

A PHENOMENOLOGICAL APPROACH FOR TEACHING 20TH-CENTURY MUSIC ANALYSIS

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INTRODUCTION

One of the main challenges in music theory instruction today is to offer meaningful methods for understanding 20th-century music. By meaningful, I am referring to concepts and techniques that would prove useful in educating music students in general. Theory courses that cover 20th-century music most often focus on the materials of the composition, procedures for manipulating the materials, or even notational matters, rather than the experience of the music. The sounds, the techniques, and the notational symbols are all important aspects of music, but they are not music itself. Music, by any definition, requires human participation at some level. With the diversity of today's undergraduate curriculum coupled with the difficulty inherent in understanding many styles of recent music it seems appropriate to stress the listeners' perspective, particularly as a means of introducing what for many students is an unfamiliar area. Understanding the complex activity of experiencing music is at the heart of phenomenological method.

Kurt Koffka, in his book *Principles of Gestalt Psychology*, states that "a good description of a phenomenon may by itself rule out a number of theories and indicate definite features which a true theory must possess. We call this kind of observation "phenomenology," a word that means as naive and full a description of direct experience as possible."¹ Gestalt psychology was an early 20th-century movement that placed an emphasis on direct perception and how these perceptual processes affected physical sensation.

In applying phenomenological method to music theory, the writings of James Tenney, Thomas Clifton, and Benjamin Boretz, (see bibliography) among others, provide the groundwork for approaching music in this way. Phenomenological description of music amounts to much more than mere report of musical effects or technical aspects. To state it simply, this method of description purports rather to indicate what is essential, or primary, in the experienced perception of the given musical event. Phenomenological description is neither completely objective nor subjective. It cannot be

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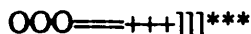
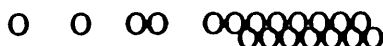
totally objective because of the involvement of a "self" rather than the antiseptic environment of notes on a page. It is not totally subjective because by striving for "essences" it avoids prejudicial, overly personal description.

A classroom application of phenomenological method is not without certain problems. Since phenomenological method involves verbal description, one may imagine the theory class degenerating to a spirited exchange of opinions on good days and a shouting match on others. Instruction in music analysis has traditionally relied on symbolic representation of structural principles. Particularly in disseminating theoretical concepts at the undergraduate level, it seems desirable to use a non-verbal system to provide the most basic analytical technique for phenomenological description. The system terminology outlined below is grounded in the writings of Tenney in particular.

ANALYTICAL CONSTRUCTS

Early papers by Kurt Koffka and Max Wertheimer focused on visual perception, noting two factors that figure prominently in grouping elements (visual Gestalts). The first factor is proximity, which, stated simply, maintains that in a collection of *similar visual elements, those close together in space will naturally tend to form groups in perception*. A second factor in the formation of visual groups is the factor of similarity, which states that *in a collection of visual elements, those which are similar will tend to be grouped by the eye*.

Figure 1. Factors of proximity and similarity in visual groupings.



The analogy for music perception in both of these examples is obvious. By substituting time for space and sound elements, then sounds separated by a relatively short interval of time or contiguous will form units (temporal Gestalts), while longer time intervals between sounds create segregations. This is a function of the factor of proximity. An example of the factor of similarity in perceiving musical events would include the observations that sounds played in the same instrument or groups of instruments (timbre) or in the same pitch register, or where any musical parameter is the same, tend

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to be perceived as connected and thus form groups.

The first example shows the opening of the fourth etude from Elliott Carter's *Eight Etudes and a Fantasy*. The music begins with a motive at the octave and in same rhythm in all voices. A relatively long duration of silence follows the initial statement, and then a progressive shortening of the delay time until the music is completely polyphonic and other perceptive forces enter into play. The primary factor of cohesion/segregation in this musical gesture is proximity.

