

Two Facets of the Creative Process: Mark Kopytman’s Writings on Composition

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Schoenberg and Hindemith, Messiaen and Boulez, Cage and Babbitt, Stockhausen and Schnittke, Ligeti and Lutoslawski—one can add many more names to this list. Many twentieth-century composers wrote texts on composition.¹ Each had a unique personality and, accordingly, even if we set aside their specific musical messages, conveyed a unique message to readers. There is, however, a typological similarity among their writings that merits our attention. In short, their attitude to music analysis differs significantly from that of musicologists, whose aims and methods are different.

In most cases, whether consciously or not, composers took account of the practical application of theoretical knowledge to music, with its potential to enrich their professional tools. Mark Kopytman’s essays on composition seem to have been written in pursuit of similar goals. Nevertheless, his interest in music analysis was not just pragmatic.

From the beginning of his professional career, during his doctoral studies in Moscow in 1955–58, Kopytman wanted to be both a composer and a musicologist, composing new works and acquiring a PhD in musicology at the same time. For the next fifty years, he continued along the same main lines. Every year, he taught both composition and theoretical courses, always combining theory and practice in a natural but deliberate fashion. His research interests and endeavors did not disappear, but took on a specific and at times rather unusual direction.

His scholarly writings were triggered and motivated by his need to summarize his practical experience, first for himself and then for his students and anyone else interested. Teaching was always a significant part of Kopytman’s creative activity. To define the specific genre of his writings, we should begin with “Kopytman the pedagogue,” because his personality manifested itself clearly in his classes, in a way that also provides a key to his pedagogical and artistic position in his specific field of interest.

In 1999, to mark Kopytman’s seventieth birthday, some of his former composition students decided to write a collective tribute to him. They composed a number of short musical pieces, which were performed in a festive concert. Later, a collection of essays and dialogues, entitled *Mark Kopytman: Voices of Memories*, was published, which included a section called “Just a Few Words.”² These were remarks written by colleagues,

¹ Each of these publications had a different aim and presented the material in a different fashion. For the present article, the textbooks for practical training, such as those by Schoenberg, *The Theory of Harmony*, and Hindemith, *The Craft of Musical Composition*, are of paramount importance.

² *Mark Kopytman, Voices of Memories. Essays and Dialogues*, ed. Yulia Kreinin (Tel Aviv: Israel Music Institute, 2004).

performers of his music, and—last but not least—former students, now themselves prominent composers and teachers.³

Although each section in these “few words” was unique, his former students were unanimous in describing his teaching as inspiring. In this context, one crucial point was mentioned repeatedly: Kopytman always urged his students to be themselves, and he did this not with magniloquent declarations, but always through concise and practical advice. Eitan Steinberg, underscoring the high professional standards of Kopytman’s pedagogy, remembers them in a very tangible way. In his words:

These standards embraced all aspects of music, starting at the very basic level of the proper graphic presentation of the assignments. “The music is good,” he reacted to one of my early piano pieces. “It will sound even better when you copy it properly.” Always giving a personal example, Mark’s exercises were handed to us in an exquisite handwriting, a handwriting that showed respect for every note and detail.⁴

Yinam Leef, who called his contribution “A Few Reflections on Pedagogy,” summarized some of Kopytman’s concrete advice to his students:

He preached for consistency of style, while still insisting on a search for novelty. “Always do in your next piece what you didn’t in the previous one.” His sensitivity to details was astonishing. In his search for a variety of means within the unity of the material, he encouraged us never to repeat materials in exactly the same way. “Always change something,” he used to assert. Today, when I teach my own students, I often find myself echoing him.⁵

The main (and often unstated) aim of Kopytman’s classes, seemed to be to awaken his listeners’ thoughts—which is, indeed, the most important outcome of all fruitful studies. From the very beginning of his teaching career, Kopytman was never satisfied with rote answers that displayed no effort at original thought. He faced an additional challenge in Israel—having to teach the same material within a shorter semester system. The solution, in his view, was to consolidate the presentation of the main topics and to accelerate his students’ thinking.

