *ninths*) and avoiding tonal progressions in favor of tritone-related bass movement. Skryabin's use of polymeter and the absence of regular meter as defined by barlines also weaken any tonal orientation.<sup>4</sup>

Debussy's *Douze études* (1915) are dedicated to the memory of Chopin, and they bear titles that refer to a single technical challenge (often resembling those addressed by Chopin). However, with Debussy, the étude started to take on a distinctive twentieth-century flavor in its experimentation with form and the use of sonority to define structure. For example, *Pour les 'cinq doigts' d'après Monsieur Czerny* is divided into six sections with no overt return of material.<sup>5</sup> Another feature that gives Debussy's études a more modern flavor is the rich variety of pianistic figures, as shown in *Pour les arpèges composées*, where ascending runs, arabesque figures, and glissandi-like runs acquire a form-defining role.<sup>6</sup> Often considered studies in composition

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<sup>4</sup> Ibid., 8.

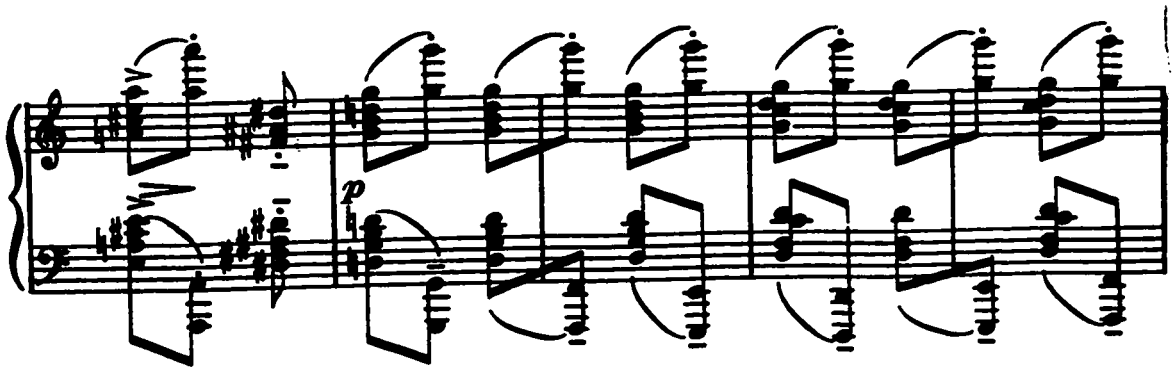
<sup>5</sup> Richard S. Parks, *The Music of Claude Debussy* (New Haven and London: Yale University Press, 1990), 226.

<sup>6</sup> Ibid., 276.

as well as pianism, Debussy's études lie undisputedly in the twentieth century.<sup>7</sup>

Moreover, Debussy's études foreshadow rhythmic complexities used by Ligeti. For example, irregular groupings of constant eighth notes cause the bar line to be non-functional in determining rhythm in *Pour les accords*. Although the piece is barred in 3/8, the coupling of eighth notes with textural and articulative emphasis on the first eighth note gives a strong sense of duple meter (See Example 1.1).

Example 1.1 Debussy: *Pour les accords*, m. 20-24.



Another twentieth-century composer of études is Igor Stravinsky, who extended the confines of traditional rhythm and meter in his *Four études*, Op. 7 (1908). These works are

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<sup>7</sup> Townsend, "The Problem of Form," 11-12.

somewhat overlooked, although they are becoming more popular. One of their most appealing features is rhythmic experimentation. By using a constant pulse and overlaying irregular groupings that are often syncopated across the barline in the melody, any sense of regular meter is resisted.

For example, in *Étude No. 4*, four eighth notes in the left hand are synchronized with two sets of four sixteenth notes in the right hand. This otherwise regular rhythmic grouping becomes more complex when syncopated against the notated barline (See Example 1.2). To add to its complexity, the regular phrasing of two or four quarter notes (set up at the beginning of the piece) is altered with increasing frequency as the piece unfolds. Hence, a sense of regular metrical pulse is never established.

Example 1.2 Stravinsky: *Étude No. 4*, m. 1-2.



Also relatively unknown but important for rhythmical innovations are Prokofiev's *Four études*, Op. 2 (1909). Polymeter is introduced in the second étude with the right hand notated in 18/16 against the left hand notated in 4/4. Prokofiev's first étude presents a percussive use of the piano that recalls Bartok's style of writing.

Bartok's *Three études*, Op. 18, written in 1918, are extremely difficult to play. Texturally dense and percussive, these works use highly dissonant harmonic language and show only minimal tonal orientation.<sup>8</sup> For example, the first étude resists tonality by using sevenths and ninths instead of octaves in its broken-octave passagework. In addition to being extremely dissonant, Bartok's studies are also rhythmically very complex. For example, frequent changes of irregular meter in the third étude occur with almost every measure on the first two pages: 6/8, 7/8, 6/8, 10/16, 9/16, 11/16, 7/8, 5/8, 9/16, 6/8, 15/16, 6/8, 4/8, 10/16, 11/16, 3/4, 6/8, 7/8, 11/16.

Written only a few years earlier but in a more Romantic style are Rachmaninov's sets of *Études tableaux*, Op.33 (1911) and Op.39 (1916-17). Compared with other contemporaneous works, these études sound somewhat sentimental and old-fashioned. However, Rachmaninov's contribution to the development of the genre lies in the innovative pianistic figuration. His writing is idiomatic with varied and imaginative (at times, even orchestral) textures. Emotionally, the *Études tableaux* range from conveying "contemplation and

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<sup>8</sup> Townsend, "The Problem of Form," 12.

<sup>9</sup> Ibid., 11.

introspection to aggressive propulsion and vitality."<sup>9</sup>

After the middle of the twentieth century, composers began to use the piano étude to explore radically new methods of composition. In effect, the étude became compositional studies.

For example, Olivier Messiaen's *Mode de valeurs et d'intensités* (1949) is one of the first examples of total serialism. John Cage studied charts of the stars in the southern sky as a basis for his choice of pitches in *Études astrales* (1974-5), while William Bolcom synthesized structured pitch and rhythmic systems with improvisatory passages in his *Twelve Études* (1966) and *Twelve New Études* (1986).

Emerging as important innovative works in the genre, George Perle's *Six Études* (1973-76) and *Six New Études* (1984) are serial compositions with tonal tendencies. "The twelve études taken together surely deserve an honored place among the twentieth century classics of the genre...they also possess ample musical substance and are utterly devoid of meaningless display."<sup>10</sup>

According to Richard Toop, Ligeti's études have effectively brought "contemporary piano music...back into mainstream awareness. Some pieces from Book I are beginning to find their way into international piano competitions, and no doubt those from Book 2 and its

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<sup>10</sup> Michael Boroskin, "Six New Études and the Piano Music of George Perle," *Clavier* (April 1987): 13.

successors will follow."<sup>11</sup> With seventeen études set in three books so far, written between 1985 and 2001, György Ligeti is one of the most important composer to follow in the tradition of Chopin for more than fifty years. Drawing influences from sub-Saharan music, jazz, and mechanical piano, Ligeti has given us stunning, virtuosic works with highly innovative rhythmic complexities and unusual pianistic figuration.

Since the nineteenth century, the étude has undergone steady maturation and development. Starting out as a purely technical exercise designed to address specific technical problems, in the hands of Chopin, they became musically worthy of the concert stage. Further, the infusion of increasingly chromatic harmony, complex rhythms, coloristic sonorities, and innovative piano writing in the twentieth century made the étude a vehicle for important compositional experimentation. Two distinctive, emerging voices from the last century are George Perle and György Ligeti, whose études define significant discoveries in compositional styles while maintaining the original intent of the genre.

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<sup>11</sup> Richard Toop, *György Ligeti* (London: Phaidon Press, 1991), 208.

## CHAPTER II

### GYÖRGY LIGETI: A UNIQUE VOICE

György Sándor Ligeti was born in Transylvania, Romania, on May 28, 1923 during a period of political unrest. As a young man, Ligeti had originally intended to study physics. In 1941 though, the anti-Jewish laws made it impossible for him to enroll at universities, so he entered the Cluj Conservatory to study music. During a brief window of time in the winter of 1943-44, Ligeti narrowly escaped deportation to Auschwitz when an official in the defense ministry was sympathetic to the Jewish people. Immediately after the war, Ligeti resumed musical studies at the Academy of Music in Budapest (the alma mater of Bartók and Kodály) where he was a student from 1945-49 under Ferenc Farkas, one of the most distinguished Hungarian composers after Bartók. During the summers, he took private composition lessons in Budapest with Pál Kadosa, another Hungarian.

As Bartók had done before him, in 1950 Ligeti conducted field research in Romanian and Hungarian folk music and then returned to the Academy as professor of harmony, counterpoint, and analysis. During his time in Hungary, with limited access to music from the West, the works of Bartók and Kodály were important influences for Ligeti.

Ligeti was interested in political issues and, under the influence of the political environment, his desire to write tonal music easily understood by the masses reflected his socialist views. However, political censorship under Stalinist regime allowed only pieces based



upon folk or peasant songs. Ligeti describes his predicament during Stalin's totalitarian dictatorship from 1948-1953:

"Life in Hungary at that time was in the iron grip of the communist dictatorship, the country completely cut off from all information from abroad: outside contacts and foreign travel were impossible, Western radio broadcasts were jammed, and scores and books could neither be sent nor received."<sup>12</sup>

"...in the days of Stalin and Zhdanov, they told us composers: 'You are against the people, because you're doing something elite, something esoteric. Come on, write songs and marches for the people.'"<sup>13</sup>

After the death of Stalin in 1953, Ligeti began to write radically new music to reflect his anti-Communist views. Typical of his writing in the 1950s are the choruses for mixed choir, *Éjszaka/Reggel* (1955), which show traits that later became characteristic of Ligeti's compositional style: clusters, extremely soft sustained chords, and canon. From 1955-56, Ligeti was briefly interested in the serialism of Schoenberg and Webern--a fascination that liberated him from Bartók and helped associate him with something more "modern." Soon thereafter, Ligeti concluded that serial composition and its linear emphasis neglected the harmonic dimension of music. Instead, he chose to shift his focus towards the color, density, volume, and texture of sound, thereby forging an alternative to post-Webern serialism.

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<sup>12</sup> György Ligeti, translated by Stewart Spencer in the liner notes to "György Ligeti: String Quartets and Duets," Arditti Quartet, (Sony Classical SK 62308, 1997), 2.

<sup>13</sup> Ligeti, "On Music and Politics," translated by Wes Bloomster in *Perspectives of New Music* 16:2 (Spring/Summer, 1978): 23.

After the Russian invasion of Hungary in 1956, Ligeti fled to Vienna, where he settled and eventually established his reputation as a leader of the European avant-garde. Being in Vienna exposed the composer to the newest trends, including electronic music, and Stockhausen's *Gesang der Jünglinge* left a deep impression upon him. While studying in Cologne from 1957-58, Ligeti composed three electronic pieces: *Glissandi*, *Artikulation*, and the unfinished *Atmosphères* (unrelated to the orchestral *Atmosphères*).

Lasting only two years, Ligeti's electronic period was as brief as his twelve-tone period. However, Ligeti describes this period of work as infinitely more influential, since it was the electronic studio where he could assemble pieces layer by layer--an approach that led to one of his most important compositional innovations, micropolyphony.

