another problem of tracing this source to its source? Perhaps Emerson in the
Rhodora answers by not trying to explain

That if eyes were made for seeing
Then beauty is its own excuse for being:
Why thou wert there, O, rival of the rose!
I never thought to ask, I never knew;
But, in my simple ignorance, suppose
The selfsame Power that brought me there brought you.

Perhaps Sturt answers by substitution: We cannot explain the origin of an
artistic intuition any more than the origin of any other primary function of our
nature. But if as I believe civilization is mainly founded on those kinds of
unselfish human interests which we call knowledge and morality, it is easily intel-
ligible that we should have a parallel interest which we call art closely akin and
lending powerful support to the other two. It is intelligible too that moral good-
ness, intellectual power, high vitality, and strength should be approved by the in-
tuition. This reduces, or rather brings the problem back to a tangible basis
namely: the translation of an artistic intuition into musical sounds approving and
reflecting, or endeavoring to approve and reflect, a "moral goodness," a "high vi-
tality," etc., or any other human attribute mental, moral, or spiritual.

Can music do more than this? Can it do this, and if so who and what is to de-
term the degree of its failure or success? The composer, the performer (if
there be any), or those who have to listen? One hearing or a century of hear-
ings—and if it isn't successful or if it doesn't fail what matters it?—the fear of
failure need keep no one from the attempt for if the composer is sensitive he
need but launch forth a countercharge of "being misunderstood" and hide be-
hind it. A theme that the composer sets up as "moral goodness" may sound like
"high vitality," to his friend and but like an outburst of "nervous weakness" or
only a "stagnant pool" to those not even his enemies. Expression to a great extent
is a matter of terms and terms are anyone's. The meaning of "God" may have a
billion interpretations if there be that many souls in the world.

There is a moral in the "Nominalist and Realist" that will prove all sums. It
runs something like this: No matter how sincere and confidential men are in try-
ning to know or assuming that they do know each other's mood and habits of
thought, the net result leaves a feeling that all is left unsaid; for the reason of
their incapacity to know each other, though they use the same words. They go on
from one explanation to another but things seem to stand about as they did in
the beginning "because of that vicious assumption." But we would rather believe
that music is beyond any analogy to word language and that the time is coming,
but not in our lifetime, when it will develop possibilities unconceivable now—a
language, so transcendent, that its heights and depths will be common to all
mankind.

Reprinted from Essays Before a Sonata (1920).
and is far more consonant melodically than chordally. Similarly, the relations 

\[
\begin{align*}
\text{chordal (vertical) use of both tonal and rhythmic intervals.}
\end{align*}
\]

Thus a minor second rhythmically in 1900, the relations 2:3 and 3:4 represented the ultimate in harmonic comprehensibility. It existed tonally during the days of Hucbald, that is, it makes use only of combinations (ratios) involving the series 1:2:4:8:16 etc., and, on the other hand, of the series 1:3:6:9:12 etc. (1:5, 1:7, 1:10, etc. being very rare). As tonally in 900, so it must be remembered that the art of counterpoint (as a simultaneous combination of independent melodies) had begun its metamorphosis long before 1600.

Measure = Measure (M = M)

First, the recognition and cultivation of an art of Dissonant Melody. Like its chordal structures, the melodic line of the old counterpoint was a consonant one. A proficiency in “dissonating” the single melodic line becomes a prerequisite to practice in dissonant counterpoint. In Dissonant Melody, three orders can be distinguished:

\[
\begin{align*}
\text{The classification of the rhythmic intervals in their chordal (vertical) sounding may be accorded the terms mild, medium and strong, starting with 2/3 and graduating toward such as 4/7, but never containing any numbers other than 1, 2, 3 and 4 as numerators. Performance of these, with satisfactory correctness in any tempo, with rubato, accelerando and rallentando can with a little practice be expected of any good musician. Intervals such as 5/6, 5/7, 6/7, etc. can be expected only in fast or moderately fast tempi, at least for the present. Generally speaking, it is wiser not to write polymeters that cannot be executed with musical accuracy, unless accompanied by a statement to the effect that they are merely indications of a free type of performance that cannot be better notated in any other way.}
\end{align*}
\]

In the second place, even though we have not yet organized the remaining resources of musical technique, as we have those of pitch and meter, we must foresee the possibility of separate “harmonies” of dynamics, tone-quality, accent, etc. Our scales of these resources are so far very crude. But the underlying distinctions which may eventually make such scales practical are well recognized and of a nature that justifies us even now in the use of terms like consonant or dissonant dynamics and consonant or dissonant tone-quality. The octave, fifth, fourth, thirds and sixths were regarded as consonant and the tritone, seconds, sevenths and ninths, as dissonant. The species were as in the old counterpoint. The essential departure was the establishment of dissonance, rather than consonance, as the rule. Thus, in the first species, in two parts, no consonance was allowed; and from the second onwards it was consonance that had to be prepared and resolved. The manner of this (by skip rather than by step) successfully differentiated the result from its prototype. But by definition the procedure was on the whole one of negation and contrariness. (The chief fault of the Schoenberg school, as of all the others, seemed to lie not in the handling of dissonance, but of consonance. All went well as long as a thoroughly dissonant structure was maintained, but upon the first introduction of consonance, a feeling of disappointment, of defeat, frequently occurred. It was as if there were holes in the fabric.) The conventional thus became a thing to be avoided, not because it was in itself bad, but because one was, for some unknown reason, unable to use it rightly.

