Braxton the Theorist

Paul Steinbeck

Anthony Braxton is known the world over as a composer, multi-instrumentalist, bandleader, and educator. He has written more than seven hundred compositions and mastered dozens of instruments, from woodwinds to percussion and piano. Braxton and his ensembles have performed across the globe, ever since 1969, when he left his hometown of Chicago for a sojourn in Paris with then-bandmates Leroy Jenkins and Wadada Leo Smith. Braxton also enjoyed a long teaching career: during nearly three decades as a university professor, he mentored countless young musicians, and many of his former students have joined the ranks of the best composers and improvisers of the twenty-first century.

For these achievements, Braxton has earned extensive recognition. However, one key aspect of Braxton's legacy has not received enough notice: his work as a music theorist. He started to develop his theory of music in the 1960s, at the very beginning of his career. Braxton's theory of music is laid out in his writings, from the *Composition Notes* and the *Tri-Axium Writings* to the *Tri-Centric System Notes* and the *Research Papers*—and exemplified in his scores, performances, and recordings.[1] Indeed, Braxton's theory underpins virtually all his music. And yet his theory is not widely known or well understood, perhaps because it offers a vision of music that is radically different from every other contemporary theory. This essay examines Braxton's theoretical work from the ground up, describing the theory's origins, its foundational concepts, and its influence on his most important compositions. Along the way, a fuller portrait of Braxton emerges, one revealing that his extraordinary accomplishments as a composer and performer are matched by his contributions as a music theorist.

Braxton was born in 1945, near the midpoint of a century that saw an incredible profusion of new theories of music in the West. The previous high-water mark for the development of novel music theories had been reached some five hundred years earlier, during the Italian Renaissance. In the fifteenth century, musicians in Italy were rediscovering ancient Greek writings about tunings and scales, etc., and using those theoretical concepts to analyze the scores of Renaissance composers. Half a millennium later, in the twentieth century, there was another proliferation of new theories—but this time, the impetus behind all this theorizing was not a reengagement with ancient musical thought. Instead, the most consequential theories of the twentieth century were inspired by the latest innovations of modern musicians.

One of these pivotal innovations was atonality. For some time, composers had been testing the limits of the tonal system that had governed Western music since the Renaissance, and in the early twentieth century, the dam finally burst. Composers started writing highly chromatic music that treated all twelve pitches the same way, instead of elevating certain pitches over the others by using octave doublings, diatonic scales, and triadic harmonies. Some musicians—notably Arnold Schönberg—even transformed their personal compositional systems into theories that were quickly taken up by other composers and theorists.[2] The advent of atonal music also spurred an equal and opposite reaction. For the theorist Heinrich Schenker (a rival of Schönberg), atonality amounted to a betrayal of the tonal tradition, and he and his disciples developed alternative theories that purported to explain the inner workings of tonal compositions from earlier eras. With the battle lines drawn, musicians spent much of the twentieth century debating the relative merits of atonal music and the traditional tonal repertoire, as well as their associated theories.

The history of Western music—and the history of music theory—cannot be written without an account of the rise of atonality, the reaction by the stewards of the tonal tradition, and the persistence of both these musical languages in contemporary culture. Yet for most musicians and music lovers around the globe, the biggest changes in twentieth-century music came not from atonality but from another phenomenon: improvisation. In the realm of Western classical music, improvisation had left the scene sometime in the nineteenth century, but ad-lib playing still had a place in the toolboxes of many working musicians. And during the early decades of the twentieth century, when Western classical musicians were wrapped up in the debate about atonality and tonality, the rest of the world was captivated by a constellation of new musical forms coming from the Americas, in which improvisation played a starring role.

Some of these nascent forms, such as blues, gospel, and jazz, originated from the musical culture of Black Americans, and others, like rumba and son, were Afro-Cuban. And though they emerged in different places, all these forms had several features in common—first and foremost their embrace of improvisation. Of course, the musicians who created these forms also made use of conventional compositions and various kinds of prearranged material. But the most exciting moments in their performances seemed to be when they moved off the page, so to speak, and played something totally new that had never been heard before. At times entire ensembles improvised as one, while at other times a lone singer, sonero, or instrumentalist took flight. These daring episodes of spontaneous invention demonstrated the power of improvisation to everyone with ears to hear. Soon, the sound of spontaneity made its way around the world, thanks in part to the recording and radio technologies that developed in tandem with these new forms. After this, music would never be the same.

