

Columbia-Princeton Electronic Music Center

INTRODUCTORY REMARKS TO A PROGRAM OF WORKS PRODUCED AT THE COLUMBIA-PRINCETON ELECTRONIC MUSIC CENTER, GIVEN AT THE MC-MILLIN THEATRE OF COLUMBIA UNIVERSITY ON MAY 9 AND 10, 1961:

Your presence here, at a concert of electronic music, is a compliment to the composers, as well as to the two Universities that sponsor their work; and while I extend to you a welcome on behalf of the Universities I also wish to convey the composers' hope that you will be as gratified by hearing their works as they are by your willingness to listen.

No doubt your expectations are mixed. You are ready to be surprised, to have your curiosity satisfied, and possibly even to experience snatches of enjoyment as you would at an ordinary concert. If that is your state of mind I am fairly sure you will not be disappointed. But it may be that you are here in a mood of combined trepidation and resistance: this, after all, is the Age of Anxiety. . . . Or you may be bent on proving that electronic music is not music—doing this by the most painful test of endurance, or else you may be feeling caught because you have been brought by a friend and friendship is dearer to you than prudence.

If for these or any other reasons you are ill at ease, allow me to suggest a very few considerations which should make you more serene, while leaving you your full freedom of opinion, your entire right to dislike and reject. I suggest, to begin with, that we are not here to like or approve but to understand. And the first step to understanding a new art is to try to imagine why the maker wants it the way it is. That is interesting in itself, even if we ultimately disown the product. To understand in this fashion does not mean to accept passively because someone says that the stuff is new and therefore good, that many believe in it, that it's going to succeed anyway, so it's best to resign oneself to the inevitable. This kind of reasoning has gone on about modern art for some thirty years and nothing has been more harmful to the arts. It is an inverted philistinism, which eliminates judgment and passion just as surely as did the older philistinism of blind opposition to whatever was new.

What then is the decent, reasonable attitude to adopt? Very simple: make the assumption, first, that the old style—whatever it is—has exhausted its possibilities and can only offer repetition or trivial variations of the familiar masterpieces. I do not suggest that you should be convinced that your favorite music is obsolete. I invite you to assume that it may be: for by trying to think that it is, as the new composer obviously has done, you will begin to discover what he is up to. By way of encouragement let me remind you that you make this very assumption automatically four or five times in every classical concert, in order to adjust your ear to the changes in style between Bach and Mozart, Mozart and Richard Strauss, and—if you can—between Strauss and Alban Berg. If styles and genres did not suffer exhaustion, there would be only one style and form in each art from its beginnings to yesterday.

But, you may say, electronic music is something else again; it is out of bounds; the jump is too great. There is no semblance of scale, the sounds are new, most of them are in fact noises. Ah noise! Noise is the most constant complaint in the history of music. In the heyday of music it was not only Berlioz and Wagner who were damned as noisy. Mozart before them and Haydn, and even earlier Lully and Handel. I suspect that the reason Orpheus was torn to pieces by women is that he made horrendous noises on his lyre while they were washing their clothes at the river in what they thought was melodious silence. The argument of noise is always irrelevant. The true question is: does this noise, when familiar, fall into intelligible forms and impressive contents? To supply the answer takes time. One hearing, two, three, are not enough. Something must change in the sensibility itself, in the way that a foreign language suddenly breaks into meaning and melody after months or years of its being mere noise. As a veteran of the premiere of Stravinsky's *Sacre du Printemps* in Paris, I can testify to the reality of the change. At the end of the piece, the conductor Pierre Monteux turned around amid the furious howls of the audience and said that since they had liked the piece so much he would play it again. The response was no better and the police had to quell the tumult. But now, fifty years after, the young accept those hammering rhythms and dissonant chords as if they were lullabies. They relish them while dallying in canoes, at the movies to accompany Disney's abstractions, and at the circus, where the music is used for the elephants to dance to.

Associations, in short, and assumptions and expectations rule our judgments. They govern our feelings, which we think are altogether spontaneous and truthful. But our sensibility is always more complex and more resourceful than we suppose, and that is why I have ventured to bring to your conscious notice what you knew all the time but might not allow for, sufficiently in listening to electronic music for the first time.

The word "electronic" suggests a final objection with which it is well to have come to grips. Most people of artistic tastes share the widespread distrust and dislike of machinery and argue that anything pretending to be art cannot come out of a machine: art is the human product par excellence, and electronic music, born of intricate circuits and the oscillations of particles generated by Con Edison, is a contradiction in terms. Here again the answer is simple: the moment man ceased to make music with his voice alone the art became machine-ridden. Orpheus's lyre was a machine, a symphony orchestra is a regular factory for making artificial sounds, and a piano is the most appalling contrivance of levers and wires this side of the steam engine.

Similarly, the new electronic devices are but a means for producing new materials to play with. What matters is not how they are produced but how they are used. And as to that we are entitled to ask the old questions—do we find the substance rich, evocative, capable of subtlety and strength? Do we, after a while, recognize patterns to which we can respond with our sense of balance, our sense of suspense and fulfillment, our sense of emotional and intellectual congruity? Those are the problems, beyond the technical, which our composers have tried to solve. We shall now attend to their handiwork with pleasure and gratitude (I hope) and certainly with a generous fraction of the patience they have themselves invested in their efforts to please us.

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—JACQUES BARZUN

The Columbia-Princeton Electronic Music Center was established in 1959 with the assistance of a grant from the Rockefeller Foundation. The Center provides three studios for composition and research in the electronic production of music. One studio houses the RCA Electronic Sound Synthesizer and related recording equipment, the others contain specialized equipment for sound generation and modification. Earlier grants from the Foundation made through Barnard College, allotment of space and other assistance by Columbia University have enabled Otto Luening and Vladimir Ussachevsky of Columbia to conduct joint experiments in the medium, with technical assistance from Mr. Peter Mauzey. The Center is jointly administered by Otto Luening and Vladimir Ussachevsky of Columbia University and Milton Babbitt and Roger Sessions of Princeton University.