The effect of this discipline upon all who have given it a fair trial has been one of purification. Much composition, especially in the first species and in all two-voice work, was so austere that it seemed impossible to connect musical feeling with it. Progress, however, soon held out a bright promise; but with four-voice undertakings the complexity became such that consistency with the theory was difficult and the writing grew, as in the old counterpoint, homophonic and chordal, rather than contrapuntal.

The transformation of this discipline from a mere adjunct of the craft into an integral unit in the technique of the art involves the utilization of several new principles.

The first of these involves a recognition of rhythmic harmony as a category on a par with tonal harmony. We must distinguish the rhythmic interval and chord and classify the rhythmic consonances and dissonances. This brings about the abandonment of the five species of the old counterpoint. The rhythmic structures of the old counterpoint were suited to a predominantly consonant tonal system. Rhythmically speaking, modern composition is still in the state in which it existed tonally during the days of Hucbald, that is, it makes use only of combinations (ratios) involving the series 1:2:4:8:16 etc., and, on the other hand, of the series 1:3:6:9:12 etc. (1:5, 1:7, 1:10, etc. being very rare). As tonally in 900, so rhythmically in 1900, the relations 2:3 and 3:4 represented the ultimate in harmonic comprehensibility.

It is necessary to distinguish clearly between the melodic (horizontal) and chordal (vertical) use of both tonal and rhythmic intervals. Thus a minor second is far more consonant melodically than chordally. Similarly, the relations

\[
\begin{align*}
\text{are far more consonant than the relation}
\end{align*}
\]

\[
\begin{align*}
\text{It must be remembered that the art of counterpoint (as a simultaneous combination of independent melodies) had begun its metamorphosis long before 1600.}
\end{align*}
\]
In Palestrina chordal (vertical) psychology often seems to dominate the polyphonic (horizontal). Homophony soon triumphed and has been the dominating factor ever since. Even Bach, with his admirable balance, leaned decidedly more toward a chordal than toward a contrapuntal fabric. But perfect balance is impossible. Times change. Emphasis is placed by each generation in a place which the preceding generation has ignored or slighted. We have had a great deal of homophony. The impulse and the logic point toward a new polyphony, "heterophony." And since this means real independence of parts, it follows that the parts must be so different in themselves and the relation between them (which makes their simultaneous sounding agreeable) must perforce be such that their difference rather than their likeness is emphasized. This is possible upon a basis of dissonance; but with the slightest error in the handling of consonance, our homophonically over-educated ears will infer chordal structures not intended and the polyphony will be lost. So it becomes necessary to cultivate "sounding apart" rather than "sounding together"—diapophony rather than symphony.

The fourth principle relates to the percentile ratio of consonant and dissonant tonal and rhythmic materials. Just as the greatest music of the past was composed without fear of dissonance, so those who attempt the sublime in dissonant writing must not fear consonance. Otherwise one is hopelessly restricted to painting only in tertiary colors, to using only words of more than two syllables. It is difficult to make a major triad sound in order in a dissonant composition, but if it is properly dissonated it is not only possible but good.

In the fifth place, we must realize that from the point of view of form the music of the last fifty years has tumbled headlong downhill. Wagner, Brahms, Bruckner, Mahler, Strauss and their contemporaries did create something very long works. But these were progressively less and less successful. And their successors have lacked either the skill or the desire to erect monumental edifices. Fashions have become whimsically disorganized by special intent. Only the shorter compositions have pronounced good form. Diffuseness of inner organization in modern music, where a maximum of material is spread over a minimum time, contrasts unfavorably with the music of Bach and Beethoven, in whose work a minimum of material is often made to cover a maximum time. We need to give special attention to the question of organic structure, for without it the dissonant texture is made far more difficult to sustain. Tonal and rhythmic centricity, though of a different kind from that in the old music, must be established and maintained, if compositions of more than a few minutes' duration are to be made. Economy of melodic resource suggests the elaborating of some radically new forms. There are many promising lines to follow and their classification as consonant and dissonant form is by no means far-fetched.

It is profitable to consider three orders in Dissonant Counterpoint; (these, added to the three orders of Dissonant Melody, make six in all):

$$\begin{align*}
\text{I} & \quad \text{II} (\text{or } M = M) \\
\text{III} & \quad \text{etc.}
\end{align*}$$

and also three species (presented in the illustration below):

$$\begin{align*}
\text{I} & \quad \text{II} (\text{or } M = M) \\
\text{III} & \quad \text{etc.}
\end{align*}$$

Interestingly enough, the octave and the unison take the place of the tritone as diabolus in musica and must consequently be avoided. Chordal structures of six or more different constituents may often contain an octave. But the consideration of these belongs to a study of dissonant chords rather than to dissonant counterpoint. Melodically, the repetition of any tone or the sounding of its octave, unless after a separation of at least five different ones, is almost invariably bad. As a rule, the seventh or eighth can so repeat, provided the accent is different. Exceptions to be noted concern the "pivoting" around a given tone (care being taken, of course, to dissonate the phrases) and the occasional use of the reiterated tone. But the last has become so much of a cliché as to recommend a more sparing use. Of course, not more than two consonant or three dissonant intervals of the same kind can occur in succession with dissonant effect. This is also true of rhythms, though a rhythm may be repeated much sooner than a tone.