These new, improvisatory musics yielded very different sorts of theories. Blues, gospel, rumba, and son were "folk forms" (as Charles Mingus would say), in which theoretical concepts were part of each music's oral tradition, handed

down from one player to another.[3] Jazz, in contrast, quickly became a commercialized, globalized, and intercultural music, and these economic and social factors seemed to motivate musicians to engage in more formal kinds of theoretical work. Some jazz musicians, including Fred Anderson, George Gibbs, Yusef Lateef, and Oliver Nelson, published compendiums of chords, scales, and melodic patterns that were useful for improvisation.[4] Many members of the jazz community spent long hours studying Western theory treatises and finding ways to incorporate classical concepts into their improvisations and compositions. (A few of these treatises, such as Joseph Schillinger's *Schillinger System of Musical Composition* and Nicolas Slonimsky's *Thesaurus of Scales and Melodic Patterns*, proved to be more popular with jazz artists than with classical musicians.)[5] Other jazz musicians devised their own theories, famously George Russell. *The Lydian Chromatic Concept of Tonal Organization*, which Russell published in 1953, would become the single most influential theory of the twentieth century, transforming the sound of 1950s and 1960s jazz and laying the groundwork for several more musical styles, from minimalism to 1970s soul.[6]

Russell and his fellow musicians/theorists were searching for concepts that they could employ in their work as improvisers and composers. Yet their theories focused overwhelmingly on melody and harmony and said very little about the many other elements of music. The same is true of most theories of Western classical music, where melody and harmony reign supreme, while rhythm, timbre, dynamics, etc., are often overlooked. Of course, all these elements are essential to music—especially improvisatory forms, where musicians must spontaneously organize every aspect of the texture in real time. This is precisely what another musician/theorist, Anthony Braxton, discovered during a late-1960s performance that determined the direction his life's work would take.

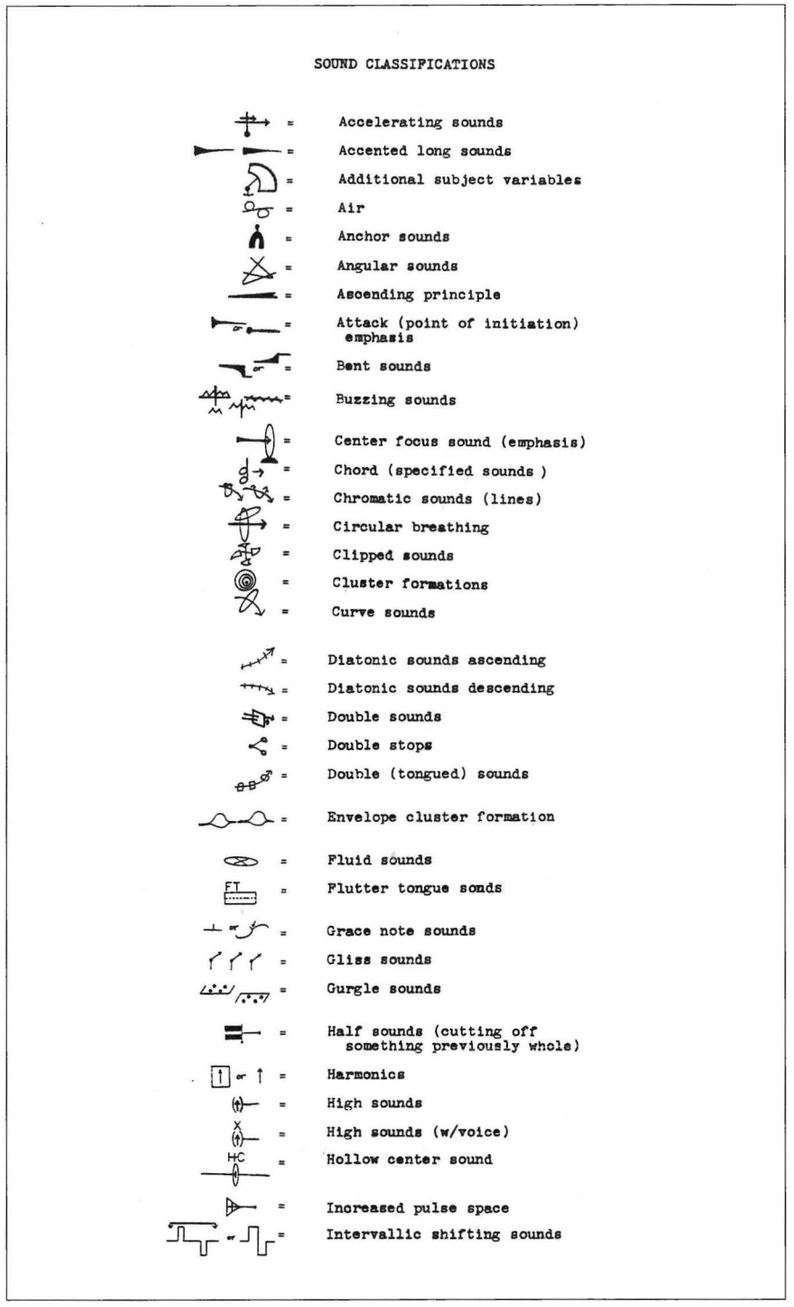
Braxton started playing clarinet and saxophone as a student at Chicago Vocational High School. He continued his musical studies after graduation, at local colleges and in the US Armed Forces band program. In 1966, after completing his military service in Seoul, South Korea, he returned home to Chicago and joined the Association for the Advancement of Creative Musicians (AACM).[7] Soon Braxton was playing in the Association's workshop ensemble—the Experimental Band, led by Muhal Richard Abrams—and forming multiple groups of his own, including a cooperative trio with Leroy Jenkins and Wadada Leo Smith.[8] Braxton also began to give unaccompanied solo concerts, like his AACM colleagues. According to Joseph Jarman, an original member of the Association, "part of the training program that the AACM had in those days was that everyone was required to do a solo performance."[9] Braxton played alto saxophone at his first solo concert, which likely took place sometime in 1967.[10] He was already a virtuosic saxophone player, and prior to the concert, he had been studying the solo piano pieces of various composers, from Arnold Schönberg and Karlheinz Stockhausen to John Cage, Cecil Taylor, and Fats Waller.[11] However, instead of integrating composed material into the solo performance, Braxton decided to freely improvise the entire concert. As he recalled, "I was just

