

CRITICAL THINKING FOR COMPOSERS

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Compositional training gives students experience in making choices, evaluating significance, sifting out the unnecessary, and developing a convincing musical point of view. Critical thinking is a vital part of this process. It is also important not to deny the fundamental mystery of this experience—of the reciprocal relationship between the composer and the work, through which the “right process” for expression of an original idea is found. Composition teachers should foster in their students trust in intuition, cultivation of a broad aesthetic and intellectual background, the development of craft, and an expanded critical view. For students to think critically they must come to terms with conflict in ideas and with ambiguity. A student who does not think critically never has to deal with ambiguity and accepts dogma without question. Critical thinking leads to experiment and questioning—and it is not comfortable.

Through the critical apparatus the right musical context for the expression of an original idea is found. How does a composer create a context in which certain events can take place? Why does something “work” in one context and not in another? What is unnecessary, superfluous, or vital in a piece? The answers to these questions, subjective as they may be, should always be based on well-formed and well-considered practice, entirely distinct from formulas. The answers may well be different for each piece. Something of the individual, however, will remain constant—personal essence will survive. This personal essence is often found in similarities that remain when a composer consciously strives for differences—for example, the presence of “cross-cutting” in the music of Igor Stravinsky.

In practical terms, both the study of musical analysis and the study of basic compositional exercises are vital: analysis because it enables the student composer to consider larger issues and musical concepts in the context of a completed work; exercises because they focus attention on the micro-level.

By observing the musical relationships between individual parts and the whole, and by observing relationships among completed compositions, students have the chance to critically view not only their work but themselves.

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Composition provides the student with the basic tools for bringing critical attention to musical and intellectual questions. The relationship between composition and critical thinking lies in developing the ability to analyze, criticize, and advocate ideas. Integration of the critical process and the creative process involves consideration of these questions:

1. What is a working definition of critical thinking?
2. What are common obstacles to critical thinking and what are the qualities needed to think critically?
3. What is the relationship between the critical and the creative process?
4. What roles do musical analysis, compositional techniques, and aesthetic choice play in this relationship?
5. What do the foregoing contribute to the genesis and character of a work?

In my experience teaching composition to both composers and instrumentalists I find myself continually faced with these questions. This article is based on practical experience, research in critical thinking, and relevant writings of other composers. The article concludes with a discussion of methods I have found effective in encouraging a critical perspective in my students.

Critical thinking is the process of rationally deciding what to do or believe through analysis, synthesis, and evaluation. Critical thinking for composers leads to self-examination and ultimately self-definition. In his essay "The Teacher's Task" Pierre Boulez offers this definition of teaching: "Teaching means both discipline and also communication. In fact, teaching is the communication, by means of discipline, of some practical knowledge."¹ Boulez's definition of two aspects of teaching parallels two important concepts of critical thinking. Discipline implies "technical reason"; communication implies "emancipatory or dialectical reason." These concepts are identified by Richard Paul, Director of the Center for Critical

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Thinking and Moral Critique, in "Critical Thinking: Fundamental to Education for a Free Society."²

Both "technical reason" and "emancipatory/dialectical reason" play an important role in the compositional process. A common obstacle to critical thinking for composers is viewing these two lines of reason as mutually exclusive. Technical reason divorced from emancipatory/dialectical reason can lead to impoverishment of musical ideas. In composition, finding a musical solution to technical problems requires the ability to move back and forth between these two lines of reasoning.

The synthesis of these two critical views in composition is expressed in Stravinsky's *Poetics of Music*, where he states: "My freedom thus consists in moving about within the narrow frame I have assigned myself for each of my undertakings I experience a sort of terror when, at the moment of setting to work and finding myself before the infinitude of possibilities that present themselves, I have the feeling that everything is permissible."³ Stravinsky is clearly speaking of the need for self-imposed boundaries determined through the critical process, as a stimulus to original thought.

Composition requires coming to terms with limitless possibilities, with one's imagination, and with ambiguity. Each compositional question generates its own sphere of reasoning and decision-making. Compositional ideas themselves are complex, often shadowy, phenomena that may disclose only a part of their potential at any given time. A composer constantly weighs the effectiveness of various solutions to compositional problems. In the present day composers have no set of generally established principles or procedures within which to work, and they have derived an array of individual solutions to this problem.