Figure 2. Factor of proximity as a primary Gestalt in Carter's 8 *Etudes and a Fantasy*, for Woodwind Quartet (IV, mm. 1-6).

Vivace ($\text{♩} = 168$)

The musical score is for a Woodwind Quartet, consisting of Flute (Fl.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), and Bassoon (Bsn.). The tempo is marked *Vivace* with a quarter note equal to 168 beats per minute. The key signature has one sharp (F#). The score is divided into two systems, each containing three measures.

System 1 (Measures 1-3):

- Measure 1:** All instruments play a half note (F#4) marked *ff*.
- Measure 2:** All instruments play a half note (F#5) marked *ff*.
- Measure 3:** All instruments play a half note (F#6) marked *ff*.

System 2 (Measures 4-6):

- Measure 4:** Flute and Oboe play a half note (F#4) marked *mf*. Clarinet and Bassoon are silent.
- Measure 5:** Flute and Oboe play a half note (F#5) marked *mf*. Clarinet and Bassoon play a half note (F#4) marked *mf*.
- Measure 6:** All instruments play a half note (F#6) marked *ff*. The Bassoon part has a *mp* marking with an arrow pointing left to the start of the measure.

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In Figure 3 the music is organized on a very different perceptual plane. This excerpt from the first movement (Premonitions) of Schoenberg's Op. 16, *Five Pieces for Orchestra* shows a musical gesture where there is relatively little break in sound. Aural groupings occur by noting different timbre units, range usage, and melodic-rhythmic units. Similarity within a group produces cohesion. A new, dissimilar group creates segregation, even though no break in sound or only a short pause is in the rhythmic music. (Schoenberg's *Hauptstimme* indications serve to highlight the timbral function in this passage.)

Figure 3. Factor of similarity as a primary Gestalt in Schoenberg's *Five Pieces For Orchestra* (I, mm. 1-6).

Molto allegro $\text{♩} = 88$

Fl. I, II

Ob. I, II

Cl. I, II in A

Bsns.

C. Bsn.

Hrns.

Ucl. consord.

p *f* *mf* *sf*

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The image displays a musical score for a symphony orchestra, featuring seven staves. The instruments listed on the left are Fl. I, II; Ob. I, II; Cl. I, II in A; Bsns.; C. Bsn.; Hens.; and Ucl. The score includes various musical notations such as trills (tr), dynamics (f, p), and articulation marks. The Fl. I, II staff begins with a trill marked 'a2 tr' and a forte 'f' dynamic. The Ob. I, II staff has a trill marked 'H tr'. The Cl. I, II in A staff has a trill marked '7P' and a forte 'f' dynamic. The Bsns. staff has a trill marked 'tr' and a forte 'f' dynamic. The C. Bsn. staff has a trill marked 'H tr'. The Hens. staff has a trill marked 'H tr' and a forte 'f' dynamic. The Ucl. staff has a trill marked 'H tr' and a forte 'f' dynamic. The score is divided into measures by vertical bar lines.

Before moving into a more "operational" analysis, several other concepts in music perception must be mentioned. The above-mentioned factors of proximity and similarity are the primary factors in determining cohesion and segregation of musical material. Secondary factors are the following:

1. INTENSITY. This is defined as the tendency for an accented sound (a variation of magnitude in some parameter) to be heard as the beginning of a grouping.

2. REPETITION. If any parameter is repeated, then this alone may produce a division in the perceptual unit.

3. OBJECTIVE SET. This is defined as expectations or anticipations arising during a musical experience that are produced by previous events occurring *within the same piece*.

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4. SUBJECTIVE SET. This is defined as expectation or anticipations arising during a musical experience that are the result of experience *previous to those occasioned by the particular piece of music now being considered*.