going to get up there and play for one hour from pure invention, but after ten minutes I'd run through all my ideas and started to repeat myself. I thought, hmm, I better make sure this doesn't happen again."[12] "At the end of that concert, I came to understand that [...] it's not about freedom. It's not about idiomatic certainty. Rather, I was looking for a way to negotiate in between the primary spaces."[13]

And so Braxton began to prepare for his second solo performance, which was perhaps a few months away. This concert would not be freely extemporized, nor would it consist of fully notated solo pieces in the vein of Schönberg's op. 11 (one of Braxton's favorite works).[14] Rather, the music would lie somewhere "in between the primary spaces" of improvisation and composition.[15] Braxton's thoughts turned to notions of language, syntax, and vocabulary—that is, to musical concepts that could serve as the basis for short solo pieces that blended composition with improvisation.[16] Soon Braxton had mapped out all the music for the upcoming solo concert—the series of pieces he later titled *Composition No. 8*.[17] Some of these pieces, such as *Composition No. 8A*, included a handful of "notated phrase statements", but with *Composition No. 8B*, the music started to take on a different character.[18] "The thrust of this work," Braxton states, "[became] what I now call Language Music."[19] In each piece, the composed architecture consisted of one or more elemental concepts, which also provided the material for "extended improvisation" by the soloist.[20] Accordingly, there was no distinction between the material employed in composition and that used for improvisation. This was in keeping with the AACM's philosophy of music, in which composition and improvisation were seen as two sides of the same coin, two facets of a unified creative practice.

But Braxton's emerging language for composition and improvisation was more than an extension of the AACM's philosophy. In fact, Braxton was developing his language into a radical new theory of music. He kept adding more concepts to the inventory of sounds explored in the *Composition No. 8* series, and eventually he arrived at a list of ninety-nine Sound Classifications, a comprehensive list of the kinds of sounds that one might encounter in any musical form, anywhere—not just pieces for solo alto saxophone (see Figure 1a–b, pages 44–45).[21] From the Sound Classifications, Braxton derived a shorter list of ten, and eventually twelve, Language Types that would become the foundation for practically all his work as a composer, performer, and theorist (see Figure 2, page 46).[22] Some of these Language Types and Sound Classifications had been present right from the start. *Composition No. 8D*, for example, is based on long sounds—Language Type 1—while the trills that make up every phrase of *Composition No. 8H* represent Language Type 3.[23] And together, the Language Types and Sound Classifications constituted a new way of thinking about the materials of music, with few, if any, precedents in the work of earlier theorists.