BÜLENT AREL (Turkey) has taught, and composed symphonies, ballets, and chamber and theatre music. Until recently, he was a research assistant at the Columbia-Princeton Electronic Music Center, having come there on a grant from the Rockefeller Foundation. STEREO ELECTRONIC MUSIC NO. 1, composed of sounds completely derived from electronic sources, is conceived in two general sound groups: undifferentiated continuous sound texture as background, contrasted with more clearly articulated signals. Throughout the work, the motif-derived texture remains as a constant, while the articulated signals are developed and expanded by a process which the composer likens to the growth of the branches of a tree.

HALIM EL-DABH (Egypt) is United States-educated and was awarded a Guggenheim Fellowship in 1959. He has composed symphonies and concertos, and his ballet, *Clytemnestra*, was recently performed by Martha Graham and her company. LEIYLA AND THE POET uses purely electronic sounds sparingly but obtains most of its effects by applying the tape manipulation technique of speed transposition, and electronic reverberation, to the instrumental and vocal materials prepared and recorded by the composer. The work is an incident from a work in progress, Electronic Drama, No. 1. Mr. El-Dabh's libretto, inspired by the ancient Arabic ode *Majnum Leiyala*, is concerned with a madman and a poet who attempt to persuade Leiyala to follow different paths, either that of a free woman or that which would bind her to unbreakable ties. The chorus, when uttering words recognizable and unrecognizable, inflicts opposing ideas on the drama's three characters.

VLADIMIR USSACHEVSKY (United States), born in China and

educated in the United States, composed a number of compositions for conventional instruments before beginning his pioneering work with tape at Columbia University in 1951. Since then, he has done many compositions for tape either alone, or in collaboration with Otto Luening. Together they furnished tape music for the New York productions of *King Lear* and *Back to Methuselah*, and works for tape recorder and orchestra. Mr. Ussachevsky is recipient of a grant from the National Institute of Arts and Letters and two Guggenheim Fellowships. CREATION—PROLOGUE is the first part of a projected extensive choral work. The text is derived from myths of creation: the Prologue uses excerpts from the Akkadian *Enuma Elish*, the most ancient of all, and Ovid's *Metamorphoses*. The work begins in Akkadian, the language of Babylon, implying the chaotic state but giving no description of it. The composer says: "I felt a need of interpolating some such description from another ancient source, and thus the opening lines of *Metamorphoses*, rendered in Latin, are inserted, or musically speaking, superimposed on *Enuma Elish*. I sought to exploit the contrast between the archaic quality of Akkadian and the sound of classical Latin... the antiphonal manner of the performance assists in sharpening this contrast." The composition is written for four full choruses and may be performed in various combinations of live performers and pre-recorded chorus, or simply as an entirely recorded work from two or four tape tracks. Antiphonal treatment of the material is frequently employed, and in several instances a dense dissonant texture is achieved by the use of multi-choral polyphony. In this performance the choral material was prepared by the Little Chorus of Macalester College, St. Paul, Minnesota, under the direction of Dr. Ian Morton. In a few instances the vocal range is enlarged by tape manipulation techniques. The accompaniment is almost entirely electronic in origin and includes a short section produced on the Synthesizer.

MILTON BABBITT (United States), Professor of Music at Princeton, composer, writer and lecturer, has had compositions performed both here and abroad. He received the National Institute of Arts and Letters Award, among other recognitions of his work. COMPOSITION FOR SYNTHESIZER is a purely electronic work. It was created entirely on the Synthesizer and the output has not been subjected to any further mutations or modifications. The composition is less concerned with "new sounds and timbres" than with the control and specification of linear and total rhythms, loudness rhythms and relationships, and flexibility of pitch succession, which can be secured through the programming control of the Synthesizer.

MARIO DAVIDOVSKY (Argentina) studied composition with Maestro Guillermo Graetzer in Argentina and Aaron Copland in the United States. He has written ballet, chamber, theatre and film music. Awarded a Guggenheim Fellowship to study at the Columbia-Princeton Electronic Music Center, he is presently a staff member there. The sounds for ELECTRONIC STUDY NO. 1 were initially derived from three electronic sources: sinusoidal and square wave generators, and white noise. Conversion of these sounds into compositional materials was achieved by use of filters, reverberation chamber and through different recording processes. Basically, the STUDY is built upon five sound mixtures working as a series which is inverted, transposed and interpolated, and the sound mixtures are changed in density and intensity from the original. The material is developed through four carefully timed sections.

OTTO LUENING (United States) studied music in Munich and Zurich. The artistic influence of Andreae, Jarnach and Busoni helped to form his career. He has composed over two hundred works, and is also an active conductor and educator. Since 1952, he has been a close collaborator with Vladimir Ussachevsky in the field of electronic music. GARGOYLES is a composition for violin solo and synthesized sound. The synthesized sound material was produced on the Synthesizer, and later manipulated by tape techniques. The composition consists of a subject and series of short variations, each complete in itself. Some are synthetic and others are for the solo violin. Several variations combine solo and tape. The single tones of the subject introduce different shades of the same type of sound, and continue to accumulate until the end of the piece when the subject is transformed completely. The violin variations function as lyric contrasts to the synthetic ones, which are mostly dramatic and brilliant. The violin solo part is played by Max Pollikoff.