Before applying these primary and secondary factors in a symbolic analytical system, several other concepts require explanation. Tenney uses the word "parameter" in a very broad sense, defining it as "any distinctive attribute of sound in terms of which one sound or sound-configuration may be distinguished from another. Frequently encountered parameters are pitch, loudness, timbre, duration, temporal density (the number of *successive* elements distinguishable in a given time unit), vertical density (the number of *simultaneous* elements perceptible in a given time unit), and time-envelope (shape of the attack/delay component in a sound)." Parametric focus refers to the "directing of attention toward a particular parameter." This is generally the parameter that involves the highest rate of change. The term "clang" is given a rather original application by Tenney as "a sound or sound-configuration which functions as a primary musical unit or aural Gestalt." A clang is an immediately perceivable temporal unit, usually only a few seconds duration or less. The term "element" refers to "component parts of a clang, either one of several successive parts which form a clang or one of several concurrent parts which form a clang." A "sequence" is "a succession of clangs which is set apart from other successions in some way so that it has some degree of unity and singularity, constituting a musical Gestalt on a higher level." The notion of "perceptual level" or "temporal scale" refers to "the distinctions between the gestalt-organization and perception of configurations of the order of the clang (a few seconds or less) and those that span longer periods of time and are therefore less immediately apprehended as Gestalten."²

The perception of time is a primary concern in applied phenomenology, and perhaps one of the most difficult areas to address. There is a distinction between chronological time and the time a piece of music evokes.³ Although a fascinating area for speculative theory, the analytical method proposed here will be concerned only with quantified time relations. Tenney and Polansky provide an algorithmic model for partitioning a piece of music into its component TG's (temporal Gestalt units) and, through a rather complicated parametric weighting program, provide a clang-sequence-segment-section (segment and section are correspondingly larger temporal units) analysis for several musical works. They point out that "questions of function are left entirely up to us to interpret as we will.

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What the algorithm does purport to tell us is where the temporal Gestalt boundaries are likely to be perceived—surely a prerequisite to any meaningful discussion of the musical “function” of the TG’s determined by these boundaries.”⁴ Since the methodology that follows is intended for use in the undergraduate theory class, a simpler, more experiential method will be used for determining temporal Gestalt units. Also, the analysis will focus on temporal Gestalts at the clang and sequence level, since these are more readily apprehended. Even so, it will become apparent that the notion of “function,” in the sense of discussing formal attributes of perceived phenomena, is not beyond this rather elementary procedure.

MODEL ANALYSIS

In indicating the cohesive and segregating Gestalt factors (that is, the internal unification and separation of clangs and sequences), the following abbreviations will be used:

C = Clang (numbered and with bracket)
S = Sequence (numbered and with bracket)

Clangs and sequences will be further defined according to the primary and/or secondary factors of cohesion/segregation. If one of the primary Gestalt factors determines the TG, then the following abbreviations will follow the clang designation:

P = Proximity
S = Similarity

If a secondary factor is the determinant, then a lower case letter will be used:

i = intensity
r = repetition
o.s. = objective set
s.s. = subjective set

(In certain musical situations, both a primary factor and one or more secondary factors may operate simultaneously in determining a TG.)

A final descriptive abbreviation in categorizing a temporal Gestalt will involve the parametric focus. Abbreviations for this feature will include but not necessarily be limited to the following:

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p = pitch
l = loudness
t = timbre
d = duration
t.den. = temporal density
v.den. = vertical density
t.env. = time envelope

To relate this methodology to the earlier examples of temporal Gestalts, the Carter excerpt (first clang) would be labelled C1: P,d since it is the first clang of the movement; it is segregated from the next by the factor of proximity and its parametric focus (fastest changing feature) is duration (see Figure 2). The first clang in the Schoenberg excerpt (Figure 3) would be labelled C1: S,t since it is segregated from the next by the factor of similarity (the next clang is dissimilar), and its parametric focus (fastest changing feature between the two clangs) is timbre. When proximity functions as a primary Gestalt factor, further descriptions need only relate to the temporal Gestalt under consideration. When similarity is the primary factor, then comparison between the temporal Gestalt under consideration and that which immediately follows is necessary in qualitatively describing the aural phenomenon.