Most music theories, Western and otherwise, proceed from the general to the specific, with a chain of hierarchical relationships linking one musical concept to the next. Theories of Western classical music, for instance, often begin



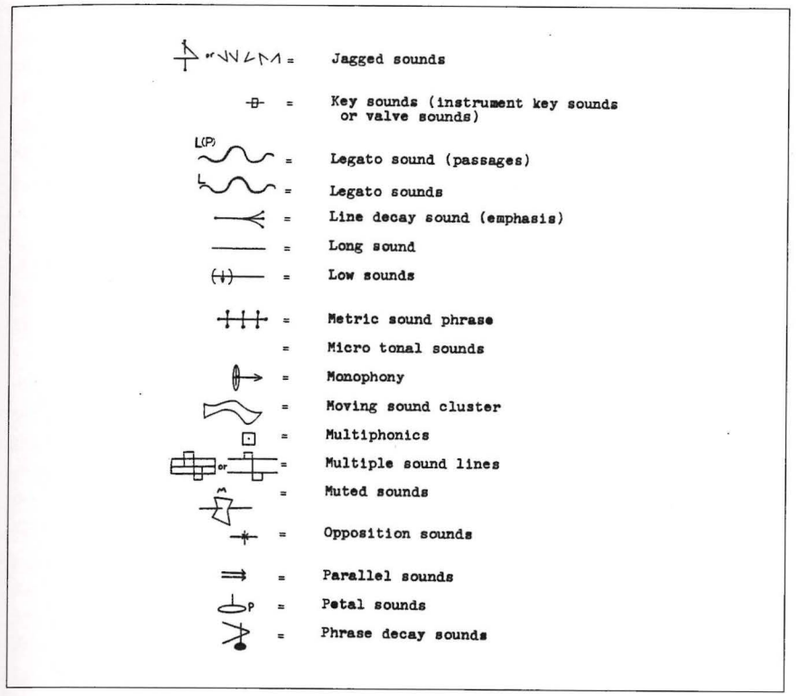


Figure 1 a–b Some of Anthony Braxton's Sound Classifications, from the *Composition Notes*

with frequency and pitch. Each frequency corresponds to a particular musical pitch, two pitches form an interval, one or two intervals can generate a diatonic scale—and scales, in turn, become the sources of melody and harmony. Similarly, in the realm of musical time, two timepoints make a duration, repeated durations create a pulse, and pulses can be grouped to produce measures, which beget subdivisions and every kind of rhythm. Braxton's theory, in contrast, is not hierarchical in the way of Western theories. Language Types 1 and 2, long sounds and accented long sounds, both appear in the longer list of Sound Classifications, as does a closely related item, staccato long sounds.[24] Any of these kinds of long sounds can be introduced into a composition or improvisation to produce a desired musical outcome, and none is more important than the others. Additionally, the Language Types and Sound Classifications may be combined in a number of different ways, making the theory a "modular system", in Braxton's terminology.[25] It could be said that the Language Types, in particular, offer the widest range of potential combinations—see *Composition No. 8D*, where the long sounds Language Type is used in conjunction with "air [sounds]" and "instrument sounds",

