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ÉTUDES POUR PIANO, premier livre
of GYÖRGY LIGETI:
STUDIES IN COMPOSITION AND PIANISM

by

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

Master of Music

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ABSTRACT

ÉTUDES POUR PIANO, premier livre
of GYÖRGY LIGETI:
STUDIES IN COMPOSITION AND PIANISM

In Ligeti's own description of the Piano Études, he says, they are "Études in a compositional and pianistic sense"¹ that "behave like growing organisms."² Upon more detailed analysis, Ligeti's complex ideas of organic structure and illusion are revealed. However, the complicated, yet highly organized configuration does not detract from poetic expression. In this respect, they are like the Études of Chopin and Debussy.

Although Chopin, Debussy, African idioms, Nancarrow and jazz are compositional influences in Ligeti's Piano Études, these pieces are altogether unique. By revealing his musical and extra-musical inspiration, Ligeti is only referring to the musical/aesthetic environment in which he composes. In his Piano Études, Ligeti has uniquely assimilated this environment and the result is music that breathes and communicates on a personal level. Their directness of communication, innovative rhythmic texture, and virtuosic pianism place them among the most attractive and important works of contemporary piano literature.

¹ In an introductory lecture for a performance of Désordre in Gutersloh on May 5, 1990 as described in liner notes to Erato ECD 75555, 1990 (Notes translated by Sid McLauchlan, performed by Pierre-Laurent Aimard).

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CHAPTER I

BIOGRAPHY: Life and Stylistic Development

György Sándor Ligeti was born in Transylvania, Romania on May 28, 1923. From 1945-49, Ligeti was a student at the Budapest Academy of Music 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.

With the onset of World War II, Ligeti was forced to stop his musical studies when he was sent to a labor camp. He survived and immediately after the war, he resumed studies at the Academy of Music in Budapest--the alma mater of Bartók and Kodály--where he became an instructor in 1950. For the next year, he did field research in Romanian and Hungarian folk music and then returned to the Academy as professor of harmony, counterpoint, and analysis. With limited access to music from the West, Bartók and Kodály were unquestionably the most important influences for Ligeti during his time in Hungary. Until the death of Stalin, political censorship prevented publication or performance of some of Ligeti's more daring works, and only pieces based upon folk or peasant songs were acceptable. Ligeti describes his predicament during this repressive time:

"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."

3 Liner Notes to Volume 1, Sony Classical SK 62308, 1997.
"...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.'"\(^4\)

Consequently, most of the music Ligeti composed between 1945-56 is tonal, though he seldom used key signatures. Typical of his writing in the 1950's are the choruses Éjszaka and Reggel, 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. He describes this time as a naïve phase that liberated him from Bartók and helped associate him with something more "modern." Ligeti's most important work of this period is the Chromatic Fantasy for Piano, a strict twelve-tone work, which the composer himself describes as "a very bad piece."\(^5\) Ligeti felt that serial composition and its linear emphasis on pitch relationships, intervals and texture ignored the vertical dimension of music. However, despite his objections to these aspects of serialization, Ligeti agreed with the systemization of musical elements and procedures that is logically executed to the end of a composition. In the post-serial works, he chose, instead, to shift his focus towards the color, density, volume, and texture of sound, forging an alternative to post-Webern serialism for Western music.

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

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\(^4\) Ligeti's remarks were made spontaneously in Darmstadt in 1972 during the discussion that followed papers given by Carl Dahlhaus and Reinhold Brinkmann on aesthetic and political criteria in compositional criticism. The remarks were later entitled "On Music and Politics" and published in the Darmstädter Beiträge zur Neuen Musik XIII, ed. Ernst Thomas (Mainz, 1973), pp. 42—46. This above translation is by Wes Bloomster, with the permission of B. Schott's Söhne.

and works such as Stockhausen's piece for tape, *Gesang der Jünglinge*, which left a deep impression. A year later, Stockhausen arranged a scholarship for Ligeti to work in the Westdeutscher Rundfunk Electronic Music Studio. During the summer months, Ligeti taught courses at Darmstadt. In Cologne, he was able to explore his growing fascination with electronic music, and shortly after arriving in Cologne, he composed three electronic pieces - *Glissandi, Artikulation* and the unfinished *Atmosphères* (unrelated to the orchestral *Atmosphères*).

Lasting only from 1957-58, 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 in the electronic studio, where he could assemble pieces layer by layer, that he developed one of his most important compositional innovations - micropolyphonic webs. He credits the complex polyphony of Ockeghem as well, but the electronic studio gave him the tools to develop the technique.

The texture that Ligeti calls "micropolyphony" is an extraordinarily dense polyphony resulting in complex musical color and texture that transcend the traditional definitions of melody, harmony and rhythm. It is based on minute details that is an extension of 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 masses of sound.