The texture that Ligeti calls "micropolyphony" is very dense polyphony resulting in complex musical color and texture that transcend the traditional definitions of melody, harmony and rhythm. Its basis upon minute details extends Schoenberg's notion of *Klangfarbenmelodie*: instead of melody created by single notes sounding in different instruments, Ligeti took it one step further by subtly shifting entire textures. Ironically, the linear design of micropolyphony results in homophonic structures called "clusters," where rapidly moving parts are perceived as vertical masses of sound. The composer describes micropolyphony in the following manner:

"You hear a kind of impenetrable texture, something like a very densely woven cobweb. I have retained melodic lines in the process of composition, they are governed by rules as strict as Palestrina's or those of the Flemish school, but the rules of this polyphony are worked out by me. The polyphonic structure does not actually come through, you cannot hear it; it remains hidden in a microscopic, under-water world, to us inaudible."<sup>14</sup>

Micropolyphony is best observed in Ligeti's orchestral works, *Apparitions* and *Atmosphères*, where he combined instruments into clusters. Ligeti's development of this technique reached full maturation in *Atmosphères* (for orchestra, 1961), the work that brought him to international prominence.

Ligeti describes *Atmosphères* as "music wholly enclosed within itself, free of tunes, in which there are separate parts but they are not discernable, music that would change through gradual transformation almost as if it changed its color from the inside."<sup>15</sup> *Atmosphères* is an orchestral piece, consisting mainly of clusters, where a very close succession of sounds results in seemingly static sonic bands that, in reality, evolve in volume and instrumentation at a very slow rate. (See different entries in the winds in Example 2.1) The result is a series of subtle transformations, as chromatic, diatonic and pentatonic clusters float in and out of focus.

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<sup>14</sup> György Ligeti, "Ligeti-Péter Várnai," translated by Gabor J. Schabert, in *György Ligeti in Conversation* (London: Eulenberg, 1983), 14-15.

<sup>15</sup> Ligeti, "Ligeti-Péter Várnai," 33.

Example 2.1 Ligeti: *Atmosphères*, m. 13-17.

13 14 15

**B**

Fl. 1. 2. 3. 4.

Ob. 1. 2. 3. 4.

Cl. 1. 2. 3. 4.

Fg. 1. 2. 3.

Cb.

Cor. 1. 2. 3. 4. 5. 6.

Tr. 1. 2. 3. 4.

Trm. 1. 2. 3. 4.

Handwritten musical score for Ligeti's *Atmosphères*, measures 13-17. The score is arranged in a large block with multiple staves for each instrument family. The instruments listed on the left are: Fl. 1. 2. 3. 4., Ob. 1. 2. 3. 4., Cl. 1. 2. 3. 4., Fg. 1. 2. 3., Cb., Cor. 1. 2. 3. 4. 5. 6., Tr. 1. 2. 3. 4., and Trm. 1. 2. 3. 4. The score includes various musical notations such as notes, rests, and dynamic markings (e.g., *ppp*, *dim.*, *morendo*). A large letter 'B' is written above the first staff, and the measures are numbered 13, 14, and 15 at the top.

Along with his development of micropolyphony came Ligeti's concepts of clusters and "clouds"—the whispered *ppp* and *pppp* sustained chords and passages marked *pppppp*—that were to become his most distinguishing features. These features are illustrated in works such as *Requiem* (for soprano, mezzo-soprano, two choruses and orchestra, 1963-65) and *Lontano* for orchestra (1967).

In the 1970s, Ligeti's writing became more transparent and melodic in a non-traditional sense. For example, in *Melodien* for orchestra (1971), he used micro-intervals—quarter tones and smaller. Ligeti recognized some trends such as minimalism, and he acknowledged the work of American minimalists. In the central piece of the triptych *Monument - Selbstporträt mit Reich und Riley (und Chopin ist auch dabei) - Bewegung* for two pianos (1976), small sections of music are repeated constantly, blurring the harmony.

The works that followed in the 1980s reveal yet another transformation in Ligeti's style. For example, the *Horn Trio* (1982) used more tonal materials and showed a return to an earlier style, influenced by Bartók. However, the more important compositional innovation during this time was Ligeti's use of a complex polyrhythmic technique that moved away from micropolyphony. The *Piano Concerto* (1985-88) is typical of Ligeti's work of this period—a work that the composer himself considers his most complex and difficult score. Also included in the group of works that employ this new technique are the *Études pour piano, premier livre* (1985), *deuxième livre* (1988-1993), and *troisième livre* (1995-2001).

The general population was exposed to Ligeti's music when Stanley Kubrick used excerpts from *Atmosphères*, *Lux aeterna* (1966), and *Requiem* in his film 2001: A Space Odyssey in 1968. At its Stockholm premiere in 1965, the *Requiem* made a powerful impression, and it won the Bonn Beethoven Prize in 1967. In 1975, Ligeti was awarded the German decoration for merit and the Bach Prize of the City of Hamburg, and in 1986, he was awarded the University of Louisville Grawemeyer Prize for Music Composition in 1986 for his *Études pour piano - premier livre*. In 1996, Ligeti was awarded the Music Prize of the International Music Council.

Ligeti's achievements led to teaching appointments in Stockholm, Stanford, and Hamburg. Since 1956, Ligeti has lived in Germany and Austria, after obtaining Austrian citizenship in 1967.

From the onset, with the influence of Bartók and Kodály, Ligeti's style has been in a constant state of evolution. Although Ligeti experimented briefly with contemporary avant-garde trends such as serialism, minimalism, and electronic music, he moved away from those areas towards the development of his own style of expression. Ligeti's compositional innovations such as micropolyphony, clusters and "clouds" and the rapid succession of rhythmically complex structure exude a distinct personality in his music, which has been highly influential to a younger generation of composers. The emotional impact of Ligeti's music sets him apart from many of his contemporaries, and he continues to be at the helm in the development of new music at the start of this millennium. Despite politically turbulent

environments that had a profound impact on his life and musical composition, he has survived to become one of the most important musical innovators of our time.

### CHAPTER III

#### OVERVIEW OF LIGETI'S *ÉTUDES POUR PIANO*

Ligeti's *Études pour piano* exhibit the influence of an eclectic array of styles; however, they are original and profound with lasting musical significance. To date, there are seventeen *Études pour piano*--the first book containing six études, the second book containing eight études, and the third book containing three so far. Although it is possible to play the movements independently, Ligeti conceived the books as unified sets, where the original order of the pieces should be retained if the entire cycle is played.

The most outstanding feature of Ligeti's *Études pour piano* is the interesting texture created by the use of extremely complex polyrhythm and polymeter within the context of a fast, steady pulse. The result is the simultaneity of symmetry and asymmetry that leads to an illusory perception of random patterning, or deterministic chaos.

All of the études use a simple core of musical ideas developed extensively in an organic manner, usually with increasing pianistic challenges as the piece unfolds. In Ligeti's own words, "They proceed from a very simple core idea and lead from simplicity to great complexity: they behave like growing organisms."<sup>16</sup>

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<sup>16</sup> Ligeti, as translated by David Feurzig and Annelies McVoy in the liner notes to "György Ligeti: Works for Piano, Volume 3: Études, Musica ricercata," Pierre-Laurent Aimard, piano (Sony Classical SK 62308, 1997), 12.



An amateur pianist by his own admission, Ligeti turned to the great composers--pianists such as Chopin, Schumann, and Debussy as his pianistic models.

### ***Études pour piano, première livre***

The first three études of the first book--namely, *Désordre* ("Disorder"), *Cordes vides* ("Open Strings"), and *Touches bloquées* ("Blocked Keys")--are dedicated to Pierre Boulez as a tribute for his sixtieth birthday. The last three études are entitled *Fanfares*, *Arc-en-ciel* ("Rainbow"), and *Automne à Varsovie* ("Autumn in Warsaw")--the latter dedicated to friends in Warsaw. Ligeti refers to the sixth étude, *Automne à Varsovie*, as a coda to the entire set, even though it was originally fourth in the cycle.

Ligeti completed his first important work for solo piano, *Études pour piano, premier livre*, in 1985. Each of these six pieces explores a certain compositional process--for examples, bar lines are gradually displaced, figures are methodically transposed, or seemingly random rhythmic complexities are systematically introduced. Each study begins with a certain characteristic figuration, presented quite simply, after which it undergoes systematic and continual transformation.

### **Studies in Composition and Pianism**

The title of the first étude, *Désordre*, describes the effect of disorder that is perceived. Upon closer inspection, the piece actually reveals an overall organizational plan consisting of

two highly complex systems of strict rhythmic order among the right and left hands. However, these elements are displaced and allowed to unfold in the same dimension, producing the effect of chaos. Occasionally, irregular accents are sometimes synchronized between the hands, producing a temporary semblance of order.

Since the right hand plays perpetual eighth notes only on white keys and the left hand plays eighth notes only on black keys, the effect is mainly monochromatic in melody, harmony, and texture. In addition to creating a bitonal effect, this choreography enables both hands to play in the same register with more ease since the left hand can be played above the right hand. Its perpetual eighth note motion, polymeter, dual modality, canonic imitation, and shifting accents makes *Désordre* one of the most pianistically challenging of the set.

The form of *Désordre* is a basic ternary structural pattern of A B A'. The B section differs from the outer sections by more metric instability, use of extreme ranges, and shorter phrases, comprised of rhythmically contracted thematic material. The A' section differs from the opening section by the inclusion of chords, a higher range in the left hand, and the presence of metric adjustments made only in the left hand.<sup>17</sup> The simplicity of melody and harmony offsets the highly complex rhythmic structure of *Désordre*.

The second étude, *Cordes à vide* or "Open Strings," describes the perfect fifths found throughout the piece that recall the tuning of stringed instruments. Like the first étude of the

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<sup>17</sup> James Guthrie, "*Études pour piano – premier livre*, by György Ligeti and *The Song of Glory*, An Original Opera in One Act," (D.M.A. Dissertation, Louisiana State University, 1989), 101.

set, the piece is a three-part form. However, unlike *Désordre*, new material and faster note values define each section even though Section I contains material that is developed in later sections. The piece progresses from simple eighth note motion to triplet patterns to quicker thirty-second notes. The chromatic movement of the melody serves as a foil to the streams of perfect fifths.<sup>18</sup>

*Cordes vides* shows the overlapping of phrases between the hands and exploitation of the extreme ranges of the piano. Of note is the indication for “much pedal” and the frequent use of the *una corda*, recalling the color of Debussy's music.

Another perpetual motion étude, *Touches bloquées* uses a constant eighth-note pattern. The title, “Blocked keys,” refers to a very interesting pianistic technique whereby one hand plays a rapid, even succession of notes in a chromatic scale while the other hand blocks prescribed keys by keeping them silently depressed, thereby affecting the rhythm patterning. The result is a complicated series of rhythmic patterns that appear chaotic (Ligeti writes “stuttering” as the opening performance indication), but the music is actually highly organized on different levels of activity.<sup>19</sup>

In the performance notes for this étude, Ligeti comments on the function of the bar line. As in *Désordre*, the bar lines are intended to serve as a means of orientation and do not have a metric function or indicate articulation. According to the composer, “the duration of

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<sup>18</sup> Ibid., 102.