The work to be considered as a paradigm for analysis is the first movement ("Emerson") of Ives' Second Piano Sonata (the "Concord" sonata). Ives comments on the music in his *Memos* as follows:

Here the music grows, or works naturally, to a wider use of the twelve tones we have on the piano, and from them (always in a aural kind of way) building chordal combinations which suggest or imply (and of course to the aural imagination only, when played on a piano) an aural progression which physically is not in the piano strings, but may be implied by the mind and ear as a thing of musical sense.⁵

Ives own description suggests that the meaning of the music is more than what can be seen in the technique alone—that what Ives terms "manner" or technique itself, is secondary to "substance," which exists "underneath the music." The analysis that follows, by focusing on the listening act, should present the student with the tools to form judgments of an aesthetic rather than a purely technical manner. It should be pointed out that phenomenology does not ignore the role of technique. Rather, it

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views the understanding of technique as only one part—the empirical part—in the theoretical process of understanding music—a basically non-empirical, expressive form. Because of the length and complexity of this movement a thorough study is beyond the scope of this paper. The analysis will highlight several sections of this work to illustrate various perceptual concepts.

Figure 4 shows a clang segmentation for the opening “measure” of the work. Since there is no break in the sound, but an obvious increase in complexity from the opening simple octave to the complex vertical and contrapuntal music that follows, the primary factor of cohesion/segregation is most often similarity. That is to say, that within each bracketed area (clang) the sound-configurations have a definite parametric similarity.

The Beethoven Fifth Symphony motto that may be traced through the entire movement is heard at the end of the first line of music (clang 4). The repetition of that motto in clang 5 is perceived through this secondary factor of cohesion. In describing the parametric focus of this section, note that the attention seems to shift quite rapidly. Clang 1 and 2 focus on pitch, while clang 3 is primarily rhythmic, with vertical density functioning as a secondary parameter. Clang 4 and 5 emphasize pitch with the “motto” interval of a minor third sounding; however, because this is a quote of some familiarity, the notion of subjective set enters the perceptual analysis. Clang 6 is segregated from the music that precedes and follows by stressing pitch within a dense chordal texture.

The next clang is interesting in that the parametric focus shifts to temporal density. Here the successive durational elements in the clang vary rapidly, particularly with the “nested” triplet figure stating the motto and the slower music that follows. The final clang under consideration is much simpler than those that preceded, with the focus shifting back to pitch, but with loudness (the mezzo-forte indication is the lowest volume level to this point) functioning as a significant secondary parameter. One of the interesting features of this highly complex musical message is that it is characterized by a rapidly changing parametric and textural focus. The music is nearly overwhelming to the uninitiated listener due to the rapidly changing parametric profile.

Figure 4. Opening clang segmentation.

The musical score for Figure 4 is divided into three systems. The first system, marked 'Slowly', contains the following annotations: *C1:S,p*, *C:2S,p*, a triplet of eighth notes, *faster*, *C3:S,d(v.den.)*, and *ff*. The second system includes *C4:S(s.s.),p*, *C5:x,p*, *C8:S,p(v.den.)*, *slightly slower*, *faster*, *C7:S,l.den.*, a triplet of eighth notes, *slower*, *ff*, and *mf*. The third system at the bottom shows *C8:S,p(l)*.