Even if we did not lack for a common practice, however, the creative process still cannot be reduced to an operational procedure. In this sense the problems encountered in composition are very much like real-life problems—hardly ever susceptible to neat solutions. It has often been observed that a human need to make order out of personal and social disorder and confusion compels us to make art. It is through the critical apparatus that the composer can begin to come to terms with his situation and his choices. Technical reason and emancipatory reason cannot be separated. Emancipatory reasoning is dialectical—through it the composer's ideas are weighed, assessed, scrutinized, and ultimately rejected or accepted. Only through the application of a self-formed and self-reasoned technique can the musical idea be articulated with conviction. What the composer has to say and the method he chooses become one. Technical reason taken in the wrong sense is a discrete, specialized skill, extrinsic to the character of the composer or the work itself. Technique is not something to be applied impersonally. Technical precision is not exclusionary; if it is, it is not technique.

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A composer does not simply adopt a technique or a style for a particular work. It is in the critical selection of the right technique for the expression of a musical idea that technique becomes intrinsic to the character of the composer and the work. It is this netting of elements that generates the style of a composer's work—his own personal musical essence.

I recently heard the late composer Morton Feldman remark that a common shortcoming of young student composers is that they are not "close to their work."⁴ Stated another way, for these students, the process of composition is treated as a vocational skill, a set of impersonally applied technical procedures that give nothing in terms of self-discovery back to the composer. The reciprocal relationship between the composer and the work is the vital aspect of communication to which Boulez alludes and which is a part of every composer's real education. The experience of learning about oneself through one's music is in many ways the ideal critical model. Not every academic discipline provides students with such direct opportunities to express and evaluate their own ideas, but this is the very essence of training in composition. The clearest challenge to the teacher of composition is to foster this critical approach.

One of the most discussed works in education today is the *Taxonomy of Educational Objectives* developed by Benjamin Bloom and a committee of college and university examiners from 1949-1954 and published in two handbooks: *Cognitive Domain* and *Affective Domain*. The authors note that the categories of the *Taxonomy* can be "used as a framework for viewing the educational process and analyzing its workings."⁵ Richard Paul's critique of the *Taxonomy*, an article entitled, "Bloom's Taxonomy and Critical Thinking Instruction," leads Benjamin Bloom to add that, "we intend the *Taxonomy* as a method of clarifying educational objectives, educational experiences, learning processes and evaluation questions. We do not intend to provide a constraint on educational philosophy, thinking methods or curriculum development."⁶ Taken in this sense, the *Taxonomy* can be useful in helping to outline an approach to teaching critical thinking. And indeed the *Taxonomy's* identified higher level thinking skills of analysis, synthesis, and evaluation are essential to critical thinking. The danger is that the *Taxonomy's* compartment-like approach to thinking skills may be taken to imply a "one-way hierarchy."⁷ The different categories of the *Taxonomy* (knowledge, comprehension, application, analysis, synthesis, and evaluation) should not be thought of as water-tight compartments. Richard Paul has observed that the *Taxonomy* should not be interpreted as a one-way hierarchy in at least one significant sense: "For critical thinker, the achievement of any knowledge always presupposes at least minimal comprehension, application, analysis, synthesis, and evaluation."⁸ He brings attention to Paul Kneeder's observation that "knowledge is not rote memorization;

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it is dialectical learning—requiring a mind that is slow rather than quick to believe—which waits for, expects, and weighs evidence before moving to belief.”⁹

The categories of the *Taxonomy* can be usefully applied in the teaching of composition if one recognizes the interrelationship of the *Taxonomy's* organization of cognitive processes. Especially for the composer the concept of knowledge is inextricably linked to both comprehension and application. For a composer to achieve command of or knowledge of a musical vocabulary, more is required than the simple acquisition of a precise inventory of musical elements or facts. The composer must also have a comprehensive knowledge of the principles and methods by which the musical facts are organized. Finally, a musical vocabulary and its laws of internal organization can best be assimilated through application. This often takes the form of compositional exercises. All these stages are necessary for a composer to achieve command of a musical vocabulary.

From this a composer may derive inspiration to express his ideas in a more fully realized context.