<sup>19</sup> Guthrie, “*Études pour piano*,” 101.

individual 'bars' results from the number of sounding and non-sounding keys struck in succession between two bar-lines; i.e. the 'bars' differ in duration."<sup>20</sup>

In the fourth étude, *Fanfares*, fanfare-like melodies based on horn-fifths, open fifths, and fourths are superimposed onto an underlying ostinato of perpetual eighth notes. Although the eight eighth notes of the ostinato are grouped as 3+2+3, Ligeti instructs the performer that each group is to be emphasized equally since he wishes to achieve a "barless" quality in the ostinato, which is often passed between the hands. Ligeti's instructions "eco," "closer," and "further away" indicate illusions of distance and proximity.

In *Fanfares*, the ostinato pattern, comprised of asymmetrically grouped, perpetual eighth notes, is continually passed between the hands. Asymmetrical fanfares appear above the underlying ostinato in different and continually varying groupings. In addition, the quick, extreme changes in dynamics from *pppppppp* to *pp* in the right hand, and *pppp* to *sub.fff* in the left hand also pose a formidable challenge.

Étude No. 5, entitled *Arc-en-ciel* or "Rainbows," portrays its title by a rhythmic texture comprised of many strands and by a descending chromatic figure. Embedded in its tempo indication is a reference to jazz with the instruction "with swing." Also, Ligeti footnotes the opening measure: "Varying tempo: The metronome mark represents an average, the

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<sup>20</sup> György Ligeti, *Études pour piano, premier livre* (Mainz: Schott, 1986), 20.

semiquaver movement fluctuating freely around this average tempo, as in jazz.”<sup>21</sup>

Harmonically, the piece consists almost entirely of seventh chords, and one of the most striking features is the frequent use of the major-seventh chord.

In *Arc-en-ciel*, Ligeti bars the left hand as 6/8 and the right hand in 3/4, creating constant hemiola. Also, the frequent *rubato* indications along with dense chromaticism and quick changes in dynamic require much control and concentration.

Concluding the first set of Ligeti's *Études* is *Automne à Varsovie* or “Autumn in Warsaw.” In ternary form design, the underlying shape involves the accumulation of dynamic and texture to a musical climax, followed by sudden drops in intensity. This study shows highly complex rhythmic structures, following the influences of Nancarrow's work with polytempi, hemiola and Central African music. Even though the piece is barred in 4/4, with the sixteenth note as the additive pulse, the cross-accentuation of the melodic lines creates polyrhythm.

The piece concludes with a cascading scale of parallel ninths that tear down to the lowest register of the piano in decreasing note values. Ligeti writes “aufhören wie abgerissen” which means, “end as if ripping it off.”

As noted earlier, Ligeti refers to *Automne à Varsovie* as the coda of Book 1. In perpetual sixteenth notes, the “lament motif” (refer to Example 4.7a) is presented in many layers of different and varying rhythmic groups, resulting in the illusion of polytempo. The pianistic

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<sup>21</sup> Ligeti, *Études pour piano, premier livre*, 37.

challenge lies in keeping track of the many entrances of the motif whose rhythmic groupings are continually changing.

*Études pour piano, deuxième livre*

The second book of études contains eight pieces: *Galamb borong*, *Fém*, *Vertige* ("Vertigo"), *Der Zauberlehrling* ("The Sorcerer's Apprentice"), *En suspens* ("Suspended"), *Entrelacs* ("Interlaced"), *L'escalier du diable* ("The Staircase of the Devil"), and *Coloana infinita* ("Infinite Column"). The first three studies were written between 1988 and 1990; in 1993-94, Ligeti added the other five to the set. They continue in the programmatic vein of the first set in exhibiting striking color, virtuosity, and polyrhythmic diversity, but they are more frenetic, with only *En Suspens* offering any prolonged serenity. With the exception of *Fém*, *En Suspens* and the opening of *Der Zauberlehrling*, the barlines serve only as optical guidelines and do not indicate metrical structure.

The studies in the second book of études generally "move in the direction of increasing complexity and disorder as a result of the piling-up of material and the escalating effect of built-in 'mistakes.'"<sup>22</sup>

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<sup>22</sup> Paul Griffiths, *György Ligeti*, 2nd edition (London: Robson Books, 1997), 124.

Studies in Composition and Pianism:

The title of the first étude, "*Galamb borong*," sounds Hungarian, but it is actually nonsensical Balinese and meant to be understood in the context of pseudo-Gamelan music.<sup>23</sup> Ligeti describes his fascination with Indonesian music: "Complex musical cultures had already interested me for a long time... in the Seventies I heard a great deal of gamelan music from Bali."<sup>24</sup>

Originating from Southeast Asia, a gamelan consists of an ensemble of gongs, metallophones, xylophones, drums, bowed and plucked strings, a flute or oboe, small cymbals and singers. Since there are two tuning systems, a complete gamelan may employ two sets of instruments, one tuned to a five-note scale or *slendro* and the other tuned to a seven-note scale or *pelog*.

Just as *Désordre* split the white and black notes between the hands, in *Galamb borong*, the right and left hands represent different sets of instruments since the notes played by each hand remain completely separate throughout the whole piece. The right hand plays only the whole tone scale--B, A, G, F, Eb, Db--and the left hand plays only notes of the whole tone scale--E, D, C, Bb, Ab, Gb. Like *Désordre*, it is mainly monochromatic in melody, harmony; however, unlike its predecessor, there is no recurring theme in *Galamb borong*.

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<sup>23</sup> Ligeti, in liner notes to "Ligeti: Works for Piano, Volume 3," 12.

<sup>24</sup> Ligeti, "Ligeti-Péter Várnai," 111.

Another tripartite form, *Galamb borong's* ternary structure is largely dependent on climactic shapes, rather than thematic contrast and return. A perpetual motion étude, *Galamb borong* uses the sixteenth note as the elementary pulse and exhibits complex polyrhythmic structures.

Pianistically, the challenges in playing *Galamb* lie in keeping track of two entirely separate systems--i.e. the right and left hands, including their specific harmonic language and the constantly varied rhythmical groupings.

*Fém* is the Hungarian name for "metal," but Ligeti adds that it has a "brighter" or "lighter" connotation since the Hungarian word for light is *fény*, prompted by the open, luminous harmonies and clangorous chords that pervade the piece.<sup>25</sup> In the performance notes, Ligeti advises the pianist to play "with swing" and to execute the accents *ad libitum*, but always with hard and metallic articulation.

Incessantly active in constant eighth notes, *Fém* contains passages that alternate between loud and soft (as indicated by the *una corda* and *tre corde* instructions). Like *Cordes vides*, *Fém* is comprised entirely of fifths, with harmonies that become more complex as the piece progresses, moving from fifths and triads to thicker, more complex chords comprised of stacked fifths and fourths.

*Fém* is divided into six sections. The opening section is repeated four times, each time

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<sup>25</sup> Ligeti, in liner notes to "Ligeti: Works for Piano," 12.



starting quietly with increasing variation in texture and rhythm, and expansion of dynamic range. The reductive closing section is marked *semplice, da lontano* and mainly *pianissimo*, diffusing the musical momentum accumulated throughout the work by presenting some previous material stated simply at one-third its original tempo.

According to Richard Steinitz, *Vertige*, *L'escalier du diable* and *Coloana infinita* (Études nos. 9, 13, and 14) constitute a sub-group of studies. He notes, "each [étude] explores...the same issue: how to create, on the keyboard, musical equivalents of those spirals and vortices observable in nature (in plants, fluids, shells, galaxies etc), in man-made objects (drills, spindles) and in an electroacoustic illusion devised by the psychologist Roger Shepard and refined by the composer Jean-Claude Risset."<sup>26</sup> All three of these studies exhibit the effect of endless glissando, even though no change of register occurs. Overlapping and proliferating scales that multiply and are progressively magnified achieve this sense of continuous falling.

As the primary harmonic component of *Vertige* is the fifth, wide leaps present a formidable challenge especially as the texture thickens with fifths stacked on top of each other, which also increase in frequency (sometimes occurring on every eighth note).

In *Vertige*, we hear waves of falling chromatic scales that constantly change in length. In his performance notes, Ligeti says, "the chromatic runs break over each other like waves from different directions, and the interference pattern is irregular, i.e. the time intervals between the

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<sup>26</sup> Richard Steinitz, "Music, maths & chaos," *Musical Times* 87/3 (March, 1996): 17.

entry points of the runs vary constantly."<sup>27</sup> In addition, he advises the pianist to play "so fast that the individual notes—even without pedal—almost melt into continuous lines."<sup>28</sup> The variables in the time distance between entries and in the number of descending semitonal steps in each scale create the effect of "vertigo" or "dizziness." Decreasing time distances produces the feeling of acceleration, while the increasing length of scales results in a longer "fall."

Identifiable themes are superimposed above or below these waves, but these melodies are rhythmically asymmetrical as well, adding to the spiraling effect. "The directional drift is unmistakable, but our auditory balance is persistently confused by irregularities of detail."<sup>29</sup>

Placed in the sinister thirteenth position is *L'escalier du diable*, the most dramatic and arresting of the studies. Although powerfully communicative, the preceding études are still emotionally controlled. However, *L'escalier du diable* is overwhelmingly powerful and thrilling with Ligeti at his most melodramatic: on one side is "geometry and construction," on the other side, "the most unrestrained, extreme emotion."<sup>30</sup>

Just as *Vertige* depicts endless falling, *L'escalier du diable* describes the climb up an endless staircase. Built on numerous ascending chromatic scales, entries soon overlap with increasing frequency, as they begin on different pitch classes with various doublings. While the overall

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<sup>27</sup> Ligeti, *Études pour piano, deuxième livre* (Mainz: Schott, 1998), 18.

<sup>28</sup> Ibid., 18.

<sup>29</sup> Steinitz, "Music, maths & chaos," 18.

<sup>30</sup> Ligeti, in an interview with Ulrich Dibelius, as cited in Griffiths, *György Ligeti*, 126.

motion climbs in register, the pattern continually restarts in the low register, as if emerging from the eternal underworld.

*L'escalier du diable* makes a direct reference to the mathematics of dynamical systems in its title, since the "Devil's staircase" is also a particular instance of self-similarity based on Cantor sets. The Cantor set is a paradoxical abstract construction formed by a simple recursive process which, although first propounded by a nineteenth-century mathematician, Georg Cantor, only came into its own when Benoit Mandelbrot noticed its relevance to fractal geometry.<sup>31</sup> Using his own numerical system, Ligeti exploits the divergences, which leads the music to increasing demonic frenzy.

Interrupting the climb is a slow section consisting of majestic chords that increase in volume until the music is drawn into bell-like ostinati that toll demonically.

Keeping track of the zig-zagging spirals that often contain large leaps is the most formidable challenge for the pianist in this work. Endurance becomes an issue with this étude. It is the longest piece of the set and the one that requires the most physical power with bells tolling *ffffff*, marked with three strong accents.

*Coloana infinita* is based upon a twenty-nine meter-high columnar sculpture created in 1937 by the great Romanian sculptor, Constantin Brancusi. Cast in iron and coated in bronze with a repetitive series of expanding and contracting shapes, it gleams in the sun and appears

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<sup>31</sup> Griffiths, *Gyorgy Ligeti*, 126. For a more detailed discussion of "The Staircase of the Devil," see Manfred Schroeder, *Fractals, chaos, power laws* (New York, 1991), 167-71.

capable of rising infinitely. It stands in the city of Târgu-Jiu in the southwestern Carpathians.<sup>32</sup>

Interestingly, Ligeti only named this étude after he had composed most of the music.