Micropolyphony can be best observed in the orchestral works, *Apparitions* and *Atmosphères*, where he combines instruments into clusters. The premiere of *Apparitions* (for orchestra, 1958-59) at the ISCM Festival in 1960 launched Ligeti's international career. In
the second movement, Ligeti explores a phenomenon of psychoacoustics where the smallest time frame a sequence of two sounds can occur and be perceived as separate identities is fifty milliseconds. Any less time between them results in the perception of a single sound. Ligeti's development of this principle reaches full maturation in *Atmosphères* (for orchestra, 1961), the work that brought him to international prominence.

*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. The result is a series of subtle transformations, as chromatic, diatonic and pentatonic clusters float in and out of focus. As in Samuel Barber's "Adagio for Strings," the ascending gesture of the opening of *Atmosphères* is defined by a gradual climb in the orchestra to a high cluster in flutes and piccolo. The music then suddenly drops six octaves to the lowest section of the orchestra with a cluster in the double basses. *Atmosphères* firmly established Ligeti's international reputation. The general population was exposed to his music when Stanley Kubrick used *Atmosphères* in his film, "2001: A Space Odyssey (1968)."

The idea of virtually static music was something with which he had already experimented in Budapest, and Ligeti credits this kind of cluster thinking as originating from Hungarian folk music.

Along with his development of micropolyphony came Ligeti’s experiments in a fabricated, coloristic language, built on non-traditional use of speech sounds and inflections, heard in *Adventures* (1962) and *Nouvelles aventures* (1962-65). In these works, Ligeti strives to dissolve the differences between vocal and instrumental sounds. In fact,
the singers hardly do any "singing" in the traditional sense. Similarly, in the *Cello Concerto* (1966), the usual contrast between soloist and orchestra is minimized in music consisting mainly of very long lines and slowly changing, very non-traditional textures.

It was his concept of clusters and "clouds"—the whispered *ppp* and *pppp* sustained chords and passages marked *pppppp*—that was to become one of his most distinguishing features. This is illustrated in works such as *Requiem* (for soprano, mezzo-soprano, two choruses and orchestra, 1963-65) and *Lontano for orchestra* (1967). At its Stockholm premiere in 1965, the *Requiem* made a powerful impression, and it won the Bonn Beethoven Prize in 1967.

In 1968, excerpts from *Lux aeterna* (1966) and *Requiem* were also used on the best-selling soundtrack recording of "2001: A Space Odyssey". With the success of *Atmosphères* and *Volumina* for organ (1961-62), Ligeti forged a powerful alternative to post-Webern serialism for Western music, and his use of clusters influenced the work of other composers during the 1960’s.

His achievements led to teaching appointments in Stockholm (from 1961), Stanford (starting in 1972), and Hamburg (from 1973-89). Since 1956, Ligeti has lived in Germany and Austria, after obtaining Austrian citizenship in 1967.

In the 1970’s, his writing became more transparent and melodic in a non-traditional sense. In *Melodien* for orchestra (1971), he transforms the idea of melodic and harmonic structure by using micro-intervals. Another earlier example is *Ramifications* (1968-69), written for two string ensembles tuned a quartetone apart. A combination of the "cloud" effect and his use of micro-melody can be seen in his surreal opera, *Le grand macabre* (1978).
Ligeti recognized some trends such as minimalism, and although he had arrived at the style of frequent repetition independently, 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.

In 1975, Ligeti was awarded the German decoration for merit and the Bach Prize of the City of Hamburg. He was also the recipient of the University of Louisville Grawemeyer Prize for Music Composition in 1986, the same year that the Études pour piano - premier livre was published. In 1996, Ligeti was awarded the Music Prize of the International Music Council.

In 1979, Ligeti changed the direction in which his music was moving again, and the works that followed in the 1980's reveal yet another transformation in his style. For example, the Horn Trio (1982) uses more tonal materials, showing a return to an earlier style, influenced by Bartók. Also showing a return to folk elements is Two Hungarian Studies for chorus (1983).

However, the more important compositional innovation during this time is 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 Bk.1 (1985), Bk.2 (1988-1993), Bk.3 (1995).
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. He has survived all of the various modern, post-modern, and other "isms" to become one of the most important musical innovators of our generation. Ligeti's technical innovations such as micropolyphony, clusters and "clouds" and the rapid succession of rhythmically complex structures have created a distinct personality in his music, which has been highly influential to a younger generation of composers. Ligeti's unique blend of technical invention, humor and intellect, as well as the emotional impact of his music, set him apart from many of his contemporaries, and he continues to play a key role in the development of new music in the beginning of this century.
CHAPTER II

CREATIVE STIMULI FOR
ÉTUDES POUR PIANO, PREMIER LIVRE

History of the Étude

The idea of a work constructed around a single technical or musical idea was in opposition 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.