Following this principle, Kopytman’s consistent manner of presentation was, “Be as brief as possible.” It is no coincidence that Evgeny Trembovsky, a former student, describes his succinct style as akin to the ancient dictate by Horace, “*Quinquid praecipies, esto brevis*” (“No matter what you preach, be brief”).⁶

My own impressions and experience, having taken Kopytman’s courses both in Moscow (in 1992–93) and in Jerusalem (from 1994), are the same. I learned a great deal, whether it was during university lectures or in composition classes at the Jerusalem Academy of Music and Dance. I was impressed by the fact that his teaching skills were subtle, never exaggerated, and that his speech was free of affectation—the subject under discussion was always his first priority. Like many others, I valued highly this ability to

³ To mark Kopytman’s eightieth birthday in 2009, the concert tradition was continued.

⁴ *Voices of Memories*, p. 260.

⁵ *Ibid.*, p. 251.

⁶ Evgeny Trembovsky, “Past in the Present: Homage to my Teacher,” *Voices of Memories*, p. 228.

focus on the central point. The messages distilled from his classes and lectures were always clear and concrete.

Sometimes his ideas and opinions were presented in an authoritative, categorical manner that took Israeli students aback. They understood it as typical Soviet behavior and thinking, with a uniformity dictated from above. For me, raised and educated in the Soviet Union, it sounded more like Kopytman’s own teaching style, based on his purposefulness and confidence in his pedagogical method. I believe that the authoritarian element was part of the rigorous attitude he applied first of all to himself and then to his younger colleagues.

At the same time, his sensitive flexibility and talent for animating his audience influenced his teaching no less than his purposefulness. Dialogue always flourished in his classes—mainly thanks to his capacity to sense his interlocutors’ state of mind, to follow their developing processes, and to conduct a dialogue with everyone on his or her individual level.

Kopytman’s articles, too, are an invitation to such a dialogue—this time with the reader. They pose a special challenge, because Kopytman’s style of presentation assumes the readers’ capacity for creative thinking, that is, for a free-style mental elaboration of the author’s aphoristic ideas.

The seemingly outward simplicity of Kopytman’s published texts on composition was the result of a long inner process of cutting out unnecessary details (which was also typical of his composition process). These texts convey a clear professional message: the ideas in music may be new, original, or unique, but you must not forget to be communicative (that is, to relate to the audience, not only to your own thoughts), always to be rooted in reality when conveying your idea to the listeners..

In other words, being a composer means that you must know what you want to say and how to say it. For Kopytman, this was the primary criterion for the value of the musical message and of the musical means of expressing this message.

Kopytman’s published writings cover almost five decades.⁷ The earliest article is a summary of his dissertation, written in Moscow between 1955 and 1958. This short exploration of a new method of creating many-voiced canons and sequences was published immediately in *Sovetskaya muzyka*, the only professional Soviet journal of musicology at the time.

Kopytman’s method was influenced by *The Study of the Canon*, a comprehensive study by the Russian composer and theorist Sergey Taneev. As Kopytman recollected in an interview:

I was even humorously called “Taneev’s grandson,” due to the subject of my PhD thesis. As you know, Taneev wrote a comprehensive book about the canon.⁸ Prof. Bogatyrev [one of Taneev’s former students, and Kopytman’s mentor both in composition and musicology] continued this research in his book about the double

⁷ See the list at the end of the article.

⁸ Sergey Taneev, *The Study of the Canon*, ed. V. Belyaev (Moscow, 1929) (Russian). It was later published in German translation: Sergey Taneev (Tanejew), *Die Lehre vom Kanon* (Berlin: Ernst Kuhn, 1994).

canon, and my dissertation was about the multi-voiced canon and canonical sequence.⁹

However, even in the 1950s, the unique direction of Kopytman's research manifested itself clearly: the main thrust of his dissertation was to help the composer in his compositional work, while giving him tools to proceed more freely with his musical material and its development. In his analysis of the article based on the dissertation, Evgeny Trembovelsky wrote:

Kopytman saw his prime task as simplifying the composition and analysis of canons with any number of voices, in order to find the easiest and most useful parameters of invertible counterpoint. One must also appreciate his brilliant solution: the integrated analysis of many canonic types that led to the establishment of general principles in their organization. Most likely, Kopytman attained his goal by using both approaches to develop a strict algorithm of procedures required for the composition and analysis of canonic devices.¹⁰

Two other Soviet-era publications by Kopytman were intended as textbooks from the very beginning: the popular *About Polyphony* (1961), and a formal textbook for music academies, *Choral Composition* (1965; published in Moscow in 1971). *Choral Composition* deserves to be translated into a Western European language because of the comprehensive material it contains for composers and choral conductors.