Monumental, ascending scalar spirals that are developed as sequences of expanding and contracting intervals pervade *Coloana infinita*, with the exception of the inclusion of counterpoint in triadic chords. These spirals cascade into a "fantastic whirlpool of giddy hallucination, as if the ground itself were turning, and the listener a spinning figure on a revolving plane."<sup>33</sup>

Some of the physical attributes of the sculpture are incorporated into the musical score. For example, the Târgu-Jiu column has sixteen and a half modules. Ligeti's study has the same number of musical spirals, each rising from the low register and mounting progressively higher, taking their starting notes from a descending whole-tone scale (C, Bb, Ab, Gb, E, etc.).

Again, keeping track of the spirals that expand and contract intervallically is the main difficulty in playing *Coloana infinita*. The sheer amount of power and the physical endurance needed to portray the monumental sculpture is indicated from the start when Ligeti writes *fff sempre con tutta la forza, legato possibile* at a tempo marking of *Presto possibile, tempestuoso con fuoco*. The steady and unrelenting accumulation of volume culminates in the final measures, marked *ffffff forza estrema al fine*.

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<sup>32</sup> Steinitz, "Music, maths & chaos," 19.

<sup>33</sup> Ibid., 17.

A tour de force, *Coloana infinita* is so technically difficult that Ligeti first published a version for player piano or Yamaha Disklavier. The revised version for a live pianist is still highly virtuosic but not impossible to execute. While encouraging live virtuosi to attempt the work, Ligeti remains doubtful "whether even the best pianists will quite be able to achieve the speed I have in mind as an ideal. So the mechanical version is a goal towards which 'live' practice can gradually aim."<sup>34</sup>

The tenth étude, *Der Zauberlehrling*, is a scherzo and barred in 12/8; however, Ligeti's marking is *Prestissimo* and the player is advised to attempt to reach the tempo of "Continuum," thus negating the sense of regular meter to achieve the effect of continuous flickering. Further, the simple ostinato soon incorporates ever-changing harmony and irregular rhythmic groupings of the continuous eighth notes. This constant evolution, coupled with the introduction of a melody that does not adhere to the 12/8 time signature, adds to the unstable feeling of this work.

In ABA' form, the middle section of *Der Zauberlehrling* is reminiscent of *Désordre*, where independent contrapuntal lines in the right and left hands (demarcated by accents that define varying rhythmic groupings) expand and contract. The scherzo-like qualities are primarily exhibited in the closing section, with quick contrasts in dynamic and tempo, big leaps in register, and a surprising rising scale in the left hand pitted against a descending scale in the

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<sup>34</sup> Toop, *György Ligeti*, 207.

right hand in the final measures. This is in diametric opposition to the directional drift of the rest of the work, which is either static or falling in motion.

Pianistically, *Der Zauberlehrling* is one of the more accessible studies; however, substantial difficulties lie in playing the repeated notes at a very quick tempo.

Following *Der Zauberlehrling* is *En suspens*, the eleventh étude. Marked "Andante con moto with the elegance of 'swing,'" this work is dedicated to Kurtág. Quietly serene and tranquil, the translucent texture of this study is in stark contrast to the incessant activity that precludes it, providing welcome, temporary relief. In three sections, the music is contrapuntal and widely spaced. The texture starts out very sparsely, with dyads or single notes in each hand, and it grows in complexity as the piece progresses. The closing section uses contrapuntal melodic lines that are irregularly grouped against a perpetual eighth-note background.

*En Suspens* has bitonal elements with two sets of non-overlapping "keys." The right hand starts out using five flats and one white key, while the left hand complements it with the remaining six white notes.

Related to *En Suspens* in bitonal construction is the following étude, *Entrelacs*. In this study, it is the left hand that starts out using five flats and one white note. Organized on different hierarchical planes, melodic figures are superimposed onto musical fabric that consists of perpetual sixteenth-note tremolo and arpeggio. In this way, *Entrelacs* is reminiscent of *Automne à Varsovie*.

Also in tripartite form, the middle section introduces a new gestural melodic figure, which gathers momentum and grows in intensity until a dramatic climax is reached at the beginning of the third section. After this point, fragments of previous material from both sections are combined and re-shaped into one large, encompassing arc.

*Études pour piano, troisième livre*

Ligeti's third set of studies contains three studies, *White on White*, *Pour Irina*, and *Étude No.17*. To date, Schott has not published scores of the études that comprise Book 3. Moreover, *Étude No.17* have not yet been recorded.

As its title suggests, *White on White* is played almost exclusively on white keys, and yet it is not tonal. The tranquil first section begins in the treble register with a slow chorale-canon with progressions that "often seem to be pulling in two or more directions at the same time."<sup>35</sup> A quicker section follows that contains polyrhythmic interplay and irregularly placed accents. The serene beauty of this piece provides much contrast to the turbulence of the last études of the previous set.

Like *White on White*, *Pour Irina* also opens quietly with an Andante. In the following sections the music gathers momentum by the use of shorter phrases and accumulation of texture, culminating in a Vivacissimo that reaches the highest register of the piano.

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<sup>35</sup> Griffiths, *György Ligeti*, 126.

## CHAPTER IV

**"CHAOTIC ORDER" IN *AUTOMNE à VARSOVIE***

*Automne à Varsovie* is dedicated to Ligeti's Polish friends, and refers to a troubled time in Poland in the early 1980s, when the Solidarity movement was emerging. The title itself has particular significance and refers to the annual new music festival founded in Warsaw in 1956.<sup>36</sup>

As mentioned in the previous chapter, *Automne à Varsovie* concludes the first book of études. Concerning the order, Ligeti advises, "If the complete cycle is to be performed, the original order should be retained so as not to undermine its overall form: see, for example, the 'collapsing' finale of the 'Warsaw Etude,' which acts as a coda to the entire piece."<sup>37</sup>

Indeed, the cycle of Book 1 études employs symmetrical principles. For example, the tempi of the six études are arranged in a palindrome—fast, slow, fast, fast, slow, fast. Also, the opening and closing studies use the most complex temporal relationships, providing a frame for the set. In addition, the final measures of *Automne à Varsovie* balance the ending of the opening étude, *Désordre*. While the constant eighth note background of *Désordre* ascends to the highest note of the keyboard (Example 4.1a), *Automne à Varsovie* concludes with cascading ninths in a scale that descends to the lowest notes of the piano. (See Example 4.1b)

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<sup>36</sup> Toop, *György Ligeti*, 202.

<sup>37</sup> Ligeti, as translated by Sid McLauchlan in liner notes to "Ligeti: Études; Messiaen: Vingt regards, selections," Volker Banfield, piano (Wergo 60134-50, 1987), 12.



Example 4.1a Ligeti: *Désordre*, final measures.

8

8

Durata  
ca. 2' 20"

Example 4.1b Ligeti: *Automne à Varsovie*, m. 118-122.

cresc.

118

cresc.

senza ped.

8b

sim.

120

cresc. sempre

sim.

8b

121

10

12

tutta la forza

10

12

Stop suddenly.  
Aufhören wie abgerissen.

secco

Durata  
ca. 4' 20"

## Rhythmic Illusion:

*Automne à Varsovie* encapsulates Ligeti's late musical style, or as he calls it, a "new Ligeti style," which started with the *Horn Trio* (1982).<sup>38</sup> *Automne à Varsovie* exhibits traits that are principal features of the "late style" such as the use of the "Lamento motif" and the exploration of rhythmic acoustical illusion.

The most outstanding feature of Ligeti's *Études* is the interesting texture created by the use of extremely complex polyrhythm and polymeter within the context of a fast, steady pulse. The result is the simultaneity of symmetry and asymmetry that leads to an illusory perception of random patterning, or "organized chaos." More specifically, the *Études* draw from Conlon Nancarrow's music for player piano, the hemiola principle, and the music of Central Africa.

## Nancarrow

Between 1950 and 1968, the American-Mexican composer, Conlon Nancarrow, wrote studies for player piano, since, at the time of their composition, these works were considered too difficult and rhythmically complex for a live pianist.<sup>39</sup> Nancarrow describes this technique: "I don't think of a line, but a collection of temporal relationships and, in fact, the melodic line is simply a crutch in order to realize certain temporal ideas."<sup>40</sup> Such complex rhythmic ratios at terribly quick tempo markings made Nancarrow's music unplayable by

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<sup>38</sup> Istavan Szigeti, "A Budapest Interview with György Ligeti," *The New Hungarian Quarterly* 25, (1984): 205 as cited by Stephen Taylor in "The Lamento Motif: Metamorphosis in Ligeti's Late Style," (D.M.A. dissertation, Cornell University, 1994), 2.

<sup>39</sup> Larry Rohter, "Conlon Nancarrow, On a Roll," *New York Times*, 25 October 1987, sec. II p. 38, as cited in Townsend, "The Problem of Form," 19.

<sup>40</sup> Roger Reynolds, "Conlon Nancarrow: Interviews in Mexico City and San Francisco," *American Music* II/2 (Summer, 1984): 6.

human hands. Having come across Nancarrow's music by chance in a record store in 1980, Ligeti was inspired to write similarly complex music that could be played by a single live performer.

Even though *Automne à Varsovie* is barred in 4/4, with the sixteenth note as the additive pulse, the cross-accentuation of the melodic lines creates polyrhythm. The following passage shows an example of temporal relationships. In m. 27 of Example 4.2, the fragmented melody is presented in two voices in different rhythmic groupings against the ostinato, which is grouped in four. This creates a relationship of 5:3:4.

Example 4.2 Ligeti: *Automne à Varsovie*, m. 27-28.



Although relatively sparse in texture, the section that starts in m. 43 contains some of the most rhythmically complex passages. The following example shows a relationship of 5:4:3:7.

Example 4.3 Ligeti: *Automne à Varsovie*, m. 47-48.



### Hemiola

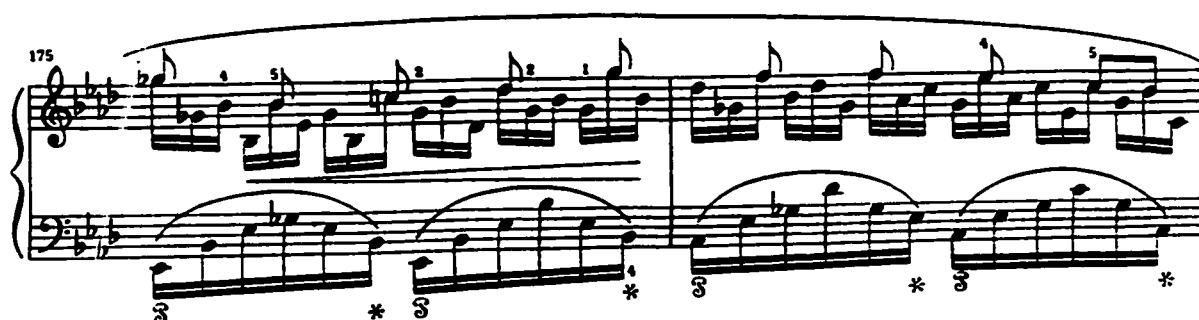
One of the key concepts behind the rhythmic complexity of Ligeti's *Études* is the hemiola. Ligeti describes this effect to be "one of the strongest attractions of the music of Chopin, Schumann, Brahms and Liszt."<sup>41</sup>

Metric ambiguity exists in a group of six beats, where a division into three groups of two or two groups of three can occur at the same time, creating rhythmic tension. For example, Ligeti cites a rhythmically complex passage from Chopin's *Fourth Ballade* as being inspirational for *Automne à Varsovie*. In Example 4.4, the triplets in the right hand against duplets in the left hand create a 3:2 relationship; however, the melody in the right hand dictates grouping of the triplet sixteenth notes into units of four while the harmony dictates grouping of the duplets in the left hand into units of six. Over a phrase length of two measures, the nine units of four correspond with four units of six, creating a 9:4 relationship.<sup>42</sup>

<sup>41</sup> György Ligeti, "On My *Études* for Piano," translated by Sid McLauchlan, *Sonus* 9 (Fall 1988): 4.