The next passage (Figure 5) is from p. 3 of the movement and warrants very careful study. Tenney considers this section in *Meta + Hodos* as an example of a polyphonic sequence. Polyphony is defined here as a temporal Gestalt where "the attention is divided or distributed among two or more clangs simultaneously at certain moments."⁶ The mere existence of two or more parts in a contrapuntal texture, however, does not necessarily mean that the passage is polyphonic by this definition. Here there must be a perceptible parametric difference between the individual monophonic ideas. In reading the analysis given in Figure 5, note that each clang is given a letter as well as a number designation. The letters (a, b, c, and d) refer to the separate lines in the musical texture, or monophonic sequences. In other words, each clang designated with the letter "a" shares the same parametric focus (and motivic structure), and so forth for the other designations. The primary factor in the creation of polyphonic differentiation is the factor of

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similarity. Each monophonic sequence (letter designate) is distinguished by a characteristic loudness, vertical density, and pitch component. Descriptors are given for the first clang in each sequence only, since the following clangs are similar with regard to Gestalt factors.

Figure 5. Polyphonic sequence.

The musical score consists of three staves. The top staff features two circled sections of music. The middle staff contains several groups of notes, some of which are bracketed and labeled with codes: C1b:S.v.den., C1c:S,p, C2c, C3a, C3c, C4a, C3d:S,p, and C4d. Dynamic markings include *f* (forte), *mf* (mezzo-forte), and *p* (piano). The bottom staff shows a single melodic line. Below the main score, there are two smaller musical examples: one labeled C1a:S,1 and another labeled C2a, both showing short melodic fragments.

The next two examples show comparatively simple perceptual (and structural) patterns. The analysis given as Figure 6 ("Emerson") demonstrates the factor of similarity operating in phrase-like sequence patterns. Sequence 1 melodic structure has a definite shape and cadence that is transformed in Sequence 2. The section resembles an antecedent-consequent phrase relation but without the functional tonal implications. In Figure 7 ("Emerson"), proximity is the primary factor of cohesion/segregation in the clang succession. Here the contrapuntal texture is not polyphonic as in Figure 5, since there is no parametric conflict to create a segregation within the measure. Rather, the individual lines seem to work together,

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culminating in a resonance that creates a sort of interim break between clangs. Those clangs that follow the first are also perceived through the secondary factor of repetition. As in Figure 6, pitch is the focal parameter in this relatively uncomplicated pattern.

Figure 6. Factor of similarity at sequence level.

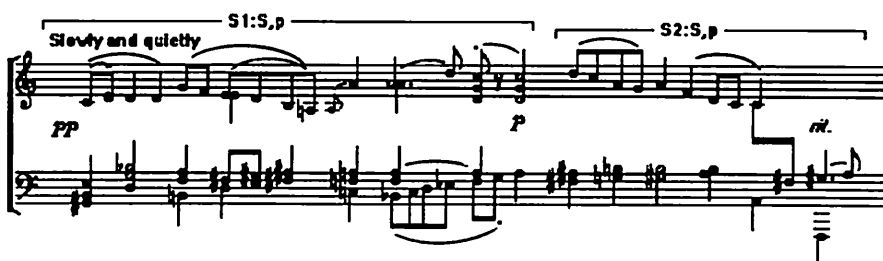


Figure 7. Factor of proximity at clang level.



The analysis presented in Figure 8 ("Emerson") shows an interesting, typically "Ivesian" feature. The first two clangs present the diatonic melody from p. 5 of the score. After this statement, the music alternates from this material to other, wider-ranged melodic fragments. It is intensity in the pitch parameter (higher register) that functions as the chief segregating force in this excerpt.

The final sequence of the movement is shown in Figure 9. These closing sounds are striking in the simplicity of the musical materials, yet fascinating in their perceptual organization. Once again, Ives' has designed a polyphonic sequence, with the dichotomy defined by the two distinct parametric values operating between treble and bass staves. Those clangs

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designated with the letter "a" are focused around pitch, stating variants of the Fifth symphony motto. These clangs are comprised of two elements—the melodic quote and a droning bass counterpoint. The clangs designated "b" have the aural effect of creating a distinct timbre, due to the increasingly quiet dynamic indications and the performance direction "to be heard as a kind of overtone," which should elicit a most delicate attack. Truly a remarkably effective ending to one of the most complex movements in piano literature.