A few Viennese Classical composers composed concert Études before 1800, but it wasn't until Chopin published his two collections—Op.10 and Op.25 (circa. 1830)—that the Étude was firmly established as a genre. Chopin's great contribution to the Étude, or "study," is the infusion of musical substance into the technical exercises. While Liszt also wrote Études, his Paganini, Transcendental, and Concert Études move in a more purely technical direction. Debussy's twelve Études (1915), on the other hand, follow Chopin's lead. They are dedicated to the memory of Chopin and although bearing titles that refer to a single technical challenge (often resembling those addressed by Chopin), they are also musical gems. Another composer who recalls the spirit of Chopin's Études is Scriabin, who wrote Op. 2, No.1, Op. 8, Op. 42, and Op. 65 between 1887 and 1912. Rachmaninov's sets of Études tableaux, Op.33 and Op.39 are harmonically and texturally poignant, with titles that suggest programmatic origins. After the middle of the nineteenth century, only Stravinsky showed any interest in writing Études, publishing a set of four Études, Op.7, in 1908. In the latter half of the twentieth century, William Bolcom's two sets of Études have become important, but with three books of Études so far, written from 1985 to 1995, some feel that
György Ligeti is the most important composer to follow in the tradition of Chopin for more than fifty years.

Ligeti's first book of Études was completed in 1985 and published in 1986. They won the prestigious University of Louisville Grawemeyer Award for Music Composition the same year. The intention in the Études was to create a new kind of rhythmic articulation that he referred to as "illusionary rhythm."

COMPOSITIONAL ENVIRONMENT IN THE 1980'S

The most important musical influences on Ligeti after 1980 have been the mechanical piano music of Conlon Nancarrow, sub-Saharan African music, and fractal geometry. However, Ligeti says, "It would be inappropriate to assume that my piano études are a direct result of these musical and extra-musical influences. By revealing my interests and inclinations, I am merely indicating the intellectual environment in which I work as a composer."

Mechanical Piano Music: Nancarrow

Between 1910 and 1930, composers such as Stravinsky and Antheil wrote pieces for the mechanical piano that could not be played by human hands. Mechanical music was predicted to have a great future, and it can be considered the forerunner to computer music. One of the most important composers for this medium was Conlon Nancarrow, who wrote fifty works gathered as Studies for Player Piano between 1950 and 1985.

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Ligeti credits Conlon Nancarrow and his *Studies for Player Piano* for opening "entire worlds of rhythmic-melodic subtleties that lay far beyond the limits that were recognized in 'modern music'." He describes Nancarrow's music as "the greatest discovery since Webern and Ives... His music is so utterly original, enjoyable, constructive, and at the same time, emotional. For me, it is the best music by a living composer today."

The two most important features of Nancarrow's music that struck Ligeti were canon and isorhythm. The constant reiteration of a fast pulse is necessary to maintain the rhythmic regularity in any one voice and this underlying fabric facilitates isorhythm. For example, by grouping the fast note into cycles that are assigned to different voices that enter at different time intervals, rhythmic units, *tæcta* is created, and by adding a melodic formula to each rhythmic phrase, *color* and canon are created. Ligeti employs strict isorhythmic principles in the first *étude, Désordre*.

His fascination with the polyrhythms possible on a mechanical piano inspired the composer to strive to find ways by which a solo pianist could perform such rhythmically complex music.

**Central African Music**

One rich source of inspiration for Ligeti were the acoustic and motoric elements found in the music of sub-Saharan African cultures. The polyphony created in ensemble works on the xylophone as well as the solo playing of the lamellophone (a sub-Subharian

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8 Erato, 1990.
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 ethnomusicologists, particularly Simha Arom's collection of recordings of music from the Central African Republic, which he first heard shortly after 1980. 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 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."¹⁰

Although Ligeti was referring specifically to Désordre, the first étude of Bk. 1, general concepts can be discussed here.

The main features of sub-Saharan African music are the absence of the Western "strong beat-weak beat," the presence of a fast, continuous pulse, and the repetition of groups of larger rhythmic units, composed of various groupings of the fast note.¹¹ In addition to the absence of strong and weak beats, there is no rubato, ritardando, or fermata to distort the underlying pulse.

¹⁰ Erato, 1990.
¹¹ Erato, 1990.
By presenting a number of parts where each player enters at a different time interval, many simultaneous polyrhythms can be created. The cycles of organization of these parts resemble concepts of isorhythm. Therefore, in many ways, traditional African music is no different than Nancarrow's Studies. (Refer to Example 3.7b)

Ligeti's Études pour piano nos. 1, 3, and 6 in Bk. 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 Bk. 1.

In addition, Ligeti says, "Another fundamental characteristic of African music was significant to me; the simultaneity of symmetry and asymmetry."

12 In African music, the cycles are always 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 (eg. 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.