<sup>42</sup> Lois Svard, "Illusion in Selected Keyboard Works of György Ligeti," (D.M.A. dissertation, Peabody Institute of The Johns Hopkins University, 1991), 76.

Example 4.4 Chopin: *Ballade* Op.52, m. 175-176.



Ligeti took this idea one step further in experimenting with different numerical relationships such as 3:5, 5:4, or 7:5. A simple example of this hemiola effect can be observed in the opening measures of *Automne à Varsovie* as shown in Example 4.5. Although the piece begins in a clear 4/4 with an Eb broken ostinato in sixteenth notes, each pitch of the melody (the "lament motif," as described in Example 4.6a) falls on every fifth sixteenth note, creating a 5:4 relationship. The descending shape of the melody, suggesting the melancholy of the season and the falling of leaves, depicts the title.

Example 4.5 Ligeti: *Automne à Varsovie*, m. 1-2.

**Presto cantabile, molto ritmico e flessibile,  $\text{♩} = 132$**

*pp sempre legato sempre con ped.* *(p)*

### Central African Music

One rich source of inspiration for Ligeti was the acoustic and motoric elements found in the music of sub-Saharan African cultures. The polyphony created on the xylophone in ensemble works as well as the solo playing of the lamellophone (a sub-Saharan African instrument played by plucking tongues, or "lamellae," made of metal or wood) inspired Ligeti's search for similar effects on the keyboard for a solo pianist.

Especially influential was the work of Israeli ethnomusicologist Simha Arom, particularly, the collection of recordings of music from the Central African Republic, which Ligeti first heard shortly after 1980. He recalls:

"The first African recording hit me like a bomb...It was in the fall of '82 that I heard this recording...[and] the music of the Banda tribe; theirs is a very special kind of music. It had a very profound effect on me... There is a twenty-piece orchestra on this recording of the Banda. Simha Arom writes on the record jacket that it has trumpets, instruments made out of antelope horns and the trunks of trees. The high instruments are capable of producing two pitches, and the lower ones, only one pitch. But they play a very complicated polyphonic music, in twenty parts. It is pentatonic music, in multiple octaves, in four octaves. This is how it ends up in twenty parts. Every instrument has its own rhythmic pattern. The music is very reminiscent of the technique of Machaut and Philippe de Vitry, but it is much, much more complicated rhythmically. This kind of polyrhythm does not exist in the European musical tradition."<sup>43</sup>

Ligeti regards the ethnomusicologist's research and writings so highly that in his introduction to Simha Arom's book *African Polyphony and Polyrhythm: Musical Structure and Methodology*, Ligeti writes,

"For composition, [Arom's research] opens the door leading to a new way of thinking about polyphony, one which is completely different from the European metric structures, but equally rich, or maybe, considering the possibility of using a

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<sup>43</sup> Ligeti as quoted in Stephen Satory, "Colloquy: An Interview with György Ligeti in Hamburg," *Canadian Music Review* 10:1 (1990), 111.

quick pulse as a 'common denominator' upon which various patterns can be polyrhythmically superimposed, even richer than the European tradition."<sup>44</sup>

According to Ligeti, listening to African music led him to think in terms of patterns of motion and the illusory melodic/rhythmic configurations that result from the combination of two or more voices. Consequently, polyrhythm, polymeter, and even polytempo become possible. Ligeti describes this phenomenon in his *Études pour piano* as follows:

"That which is eminently new in my piano études is the possibility of a single interpreter being able to produce the illusion of several simultaneous layers of different tempi. That is to say, our perception can be outwitted by imposing a "European" accent pattern onto the non-accentuated "African" pulsation...I am using only an idea from African notions of movement, not the music itself. In Africa, cycles or periods of constantly equal length are supported by a regular beat (which is usually danced, not played). The individual beat can be divided into two, three sometimes even four or five "elementary units" or fast pulses. I employ neither the cyclic form nor the beats, but use rather the elementary pulse as an underlying gridwork."<sup>45</sup>

The main features of sub-Saharan African music are the absence of the Western "strong beat/weak beat" as defined by "measures," the presence of a fast, isochronous pulse, and the repetition of groups of larger rhythmic units, composed of various groupings of the fast note.<sup>46</sup> Further, Arom describes the notion of meter as a comparatively recent development in Western music, quoting musicologist Maurice Emmanuel,

"In the sixteenth century, the bar was not yet in use; partitioning, and even vertical alignment, were not indispensable to either eye or mind in reading a score. It was customary to beat *time*, nothing else. The intrinsic structure of a piece would thus

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<sup>44</sup> Ligeti in the introduction to Arom Simha, *African Polyphony and Polyrhythm: Musical Structure and Methodology*, trans. Martin Thom, Barbara Ruckett, and Raymond Boyd (New York: Cambridge University Press, 1991), xviii.

<sup>45</sup> Ligeti, as translated by Sid McLachlan in liner notes to "Ligeti: Piano Etudes, Bk 1," Pierre-Laurent Aimard, piano (Erato, ECD 75555, 1990), 3.

<sup>46</sup> *Ibid.*, 3.

give rise to measures which could be heard *but not seen*. This made it possible to conceive of rhythm as based on beats, but not on beats marshaled into measures."<sup>47</sup>

In addition to the absence of strong and weak beats, there is no *rubato*, *ritardando*, or *fermata* to distort the underlying pulse.

Ligeti's *Études pour piano* nos. 1, 3, and 6 in Book 1 are characterized by the presence of a constant fast pulse, the most important rhythmic principle in Central African music, executed with no *rubato* and almost no *ritardando*. The final étude, *Automne à Varsovie*, is the most polyrhythmic and rhythmically diverse étude in Book 1. In addition, Ligeti says, "Another fundamental characteristic of African music was significant to me; the simultaneity of symmetry and asymmetry."<sup>48</sup> In African music, the cycles are constructed asymmetrically against a symmetrically conceived beat. For example, a grouping of 12 can be structured asymmetrically as 7+5, but the pianist would think of 12, 6, 4, 3, or even 2 symmetrical beats, producing cross-rhythms. When several varying symmetrical groupings are layered (e.g. 7+5 over 3+4 over 2+3) and repeated systemically, the impression of random order occurs, even though in actuality, the complex structures are highly organized.

By combining the illusory rhythm of the hemiola effect with the additive pulsation principle of African music, Ligeti produces the illusion of different simultaneous tempi. He states:

"I have combined two distinct musical thought processes: the meter-dependent hemiola as used by Schumann and Chopin and the additive pulsation principle of African music. Stemming from the mensural notation of late Medieval music, the hemiola arises from the metric ambiguity posed by a measure of six beats, which can be divided into three groups of two or two groups of three. The hemiola was amongst the most popular compositional devices in the dance music of the

<sup>47</sup> Simha Arom, *African Polyphony and Polyrhythm: Musical Structure and Methodology*, 196.

<sup>48</sup> Ligeti, in liner notes to "Ligeti: Piano Etudes, Bk 1," Pierre-Laurent Aimard, piano, (Erato, ECD 75555, 1990), 4.



Baroque (in the *Courante*, for example) and above all in the piano music of the 19<sup>th</sup> century."<sup>49</sup>

Since there are no bar lines or "measures" to define absolute meter, several different rhythmic levels are perceived: a background consisting of rapid, even pulsations with superimposed layers of asymmetrical patterns of varying length. According to Ligeti, it is possible to beat either duple or triple time to these patterns, resulting in polytempo and producing a kind of hemiola.

As mentioned earlier, one of the most characteristic visual features of Ligeti's scores is the lack of consistent use of measures in his music--bar lines are scattered throughout only as optical aids for the pianist. However, even these cease to be helpful when Ligeti extends the hemiola concept across a longer span to include ratios other than duple and triple, such as five to three, seven to five, or multiple combinations like seven to five to three. For example, in *Désordre*, Ligeti uses traditional bar lines (consistent for both hands) in the first three measures only. For the remainder of the work, the rhythmic independence of multiple parts calls for staggered bar lines; when these cease to be helpful, Ligeti uses dotted lines to align specific notes between the hands as a visual aid.

From the multitude of possible ratios and the superimposition of an accent pattern onto a non-accentuated, even pulsation, and by presenting a number of parts where each voice moves at different rates of sixteenth-note pulsations creates the illusion of many simultaneous tempi. In effect, Ligeti is successful in his goal--namely, a single pianist is able to produce the illusion of several players by the use of polyrhythm and ultimately, polytempi.

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<sup>49</sup> Ligeti, in liner notes to Wergo 60134, 9.

## Tempo Fugue

Ligeti refers to *Automne à Varsovie* as a tempo fugue, since the various rhythmic groupings are presented systematically, as in a fugue. The first three statements of "subject," the "Lamento motif," are grouped into units of five sixteenth notes (analogous to the exposition of a fugue).<sup>50</sup> The following section employs the use of fragmented thematic material presented in groups of three and five sixteenth notes, amidst complete statements of the "subject," keeping in accord with the "episodic" development section of a Fugue. The final section uses many different rhythmic groupings that increase in complexity, similar to the *stretto* effect in the final part of a fugue. Stephen Taylor's formal outline of *Automne à Varsovie* is as follows:

- |     |           |  |
|-----|-----------|--|
| 1.  | m. 1-24   | Exposition                               |
| 2a. | m. 25-36  | Episode 1a                               |
| 2b. | m. 37-54  | Episode 1b                               |
| 3.  | m. 55-85  | Re-exposition                            |
| 4.  | m. 85-97  | Episode 2                                |
| 5.  | m. 98-122 | Recapitulation (Episode 3) <sup>51</sup> |

## Formal Design

One of the basic formal principles of *Automne à Varsovie* is a tremendous accumulation of tension and the immediate vanishing of musical drive, achieved by the accumulation and disappearance of dynamic and texture. This type of climax occurs several times with increasing frequency, accumulating momentum to the end of the piece.

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<sup>50</sup> Cory Hall, "The Piano Etudes of György Ligeti, Book 1," Doctoral Lecture-Recital, University of Kansas, 1988), 9.

<sup>51</sup> Taylor, "The Lamento Motif," 76.