These early publications demonstrate Kopytman's thorough knowledge of the Russian and Western European musical heritage, typical of alumni of the Moscow Conservatoire. However, his intellectual curiosity about contemporary music also stood out. His postgraduate group included such future celebrities as Alfred Schnittke, Edison Denisov, Sofia Gubaidulina, and Rodion Shchedrin. As Kopytman later recalled,

It was a period when we eagerly imbibed new music, listening to pieces of banned composers and gathering the seeds of modern conceptions from foreign musical journals, which, by an oversight of the government authorities, were available through annual subscriptions. The Polish publications proved to be of particular importance to me, since they introduced me to the latest theories and new means of musical expression that enabled me to adapt so quickly in Israel later on.¹¹

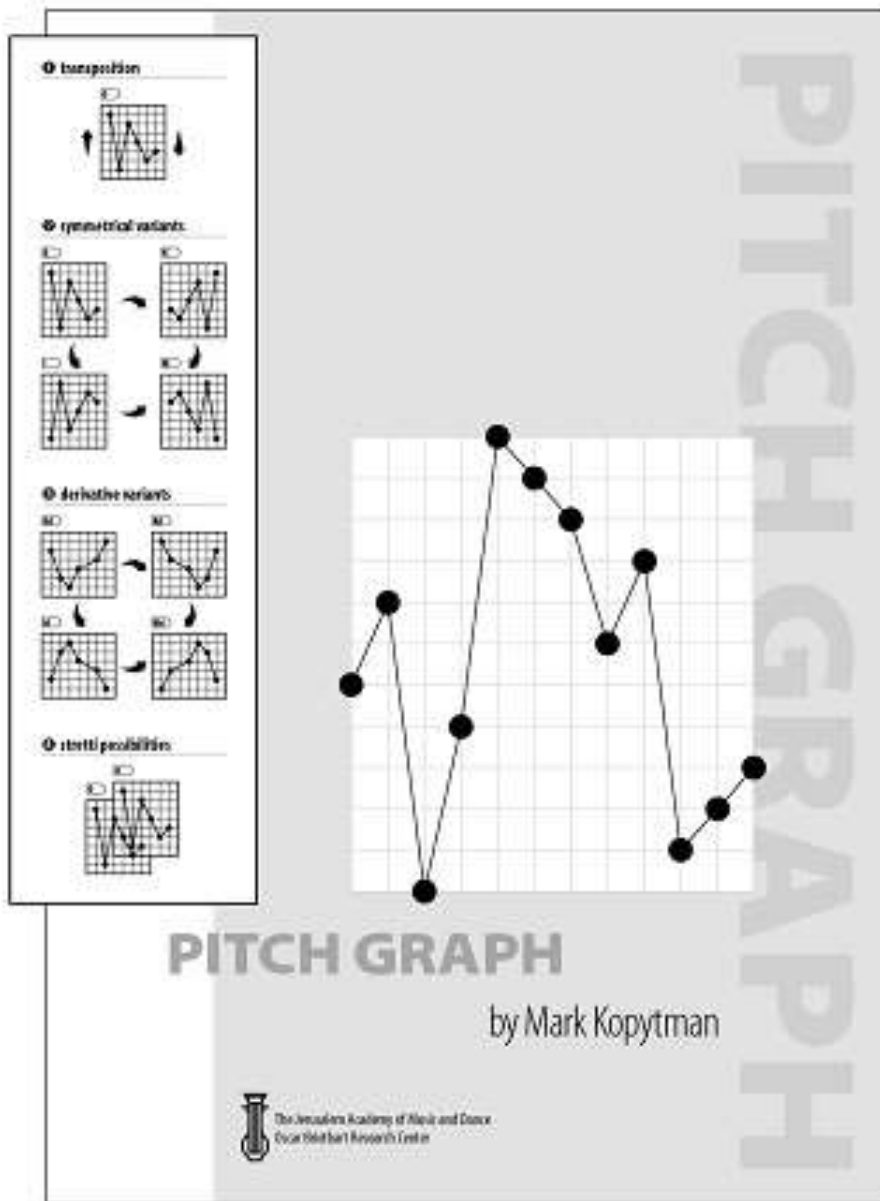
Because of the situation in the Soviet Union at that time, Kopytman's knowledge of modern Western music had no chance of manifesting itself, neither in his compositions nor in his publications. However, he continued his theoretical investigations in the same direction, summarizing his practical experience in order to broaden the technical resources of future composers and his active mature colleagues, and to facilitate their creative processes. As a result, in 1974, two years after his immigration to Israel, he published his *Pitch Graph*, another practical method for composition.