ELECTRONIC PIONEERS

BÜLENT AREL

ELECTRONIC MUSIC NO. 1 (1960)

MUSIC FOR A SACRED SERVICE: PRELUDE and POSTLUDE (1961)

Tapes realized at the Columbia-Princeton Electronic Music Center

MARIO DAVIDOVSKY

ELECTRONIC STUDY NO. 2 (1962)

Tape realized at the Columbia-Princeton Electronic Music Center

KENNETH GABURO

LEMON DROPS (1964-5)

FOR HARRY (1964-6)

Tapes realized at the University of Illinois Electronic Music Studio, and the composer's home studio

VLADIMIR USSACHEVSKY

METAMORPHOSIS (1957)

LINEAR CONTRASTS (1958)

Tapes realized at the Columbia University Tape Music Studio

The music on this record was produced at the original Columbia University Tape Music Studio and its successor, the Columbia-Princeton Electronic Music Center, and at the University of Illinois Electronic Music Studio. It includes some of the earliest electronic music released on commercial records, and is reissued by CRI after its deletion on the Son Nova and Heliodor labels. The tapes used in this reissue are all freshly mixed from the original materials.

Three fundamental types of electronic music are represented: (1) tape music composed from materials created from 'natural' (concrete) sounds such as gongs, voices, and instruments; (2) tape music composed from sounds which were generated by electronic instruments such as audio oscillators and manipulated by diverse processing devices; (3) tape music composed from mixtures of concrete and electronic sound sources.

In all of the compositions, the composers employed the customary techniques of manipulating basic source-sounds recorded on magnetic tape. For example, complex sounds were constructed by splicing together short pieces of tape cut from recordings of various basic sounds. The ear perceives a total impression of complexity without being able to distinguish each of the simple components. This mosaic-like technique, which demands considerable patience on the part of the composer, was, in the early days of tape music sometimes regarded as sufficient to the completion of a tape composition.

In these works, however, the composers found it compositionally desirable to further process basic sound sources by way of semi-automatic devices. For example, tape recorders and associated equipment were used to develop continuous patterns of sound, usually characterized by certain rhythmic rigidity, but nevertheless useful. Between the extremes of handicraft and machine work, the composers used a variety of other specialized techniques, made possible by the flexibility of tape and the versatility of electronic equipment. For example, varying speed was used to produce different pitches and timbres; filtering was used to suppress some of the timbral characteristics of a given sound; reverberation to let the echo add color, liveliness, and a sense of spaciousness.

The composers represented here all composed a number of works for conventional instruments prior to turning to the electronic medium. BÜLENT AREL, (b. 1919, Istanbul, Turkey) graduated from and taught at the Ankara State Conservatory. He was the first Music Director of Radio Ankara and pioneered in the field of electronic music combined with conventional instruments with his *Music for String Quartet and Oscillator* (1957), later revised and retitled *Music for String Quartet and Tape*. In 1959 he came to the United States as the recipient of a Rockefeller Research Grant to the Columbia-Princeton Electronic Music Center and contributed significantly both to the

technical development and the literature of electronic music with over a dozen major works in his more than a decade association with the Center. He has taught composition at Yale University where he designed and installed the Electronic Music Studio in 1962 and has taught composition and electronic music for several years as visiting lecturer at Columbia University. Since 1971 he has been Professor of Music and Director of the Electronic Music Studio at the State University of New York at Stony Brook. He has composed a large number of instrumental, chamber, vocal, and symphonic works as well as music for the ballet, theatre, modern dance, television and film. His works include *MIMIANA I, II, III* for modern dance of which No. II appears on CRI SD 300, *FOR VIOLIN AND PIANO* (CRI SD 264) and *STEREO ELECTRONIC MUSIC NO. 2* (CRI SD 268). He is recipient of National Endowment for the Arts commissions for instrumental and electronic works, Columbia-Princeton Electronic Music Center commissions, and a New York Cultural Council Foundation commission for his work *Fantasy and Dance for Five Viols and Tape*.

Pulitzer Prize-winner MARIO DAVIDOVSKY (b. Argentina, 1934) has lived in New York since 1960, the year of his first Guggenheim Fellowship. Since then he has become renowned for his important *SYNCHRONISMS* series for electronic sound and traditional instruments (CRI SD 204 and 268), and for the elegance and refinement of his instrumental works (CRI SD 305). He has won the Naumburg, the Brandeis Creative Arts and the National Academy of Arts and Letters Awards, two Guggenheim Fellowships and two Rockefeller Fellowships. He has received commissions from, among others, the Koussevitzky Foundation, the Pan American Union, the New York Chamber Soloists, the University of Pennsylvania, Yale University, the Fromm Foundation and the Juilliard String Quartet. He is now (1976) Associate Director of the Columbia-Princeton Electronic Music Center and Professor of Music at the City College of New York.

KENNETH GABURO (b. Somerville, N.J., 1926) has, during most of his career, operated on the farther fringes of the advanced techniques. His first composition which employed extensive use of tape was *Bodies*, an opera for actors and tape, 1957. It was followed in 1958 by *Antiphony I [Voices]* for 3 string groups and tape. In 1975 Gaburo resigned from the University of California-San Diego, concluding 25 years of teaching (Kent State, University of Illinois, UCSD), to devote full time to his work, which, in addition to composition and other writings (e.g. a forthcoming book entitled: *Passing*, an autobiographic accounting of university life) includes his New Music Choral Ensemble (currently involved in Linguistic Theater) and a newly formed publishing company. He continues to compose for conventional instrumental and vocal groups, and as well, for tape and tape with live performers. In recent years his attention has also been directed to film and video compositions. Gaburo's *MALEDETTO*, a 40-minute spoken, sung and chanted composition, is on CRI SD 316).