In ternary form, the three main divisions of the piece are defined by two climaxes where tremendous tension is built but then abruptly cut off. These build-ups also occur throughout the piece on different hierarchical levels and supply musical unity. On the macrolevel, this occurs two times, demarcating three important sections in the piece. Only at the end of the closing section does Ligeti allow the crescendo to build *tutta la forza* without any drop in dynamic, making the final gesture both gratifying and highly effective.

The first section is composed of two subsections, with the first definitive climax occurring in m. 24 after two statements of the lament theme (see Examples 4.6a and 4.6b). A sudden drop from *forte* to *pp subito* between two sixteenth notes truncates the second statement of the theme. The ensuing phrase is an echo of previous thematic material and it marks the end of the first subsection.

Example 4.6a Lament theme



Example 4.6b Ligeti: *Automne à Varsovie*, m. 23-24

The second subsection uses thematic fragmentation and recombination, imitation, and accumulation of different temporal relationships to build tension; it also uses basic climactic shape to foreshadow the last build to climax that closes Section I. Examples of "microclimaxes" can be seen in m. 30 of Example 4.7a, with a drop from *sfz* to *p* and in m. 36 of Example 4.7b, with a drop from *mf* to *sub. pp*.

Example 4.7a Ligeti: *Automne à Varsovie*, m. 29-30

Example 4.7b Ligeti: *Automne à Varsovie*, m. 35-36

The overall effect is musical acceleration, as rhythmic complexity, dynamic, and texture start to accumulate. Section II ends dramatically with a sudden drop from *ff* to a *pp* statement of the lament theme in its barest form at the outer extremes of the piano. The eerie and desolate mood created at m. 55 in Example 4.8 (the midpoint) serves as a foil to the brutal and forceful crescendo in the closing passage.

Example 4.8 Ligeti: *Automne à Varsovie*, m. 53-56

53 (cresc. poco a poco) - - - - - *ff*

(cresc. poco a poco) - - - - - *ff*

55 *pp sub. molto legato*

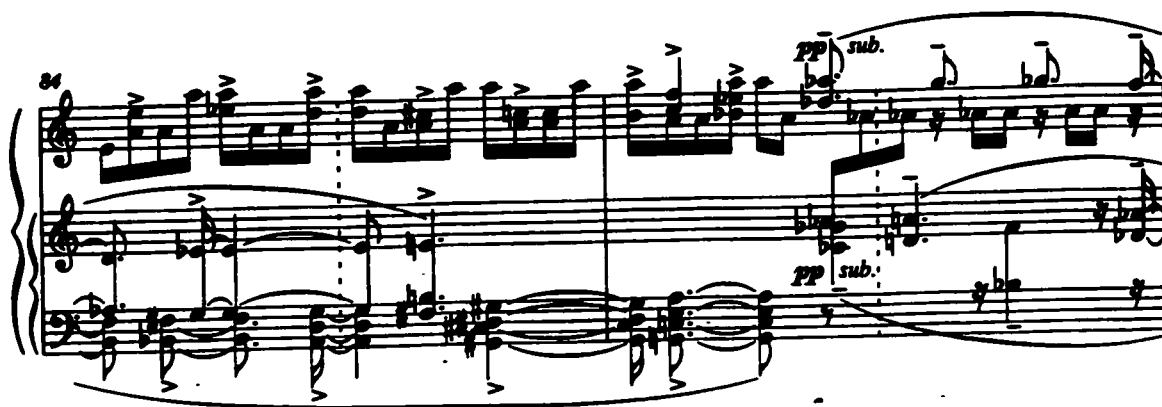
*pp sub. senza ped.*

The middle section begins in m. 62 in Example 4.9 with a gossamer underlay of *pppp* sixteenth notes in the right hand and the lament theme in its entirety presented below in the left hand.

Example 4.9 Ligeti: *Automne à Varsovie*, m. 62-63

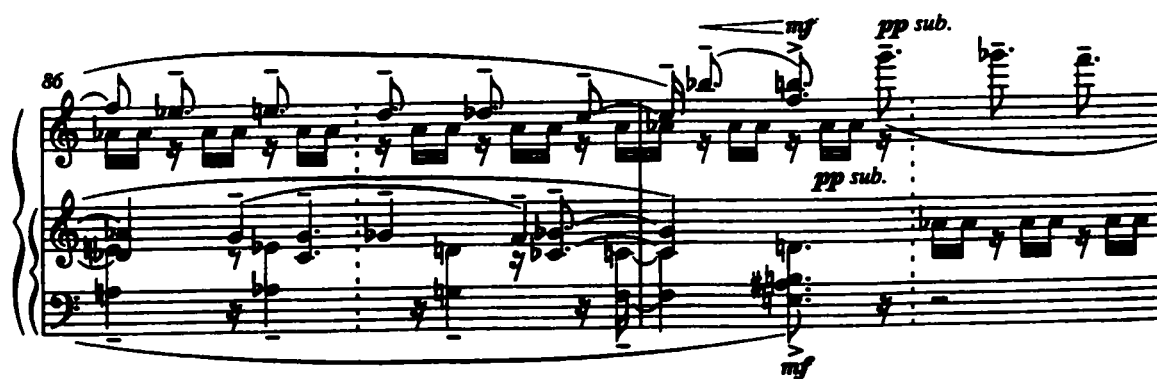
The second statement of the lament theme disintegrates and is eventually taken over by the addition of other voices in surrounding registers, with the bass and soprano voices expanding chromatically. The thickening texture is interrupted suddenly by a drop from *ff* to *pp* in measure 85 in Example 4.10.

Example 4.10 Ligeti: *Automne à Varsovie*, m. 82-85



A smaller climax occurs with a drop from *mf* to *pp subito* in m. 87 of Example 4.11.

Example 4.11 Ligeti: *Automne à Varsovie*, m. 86-87



Section II closes with a huge divergence of chromatic lines in both hands to the outer registers of the piano, starting in m. 93 of Example 4.12. The contracting rhythm of thematic material foreshadows the end of the piece with the rhythmic diminution of four sixteenth notes to one sixteenth note in the right hand and from three sixteenth notes to one sixteenth note in the left hand. This build to climax is especially forceful with the build to *fff* and triple accents in m. 98. The final section of *Automne à Varsovie* begins with a sudden drop to a *pp* pedal point on D# in the left hand in m. 98. This section is differentiated from the others by the introduction of a rising theme in harmonic fifths in the tenor and bass voices.

Example 4.12 Ligeti: *Automne à Varsovie*, m. 92-101

The musical score for Example 4.12, Ligeti's *Automne à Varsovie*, measures 92-101, is presented in two systems. The first system covers measures 92 to 98, and the second system covers measures 99 to 101. The score is written for piano and features complex chromatic lines in both hands. The first system begins with a *(cresc. poco a poco)* marking and a *f* dynamic. The second system begins with a *(cresc.)* marking and a *ff* dynamic, followed by a *cresc. molto* marking. The notation shows a build-up to a climax in measure 98, followed by a sudden drop in dynamics and a change in texture. The score includes various musical notations such as notes, rests, and dynamic markings.



The musical score for Example 4.13 consists of three systems of piano accompaniment. The first system (measures 96-100) shows a right hand with chords and a left hand with a descending eighth-note line. The second system (measures 101-105) continues this pattern. The third system (measures 106-107) features a more dramatic build. The score includes dynamic markings such as *(cresc. molto)*, *(cresc.)*, *ff*, *pp*, and *pp sub.*.

In m. 105 of Example 4.13, the pervasive descending motion incorporates the use of harmonic fifths in the right hand, and the fifths become the main harmonic tool for the rest of the section. Another climax occurs in m. 107 of Example 4.13, although this time it is much more dramatic and the build takes place in a condensed amount of time--the build to *ff*

and *sfz* from *p* occurs in only two and a half measures from m. 105 to m. 107 of Example 4.13. The *pp sub.* that immediately follows in m. 107 marks the beginning of the coda.

Example 4.13 Ligeti: *Automne à Varsovie*, m. 104-107

The musical score for Example 4.13, Ligeti's *Automne à Varsovie*, measures 104-107, is presented in two systems. The first system (measures 104-105) shows a piano (p) texture with a crescendo (cresc.) leading to piano-crescendo (p cresc.). The second system (measures 106-107) shows a piano-crescendo (p cresc.) texture with a crescendo (cresc.) leading to fortissimo (ff), followed by a sudden drop to pianissimo (pp) and a subito (sub.) dynamic. The score includes various musical notations such as notes, rests, and dynamic markings.

Starting in m. 112 of Example 4.14, stacked harmonic fifths in both hands create a strong sense of summation and impending conclusion, especially as the hands start to move toward rhythmic unison. A sense of musical acceleration in the closing passage is achieved by the presentation of the descending motive in both hands in increasingly quicker note values,

starting in m. 116. The last page shows the gradual rhythmic diminution from four sixteenth notes to one sixteenth note in the right hand and from three sixteenth notes to one sixteenth note in the left hand. Furthermore, the constant sixteenth notes are subdivided from groups of eight into groups of ten and twelve in the final measures.

Example 4.14 Ligeti: *Automne à Varsovie*, m. 116-122

The image displays a musical score for Ligeti's *Automne à Varsovie*, measures 116-122. The score is presented in two systems. The first system, measures 116-122, features a piano with a right hand playing a melodic line and a left hand playing a constant sixteenth-note pattern. The second system, measures 118-122, shows a similar texture with a crescendo and a 'senza ped.' marking. The score includes dynamic markings like 'cresc. poco a poco' and 'cresc.', and a 'senza ped.' instruction.

The image shows two systems of a musical score for piano. The first system starts at measure 120. The right hand has a melodic line with accents and a *sim.* (sostenuto) marking. The left hand has a dense, rhythmic accompaniment with a *cresc. sempre* (crescendo sempre) marking. The second system starts at measure 121. The right hand has a melodic line with a *tutta la forza* marking. The left hand has a dense, rhythmic accompaniment. The system ends with a *secco* marking and a *Stop suddenly. Aufhören wie abgerissen.* instruction. The duration is noted as *Durata ca. 4' 20"*.

As in *Désordre*, the constant fast pulse (the eighth note in *Désordre* and the sixteenth note in *Automne à Varsovie*) that has been present in the background for the entire work comes to the fore at the conclusion of the piece, reinforcing the symmetry of the set.

Upon close examination, even though *Automne à Varsovie* is indebted to many sources for its quality of "chaotic order," Ligeti's voice is individual and distinct. From non-Western ideas found in Central African music to the rhythmic complexities in Nancarrow's player piano works and the extension of the Western hemiola principle, Ligeti skillfully integrates these influences to produce music that is unique and unusually compelling. Moreover, his innovations in traditional compositional techniques, including fugal and formal design, further distinguish *Automne à Varsovie* as music only Ligeti could have written.

## CHAPTER V

**ANALYSIS or INSPIRATION? THE PIANIST'S AGENDA**

As Ligeti's *Études pour piano* start to make their way into public awareness owing to more exposure in concerts and international piano competitions, the question of ideal performance becomes an issue of increasing importance. Contemporary music poses unique challenges to performers and audiences since familiar tonal and formal frameworks are often lacking. Therefore, it is especially important for performers to identify key forces at play in order to prepare an informed interpretation of the structure of a work for their listeners. However, when striving to capture the spirit of the music and to convey its meaning, many other performance issues are involved. This final chapter strives to show the importance of integral, systematic analysis in preparing an intelligent performance of *Automne à Varsovie* while emphasizing the ultimate goal of vital and meaningful music making.