⁹ Yulia Kreinin, *The Music of Mark Kopytman: Echoes of Imaginary Lines* (Berlin: Verlag Ernst Kuhn, 2008), p. 115.

¹⁰ *Voices of Memories*, p. 196.

¹¹ *Voices of Memories*, p. 159.

Example 1



Here Kopytman presented his unique method for the rapid analysis and writing of the transpositions of four symmetrical forms of series, dodecaphonic and others. Using his graph, he discovered four new derivative symmetrical variants by rotating the matrix around a different axis. As his former student, Jonathan Berger, put it:

The standard transpositional and directional permutations were augmented by rotational possibilities that suggest a Varèse-like abstraction of melodic relationships not manifesting the intervallic structure, but rather lying somewhere deeper within the geometry of the system. The elegant simplicity of these devices and techniques

gave rise to a childlike freedom of exploration for Mark as a composer and for all of his students.¹²

Pitch Graph was not Kopytman’s last theoretical undertaking. After he immigrated to Israel in 1972, his changed creative experience inspired his research. The coexistence of diverse stylistic trends and the freedom of artistic expression stimulated him to turn to the latest musical innovations in Western music, which included aleatoric writing, free-time flow, and the use of sonic and timbral effects. At the same time, he was greatly inspired by the rich heterophony of Jewish folk and synagogue music, with which he had not previously been acquainted. As a result, both the folklore of Near Eastern Jewish communities and the innovative techniques of modern Western music became the basis for his individual stylistic synthesis. In fact, his schoolmates, like Schnittke or Shchedrin, chose a similar path, and the national element is a substantial part of their individual innovative styles.

During his Israeli years, the main experimental sphere for Kopytman was heterophonic texture, with its inexhaustible wealth of individual voice variants and their combinations. He began studying the subject, while composing (using heterophony) and teaching.

For example, he began his research of heterophony in response to an invitation to teach a seminar on this subject in the United States. As the composer himself described it:

I first discovered these principles in *October Sun* [1974] intuitively. After that I began to employ these means of expression in more compositions, gradually using them more widely and in a more versatile way. In 1982, during my teaching at the University of Pennsylvania, my friends Richard Wernick and George Crumb asked me to conduct a seminar on heterophony. I responded, “George, I use it, but I don’t know a lot about it!” Crumb said, “You know exactly how to control heterophony; think about it—and you will be able to conduct a seminar.” So I looked through all of my scores and marked all the heterophonic fragments (a piece cannot be heterophonic from beginning to end: the texture is usually mixed). After that I began marking out their common patterns and tried to formulate some practical rules for my graduate students. Then it suddenly occurred to me: we can imagine various projections of a musical object in space descending to earth and forming a number of presentations of the same musical event—from different angles, but absolutely equivalent. Joining together, these presentations would produce a heterophonic effect. This effect exists only during the actual performance of the score—this is the heart of heterophony in its widest sense.¹³

Here we can see how Kopytman’s thought crystallized: from practical experience (composition) to analysis (an examination of his own scores), and, later, to an understanding of the phenomenon in the wider context, often including parallels in the visual arts. Here is a concrete example of visual parallels: while speaking about heterophony, his most beloved subject, Kopytman referred to Paul Klee’s drawing from

¹² *Voices of Memories*, p. 241.

¹³ *Voices of Memories*, p. 165.

his pedagogical Sketchbook, “Two secondary lines moving around an imaginary main line.”