Fractal Geometry

Given Ligeti's fascination with systematically organized structural principles, it is not surprising that the field of geometry also intrigued the composer—in particular, drawings of fractal geometry found in Benoit Mandelbrot's book, Fractals. Fractal literally means "fragmented," and can be illustrated by referring to a diagram found in Mandelbrot's

12 Erato, 1990.
book. A square is "fragmented" by identical permutations of each of the resulting smaller squares. The result is a "snow-flake-like-figure" that can be considered as a diminution of the original square.\textsuperscript{13} (See Figures 1 and 2).

In \textit{Étude No. 2, Cordes vides}, Ligeti employs the musical equivalent of such a fractal. With constantly decreasing note values—eighth notes to triplet sixteenth notes to thirty-second notes to eight against three to eight against six—a feeling of acceleration is created through rhythmic diminution (analogous to the unfolding of the square), despite the same speed of the pulse of the eighth note. This is analogous to the always-constant base number in squaring or cubing.\textsuperscript{14}

It should be emphasized that Ligeti's fascination with structural design is far from scientific. His music is emotionally charged and communicative. He states his desire to write music in which "one finds neither that which one might call the 'scientific' not the 'mathematical,' but rather a unification of construction with poetic, emotional imagination."\textsuperscript{15}

Elements of jazz pianism also fascinated Ligeti, and he mentions the work of Thelonious Monk and Bill Evans as being influences, as can be observed in \textit{Fanfares} and \textit{Arc-en-ciel}, his fourth and fifth piano \textit{études}, which will be discussed in a later chapter.

Even though Ligeti does not elaborate on the programmatic titles of some of the \textit{Études}, such as "Rainbow," "Autumn in Warsaw," "The Sorcerer's Apprentice," and "The Devil's Staircase," he does give his views on illustrative suggestion in his music:

\textsuperscript{13} Mandelbrot, Benoit B., \textit{Fractals: Form, Chance, and Dimension}. (San Francisco: W.H. Freeman, 1977): 49.

\textsuperscript{14} Cory Hall, "The Piano Etudes of György Ligeti, Book 1," 3.

\textsuperscript{15} György Ligeti, "On My \textit{Études} for Piano," 4.
"...Sounds and musical contexts continually bring to my mind the feeling of color, consistency, and visible or even tastable form. On the other hand, color, form, material quality and even abstract ideas involuntarily arouse in me musical conceptions." 16

However, Ligeti also describes the above only as a foundation for some of his compositions, saying:

"I do not mean that it serves as their 'content'. Nothing could be further from my intention than to create illustrative or wholly programmatic." 17

Although a confirmed leader in the avant-garde, Ligeti defines "pure" music as an expression consisting of traditional melodic/harmonic structures, vs. the "non-purist" music or new abstract designs, which he pokes fun at, stating:

"Sounding planes and masses, which may succeed, penetrate or mingle with one another - floating networks that get torn up or entangled - wet, sticky, gelatinous, fibrous, dry, brittle, granular and compact materials shreds, curlicues, splinters and traces of every sort-imaginary buildings labyrinths, inscriptions, texts, dialogues, insects-states, events, processes, blendings, transformations, catastrophes, disintegrations, disappearances-all these are elements of this non-purist music [sic]." 18

For Ligeti, musical and extra-musical ideas recall one another; both are absorbed and transformed by his own unique personality and set of experiences, and only then are they manifested in musical composition. He views this progression as an essential component for a work to be unique and meaningful.

16 Paul Griffiths, György Ligeti, 31.
18 Paul Griffiths, György Ligeti, 31.
CHAPTER III
RHYTHMIC AND PIANISTIC VIRTUOSITY

Études pour piano, premier livre

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 example, 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.

Illusionary Polytempi

The most outstanding feature of Ligeti's Piano 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".

On a very basic level, the concept 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."19

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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.

In Example 3.1, 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. Ligeti took this idea one step further in experimenting with different numerical relationships such as 3:5, 4:5, or 7:5. \(^{20}\)

Example 3.1 Chopin: Ballade Op.52, mm. 175-176.

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

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 notation. However, even these cease to be helpful when Ligeti extends the hemiola concept across a longer span to include other ratios other than duple and triple, such as five to three, seven to five, or multiple combinations like seven to five to three. 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, Ligeti is successful in his goal--namely, a single pianist is able to produce the illusion of several players by the use of different simultaneous tempi.

Pianos and Pianism

One of the most obvious compositional influences for the Piano Études was the idiom--namely, the piano and the pianist. Although not a virtuoso pianist himself, Ligeti was well aware of physical parameters, believing that "a well formed piano work produces physical pleasure."21 The composer humorously credits his lack of pianistic talent for composing the Études, stating:

"Cézanne had trouble with perspective. The apples and pears in his still life seem about to roll away. In his rather clumsy depictions of reality the folds of the tablecloth are made of rigid plaster. But what a wonder Cézanne accomplished with his harmonies of color, with the emotionally charged geometry, with his curves, volumes, and weight displacements! That's what I would like to achieve: the transformation of inadequacy into professionalism.\textsuperscript{22}

As his pianistic models, Ligeti turned to the great composers/pianists—Chopin, Schumann, and Debussy. Ligeti's \textit{Piano Études} extend the possibilities of the piano and pianistic technique while still achieving Ligeti's expressive purposes.