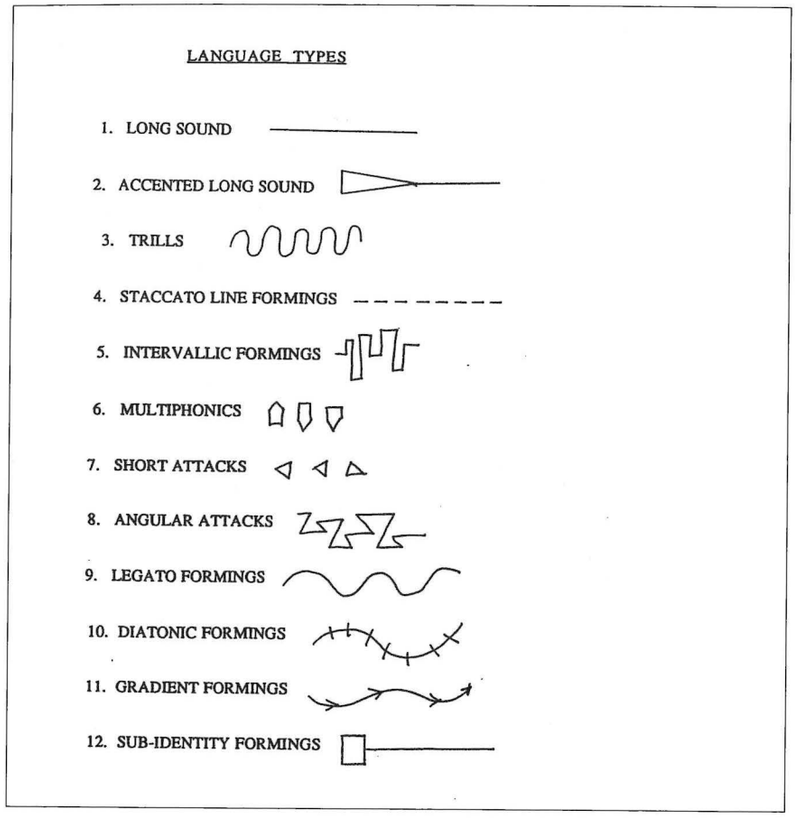


Figure 2 Anthony Braxton's Language Types

and also with "silence" (a major component of Braxton's theory which does not appear, for obvious reasons, in the Sound Classifications).[26] Ultimately, though, any sound can be combined with any other, and this affords Braxton a limitless set of possibilities for composition and improvisation.

At this point in the essay, readers who have studied music theory may wonder: *Is this really a theory? Where are all the rules?* And as a matter of fact, in Braxton's theoretical writings, there are no passages instructing musicians to steer clear of parallel fifths, non-chord tones, or cruzao rhythms. Rather, Braxton's theory is about possibilities, not prohibitions. And when Braxton does establish a rule, it is intended to reveal how much creative potential there is in the music, and in the theory that underlies it. This can be seen in the Language Types and

Sound Classifications, where any sound imaginable can become the point of departure for a composition or improvisation. At another level of the theory—moving beyond the construction of individual pieces to their realization—the possibilities are even greater. As Braxton wrote in the introduction to his *Catalog of Works* (from the late 1980s), "there are four fundamental postulates that must be understood about this material":

I. All compositions in my music system connect together
II. All instrumental parts in my group of musics are autonomous
III. All tempos in this music state are relative (negotiable)
IV. All volume dynamics in this sound world are relative[27]

Any Braxton piece, in sum, can be performed alongside (or inserted into) any other, and this, according to the composer, represents the true "aesthetic conceptual/vibrational/fulfillment of my music." Performers can also exchange parts, play one instrument's part on a different instrument, or even change the size of the ensemble, going so far as to transform an orchestra score into a solo piece, or vice versa. "What this means," Braxton explains, "is that the harmonic reality of a given structure has vertical, linear, and correspondence realities (logics) that transcend any one plane of definition." And even when playing a Braxton composition as notated, performers can still choose whatever tempo and dynamics they like, exploring the new "settings" and "colors" that are waiting to be discovered in the pages of the score.[28]

Braxton's second, third, and fourth postulates are not terribly unusual. In many musical forms, even those where fully notated compositions are the norm, players reserve the right to set the tempo and make interpretive decisions about dynamics, as in postulates III and IV. And postulate II states, in essence, that Braxton's compositions may be rearranged to meet the needs of a particular ensemble or performance situation. In contrast, postulate I is considerably more radical. By the 1980s, Braxton and the members of his quartet were experimenting with "collage form structures", where they would embed one composition into another, or even play from multiple scores simultaneously.[29] In most musical contexts outside Braxton's orbit, however, combining several compositions into a sonic collage would break all the rules. Composition—in classical traditions worldwide and even in improvisatory forms such as jazz—is about coordinating the actions of musicians. Whether a composition is written down or held in the minds of the performers, playing a particular piece together enables all the musicians to do the same thing at the same time. This kind of coordinated action is so central to most forms that is reflected in many of the terms we use for musical groups: band, conjunto, consort, ensemble, and so on. But Braxton's first postulate and his collage form structures turn this notion of composition on its head.