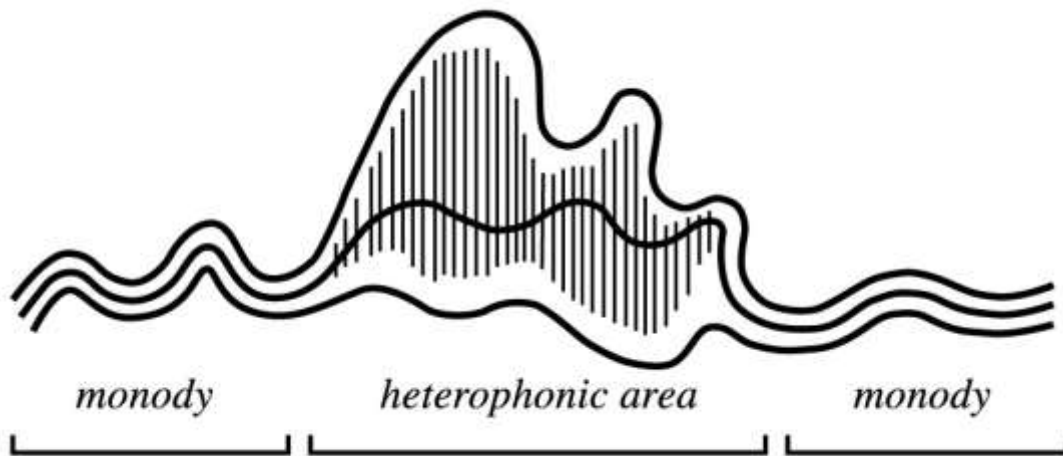
Example 2



As Kopytman noted, this main line remains in the imagination only; it is totally absent from the drawing. The same holds for heterophony: in his words, “heterophony is as though there is a cosmic melody, an external musical event, parts of which reach the earth and are combined.”¹⁴

Kopytman’s own visual presentation of heterophonic texture demonstrated its inner dynamic processes: unison (or monody) as a factor of relaxation, and the separation of the voices (heterophonic area), which creates the tension. This tension and relaxation replace the customary dissonance and consonance. The sequence or the layered juxtaposition of tension and relaxation propels the work.

Example 3



The composer explained that this heterophonic technique, or style of writing, did not come to him at once. He developed it slowly, gradually and intuitively. He constructed his other means of expression in the same way, as he wrote his own pieces. In fact, it seems to me that Kopytman’s writings on composition are a kind of *post-compositional*

¹⁴ *Voices of Memories*, p. 9.

analysis, revealing the essence of the intuitive process (if such a thing is possible). They reflect the need to return—after a piece has been composed, intuitively—to each step of the composition process, in order to analyze and consider what exactly was done, and how. Here Kopytman's research orientation found a clear and instructive path, while permitting readers to enter the composer's creative workshop.

This was not the only approach he used. But its components—the practical view of a composer, further analysis (including self-analysis), and contextual evaluation—were necessary for each of his “research reports” (formulated as articles or even just notes). In each of them, the author's main motivation was to summarize his practical experience in order to stimulate the reader's imagination and creative response.

Three such “research reports,” published in 2008 in *The Music of Mark Kopytman: Echoes of Imaginary Lines*,¹⁵ are the results of Kopytman's long-term experience in contemporary composition, and are then analyzed, explained, and supplemented by practical instruction. This approach was typical in the second half of the twentieth century, expressed in major texts such as Messiaen's *The Technique of My Musical Language*, and in papers and articles by Babbitt, Krenek, Lutoslawski, Ligeti, Schaet, and many others.¹⁶

The first of these reports, “About Heterophony,” is a long essay on a special type of multi-voiced texture, one that has its roots in folk music and that has seen increasing use in contemporary art music. To the best of my knowledge, it is one of the first (or even the first) investigations of heterophony from the perspective of a composer with long years of varied experience in this field. Kopytman was certain that heterophony had great potential for future development, and even created a sort of imaginary club of its champions. In his own words,

Such a club could count among its most representative members Witold Lutoslawski, the creator of aleatoric counterpoint; György Ligeti, the inventor of micropolyphony; Luciano Berio, who found his own way in heterophonic and *hoquettus* [hocket] techniques; the Frenchman François-Bernard Mâche; the Polish Zygmunt Krause; Stefan Niculescu from Romania, and others, whose music I haven't yet heard; and, of course, some of my former students who have already found an independent way in this exciting field of creation. I have no doubt about the future of heterophony, as it is based upon a concept of variants which are infinite in the number of their possible combinations in different layers on different angles and projections.¹⁷

In Kopytman's essay, the concept of heterophony (which he sees as intersecting with the notion of Lutoslawski's aleatory counterpoint or Ligeti's micro-polyphony) is treated as a

¹⁵ *The Music of Mark Kopytman: Echoes of Imaginary Lines*, consists of two parts: the first comprises my articles on the composer's creative output; the second, three of Kopytman's essays on composition. I would like to take this occasion to express my gratitude to Ernst Kuhn, the director of Verlag Ernst Kuhn, Berlin, for his excellent suggestion that I include Kopytman's articles in the volume, as well as for his support and understanding during the complex process of the book's preparation and production.