VLADIMIR USSACHEVSKY (born 1911, Hailar, China) came to the United States in 1930 and attended Pomona College, Eastman School of Music, Claremont College, and Columbia University. He had a number of orchestral and choral performances before beginning to devote his entire attention to work with tape at Columbia University in the fall of 1951. His early experiments with tape were performed on a Composers Forum at the McMillin Theatre on May 5, 1952. The first concert of his and Otto Luening's tape composition in November, 1952, at the Museum of Modern Art in New York City gave rise to a term "Tape Music." In 1962 he completed what is probably the first completely electronic score, for a full-length feature movie, *No Exit* adapted from Jean Paul Sartre's play. Since that time he has produced electronic music for another feature length film, *Line of Apogee*, and for shorter film and TV productions, as well as composing works incorporating tape for chorus, and for symphony orchestra. He has received two Guggenheim Fellowships, two awards from the National Endowment for the Arts, and the Institute of Arts and Letters award for his pioneering work in tape and electronic music; in 1973, he was elected to a lifetime membership in the Institute. He is Professor of Music at Columbia University and chairman of the Committee of Direction of the Columbia-Princeton Electronic Music Center.

SIDE 1

Davidovsky: ELECTRONIC STUDY NO. 2 is a tightly organized work, basically a succession of percussive sounds. The pitch is indeterminate, but the quality of sound gives the impression that it originated from a variety of resonant membranes. The composer here avoids using any semi-automatic processes of generating or modifying the sounds, and works for the complete control of every detail of his composition. This work was originally distributed on four tracks of tape, each connected to a separate loudspeaker. Even in this two-track stereo version, the place of origin of any given sound combination has a definite structural significance.

Ussachevsky: LINEAR CONTRASTS is a composition in which the composer created sound patterns by the semi-automatic techniques mentioned above. From these patterns a composition was shaped into a final form. Radical change of pitch and timbre was accomplished by the use of an apparatus known as "Klangumwandler," developed by Dr. L. Heck of Südwestfunk in Baden-Baden, Germany, which produces precise alteration of the normal ratios between the harmonies of any given tone. This was the first use of this device by any composer. LINEAR CONTRASTS combines, structurally, a widely fluctuating sound-backdrop with a rhythmically rigid pattern superimposed on it. The timbre and the pitch change with each repetition of this pattern. A short coda closes this study.

Arel: ELECTRONIC MUSIC NO. 1. The initial sound material of this piece is derived entirely from sine- and square-wave oscillators. It is composed in clearly differentiated sections, each with a carefully limited number of horizontal and vertical patterns. The progression of well-contrasted phrases in cumulative rhythmic tension lead, in the end, to a strong impression of unity.

SIDE 2

Gaburo: LEMON DROPS and FOR HARRY are two of a group of five tape compositions made during 1964-5 (the remaining works are *Fat Millie's Lament*, *The Wasting of Lucretzia*, and *Dante's Joynte*). "Harry" is Harry Partch. All are concerned with aspects of timbre (e.g., mixing concrete and electronically generated sound); with nuance (e.g., extending the expressive range of concrete sound through machine manipulation, and reducing machine rigidity through flexible compositional techniques); and with counterpoint (e.g., stereo as a contrapuntal system).

Ussachevsky: METAMORPHOSIS has no particular program, but is an attempt to create an impression of a dramatic event. The peak of intensity emerges with a high, vocal line, created from an experimental recording by the composer of Bethany Beardslee's voice. This line descends gradually and ends when a much abbreviated recapitulation of the beginning brings the work to a quiet close.

Arel: MUSIC FOR A SACRED SERVICE: PRELUDE AND POSTLUDE. This work is in two contrasted sections. The first contains sombre, sometimes organ-like sonorities, the second, more brightly colored, cascading patterns. The piece moves as a whole, in speed and complexity, from a broad and serious beginning to a virtuoso-like conclusion.

The works by Arel, Davidovsky and Ussachevsky were originally released on a Son Nova record; the Gaburo appeared on a Heliodor (MGM) record. Both were withdrawn, and CRI, following its policy of reissuing historically significant and musically important deletions, has released them again with assistance from the Alice M. Ditson Fund of Columbia University.

Produced by Carter Harman

Cover by Judith Lerner

STUDY NO. 2 — E.B. Marks (BMI): 6'20"

LINEAR CONTRASTS — ACA (BMI): 3'45"

ELECTRONIC MUSIC NO. 1 — same: 8'45"

FOR HARRY — Lingua Press: 4'47"

LEMON DROPS — same: 2'51"

METAMORPHOSIS — ACA (BMI): 5'25"

SACRED SERVICE — same: 6'35"

LC#: 76-75063

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THIS IS A COMPOSER — SUPERVISED RECORDING

MARIO DAVIDOVSKY

CRI SD 204

Three Synchronisms for instruments and electronic sounds

NO. 1 FOR FLUTE (1963) *HARVEY SOLLBERGER (flute)*

NO. 2 FOR FLUTE, CLARINET, VIOLIN, CELLO (1964) *Sophie Sollberger (flute), Stanley Drucker (clarinet), Paul Zukofsky (violin), Robert L. Martin (cello), Efrain Guigui (conductor)*

NO. 3 FOR CELLO (1964-65) *ROBERT L. MARTIN (cello)*

MARIO DAVIDOVSKY (b. Buenos Aires, Argentina, 1934) pursued his initial musical studies in Argentina, working in composition with Guillermo Graetzer, Teodoro Fuchs, Erwin Leuchter, and Ernesto Epstein. In the United States he has studied with Otto Luening and Aaron Copland. Since coming to the United States in 1958, Mr. Davidovsky has won more than a dozen major awards, fellowships and commissions, among them two Guggenheim Fellowships, a Rockefeller Foundation grant, a Koussevitzky Foundation commission and a Fromm Foundation commission for the Synchronism No. 2 recorded here.