All the \textit{Études} use a simple core of musical ideas that are developed extensively in an organic manner, usually, with increasing pianistic challenges as the piece progresses. Powerfully communicative, the \textit{Études} also exhibit unusual rhythmic structures.

In the first \textit{étude}, \textit{Désordre}, the right hand plays white keys exclusively, while the left hand plays only black keys. 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 sixteenth-note motion, polymeter, dual modality, canonic imitation, and shifting accents, makes \textit{Désordre} one of the most pianistically challenging of the set.

Example 3.2 Ligeti: \textit{Désordre}.

\textsuperscript{22} Liner notes to Volume 3, Sony Classical, 1997.
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.

Especially noteworthy is the third étude, Touches bloquées, in which one hand silently holds down varying clusters, while the other hand plays quick chromatic figures, sometimes consisting of some of the "blocked keys". Although the keys that are held do not sound, "playing" them is essential in determining the rhythm of the music.  

Example 3.3a Ligeti: Touches bloquées, instructions.

● = Depress the key silently and hold
● ● = Depress the key, sounding the note, and hold
● ● ● = Depress the key, sounding the note, and hold. The sounded note is joined on to the silent note in the next bar with a tie (even if the tone continues to sound).

Example 3.3b Ligeti: Touches bloquées, mm. 22-24.

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23 Ligeti was not the first to use the technique of blocking keys. Karl-Erik Welin used the technique in his performance of Ligeti's organ work, Volumina. Ligeti later developed the technique based on a concept by Henning Sidentpof in "Neue Wege der Klavietechnik" Melos 40 (1973). (Svard, "György Ligeti: Études pour piano, premier livre." Notes 44 (1987-88), 578-579.)
Marked *Vivacissimo*, the middle section presents a formidable challenge to the pianist with its virtuosic octaves marked *feroce, strepitoso* in extreme registers of the piano to produce an antiphonal effect.

Example 3.4 Ligeti: *Touches bloquées*, mm. 83-85.

![Musical notation](image)

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 *ppppppp* to *pp* in the right hand, and *pppp* to *sub.ff* in the LH also pose a formidable challenge.

Example 3.5 Ligeti: *Fanfares*, mm. 169-171.

![Musical notation](image)
In *Arc-en-ciel*, Ligeti bars the left hand as 6/8 and the right hand in ¾, creating constant hemiola. Also, the frequent rubato indications along with dense chromaticism and quick changes in dynamic require much control and concentration.

Example 3.6 Ligeti: *Arc-en-ciel*, mm. 15-16.

The masterpiece of his *Études*, Ligeti refers to *Automne à Varsovie* as the coda of Bk 1. As in *Désordre*, this work shows poly-temporal relationships like those used by Nancarrow.

In perpetual sixteenth notes, the "lament motif" is presented in many layers of different and varying rhythmic groups, resulting in the illusion of polytempo. The pianistic challenge lies in keeping track of the many entrances of the motif whose rhythmic groupings are continually changing.

Example 3.7a "Lament Motif"\textsuperscript{24}, melodic grouping of *Automne à Varsovie*, mm.1-20.

\textsuperscript{24} Cory Hall, "The Piano Études of György Ligeti, Book 1," 12.
Example 3.7b Ligeti: *Automne à Varsovie*, various groupings of the sixteenth note, which result in polyrhythm.\(^{25}\)

1. m.1

2. m.19-20

3. m.26-27

4. m.79-80

Highly innovative in rhythmic conception, Ligeti's *Études* extend the possibilities of pianistic technique and have become as important in contemporary piano literature as the *Études* of Chopin and Liszt in their day.

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CHAPTER IV

ÉTUDES POUR PIANO, premier livre

To date, there are fifteen Études for Piano - the first book containing six Études, the second book containing eight Études and the third book containing only one 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 first three Études of the first book - namely, Désordre ("Disorder"), Cordes vides ("Open Strings"), and Touches bloquées ("Blocked Keys") - are dedicated to Boulez as a tribute for his 60th birthday. The last three Études are Fanfares, Arc-en-ciel ("Rainbow"), and Automne à Varsovie ("Autumn in Warsaw"), 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.

1. Désordre - Molto vivace, Vigoroso, molto ritmico

Ligeti’s first piano Étude, Désordre, serves as a prime example of the composer’s primary ideas of construction in the 1980’s—namely, “organized chaos.” In an introductory lecture for a performance of Désordre in Gutersloh on May 5, 1990, Ligeti describes the first piano Étude as “a concealed homage to the new science of deterministic chaos.”