¹⁶ Among the various publications on the subject, Kopytman's writings are closest to the books or articles that offer practical instruction for composition students, such as Ernst Krenek, *Studies in Counterpoint* (New York–London, 1940); Olivier Messiaen, *The Technique of My Musical Language*, trans. John Satterfield (Paris, 1966); György Ligeti, “Über neue Wege im Kompositionsunterricht,” in *Three Aspects of New Music* (Stockholm, 1968), pp. 11–43.

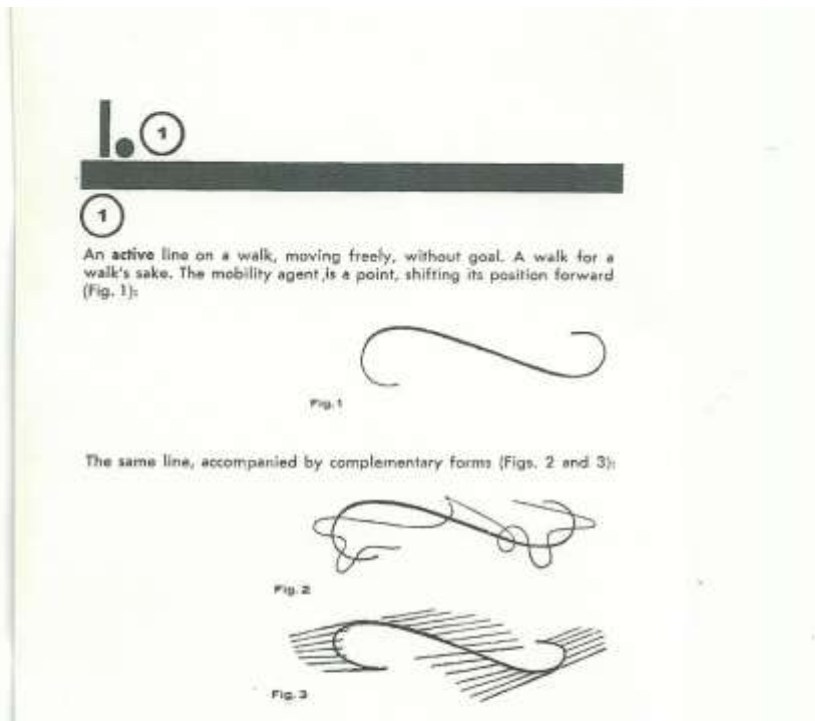
¹⁷ *Voices of Memories*, p. 192.

“simultaneous sounding of variants of the same musical event.” The paper includes an in-depth analysis of various heterophonic devices. This is followed by a multitude of practical recommendations for mastering heterophonic writing. Also addressed is the special parameter of heterophonic texture, the diagonal, which today is just as important as the vertical and horizontal factors.

Continuing the exploration of melodic thinking, the second essay, “About Melodic Writing,” describes the composer’s approach for achieving melodic logic, balance, and unity. This involves the partition of the chromatic spectrum and putting variants of the initial “motto cell” on the web of a “sound grid” to create a natural melodic flow. It also contains a special compositional approach influenced by Klee in his *Pedagogical Sketchbook*, where the artist provides a visual presentation of creative ideas with minimal textual explanation.

The common traits of the teaching methods employed by Klee and Kopytman do not seem to be coincidental: both were inspired by what their eyes and ears perceived as well as by their musical and visual imagination. Klee had a professional involvement in music as well as the visual arts; accordingly, Klee’s attention was attracted consistently to the aspects of painting that have concrete points of contact with the elements that produce musical form. At the start of his *Pedagogical Sketchbook*, he writes: “An active line on a walk.... The mobility agent is a point, shifting its position forward.”¹⁸

Example 4



In another context, Klee’s description of movement seems to be universal; in other words, it is appropriate for musical phenomena as well:

¹⁸ Paul Klee, *Pedagogical Sketchbook* (London: Faber and Faber, 1968), p. 16.

Movement is the basis of all becoming. When a dot becomes movement and line, time is involved.... Scene of the action—time. Character—movement. Even in the universe, movement is certain.... The genesis of writing provides a very good parallel for movement. A work of art is also first and foremost a genesis; it is never experienced ready-made.... The pictorial work, originated in movement, is in itself recorded movement and is received as a movement.¹⁹

As for Kopytman, he was a man with a vivid sense of space and color. From the earliest days of computer programs to print scores, Kopytman designed all his scores himself and considered the graphic presentation to be a creative act in its own right. For him, the visual quality of a score often embodied the individual way of presenting a musical idea and the composer's success or failure in making his message comprehensible.