While Mr. Davidovsky's reputation has rested largely on the works composed in connection with his association with the electronic music center at Columbia and Princeton universities, his catalog of compositions includes a considerable variety of scores for non-electronic media — chief among them being two string quartets, a clarinet quintet, *Planos* for orchestra, *El Payaso* ballet suite, and *Serie Sinfónica*. A 1965 Fromm Foundation commission has resulted in Mr. Davidovsky's composition, *Inflexions* for 14 Players.

Concerning the Three Synchronisms recorded here, Mr. Davidovsky notes that "They belong to a series of short pieces wherein conventional instruments are used in conjunction with electronic sounds. The attempt here has been made to preserve the typical characteristics of the conventional instruments and of the electronic medium respectively — yet to achieve integration of both into a coherent musical texture."

"In the planning and realization of these pieces," Mr. Davidovsky notes further, "two main problems arise — namely proper synchronization (a) of rhythm and (b) of pitch. During the shorter episodes where both electronic and conventional instruments are playing, rather strict timing is adhered to. However, in the more extended episodes of this type, an element of chance is introduced to allow for the inevitable time discrepancies that develop between the live performer(s) and the constant-speed tape recorder.

"To achieve pitch coherence between the conventional instruments which use the 12-tone chromatic scale and the electronic medium which is non-tempered, use is made of tonal occurrences of very high density — manifested for example by a very high speed succession of attacks, possible only in the electronic medium. Thus, in such instances — based on high speed and short duration of separate tones, it is impossible for the ear to perceive the pure pitch value of each separate event; though in reacting, it does trace so to speak a statistical curve of the density. Only in a very few instances have tempered electronic pitches been employed in the Synchronisms. Throughout all three pieces, the tape recorder has been used as an integral part of the instrumental fabric."

Electronic Study No. 3 in Memoriam Edgar Varese was completed in 1965 at the Electronic Music Center of Princeton and Columbia Universities. Primarily, the piece is constructed on its most basic level, using articulative processes available only in the electronic media. The intense concentration and speed of occurring events, together with the very sharp articulation characteristics of the piece, give it a very idiosyncratic texture.

Collaboration in musical composition is much rarer than, say, novel writing and even picture painting. But Otto Luening and Vladimir Ussachevsky have been collaborating with eminent success ever since they discovered the possibilities of composition for tape recorders. **CONCERTED PIECE** is the third and one of the most attractive results of this collaboration, as its frequent public performances attest. CRI is proud of the unusually beautiful sound of this recording.

A Luening-Ussachevsky compositional collaboration starts with a conference. Having agreed that they want to write a piece, they then decide how long it is to last, and then what type of effect or quality they wish it to have (it would be fascinating to eavesdrop on this part of the conference). The rest is simply deciding how to divide up the labor. Later conferences help to eliminate unsuccessful efforts and to carpenter the sections together.

CONCERTED PIECE was composed in 1960 on commission by Leonard Bernstein and the New York Philharmonic, and premiered by them that year. The music bears some resemblance to a movement from a classical concerto, with the tape recorder in the role of soloist or concertino. The first part, composed by Mr. Luening, ends with the cadenza for taped sounds alone. It is somewhat more homogenous than the second, composed by Mr. Ussachevsky, which makes considerable use of an antiphonal interplay between the orchestra and tape.

OTTO LUENING had a long and distinguished musical career before he undertook composition on electronic tape. Of his more than 200 compositions, 15 make use of the tape medium; his **SYNTHESIS** is on CRI 215. In addition to his teaching activities at Columbia University, he is a director of the Columbia-Princeton Electronic Music Center.

JOSE SEREBRIER, was born in Montevideo, Uruguay, and was brought to the U. S. at the age of 17 to study with Aaron Copland. He remained to become Leopold Stokowski's assistant with the American Symphony Orchestra and conducted it himself with a flair and control that justified the maestro's confidence in him. As of 1968, he was serving as associate professor of Music at Eastern Michigan University. He has conducted public performances of **CONCERTED PIECE** in Mexico City, Israel and New York; he recorded its orchestral portions in Oslo.

VLADIMIR USSACHEVSKY is Professor of Music at Columbia University and Chairman of the Electronic Music Center. A public presentation of his first tape experiments in May, 1952, was the first performance of what became known as tape music—an indigenous American development. Besides a number of compositions for tape, he has produced two extensive film scores, one for "No Exit", a screen adaptation of Jean Paul Sartre's famous play, and another for a forty-five minute abstract movie "Line of Apogee", by Lloyd Williams. In 1967 and 1968 he was invited by the Bell Telephone Laboratories at Murray Hill, N. J. to investigate possibilities of sound synthesis on computers.

He writes: "The title, **OF WOOD AND BRASS** (1965) is derived from the materials used in composing it. I attempted to remove the final sound materials as far as possible from the quality of the original instrumental sounds." To achieve this, Mr. Ussachevsky used a number of machine and tape manipulative techniques which he developed from his extensive experimentation in tape medium when the latter was dependent exclusively on skilled handicraft rather than on the now popular keyboard controlled electronic sound generating devices. He adds:

"The first section consists predominantly of material evolved from the trombone and from the electronic source; the second from a single flourish on a trumpet; most of the third section was originally played on the xylophone, mixed with some electronic sounds; the final section is made almost exclusively from a glissando on the trombone and the sound of a Korean gong."

WIRELESS FANTASY was composed in 1960. The composer writes: "The birth of wireless communication ushered in an exciting period which lasted from 1899 to 1925 when the Amateur Spark Era came to an end. Much romance and nostalgia still remain from these times."