26 Erato, 1990.
Even though the work gives the impression of chaotic or random development, core material is meticulously worked out on many levels. Through the absence of traditional measures and the employment of a fast, elementary pulse, Ligeti is able to erase the pre-conception of a single, regular meter. Against this grid, he graphs varying cycles of accent shifting. In his own words, "I use this principle in Désordre for accent shifting, which allows illusory pattern deformations to emerge; the pianist plays a steady rhythm, but the irregular distribution of accents leads to seemingly chaotic configurations".  

The title, Désordre, describes the effect of disorder that is perceived. Upon closer inspection, the piece actually reveals an overall organizational plan that exhibits two systems of strict 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.

Interestingly, the piece is harmonically static and the bitonal elements of the piece are hardly noticed. (As mentioned earlier, the right hand plays the white keys only, while the left hand plays the black keys). Melodically, the piece is also very simple, consisting of a single, pervasive theme that is reminiscent of a Hungarian folk melody, presented diatonically in the right hand and pentatonically in the left hand. Driving the melody (marked by accents) is a constant background of rapid, even quavers marked piano.

Although much of Désordre is monochromatic in melody, harmony, and texture, it follows 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 begins with a siff chord and 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.28

The simplicity of melody and harmony offsets the highly complex rhythmic structure of Désordre. In the beginning, the melodies are synchronized rhythmically in both hands, giving the impression of order. However, this impression of rhythmic order starts to disintegrate in measure 4 when the accents in the left hand start to lag behind those in the right hand. Example 4.1 illustrates the shifting accents between the hands when the accent in the right hand occurs one quaver before the accent in the left hand in measure 4. Eventually, the rhythmic displacement between the hands grows larger, with the left hand always lagging behind. After a while, the listener is unable to determine which hand leads the other. A state of order is restored as gaps between the accents in the hands decreases until the accents fall simultaneously in the two hands. At this point, the cycle begins again. The rhythmic transformations result from the distribution of the accents against perpetual eighth notes, from which cycles of order and disorder arise.30

Because of the increasing gap of displacement, one bar line ceases to become functional and Ligeti uses separate sets of bar lines for the rest of the piece, which correspond to the phrase cycles in each hand. In the manuscript, the occasional lining-up of specific accents in both hands is indicated by a dotted line; in the printed score, the bar

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line extends across the grand staff. The separate order of the hands, as indicated by the
two sets of bar lines, is a visual indication of the co-existence of chaos and order.

Example 4.1 Ligeti: *Désordre*, from mm.1.

The B section begins with a short simultaneous statement of dramatically shortened
thematic material in both hands. This contraction is an extension of the gradual
contraction in the A section but from this point on, dotted quarter notes cease to appear
and eventually, the contraction results in an accent on every eighth note. The effect of
many successive accents, extremity of registers, and increasing volume is highly
suspenseful. Finally, the contracted theme collapses onto itself and culminates on an
explosive chord that marks the onset of the A' section. From this point on, the contracted melody undergoes expansion.

As the notes of the melody are pulled further apart, the constant eighth-note pattern in the background starts to gain importance. In his performance instructions, Ligeti indicates that the eighth note figures are to serve as background material, starting a piano dynamic marking, eventually reaching mp and mf. At the end of the piece, the emerging countermelody in eighth notes breaks free in an assertive crescendo to the highest note on the piano.\textsuperscript{31}

Example 4.2 Ligeti: Désordre, final measures.

\textsuperscript{31} Sony Classical, 1997.
2. *Cordes à vide - Andantino con moto, molto tenero*

The second *Étude* is in the spirit of Debussy. The title, "Open Strings" describes the perfect fifths found throughout the piece that recall the tuning of stringed instruments. Like the first *étude* of the 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.

Example 4.3 Ligeti: *Cordes à vides*, mm. 1-3.

![Musical notation image]

Section II contains four short subsections. In subsection a, open harmonic fifths based on the open strings of the violin and viola appear, first in canon, then later, interspersed among the opening streaming fifths in a triplet pattern.

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In subsection b, the triplet figure incorporates ascending streams of fifths presented chromatically.

Example 4.5 Ligeti: *Cordes à vides*, mm. 18-20.
A repeated note figure is introduced in subsection c.

Example 4.6 Ligeti: *Cordes à vides*, mm. 23-24.

Subsection d reaches a climax in texture and dynamics, using three-note chords in the highest register followed by an extreme drop in range and dynamic.

Example 4.8 Ligeti: *Cordes à vides*, mm. 26.
Also similar to *Désordre*, Section III starts quietly after the climax is reached in Section II. Comprised of a gently rising pattern of arpeggiated fifths in the bass register, the triple-duple duality between the hands is explored further.

Example 4.8 Ligeti: *Cordes à vides*, mm. 27.

Towards the end of subsection a, thirty-second notes are introduced in the right hand and a harmonically static pattern based on fifths is created against triplets in the left hand.

Example 4.9 Ligeti: *Cordes à vides*, mm. 30.
Subsection b concludes the piece, continuing the thirty-second note motion in the left hand, presented against a new, expansive melody with wide leaps that recall the natural horn. Presented pp in the right hand, harmonic open fifths of the viola close this beautiful work.