If composition does not have to be about coordinating performers' actions in this way, then what is it for? Braxton has an alternative theory: composition is about collaboration. In all of Braxton's scores, whether they use tra-

ditional notation, graphic notation, or a combination of the two, there is always room for "creative exploration" by the performer.[30] During rehearsals, concerts, and recording sessions, the performer is responsible for contributing new musical ideas to the piece that the composer did not foresee. As Braxton would say, the performer should "try something different—be creative."[31] Braxton does not expect the performer to play the score exactly as written, nor does he invite the performer to improvise freely. Instead, the player is asked to embark on a creative exercise, one that is continuously structured by close engagement with Braxton's score. The result is a genuine collaboration between the composer and the performer, where both can contribute creatively to the music from their respective positions. This theory of composition is already evident in early works, such as *No. 8A*, Braxton's very first solo saxophone piece, which he describes as "material [that] is positioned to actualize creativity."[32] There are additional dimensions of creativity in ensemble pieces, where several players can have their say at once. And when a group simultaneously plays two or more scores, written in different times and spaces, the collaboration expands once again—now with creative contributions from multiple sides of Braxton the composer. This concept of many musicians, many scores, and (poetically) many composers reaches its fullest expression in Echo Echo Mirror House Music, where performers interpret Braxton's graphic notation while, at the same time, cueing audio samples from the composer's massive discography, a collection of recordings that spans more than fifty-five years.[33]

Braxton's theory of music is unique in many ways, but this does not mean that it is completely sui generis, without any ties to other musical forms or theories. As Braxton declares in his *Catalog of Works*, "I have designed this material as an affirmation of 'SOUND' AND MUSIC SCIENCE—as a response to the great African, European, and Asian men and women who have clarified the profound 'beauty' of that which we call music."[34] And in fact, one can find traces of earlier forms and theories scattered throughout Braxton's work. One of the Language Types—number 10, diatonic formings—makes use of the scales that are fundamental to the theory and practice of Western classical music.[35] The list of sound classifications includes diatonic sounds ascending, diatonic sounds descending, and a few other entries related to Western scales and tuning systems.[36] And the distinctive, instantly recognizable notation that Braxton uses in his Ghost Trance Music draws in equal measure from the materials of Western classical music and from the composer's own innovations. To be sure, the Western classical tradition is not the only point of reference for the one hundred and thirty-seven pieces in the Ghost Trance Music series. The compositions were originally inspired by various forms of ritual music, from the nineteenth-century Native American ghost dance to Gregorian chant.[37] The influence of Western plainchant and counterpoint is especially evident in the Ghost Trance Music scores, which feature a primary melody written on a five-line staff, with clefs and accidentals, etc., plus some of Braxton's characteristic graphic symbols: the Tri-Centric square, circle, and triangle (see Figure 3). The Ghost Trance Music compositions are even categorized as first, second, third, and fourth species, an allusion to the rhythmic templates employed in eighteenth-century counterpoint.[38] However, Braxton always finds ways to reappropriate the materials he borrows, creating new musical contexts for even the most commonplace theoretical concepts.