Among the American pioneers of this period perhaps none is better known than Lee De Forrest, whose inventions led to the development of radio as we know it today. To honor him, a group of dedicated old timers formed an organization known as "De Forrest Pioneers".

It is for this organization that Mr. Ussachevsky was asked to produce an electronic work utilizing some wireless code signals as basic sound material. He was introduced to a radio pioneer, Mr. Ed G. Raser, who has an extensive collection of old wireless amateur gear in his W2ZI Historical Wireless Museum in Trenton, N. J. It is there that Mr. Ussachevsky recorded such now seldom-heard sounds as code signals produced on the old spark generators. The insertion of a fragment from "Parsifal," electronically treated to resemble a short-wave transmission, was a result of Mr. Ussachevsky's learning that Lee De Forrest used this work as the first ever to be broadcast anywhere.

Adds Mr. Ussachevsky: "The first signal is 'QST', a standard call to all stations to stand by for a message of general interest. Then comes the first old open gap spark-generated code, 'DF' (for De Forrest), the identifying call of the famous Manhattan Beach Station which could be heard from Newfoundland to the Caribbean. This is soon followed by 'WA', associated with the Waldorf-Astoria Station, built in 1910, and then 'NY'. Under this is played a montage of wireless signals, until slowly the orchestral composition emerges. Toward the end 'DOC DF', the affectionate nickname by which De Forrest was known to his friends, is tapped by Mr. Raser. The **FANTASY** ends with the conventional code 'AR'—end of message—and 'GN'—good night".

—C.H.

MEL POWELL

• EVENTS for tape recorder

Voices: Mildred Dunnock, Martha Scott, Lee Bowman

• IMPROVISATION

Ward Davenny, piano; Keith Wilson, clarinet; David Schwartz, viola

• SECOND ELECTRONIC SETTING

• TWO PRAYER SETTINGS

*New York Chamber Soloists; Charles Bressler, tenor
Melvin Kaplan, conductor*



JOSE SEREBRIER



MILDRED DUNNOCK



LEE BOWMAN



MARTHA SCOTT

MEL POWELL (b. 1923) is Chairman of the composition faculty and Director of the Electronic Music Studio at Yale. His music is characterized by a delicate lyricism that never descends to mere preciousness, and by a passion for clarity and immediacy that illumines even his most complex works.

EVENTS (1963) uses three pre-recorded voices and electronically-generated sounds. Each of the actors was asked to read Hart Crane's "Legend." The recorded voices were then treated exactly like the electronic sounds, and their overlappings and transformations result in a poem-collage. The simultaneities, and the returns and repeats of isolated phrases and words create a number of subsidiary meanings and associations, thus "interpreting" the poem. Intertwined with the poem-collage, and interacting with it, are the electronic sounds, and the interaction makes EVENTS Powell's most overtly dramatic piece.

IMPROVISATION (1962), a commission of the Yale University Summer School of Music, and TWO PRAYER SETTINGS (1963), written for the New York Chamber Soloists, make use of tightly controlled polyphonic means which nevertheless allow each performer considerable freedom. The controls tend to create harmonic areas with clearly delimited interval content which often coincide with and unify motivic groups, as well control of the directional thrusts of the groups and their manner of attack. At times the tempo indication requires that each player perform as fast as possible without regard for the vertical correlation of the parts.

In IMPROVISATION the fluctuations of the tempo and the relatively complex writing in the strictly ensemble sections obscure the division between these and the freer sections, creating a continuum from one to the other.

In the TWO PRAYER SETTINGS, the strings are treated as a single polyphonic instrument and set against the oboe and the voice. The work is so rooted in the delivery of the texts that often they can be understood as normal discourse. Thus, the most complex passages occur when the voice is silent as, for example, at the opening of the second setting. The words of the first setting are by Paul Goodman, those of the second are attributed to Gregory the Great.

The SECOND ELECTRONIC SETTING (1962) contrasts sharply with EVENTS. Its divertimento-like surface and straight-forward structure make apparent the amazing technical virtuosity of the work. The individuality of the parts is made explicit by their own registral, timbral and rhythmic characteristics; thus the SETTING carries to the electronic medium some of Powell's attitudes towards instrumental music. However, like every true virtuoso performance, the piece can be enjoyed for its sheer engaging sound by listeners who do not care how it was put together.

—A.E.P.

The American Academy of Arts and Letters and its parent organization, the National Institute of Arts and Letters, are honorary societies with a distinguished membership of creative artists. They are chartered by an act of Congress and are devoted to the furtherance of the arts in the United States.

Through joint committees of selection, these societies every year award fifteen grants to young artists in recognition of distinction and promise. Four of these awards go annually to composers, in addition to the Marjorie Peabody Waite Award given every third year to an established composer of distinction.

In the spring an exhibition of the works of award winners in painting and sculpture is held at the Academy building. In 1956, it was decided to inaugurate a series of recordings with the similar purpose of calling attention to the works of award winners in music. This release, presented in collaboration with Composers Recordings, Inc. offers works by 1963 award winners, Vladimir Ussachevsky and Mel Powell.

This recording has been processed in Universal Stereo. For best results it should be played on stereophonic equipment, but it may also be played on modern monaural machines.

Concerted Piece: C. F. Peters (BMI) — 9 min.; Of Wood and Brass (BMI) — 5:30; Wireless Fantasy (ACA) (BMI) — 5'; Events (ASCAP) — 6'44"; Improvisation: G. Schirmer (ASCAP) — 6'10"; Second Electronic Setting (ASCAP) — 4'58"; Prayer Settings: G. Schirmer (ASCAP) — 5'10".

Cover picture: JIMMY ERNST

Printed in the U.S.A.