Example 4.10 Ligeti: *Cordes à vides*, mm. 36-39.

3. *Touches bloquées - Presto possibile, sempre molto ritmico*

Another perpetual motion étude, the constant quaver pattern that one plays is incongruent with what one hears. 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, affecting the rhythm patterning. The result is a complicated series of rhythmic patterns that appear chaotic (Ligeti writes "stuttering" as the opening performance.

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indication), but the music is actually highly organized on three levels of activity.\(^{35}\) Level I is the pointillistic ostinato-like pattern that relies on the blocked keys to create rhythm variances. The diamond-shaped notes represent notes that are depressed silently and then held, and the small quaver notes represent the silence created when these depressed notes are struck.

Example 4.11 Ligeti: *Touches bloquées*, mm.1-3.

Vivacissimo, sempre molto ritmico

\[
\text{"stuttering" \ldots \text{\textit{stuttered}}} \quad \text{senza ped. (sempre)}
\]

Notes marked with staccato represent Level II.


Level III consists of notes that are played normally but then held as a blocked key, notated by a filled-in note head tied to a diamond-shaped note, as shown in the left hand in the following example.

Example 4.13 Ligeti: *Touches bloquées*, mm. 18-21.

![Example 4.13 Ligeti: *Touches bloquées*, mm. 18-21.](image)

Similar to the first two études of the set, *Touches bloquées* is also in a three-part form, with a climactic middle section and a more subdued conclusion.

Section I is marked by the alteration of an ostinato-like pattern (rhythmic level 1) between the hands. Secondary staccato material is imitative of the primary pattern (rhythmic level 2). A short, but climactic Section II features short asymmetrical measures of extreme dynamics and range. No keys are blocked in this section.⁶⁶

Example 4.14 Ligeti: *Touches bloquées*, mm.76-80.

![Example 4.14 Ligeti: *Touches bloquées*, mm.76-80.](image)

Related to the opening section, Section III uses an ostinato-like pattern, but incorporates skips. Borrowing from Section II as well, it uses quick changes in dynamics and short motives.

Example 4.15 Ligeti: Touches bloquées, mm.94-96.

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. "The duration of 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."\(^{37}\)

4. Fanfare - Vivacissimo molto ritmico, con allegria e silenzio

Fanfare-like melodies based on horn-fifths, open fifths and fourths are superimposed onto an underlying ostinato of perpetual eighth notes in this étude. The ostinato is comprised of a scale based on two intervally identical tetrachords, with the starting notes of C and F#.

Although the eight eighth notes of the ostinato are grouped as $3+2+3$, Ligeti instructs that each group be emphasized equally since he wishes to achieve a "barless" quality in the ostinato, which is often passed between the hands.

The fanfares are irregularly accented and grouped as $3+2+3$ over the underlying ostinato. The effect is jazz-like with an improvisatory line above a steady rhythmic and harmonic background. At first, the melody notes coincide with the accented notes of the ostinato. Later, asymmetrical fanfares appear in continually varying rhythmic groupings, resulting in polymetric music that recalling Hungarian folk music. Illusions of distance and proximity are indicated by Ligeti's instructions, "eco" [sic], "closer", and "further away".

Example 4.17 Ligeti: Fanfares, mm.169-171.

38 Sony Classical, 1997.
The piece is in sonata-rondo form with a truncated Recapitulation that contains only two subsections. In Section A of the Exposition, the melodic phrases coincide with the accents of the eighth-note ostinato with the basic melodic unit being the quarter note or dotted-quarter note.

Example 4.18 Ligeti: *Fanfares*, mm.1-3.

Vivacissimo, molto ritmico, \( \alpha = 63 \), con allegria e slancio

\[
\text{\textit{3-2-3}}
\]

\[
\text{\textit{pp sempre legato, quasi senza pedale}}
\]

In Section B, this alignment starts to dissolve as the melodic unit becomes an eighth note.

Example 4.19 Ligeti: *Fanfares*, mm. 45-47.

In Section A', the accents in the melody and ostinato line up again.

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The Development section is comprised of two parts where fragments based on fifths from Section A are found in the eighth note rhythm of Section B.

Example 4.20 Ligeti: Fanfares, mm.109-111.

Cross-accentuation occurs in the second part of the Development when the phrases become shorter, now grouped as 3+2+2.

Example 4.21 Ligeti: Fanfares, mm.117-119.

The Recapitulation begins with an extreme change of dynamic from $pppppppp$ to $pp$ in the right hand, and $pppp$ to $sff$ in the left hand. Section B is omitted and the quick,
extreme dynamic changes continue to the end of the piece where there is a short re-
appearance of material from the Development, marked \textit{da lontano} and \textit{morendo}.