Analysis, synthesis, and evaluation form the dialectic of composition. They could be stated as the critical-creative-reflective process. Analysis provides a bird's-eye view of compositional procedure within the context of a completed work. Examining how another composer formulates ideas can often generate insight into the future potential of one's own compositional ideas and procedures. Analysis is concept-generating; synthesis is concept-using. Synthesis emphasizes the production of a unique communication. A composer's methods of communication require continual evaluation both during and after the composition of a work. Time taken to stand back and observe a work's wholeness against both a changing personal and global background reveals the uniqueness of the work and the personal musical essences of the composer.

This type of self-criticism and reflection promotes renewal of one's self and one's ideas. Composition teachers and students alike must realize that on the one hand they are dealing with a technical language and on the other they are in a domain where there is nothing certain and multiple stand-points are possible. There are no universally applicable procedures. Composition involves a constant search for and weighing of alternatives.

Returning to Boulez, he states: "What really arouses my skepticism is the placid kind of teacher who believes that he can spend a quiet life teaching a number of recipes for composition and soon finds himself surrounded by a host of followers. The teacher's highest task, as I see it, does not radiate confidence and conviction. Any gratitude a pupil may in later life feel towards a teacher is for having increased his own inclination to skepticism and his dissatisfaction with himself; and by this I do not mean

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sentimental questionings and vague dissatisfaction, but radical questioning and permanent dissatisfaction. This questioning and dissatisfaction will undermine all hitherto accepted principles and will leave plenty of room for novel constructions."¹⁰

Approximately half of my composition students are theory/composition majors; the remaining half are instrumentalists with little compositional background. I would like to discuss some of the methods I have found effective in encouraging a critical perspective in my beginning students.

EXERCISE 1: TAPE COMPOSITION

STEP 1: Using a portable cassette tape recorder compose a two-five minute tape composition. Use any single sound or combination of sounds as your sound source.

STEP 2: Make a score of your composition.

In this exercise the student composer originates a musical structure that he notates. This exercise is not concerned with the technical aspects of tape composition (for example, splicing, mixing, looping). Technical procedures are virtually unavailable to the composer. What is important is the choice of the material and the arrangement of the material. Electronic or tape techniques cannot be employed as a means of "spicing up" material. It is emphasized to the student that this composition is a piece of music and must be treated as such.

Problems the student composer encounters are some of the most basic compositional questions a composer continually faces. Since the range of possible sounds are infinite, there is a need to impose limits. The student composer must ask: How do I choose my materials? Should I use just one sound as my source and explore all the different possibilities of that single source (for example, water), or do I choose many different sounds? What types of sounds work together in creating a musical context? Sounds readily recognized are usually the least interesting since the ability to identify the sound detracts from its musical potential. Also, instrumental

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sounds usually prove to be a poor choice—sounding out of place in this context.

Then the student composer must ask: How do I organize my material? How can I make connections between the sounds? Do I begin with a plan or do I determine events as I go along?

Rhythmic flow is an important element: How do I determine the length of each sound? Is there something about the nature of the material that will determine the right length for the piece? What should the overall form of the piece be? Do I start out with a predetermined plan? This exercise is useful in making the student question his usual assumptions about form. It teaches that form is generated from the nature of the materials and is not something abstractly imposed on the materials (for example, the inappropriateness of ABA form for this exercise becomes readily apparent).

What notational system is the most appropriate for my composition? How much should or can the notation tell about the music?

The tape composition gives the student the opportunity to address fundamental compositional questions without an extensive technical background.

EXERCISE II: BARTOK MIKROKOSMOS

The music composed in this exercise is stylistically modeled after Bartok's *Mikrokosmos*, whose structural simplicity, unity of construction, rhythmic variety, and use of modal and chromatic scales present a clear model to the student composer. It is, however, more than just a stylistic exercise.

STEP 1: Choose a scale or two different scales as your source material. Compose a piece for piano approximately 16 measures. If you choose to work with a single scale, this scale can also be composed of a combination of two different scales (for example, major-minor or lydian-mixolydian). For the first eight measures confine one of the scales to the left hand, the other to the right. Half-way through the piece, have these scales change places. If you are working with a single scale, treat the respective halves of the scale in this manner.

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This part of the exercise is most often approached intuitively by the student. The beginning student often says: "I composed the right hand first, then the left."

STEP 2: Analyze the piece, along with one or two from the Bartok *Mikrokosmos*.

Often on completing the piece the student is unaware of how the piece was put together.

STEP 3: Compose another short piece consciously using elements discovered about the first piece (for example, motives, use of register, dynamic structure, phrase structure, texture, intervallic cells). Provide an analysis of your new piece.