Figure 8. Factor of intensity in pitch parameter.

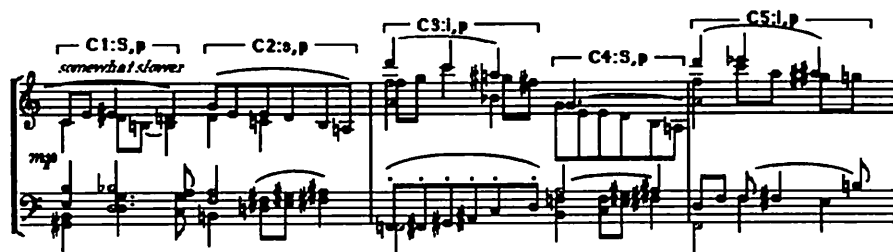
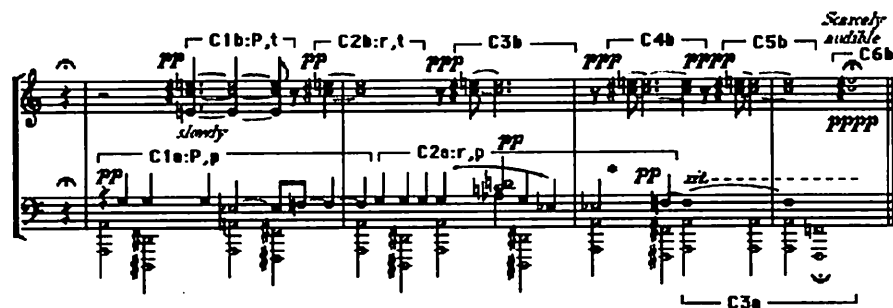


Figure 9. Closing sequence.



•) to be heard as a kind of overtones

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CONCLUSION

The analysis presented above and the phenomenological approach in general does not profess to be complete with regard to explaining music as perceived. It does, however, assist a listener in thinking about the *experience* of the music. Introducing new music, in particular, warrants special attention. If we, as theory instructors, focus only on the empirical evidence of a composition—its melodic organization, harmonic language, compositional strategy, etc.—then the student comes to think of new music as merely abstruse technique. This is what Schoenberg noted in a letter to a student who had commented on set structure in the *Third String Quartet*.

You have gone to a great deal of trouble, and I don't think I'd have had the patience to do it. But do you think anyone's better off for knowing it? I can't quite see it that way. My firm belief is that for a composer who doesn't yet quite know his way about with the use of series it may give some idea of how to set about it—a purely technical indication of the possibilities of getting something out of the series. But this isn't where the aesthetic qualities reveal themselves, or, if so, only incidentally. I can't utter too many warnings against overrating these analyses, since after all they only lead to what I have always been dead against: seeing how it is done; whereas I have always helped people to see: what it is!⁷

Phenomenological method offers a means for describing the increased aural complexity characteristic in much recent music. As mentioned earlier, one of the main challenges in music theory instruction today is to offer meaningful methods for understanding 20th-century music. Phenomenology can provide the procedure for analyzing and comparing the many divergent styles of music in our time, including even the most experimental electronic and computer music, since traditional notation is not at the heart of the theory—only sound alone.

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NOTES

¹Kurt Koffka, *Principles of Gestalt Psychology* (New York: Harcourt, Brace, and World, 1963), 73.

²James Tenney, *Meta + Hodos*, pp. 71-77.

³See Thomas Clifton, *Music as Heard*, p. 81-136.

⁴James Tenney with Larry Polansky, "Temporal Gestalt Perception in Music," *Journal of Music Theory* 24/2 (1980): 218.

⁵John Kirkpatrick, ed., *Charles E. Ives Memos* (New York: W. W. Norton and Company, 1972), 193.

⁶James Tenney, *Meta + Hodos*, p. 75.

⁷Erwin Stein, ed., *Arnold Schoenberg Letters*, p. 164.

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