COMPOSERS RECORDINGS, INC.
170 West 74th Street, New York, N. Y. 10023



SIDE ONE

1. ARC: MUSIC FOR DANCERS
(By Daria Semegen; Time: 13:40)
2. MIMIANA I: FLUX
(By Bülent Arel; Time: 10:40)

SIDE TWO

1. MIMIANA II: FRIEZE
(By Bülent Arel; Time: 13:02)
2. MIMIANA III: SIX & SEVEN
(By Bülent Arel; Time: 12:23)

All the selections are published by American Composers Alliance, BMI.

Mastering engineer: George Piros
Atlantic Recording Studios, New York, N.Y.

Cover art: Abidine
Album design: Sandi Young
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The myriad, diverse sonorities, expressions, and articulations of the electronic music medium provide a remarkable array of musical colors especially suitable for combination with the visual medium of dance.

The electronic music works on this recording were composed expressly for modern dance and were commissioned by choreographer Mimi Garrard in the span of nearly a decade. Each individual musical work is uniquely related to its own choreography. Collectively, the compositions reflect varying degrees of complexity and diversity of both an aesthetic and technical nature, and a wide range of emotional expression.

In creating a dance work, often the choreographer may chart out a meticulously detailed plan of action on stage, including each beat or count of the dance in exact tempos, descriptions of dancers' movements which may form essential and recurring motives in the dance, and elaborate lighting effects. Then, the musical score is composed to synchronize with these aspects of the choreography. The dancers, in turn, synchronize their own movements to the music throughout the choreography, and the composer's musical score must be lucid, technically precise, as well as a sensitive aesthetic interpretation of the dance. Sometimes, the situation is reversed and the choreography is based on an already composed, previously commissioned electronic work, perhaps itself based on an overall expression or programmatic idea suggested by the choreographer, or else created by the composer as a work purely abstract in nature. In any event, the composer's intention is to create a work which complements the dance and is one of its essential components, and which can exist also as a complete musical work in its own right.

In this recording, the composers' virtuosity and musical mastery of the medium is unmistakably evident in these singular and engaging works of electronic music for dance.

Bülent Arel's series of *Mimianas* was produced at the Columbia-Princeton Electronic Music Center, and Daria Semegen's *Arc: Music for Dancers* was realized at the Electronic Music Studios at the State University of New York at Stony Brook, Long Island. The complete works combining choreography, music, and lighting images have been performed by the Mimi Garrard Dance Theatre initially in New York City and subsequently on tour.

AREL-MIMIANA I: FLUX [1968]

The dance work includes a film which projects changing colors, patterns, and numbers on the dancers, creating continuously changing abstract designs. This first electronic music score of the *Mimiana* series was composed after the choreography was completed, and consists of purely electronic sound phrases which parallel the overall gestures of the dancers, without indicating any specific beats or metric patterns, as such.

AREL-MIMIANA II: FRIEZE [1960]

The choreography for *Frieze* was completed some time before the musical score was composed. After seeing the dance, the composer's general impression was that of early Egyptian reliefs in which the human faces are seen in profile, while their torsos are facing outward. The dance suggested a feeling of a completely ritualistic procession consisting of slow and deliberate movements of the dancers. Except for a few contrasting short bursts of fast, active sequences, the dance never lost its hypnotic character.

In the musical score, all sounds are electronically produced and, coincidentally, the work reflects some tonal feelings. From the middle part of the score, where "pure sounds" or sine waves are used, microtones are introduced and begin to give a descending character to the previously existing pitches by gradually shifting the pitch structure downward—creating an intentionally blurred pitch relation. The sound colors and articulations are restricted only to those which seemed to best reflect the feeling of the dance.

AREL-MIMIANA III: SIX & SEVEN [1973]

The music is buoyant in nature and was composed following a list of various rhythms and tempos previously designed by the choreographer Mimi Garrard. The dance consists of a total of seven dancers, numerically identified by changeable neon-light number displays on the helmets of their costumes, and grouped into a set of six against the single seventh dancer. Throughout the dance, the six reject the seventh dancer by either ganging up on, or retreating from her. The music opens with an exposition of the numbers from 1 through 7. As #1 appears, the single basic beat is heard in the music. When #2 and #3 arrive, the beat is subdivided into two and three (triplet) pulses respectively. So it continues, in the manner of an inventory of numbers through the introduction of the work. When a certain number is highlighted in the dance, its musical motive reappears. This beginning section uses overlapping phrases of these subdivisions of the main beat forming smooth layers of sounds. The music progresses toward a gradually introduced double-bass type sound which outlines each beat clearly and dominates the ending section of the work. In the end, as the seventh dancer finally expires, repetitions of a high seven-tone ostinato are heard, as the music ends by gradually fading away.

Mimiana III was composed using electronic sounds including the Buchla synthesizer as an elaborate source material generator in combination with tape mixing and editing techniques.

SEMEGEN-ARC: MUSIC FOR DANCERS [1977]

The music was composed following the choreographer's detailed graph-diagram indicating each beat of the dance and descriptions of dancers' motions on stage, combined with a plan of synchronous stage lighting effects. The dance itself does not suggest a specific programmatic idea throughout, but each section of its arc pattern seems to feature motivic gestures

ranging from slow, graceful movements to rapid motions involving solo, duet, and trio combinations of the seven dancers. Sometimes, the lighting effects themselves are featured in precise synchronization with the music, and create elaborate silhouette designs as they play across symmetrical groups of stationary dancers. The piece consists of five parts whose themes, tempos, and "orchestrations" are arranged in the shape of an arc (A B C B A). Each section is itself divided into a smaller arc (a b a). After a brief introduction of phrases in groups of three beats each, the first part begins with two motivic elements arranged in a simple question-answer idea: lower range sounds on the beat, and contrasting high echoed flourishes in alternation. Section B introduces both a new tempo and "orchestration" or sound texture, as well as a new motive featuring a tremolo effect on harsh sounds alternated in various patterns from one channel to the other. A six note ostinato appears toward the middle of this section and is gradually integrated into a polyphonic passage. Section C's theme resembles an orchestral "tutti" and is followed by a variation of the tremolo idea and echo figurations heard previously. Although the music is essentially tonal and establishes various temporary tonal centers throughout, microtones and the characteristically rich textures of electronic sound sources provide dissonant impressions counterbalancing the tonal aspects.