This piece is in essence a recomposition of the first piece.

STEP 4: Write another short piece, as in #1 and #3, but this piece must be significantly different from the previous two in terms of character, melodic style, texture, or some other important aspect. Supply analysis.

STEP 5: Make a list of the differences between each piece. Finally and more importantly, make a list of the similarities that emerge.

This exercise focuses on both the critical study of a masterwork and the critical study of one's own work as a means of encouraging the growth of both musical technique and musical imagination. The similarities found between the two pieces in the final stage of the exercise reveal to students clues to their own "voice."

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EXERCISE III: MOTIVIC CELL

STEP 1: Choose six pitches at random.

STEP 2: Consider these pitches as source material. Analyze the interval content of this collection of pitches.

STEP 3: What are the implications of this cell, in terms of generating new material?

STEP 4: Through the use of various serial procedures (for example, permutation or rotation) this cell can be explored. Analyze the results of these procedures.

STEP 5: Write a number of different phrases (for one, two, and three instruments) that will explore through rhythmic, registral, and melodic articulation the various characteristics of your material.

STEP 6: Repeat the whole process, only now begin with a motive you have consciously created.

STEP 7: Compare your results.

This exercise takes a critical approach to the question: Is there a difference between material that is chosen at random and that which is consciously created?

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EXERCISE IV: MUSICAL FORM

STEP 1: Using phrases composed in EXERCISE III, STEP 5, overlap, juxtapose, intersect, and recombine the various phrases to form a number of different larger structures.

STEP 2: Consider transitions between the various events.

In this exercise, form is viewed as the structuring of local events that in essence determine the content of the piece. EXERCISES III and IV combined show the student how larger structures are generated from germinal material.

EXERCISE V: TEXT COMPOSITION

STEP 1: Choose a text for musical setting. Analyze the text for its meaning and musical sensibility. Are these related in any way?

STEP 2: Read the text into a cassette tape recorder the way you feel it should be read.

STEP 3: Make a contour graph of your reading on graph paper (horizontal plane = duration; vertical plane = pitch).

STEP 4: Transcribe this graph to note values.

This exercise focuses on the relationship of a text to a musical setting and the relationship between contour, pitch, and rhythm.

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EXERCISE VI: MUSICAL TEXTURE

STEP 1: Choose an instrumental sonority that interests you.

STEP 2: Using graph paper as in EXERCISE V (horizontal plane = duration; vertical plane = pitch) draw a series of different musical textures or events confining one to each page.

STEP 3: Combine the different textures to form larger structures. The pages can be turned any way, even upside down, to generate new textures as well.

STEP 4: Transcribe to specific pitch and rhythmic values.

In this exercise the student begins with an instrumental texture and then transcribes that sonority to pitch and rhythmic values. It shows the student the relationship between pitch, rhythm, and musical texture.

The foregoing exercises are meant as a point of departure—a springboard for stimulating the student composer's imagination. The long-range goal is for students to create their own starting points and generate their own compositional questions.

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NOTES

¹Pierre Boulez, "The Teacher's Task," *Orientations*, trans. by Martin Cooper, edited by Jean-Jacques Nattiez (Cambridge: Harvard University Press, 1986): 122.

²Richard W. Paul, "Critical Thinking: Fundamental to Education for a Free Society," *Educational Leadership* 42/1 (Sept. 1983): 5-14.

³Igor Stravinsky, *Poetics of Music*, trans. by Arthur Knodel and Ingolf Dahl (1942; Cambridge: Harvard University Press, 1979): 65.

⁴Morton Feldman, Lecture-Demonstration, American Society of University Composers Conference, Toronto, March 7, 1986.

⁵Benjamin Bloom, et al., *The Taxonomy of Educational Objectives: Cognitive and Affective Domains*, 2 volumes (New York: Longmans, Green, and Co., 1956; New York: David McKay Company, 1974): Vol. 1: 3.

⁶Richard W. Paul, "Bloom's Taxonomy and Critical Thinking Instruction," *Educational Leadership* 42/8 (May 1985): 39.

⁷Paul, "Blooms's Taxonomy," 37-38.

⁸Paul, "Blooms's Taxonomy," 38.

⁹Peter Kneedler, "Critical Thinking in History and Social Science," pamphlet (Sacramento: California State Department of Education, 1985).

¹⁰Boulez, 127.