In the essay "About Melodic Writing," Kopytman applied an unusual graphic solution as a teaching tool: he juxtaposed the original score of his composition "Eight Pages," for solo soprano, with own post-compositional analysis of the music. Readers see both the original page of musical text and the composer's analytical presentation of it. This unique kind of creative pedagogy challenges readers to raise questions and find answers.

¹⁹ Werner Hartmann, *The Mind and Work of Paul Klee* (London: Faber and Faber, 1967), pp. 94–95.

Example 5

to Mira Zakai

Eight Pages

(from the Book of Questions)

(1989)

text by Edmond Jabes
(translation by Rosmarie Waldrop)

Mark Kopytman

1 **mesto, piu sostenuto** (♩ = ca 46) *(simile)*



f I sailed in my stones so lo - (o) - (o) - (o)ng that I be-came the child

2 *p*



poco ritenuto
p of the five con - ti - nents, so lo - (o) - (o) - (o) - (o)ng...

a tempo *(simile)*



f I sailed in my stones so lo - (o) - (o) - (o) - (o) - (o)ng...

5 *mf*



mf And yet, I am on - ly the so - (o) - n

4 *p* *crescendo* **largo** (♩ = ca 36) *f* *sub pp*



p of the old wall at whose foot I la - ment with my bra - thers.

mesto, piu sostenuto (♩ = ca 46) *mp* *ripetere ad libitum* *niente*



mp So lo - (o) - (o) - (o) - (o) - (o)ng.. (attacca)

contour

(1) (I sailed) triad α (-3 -1)

(I lament) triad β (+1 -2)

comments to page one

(2) upper layer (variant of triad β)

lower layer (variant of triad β)

octave replacement

layered melody

(3) upper layer (variant of triad β)

lower layer (expanded variant of triad β)

octave replacement

insertion of the sound

melodic line, built on
symmetrical variants of the triad γ

(4) triad γ (-2 +3)

with the addition of one sound

with the addition of two sounds

(5) "word painting"

(I la - ment) triad β

octave replacement

The third essay, "About Symmetrical Modes," continues these ideas. It suggests a modal basis as a melodic approach and emphasizes the importance of symmetrical partition and melodic contour in contemporary music. The essay covers a wide range of contour models, suggesting their classification and exploring Kopytman’s innovative idea for finding variants of symmetrical modes through the technique of substitution. Special attention is paid to the partially symmetrical modes, which present expanded possibilities for achieving logic and unity of pitch development while using them.

These three essays represent the distinctive elements of Kopytman’s thinking, with the constant combination of unity and flexibility. The latter was of primary importance for him, both in his composition and his teaching-oriented analysis. For Kopytman, flexibility was not only a way to deal with professional challenges; it was also a cornerstone of his aesthetic principles. As his former student, Jonathan Berger, put it:

“Beyond the pedagogical effectiveness of Mark’s slide rule was the aesthetic of *Ars Combinatoria*. This driving factor of music of the late eighteenth century took on new meaning, as Kopytman considered the malleability of musical materials. This approach can be clearly traced in Mark’s music and theoretical studies.”²⁰

In conclusion, the two facets of Kopytman’s identity as composer and music analyst, mentioned above, reflect the correlation between his compositions and his writings about composition. They are two sides of a very personal approach to the art of composition and to the art of teaching it. We see from both facets that Kopytman’s creative personality was marked by a rare inner integrity. For him, every musical phenomenon was a projection of a larger entity. Accordingly, his adherence to melodic, linear sources of music (what he called the main *initio*, the moving force of the musical process) was also manifested in his adherence to heterophony, where each voice assumes equal melodic significance and function. On the other hand, Kopytman was well aware that the presentation of a phenomenon in a concrete composition was only one possible way of developing it, with many potential directions left unrealized. It seems to me that this worldview can explain the repetition of the same word in the title of each of his studies (“About...”), as an indication that each of them reflects a partial and personal treatment of the overall subject.²¹

For Kopytman, processing theoretical knowledge about music was an inseparable part of the art of musical composition. Through his own example, he inspired his students to be constantly involved in both the art of music and the theory of music, whether of the past or the present. In his own words: “Cherish your chance to learn.” Or, as Eitan Steinberg summarized some of Kopytman’s basic messages to his students, “Always learn something new.”²² His own published writings can also be a source for both practical and theoretical learning.