The work was composed using a Buchla series 200 synthesizer and classic studio techniques. The music tape was synchronized at Bell Telephone Labs with the program of the Mimi Garrard Dance Theatre's portable computer-controlled lighting system by Mimi Garrard and James Seawright in preparation for *Arc*'s first presentation in May of 1977.

Bülent Arel (b. 1919, Istanbul, Turkey) graduated from and taught at the Ankara State Conservatory. He was the first Musical Director and *tonmeister* of Radio Ankara and pioneered in the field of electronic music combined with conventional instruments with his *Music for String Quartet & Oscillator* (1957). In 1959 he was invited to the United States as the recipient of a Rockefeller Research Grant to the Columbia-Princeton Electronic Music Center and contributed significantly to the field as an innovator, teacher, and composer of over a dozen major works. He taught composition at Yale University where he designed and installed the Electronic Music Studio in 1962, and at Columbia University as a frequent visiting lecturer. Since 1971, he has been Professor of Music and Director of the Electronic Music Studios at the State University of New York at Stony Brook, Long Island. His works include instrumental, vocal, and symphonic music as well as music for the ballet, theatre, television, and film. He is a recipient of several National Endowment for the Arts grants and commissions from the New York Cultural Council Foundation and the Columbia-Princeton Electronic Music Center.

Daria Semegen (b. 1946, Bamberg, Germany) studied at the Eastman School of Music, Yale and Columbia Universities, and in Warsaw, Poland as a Fulbright Scholar. Her composition teachers include Samuel H. Adler, Robert Gauldin, Burrill Phillips, Witold Lutoslawski, Bülent Arel, and Vladimir Ussachevsky. She has received numerous awards in composition including two BMI Awards, Chautauqua, MacDowell Colony, and Tanglewood fellowships, Fulbright Grant, two National Endowment for the Arts commissions, prizes from Yale University, Mu Phi Epsilon, and the ISCM Int'l. Electronic Music Competition for her work *Electronic Composition # 1*. She is author of instrumental and electronic music and has published articles on electronic music in the *Music Journal*. Since 1972, she was on the teaching staff of the Columbia-Princeton Electronic Music Center and also worked as technical assistant to V. Ussachevsky and Otto Luening. In January 1974, she joined the Dept. of Music of the State University of New York at Stony Brook where she is Asst. Professor and Associate Director of the Electronic Music Studios.

Recording Award.

BÜLENT AREL (b. Istanbul, Turkey, 1919) graduated from the State Conservatory of Ankara, with a diploma in composition, piano, and conducting. He taught harmony and counterpoint in the same conservatory and piano and history of music at the Teacher's College in Ankara. He was one of the founders of the Helikon Society of Contemporary Arts, and was the regular conductor of the Helikon Chamber Orchestra for four years.

He studied sound engineering in Ankara under Joze Bernard and Willfried Garret of the *Radio Diffusion Française*, both members of the *Club d'Essai* of Paris. This collaboration marked the start of his interest in *musique concrète*, which later led him to electronic music. From 1951 until 1959 he worked at Radio Ankara as recording engineer and then as the Musical Director. In 1958 he pioneered in the field of electronic music combined with conventional instruments, with *Music for String Quartet and Oscillator*.

In 1959 he came to the United States as the recipient of a Rockefeller Research Grant for work at the Columbia-Princeton Electronic Music Center and in 1961 worked as an assistant to Vladimir Ussachevsky. The next year, he was lecturer at Yale University, where he installed an electronic music studio. Back in Turkey between 1963 and 1965, he composed the score for a musical which ran in Istanbul for over a year. In 1969 he was appointed Associate Professor and Director of the Electronic Music Studio at Yale and in September 1971, he became Professor of Music and Director of the Electronic Music Studio at the State University of New York at Stony Brook.

In 1974 he was completing a work for viols and electronic sounds commissioned by the New York Consort of Viols under a New York State Council of the Arts grant. He also received a National Endowment of the Arts grant in 1974, for completion of a large-scale piano work for pianist, Robert Miller.

He has composed symphonic works, chamber music, including *For Violin and Piano* (1966) recorded on CRI SD 264, and music for solo instruments. Of his many electronic works is *Stereo Electronic Music No. 2* recorded on CRI SD 268.

The composer writes:

"*Mimiana II: Frieze* was commissioned by the Mimi Garrard Dance Company. The choreography was completed some time before the musical score was composed. My general impression of the dance was of early Egyptian reliefs in which the human faces are seen in profile, while their torsos are facing outward. The dance gave me the feeling of a completely ritualistic procession consisting of slow and deliberate dancers' movements. Except for a few contrasting short bursts of fast, active sequences, the dance never lost its hypnotic character.

"In the musical score, all the sounds are electronically produced. Coincidentally, the composition reflects some tonal feelings. From the middle part of the score, where the 'pure sounds' or sine waves are used, micro-tones are introduced and begin to give a descending character to the previously existing pitches by very gradually shifting the pitch structure downward — creating an intentionally blurred pitch relation.

"I restricted my sound colors and articulations only to those which would reflect the feeling of the dance. The MIMIANA II: FRIEZE musical score was composed and realized at the Columbia-Princeton Electronic Music Center in 1969."