5. \textit{Arc-en-ciel} - \textit{Andante molto rubato, con eleganza, with swing}

\textit{Étude} No. 5, entitled "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: \textit{"Varying tempo: The metronome mark represents an average, the semiquaver
movement fluctuating freely around this average tempo, as in jazz."}\footnote{29}

Harmonically, the piece consists almost entirely of seventh chords, and one of the
most striking features is the use of a major-seventh chord, followed by a minor-seventh
chord, creating descending parallel fifths.\footnote{30} Continual hemiola occurs as a result of the right
hand being barred in $\frac{3}{4}$ and the left hand being barred in $6/8$.

Example 4.22 Ligeti: \textit{Arc-en-ciel}, mm.1-2.

\footnote{29} Gyorgy Ligeti. \textit{Études pour piano, premier livre}. (Mainz: Schott, 1986), 37.
The piece is divided into four sections. The melody in the first section is based on thirds with seventh-chords as harmonic support. The mood is quietly expressive without much change in register.


Section II shows a gradual climb in range, denser textures, and more chromatic harmony with extreme changes in dynamics and tempo that lead to the climax of the piece, or the highest point of the arc of the rainbow, marked *pesante* and *ff*.

Example 4.24 Ligeti: *Arc-en-ciel*, mm.11-12.

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Section III introduces a new melody in the soprano.

Example 4.25 Ligeti: *Arc-en-ciel*, mm.13-16.

The arching shape of a rainbow is depicted in the left hand at the start of the closing section, concluding with a return to the quiet mood of the opening.

The final measures are progressively quieter with a continuously rising chromatic passage. The texture gradually thins out and Ligeti writes _perdendosi_ and _quasi niente_.

Example 4.27 Ligeti: _Arc-en-ciel_, mm.21-24.

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6. _Automne à Varsovie_ – _Presto cantabile, molto ritmico e flessibile_

Considered the masterpiece of Ligeti's _études_, "Autumn in Warsaw" shows the influence of Nancarrow's work with polytempi. 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. In this way, _Automne à Varsovie_ is like _Désordre_. 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."\(^{42}\)

Although the piece begins in a clear 4/4 with an E-flat broken ostinato in sixteenth notes, each pitch of the melody (the "lament motif", as described in Example 3.7a) falls on

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\(^{42}\) Conlon Nancarrow in an interview by Roger Reynolds, "Conlon Nancarrow: Interviews in Mexico City and San Francisco," _American Music_, II/2 (Summer 1984) 6.
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 4.28 Ligeti: *Automne à Varsovie*, mm. 1-2.

A chromatic fragment of the "lament motif" serves as accompaniment to the main theme, starting in measure 19. The chromatic line is grouped into units of three sixteenth notes, creating a 5:3 ratio.

Example 4.29 Ligeti: *Automne à Varsovie*, mm.19-20.

Another temporal relationship is added in measure 27, when 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 4.30 Ligeti: *Automne à Varsovie*, mm.27-28.

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

Example 4.31 Ligeti: *Automne à Varsovie*, mm.47-48.

This section reaches its climax in measure 55, after increasing rhythmic complexity and expansion of range between the two hands. The texture then suddenly thins out and the main theme is presented a tritone apart in rhythmic unison. The extreme registers, marked *pp sub.* add to the desolate quality of these measures.
Example 4.32 Ligeti: *Automne à Varsovie*, mm.53-57.

This type of build to climax followed by a sudden thinning of texture and dynamic occurs several times with increasing frequency, accumulating momentum to the end of the piece. *Automne à Varsovie* 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".

Example 4.33 Ligeti: *Automne à Varsovie*, mm. 118-122.
This forceful descending gesture closes Bk.1, answering the assertive ascending gesture in the ending of the opening étude. 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 the main theme are grouped into units of five sixteenth notes (analogous to the exposition of a fugue).\(^3\) The following section uses groups of three and five and can be compared to the development, and the final section uses many different groupings that increase in complexity, similar to the *stretto* effect in the final part of a fugue.

**Conclusion**

Although the *Études pour piano, premier livre* can be programmed individually, Ligeti advises that the original order be retained if the entire cycle is performed. In his own words, "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 Étude', which acts as a coda to the entire piece."\(^4\) Indeed, the cycle employs

\(^3\) Cory Hall, "The Piano Études of György Ligeti, Book 1," 9.

\(^4\) Wergo, 1987, 8.
symmetrical principles. The opening and closing études use the most complex temporal relationships, providing a frame for the set. In addition, the descent to the bottom of the piano at the end of Automne à Varsovie serves to balance the ending of the opening étude, Désordre, which ends with and ascent to the highest register of the piano. Also important is the progression of the different tempi of the pieces within the set and is arranged in a palindrome—fast, slow, fast, fast, slow, fast.

Upon hearing, Ligeti’s Études exhibit the influence of an eclectic array of styles. However, he creates original and profound music with lasting significance. They are “outwardly extremely personal and spiritual documents which only a Ligeti can have managed.”

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