As to the matter of tuning and scale, the abandoning of the old tonality leaves us with a vastly decreased set of tonal intervals and the poverty-stricken duodecuple scale. In the old harmony, each key could be played in several different contexts and yet always represent a different interval. For instance: G sharp-B, A flat-B, A flat-C flat, etc. And they really sounded differently! (This gave rise to Rameau's principle of double emploi.) Thus the twelve keys of the pianoforte actually served satisfactorily as a set of upwards of fifty. The duodecuple scale is an infinitely inferior field. We cannot be satisfied with it.
Many suggestions have been made for the amelioration of the situation. On the one hand are the further arbitrary divisions of the present equal temperament—third, quarter, sixth, eighth-tone systems—giving more tones per octave but no more relationships. Arguments against these have been cogently expressed elsewhere. On the other hand the temptation of just intonation is always present, even though we do not yet fully understand the relation between pure tunings and tunings only slightly off the pure. The fact is, we are now using the twelve-tone, equal tempered scale and it is extremely doubtful that we can get away from it except gradually. For the moment one may recommend the abolition of the now fictitious double-sharps and double-flats and the allotting of a flat and a sharp to each of the seven tones A, B, C, D, E, F, G, theoretically a twenty-one tone scale. With even a little composition “away from the piano,” differences such as that between the augmented octave and the minor ninth grow upon one. Add to this more performance on instruments that can play such differences and more insistence upon truer thirds, sixths, sevenths, seconds and ninths (in spite of falser fifths and fourths) and musical feeling will probably show a way toward solving this vexing dilemma more satisfactorily than the facile and arbitrary division of existing (and faulty) scales. This would eventually lead toward the cultivation of some intervals smaller than the semitone—such as were used in the enharmonic division of the Greek tetrachord and such as can still be heard in the ragas of India and in the folk-songs of many peoples.

For the present, however cramped in the variety of intervals within the octave, we are for the first time in many centuries unfettered by the conventional European vocal range in the choice of intervals larger than the octave. In rhythm and in form, too, modern music has a wider field of materials to choose from than at any time in our history. Perhaps the apparent narrowness of the tonal field may be a healthy influence, forcing us to yield the over-emphasis upon tonal organization and so to give more time and energy to bringing to its level the neglected factors of rhythm and form.

A sound does not view itself as thought, as ought, as needing another sound for its elucidation, as etc.; it has no time for any consideration—it is occupied with the performance of its characteristics: before it has died away it must have made perfectly exact its frequency, its loudness, its length, its overtone structure, the precise morphology of these and of itself.

—I Cage (1955)

I imagine that as contemporary music goes on changing in the way that I'm changing it, what will be done is to more and more completely liberate sounds from abstract ideas about them and more and more exactly to let them be physically uniquely themselves. This means for me: knowing more and more not what I think a sound is but what it actually is in all of its acoustical details and then letting this sound exist, itself, changing in a changing sonorous environment.

—I Cage (1952)

Cage’s Music of Changes was a further indication that the arts in general were beginning to consciously deal with the “given” material and, to varying degrees, liberating them from the inherited, functional concepts of control.

—Earle Brown

In the 1950s, Cage used a diverse collection of experimental compositional approaches, including performance indeterminacy, clock-time durations, graphic notation, chance procedures, a nonrestricted approach to sound and composition, extreme disparities of materials, and the “nonharmoniousness” of sound sources.

Morton Feldman shared with Cage the aesthetic foundation that no object held priority in composition and incorporated indeterminacy into his work. Unlike Cage, however, Feldman abandoned the use of graphic notation by the late 1950s.

Christian Wolff bypassed conventional approaches to functional harmony and temporality by combining and overlapping limited pitch resources. He allowed extemporaneous decisions to be made during performances and experimented with super-complex notation designed to render a work “impossible” and ensure a different performance each time it is heard.

A key tenet of Earle Brown's aesthetic is the balance between control and noncontrol. His works allow spontaneity on behalf of performers, thus creating an open-form process analogous to the open-form mobility evident in Alexander Calder's sculptures and Jackson Pollock's paintings. By the late 1950s, Brown was combining graphic notation, composed passages, improvisational material, and open forms in his work.


In “Inauguration 1950–60” (1974), Michael Nyman (born 1942) identifies John Cage, Morton Feldman, Christian Wolff, and Earle Brown as the most influential representatives of the experimental vanguard in the 1950s. Nyman surveys the diverse aesthetic attitudes, compositional processes, notational practices, and artistic development of these remarkable artists. In the decades since publishing this essay, Nyman himself has become a prominent composer, particularly of music for films.