In discussing the contributions of detailed analysis to the practical performance of *Automne à Varsovie*, it is helpful to refer to writers who address the relationship between music analysis and performance in order to formulate one's own opinion. The diversity of musical scholarship as represented in select writings of Wallace Berry, John Rink, Edward T. Cone, and Charles Fisk provide insights from different perspectives. By referring to writings by Edward T. Cone and Leonard B. Meyer, the illumination of the rhythmic structure of music is given particular emphasis, since this is the most distinguishing feature in Ligeti's *Automne à Varsovie*.

## Rhythmic Illumination

Professor Emeritus of Music at Princeton University, Edward T. Cone has been active as composer, performer, critic and teacher and was formerly an editor of *Perspectives of New Music*. One of Cone's most important writings is his book *Musical Form and Musical Performance*, a collection of three essays in which he considers the nature of musical form, the aims of the performer, and his means of achieving them. Above all, Cone gives special emphasis to the importance of illuminating the rhythmic life of a musical work.

According to Cone, one of the ways to achieve valid and effective performance is "by discovering and making clear the rhythmic life of a composition."<sup>52</sup> In discussing Bach's *Prelude in C minor*, Well-Tempered Clavier Bk 1, Cone points out the perpetual sixteenth note motion and different metric hierarchies that are more easily understood if one takes the beat (a quarter note) as the metric unit rather than the measure. Further, in Leonard B. Meyer's book *Rhythmic Structure of Music*, writes about meter and rhythm as independent, albeit interactive, phenomena where meter is not necessarily related to the barline, especially in twentieth-century music.<sup>53</sup>

Cone's and Meyer's notions can be applied to *Automne à Varsovie* since, as mentioned earlier, its inherent perpetual movement although indisputably contemporary in flavor, has Baroque tendencies. As in many of Ligeti's other perpetual études, the barline serves as an optical aid only. Further, when the beat (equivalent to the constant pulse of the sixteenth note) is considered the metric unit, at least in the initial learning stages, complex polyrhythms and polytempi are revealed. Ligeti writes:

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<sup>52</sup> Edward T. Cone, *Musical Form and Musical Performance* (New York and London: W.W. Norton, 1968), 31.

<sup>53</sup> Leonard B. Meyer, *Rhythmic Structure of Music* (Chicago: University of Chicago Press, 1960), 88.

"...the pianist plays an even succession of notes. The piece is notated in 4/4 (although the barlines as such are not audible), with 16 fast pulses per measure. There is however a place in the piece where the right hand accentuates every fifth pulse and the left every third. To the ear, these chains of accents blend together to form a super-signal consisting of two melodies: a slower one formed by the groupings of five and a faster one produced by the groupings of three. The ratio 5:3 is of course arithmetically simple, but perceptually very complex."<sup>54</sup>

Ligeti states the desired effect or meaning of the passage in performance is only attainable after the absorption of such analytical detail, i.e., that analysis is a tool in achieving an ultimate goal. He goes on to write,

"We [the audience] do not count the pulses but rather experience two qualitatively different tempo levels. Neither does the pianist count while playing: he produces the accents according to the notation, is aware of a pattern of muscle contraction in the fingers, all the while however hearing another pattern."<sup>55</sup>

Furthermore, Cone's discussion of interpretative choices in select passages of the Baroque literature can be applied to *Automne à Varsovie* as well. In discussing the best manner to highlight metric ambiguities in a passage of perpetual sixteenth notes, Cone suggests a relative equalization of beats (little or no *rubato*, *ritardando*, or *fermata*, as in Central African music).<sup>56</sup> The resultant uniform, perpetual fabric creates a stable background against which metric fluctuations can express themselves naturally in their varying rhythmic context.

Similarly, Ligeti establishes a stable, referential grid in the introduction of *Automne à Varsovie*, where the sixteenth note pattern is presented in a clear 4/4 pattern. When the lament theme is superimposed in the second measure, grouped in five sixteenth notes

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<sup>54</sup> Ligeti, "On My Etudes for Piano," 5-6.

<sup>55</sup> Ibid., 6.

<sup>56</sup> Cone, *Musical Form*, 70.

instead of four, this creates the impression of two tempi operating concurrently. In addition, although Ligeti indicates the tempo of *Automne à Varsovie* as *Presto cantabile, molto ritmico e flessibile*, there are no instructions for *rubato*, *ritardando*, or *fermata*. Indeed, the only marked interruption in the rhythmic flow occurs with two breath marks found in m. 56 and m. 58, where rhythmic ambiguity is not the point of the passage (both voices are in tonal and rhythmic unison.)

Having ruled out excessive rhythmic fluctuation, Ligeti's *flessibile* instruction does allow for the "human" quality of music making. Initially, the mechanical works of Nancarrow only inspired the composer--Ligeti's intent was to write rhythmically intricate music for a *live* performer. As Roger Sessions points out,

"The listener...will respond to the musical gesture only as long as it strikes him freshly, or as long as he is capable of apprehending it as created anew and not as something mechanically repeated. The agent of this re-creation is the imagination of the performer...The more truly he is able...to engage himself completely in the music, to bring to it his own feeling for the rhythm and movement, the more vital will be the performance."<sup>57</sup>

Regarding Ligeti's études, Toop writes, "It is precisely the humane and humanist dimensions that Ligeti's studies add to the mechanical intricacies of his models that underpin their aesthetic status."<sup>58</sup>

Further, Ligeti's personal and stylistic tendencies suggest the acknowledgment and appreciation of the "human" component in music and music making as shown by his brief fascination and eventual reaction against absolute, systematic control as exercised in serialism and electronic music.

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<sup>57</sup> Roger Sessions, as cited *ibid.*, 55-56.

<sup>58</sup> Toop, *György Ligeti*, 208.



Despite his agreement with the systemization of musical elements and procedures logically executed to the end of a serial composition, Ligeti has reacted against the cool objectivity of academic orthodoxy. Ligeti's most important serial work is the *Chromatic Fantasy for Piano*, a strict twelve-tone work, which the composer himself describes as "a very bad piece."<sup>59</sup>

Richard Toop describes the composer's experience with electronic music:

"His [Ligeti's] dream of a completely controllable music, with unlimited sonic resources, had turned out to be an illusion... In Ligeti's case, it was a matter of trying to go beyond the limits, and finding nothing but limitations. He has never been tempted to return to the studio."<sup>60</sup>

### Fugue and Formal Design

Identifying and communicating the metric and traditional fugal elements in *Automne à Varsovie* is an important responsibility for a pianist. For example, the lament theme serves as the "subject" that undergoes various transformations as the piece progresses. After two complete statements of the "subject," the theme undergoes rhythmic variation in several voices, analogous to the unfolding episodic material of a fugue.

In performance, one thinks of the execution of *Automne à Varsovie* as fugal. The material is essentially linear and as such, the various entries of the thematic material must be emphasized clearly. By presenting the opening statements of the subject simply, in its relatively bare textural context, Ligeti ensures its recognition later.

Just as the recurrent subject of a traditional fugue functions to confirm the establishment of an important tonal modulation, the re-emergence of the subject starting at

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<sup>59</sup> Griffiths, *György Ligeti*, 14.

<sup>60</sup> Toop, *György Ligeti*, 61.

m. 55 (see Example 4.8) demarcates the beginning of an important section of rebuilding. Further, in a traditional fugue, tension accumulated during fugal episodes is dissipated only by the arrival of the subject in a stable key. Similarly, metric tension acquired during the episodic passages of *Automne à Varsovie* is relieved only by the disappearance of texture and the emergence of rhythmically uncomplicated material. According to Alexandra Townsend, an accomplished pianist herself, "The first of these breaking off points is followed by the cold and empty 'moment' which requires the performer to totally reorientate her focus. Following this, and again at the beginning of the third section of the piece [m. 98], the performer must ensure that surface motion resumes immediately, creating a sense of rejuvenation and rebirth."<sup>61</sup> This structural design, as discussed earlier, is essentially fugal in principle, and in actual performance, these moments of stability are pillars that serve to reset the performer and his audience.

An issue that arises from the monothematic quality of *Automne à Varsovie* is the potential for monotony that the performer must strive to overcome through experimentation and the exploration of alternative ways of communicating the piece's essence. A variety of textural, dynamic and timbral possibilities should be considered to maintain intensity and interest.

For instance, during passages where descending lines are clearly perceived, the pianist may choose to highlight the complementary voices to provide another dimension to the texture. Examples of this situation occur during the climactic shapes that define the three main sections of the piece.

Taking the first climactic shape, beginning in m. 52 as an example, the descending

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<sup>61</sup> Townsend, "The Problem of Form," 79-80.

chromatic scale is clearly presented starting on the G in the left hand melody while the other voices move in disjunct and seemingly chaotic ways (see Example 5.1). Strategically placed in the structural lowest voice, the rhythmically regular chromatic line serves as "structural glue," allowing for much rhythmic complexity in the upper voices without losing order, much like a pedal point holds non-diatonic notes to the key. Just as it is often undesirable to voice a pedal point, so the non-descending, irregular lines of this passage should be highlighted and brought to the forefront of activity.

Example 5.1 Ligeti: *Automne à Varsovie*, m. 51-57.

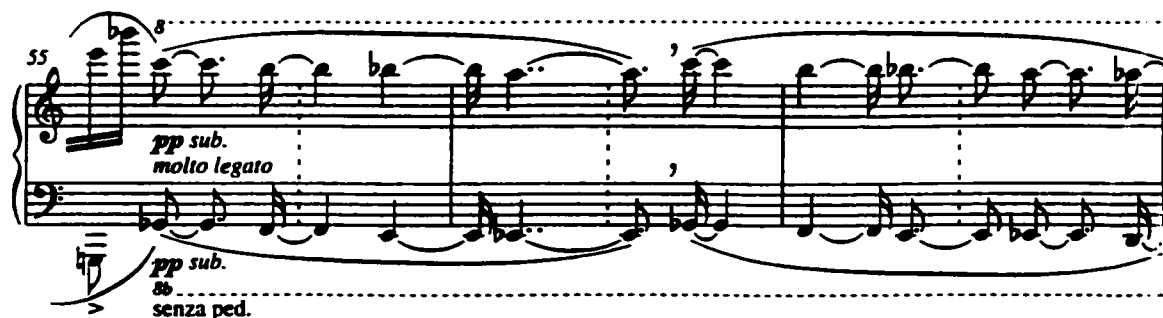
The musical score for Example 5.1, Ligeti's *Automne à Varsovie*, measures 51-57, is presented in two systems. The first system covers measures 51 to 54, and the second system covers measures 55 to 57. The score is in G major and 3/4 time. The left hand (bass clef) plays a chromatic line starting on G, which serves as a structural glue. The right hand (treble clef) has more complex, disjunct lines. The score includes dynamic markings such as "cresc. poco a poco" and "ff".