Another of Kopytman’s traits strongly influenced his professional life. Very friendly and accessible in his personal contacts, he was highly selective in his choice of spiritual interlocutors. We may recall the old saying, “Tell me who your friends are, and I will tell you who are you.” Reading his *Studies* gives us a chance to sense his deep and long-term devotion to three great figures of the twentieth century—Bartók, Schoenberg, and Kandinsky.²³ As Kopytman once mentioned, he saw these geniuses’ fascinating art and writings about art as the best examples of innovative ways of creating, understanding, and exploring the mystical secrets of art and its spirit.

²⁰ *Voices of Memories*, p. 241. As Berger wrote there, “Mark once walked into the classroom with an enormous pair of scissors and proceeded to teach combinatorial aspects of counterpoint by chopping up a score and creating a virtual musical slide rule which allowed for time and transpositional shifts. It was a simple and powerful teaching prop—and one of the countless ideas that I adopted in my own teaching” (ibid.).

²¹ This use of “about” is typical for Kopytman as a native Russian speaker. In Russian, the inclusion of “about” in a title indicates that it is an essay, with the attendant freedom of structure and brevity.

²² *Voices of Memories*, p. 260.

²³ This subject needs a detailed examination in another publication.

MARK KOPYTMAN: THEORETICAL WRITINGS

“About Melody Writing” (2002)

(Studies in Composition, IV)

A compositional approach to contemporary monodic writing, based on a micro-analysis of the composer's *Eight Pages* for solo voice, set to a text by Edmond Jabès, with a general discussion of creative problems

“Composition with Blocks” (1984–2001)

(Studies in Composition, III)

A comprehensive approach to the problems and devices of contemporary composition, based on a view of the musical form as a process, unpublished

“About Heterophony” (1988; 2004)

(Studies in Composition, II)

A textbook for composers, describing various heterophonic devices in twentieth-century music, their expressive features, and methods of practical writing; includes a wide range of musical examples from the composer's symphonic and chamber works

“About Symmetrical Modes” (1984)

(Studies in Composition, I)

A practical guide to the symmetrical partition of chromatic spectrum as a method for discovering new scale resources

“Bach's Secret Counterpoint” (1983)

An attempt to analyze the complex contrapuntal devices in Bach's “Partita in C major,” unpublished

“Rotations-Transformations and Pitch Graph” (1975)

An explanation of composer's *Pitch Graph*, designed for the analysis and creation of pitch sets and their symmetrical variants, unpublished

Pitch (Dodecaphonic) Graph (1972)

A practical device for analysis and composition, based on pitch sets (dodecaphonic and free composed), registered by Library of Congress, Washington, 1974; first edition: Unipress, Jerusalem, 1974; second edition: Jerusalem Academy of Music and Dance, 2000

“Theoretical Writings by S. Bogatyrev” (1972)

A review of one of the most important studies of canonic forms, as found in two volumes by Semyon Bogatyrev. Published in *S.S. Bogatyrev: Studies, Articles, Recollections*. Moscow: Sovetsky Kompositor, 1972 (in Russian)

Choral Composition (1965)

A textbook for writing *a cappella* choral music, for students of the Composition and Conducting Departments at the Musical Academies in the USSR. Moscow: Sovetsky Kompositor, 1971 (in Russian)

“Symphonic Music” (1962)

About the features and historical trends of large-scale symphonic compositions by Kazakh composers (in cooperation with N. Tiftikidi). Published in *Essays in the History of Kazakh Music*. Alma-Ata, 1962 (in Russian)

About Polyphony (1961)

Part of a series of popular publications for music schools and amateurs. Moscow: Sovetsky Kompositor, 1961 (in Russian)

“Multi-part Canon and Canon-Sequence” (1958)

A theoretical research paper that describes an approach to discovering complex canonic devices, based on the theory of chains, and their use in practical composition. *Voprosy Muzikoznaniya* (Problems of Musicology), Vol. 3. Moscow: Muzyka, 1961 (in Russian)

“About Canonic Imitation” (1958)

A study of complex contrapuntal combinations. *Sovetskaya Muzyka*, 1958, No. 2 (in Russian)