Measure 51: *cresc. poco a poco*

Measure 53: *(cresc. poco a poco)*

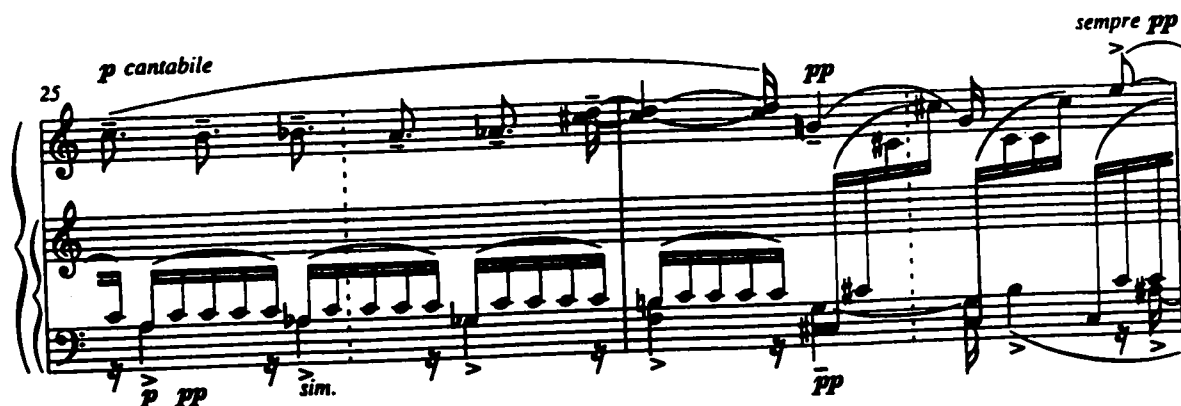
Measure 55: *(cresc. poco a poco)*

Measure 57: *ff*



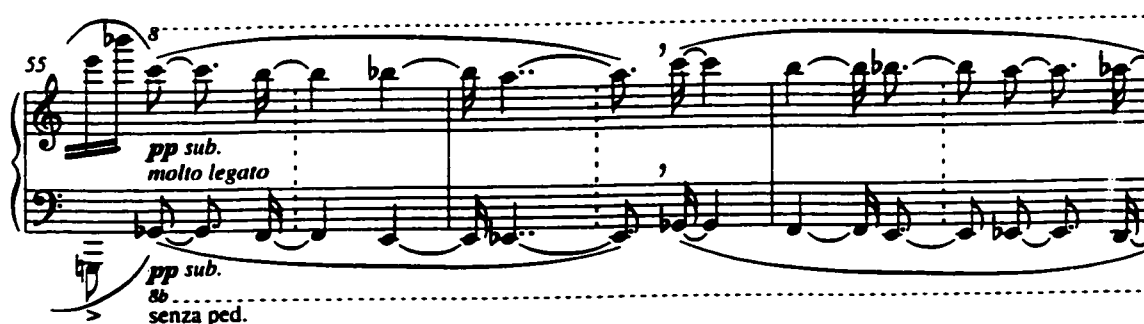
Dynamic and coloristic experimentation is a necessity in preparing any vibrant performance. In *Automne à Varsovie*, Ligeti indicates a large dynamic range from *pppp* to *fff* *con tutta la forza*. However, within this guideline, there are different characters and colors of dynamic. For example, the *pianissimo* markings in m. 26, m. 99 and m. 55 are very different character settings and therefore should be played with differences in timbre. The first passage is within the flowing *cantabile* context of the preceding measure (m. 25) while the sudden thinning of texture in m. 55 calls for an eerie, still, intense and yet utterly disengaged quality. In addition, the extremity of register and the indication *senza pedal* call for cold introspection. (See Examples 5.2 and 5.3)

Example 5.2 Ligeti: *Automne à Varsovie*, m. 25-28.





Example 5.3 Ligeti: *Automne à Varsovie*, m. 55-56.



Moreover, the *pianissimo* in m. 98 that accompanies a dramatic, chromatic ascent (first in the tenor line and then in the lower voices) marks the beginning of the last section, carrying a feeling of terrible suspense and inevitable collection of momentum. Incidentally, the more infrequently occurring ascending line should be brought out even after the descending line enters in the upper voice in m. 100 in accordance with the principles mentioned earlier. (See Example 5.4)

Example 5.4 Ligeti: *Automne à Varsovie*, m. 98-103

The musical score for Ligeti's *Automne à Varsovie*, measures 98-103, is presented in three systems. The first system (measures 98-99) shows a dense texture with multiple staves. The second system (measures 100-101) continues the texture, marked *pp*. The third system (measures 102-103) shows a gradual increase in intensity, marked *cresc. poco a poco* and *sf*. The score is written for piano and features complex textures with multiple staves.

The quality required of this passage is of restrained intensity and one-sided omniscience, as if the spontaneous perception of the piece is only experienced by the audience from this point on—only the performer is aware of the outcome of the piece. The

accumulation of ascending lines starting in m. 98 naturally calls for an increase in dynamic and intensity, and the sustained *pianissimo* from m. 98 to m. 103 requires much tactile and psychological control on the part of the pianist. If executed with a careful balance of intensity and objectivity, a mysterious, omniscient quality can be achieved.

Perhaps, embedded in this passage lies one of the keys to vibrant performance--the balance between omniscience and spontaneity. According to Cone, "The convincing performance is one that absorbs the listener so deeply into the flow of the music that, even though he may know perfectly everything that lies ahead, he can still savor each moment as if for the first time."<sup>62</sup>

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<sup>62</sup> Cone, *Musical Form*, 55.

### "Serious Analysis" vs. "Performer's Analysis"

In addition to having served as the President of the International Society for Music Theory from 1982-85, Wallace Berry is also a composer and a pianist. In his book *Musical Structure and Performance*, Berry describes analysis as "the inescapable basis for interpretive doing and not doing."<sup>63</sup> Moreover, he argues that without a firm grounding in what he calls, "serious analysis," performers can only rely on "vagaries of intuition or on docile imitation of their teachers and other performers"<sup>64</sup> when interpreting music. While Berry clearly advocates the role of musical analysis as crucial groundwork in the preparation of performance, other scholars such as John Rink disagree.

A world authority on the music of Chopin and chief editor of Peters' (London) forthcoming Chopin edition, John Rink is also an accomplished pianist and is highly regarded for his work in the field of performance studies. In his review of Berry's *Musical Structure and Performance*, John Rink writes about "a unique kind of performer's analysis...quite distinct from what we as analysts usually practice,"<sup>65</sup> which he views as being an integral part in discovering the aural shape and gesture in music. Rink takes issue with the notion that "serious analysis" alone allows for the extraction of all interpretative details required to formulate a meaningful basis for performance. He argues, "Attempting to recast the findings of analysis into a performance mould seems to me not unlike translating a book into another language word-for-word, without regard to the second language's particular idioms, inflections, grammar, and syntax...Capturing the meaning or 'spirit' of the original--

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<sup>63</sup> Wallace Berry, *Musical Structure and Performance*, (New Haven and London: Yale University Press, 1989), 6.

<sup>64</sup> Ibid., 8.

<sup>65</sup> John Rink, review of Wallace Berry, *Musical Structure and Performance*, *Music Analysis* 9/3 (1990): 323.



surely the most important goal of any translation--would be virtually impossible in such an undertaking."<sup>66</sup> Further, he holds that informed intuition is a more useful tool than any theoretical system in defining aural shape, and he even suggests that theorists may have more to gain from performers' musical awareness than performers can gain from analytic awareness of theorists.

Charles Fisk is Professor of Music at Wellesley College, where he teaches music history, theory, and piano. The most accomplished pianist among these writers, he is also the most diversified in scholarly activities. In his article "Performance, Analysis, and Musical Imagining," Fisk provides reactions to the writings of Berry and Rink. Fisk holds that Berry overplays the role of analysis and underplays the role of experimentation in the preparation of performance, while Rink does not give enough credit to the ways that the "performer's analysis" can draw on "serious analysis."<sup>67</sup> Further, he presents his own ideas regarding the attainment of a vivid musical experience for performers and audiences. According to Fisk,

"Even the most musically literate listeners respond not so much through any observations they formulate in the course of listening to a performance as through the vividness that the imaginative focus and energy of the performance brings to their musical experience. Practical musicianship consists more in the ability to imagine music, both aurally and bodily, than in the ability to define and order its parameters; and no analysis can take the place of the years of practical experience required to develop and focus a performer's aural and technical imagination. Indeed, the physical aspect of a performer's relationship to a piece is essentially implicated in his or her hearing, imagining and shaping of the music."<sup>68</sup>

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<sup>66</sup> Ibid., 320.

<sup>67</sup> Charles Fisk, "Performance, Analysis, and Musical Imagining," (*College Music Symposium* 36, 1966), 60-61.

<sup>68</sup> Ibid., 60.

Fisk concludes that theorists and performers themselves need to investigate not only the ways performers actually reach decisions, but also what attitudes and habits of thought enable them to make musical experience most vivid.

## Conclusion

It is vital that any pianist wishing to play *Automne à Varsovie* be aware of its complex formal structures if he is to give an informed rendition this work. The process however, is usually integral, rather than a separate deliberation. This is partly true because most performers almost never have the time, or the capacity, to carry out extremely detailed theoretical analysis. However, the growing trend in performances is to include introductory remarks about the concert program, usually given by the performer. Especially in the case of contemporary music concerts, introductory remarks can be extremely helpful for audiences in their understanding of the music.

At this point, I refer to my own experience with this situation, as a performing pianist with some theoretical background. During a tour consisting of concerts for educationally diverse audiences in larger and smaller centers, I was initially hesitant in choosing to program *Automne à Varsovie*. In the spirit of experimentation and adventure, I decided to include the work on all the programs, but with varying approaches. In the bigger English-speaking centers, I provided detailed analytical notes, while in the smaller centers, more general introductory comments were provided. In China, where I estimated the audiences to be somewhat less learned in contemporary literature, I wished to provide similar remarks, but was unable to, due to language barriers. On the other hand, the audiences in Sweden were much more accustomed to hearing contemporary music, so although inhibited by the

language, I did not feel that educational comments were crucial in this country. Although the reaction to the work was uniformly positive and enthusiastic, the concerts where some background information was provided spawned more discussion about Ligeti and general curiosity about other works by the composer.

Helpful in laying the groundwork for understanding the context of a musical score is the history behind the genre of the piece—the historical precedence in which Ligeti wrote his études, as an inheritor *and* as a creator in his own stage of development.

However useful historical and theoretical research is in determining the shape of a musical work, the ultimate success of a musical performance relies on the ability of the performer to breathe life into the music through descriptive, imaginative forces. Moreover, the more musically complex a work is, the more potential there is for interpretative decisions, and the less likely that a single, ideal performance exists. According to Cone, "Every valid interpretation thus represents, not an approximation of some ideal, but a choice: which of the relationships implicit in this piece are to be emphasized, to be made explicit."<sup>69</sup>

However, because of the nature of music as an abstract aural art form, performers cannot state decisions explicitly as in a critical discourse, unless notes or preliminary remarks are given. However, these are usually by no means thorough or definitive, given the forum of public performance. As such, an audience can only infer some of the performer's thoughts about the shape and character of his musical interpretation.

However, in some good performances, the audience may sense that the performer has thought and felt, and that the performer has been able to absorb and integrate these

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<sup>69</sup> Cone, *Musical Form*, 34.

thoughts and feelings into his music making. At times, this phenomenon occurs to the point where the ego of the performer ceases to exist, and all that is left is the music. In essence, the performer may have *become* the music in attaining enlightened performance.

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