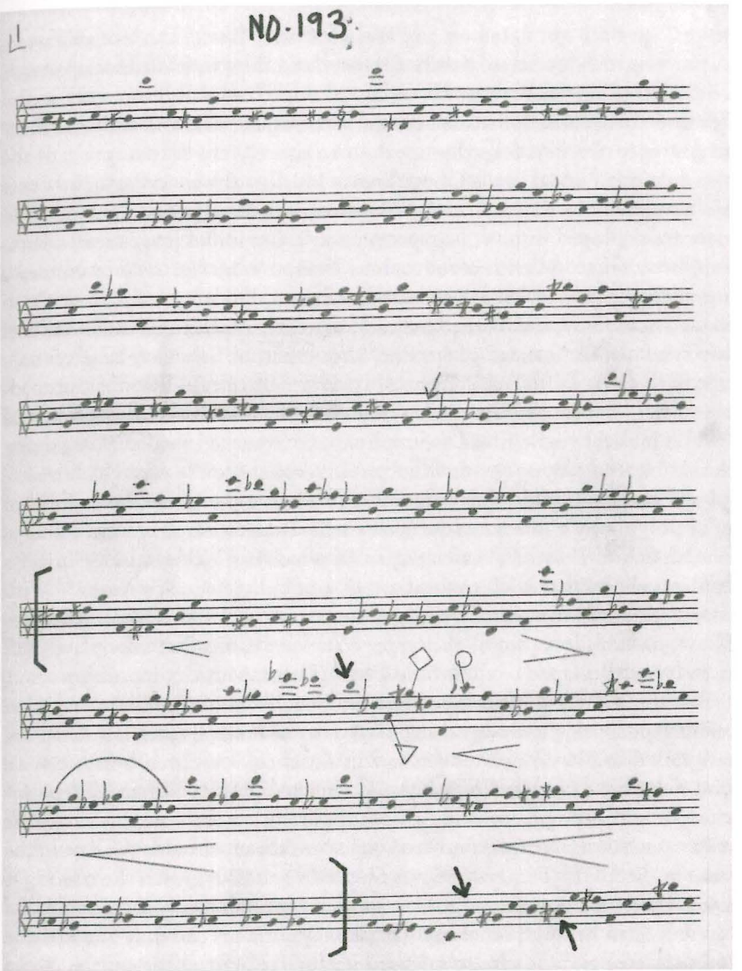


Figure 3 The first page of *Composition No. 193* (First Species Ghost Trance Music)

Language Type 10, diatonic formings, is bookended by two contrasting languages, legato formings (Type 9) and gradient formings (Type 11). These

Language Types are not based on any known scales, Western or non-Western, and in practice, they seem to specifically preclude the kinds of linear patterns often encountered in the Western classical tradition.[39] Similarly, for every sound classification that refers to diatonic scales, chromatic scales, and the like, there are dozens more classifications that speak to an entirely novel conception of the elements of music.[40] And in the Ghost Trance Music—as well as the many other Braxton compositions that use comparable notation systems—all the borrowed materials are deployed in new, unexpected ways. On initial inspection, a first-species Ghost Trance Music score (such as *Composition No. 193*) resembles a modern transcription of medieval music: a monophonic melody, written in unstemmed noteheads, and marked here and there with accidentals and a handful of other symbols. But instead of a treble, alto, tenor, or bass clef, Braxton uses his trademark diamond clef, which enables performers to read the music according to any clef of their choosing, or even switch clefs from one moment to the next.[41] The musical result is not monophony, or even neo-medieval organum, but a kind of fractal polyphony that morphs in response to the ensemble's make-up and the real-time interpretive decisions made by the performers. Further flashes of polyphony come from the accidentals. In addition to standard sharps and flats, there are Braxton's star accidentals, which can either raise or lower a given pitch, a choice that is left to the discretion of individual performers.[42] With each star accidental, the texture changes for an instant, in subtle and unpredictable ways—a microcosm of the larger transformations that take place over the much longer timespan of the whole Ghost Trance Music composition.

Braxton's theory of composition as a collaborative practice is what enables his repurposing and reworking of traditional musical materials. Clefs are ordinarily used to place a notated passage in a particular register, but Braxton's diamond clef takes a single melodic line and remakes it into a vibrant, polyphonic texture, while his star accidentals contribute still more complexity to the music. In many musical forms, a notated melody is the most stable portion of the piece, but in the Ghost Trance Music of the 1990s and 2000s, even the melody is co-created by the composer and the performers. Indeed, nearly every part of a Braxton score can be interpreted in multiple ways. This is certainly the case for Braxton's array of graphic symbols, from the familiar Tri-Centric square, circle, and triangle to the other shapes, codes, colors, and images found in his scores. Some Braxton pieces have their own special graphic syntax: for instance, *Composition No. 76* (from 1977) uses an idiosyncratic system of alphanumeric codes, geometric shapes, and colors to guide the performers' interpretations and improvisations (see **Figure 4**, p. 184).[43]

Certain graphic symbols recur in many different works, like the square, circle, and triangle that appear on every page of the Ghost Trance Music scores. Triangles enable the players to introduce pre-composed "secondary material" into the texture, squares allow the performers to bring in other Braxton pieces as "tertiary material", and circles cue the musicians to improvise, often with one of the twelve Language Types.[44] With each of these symbols, Braxton invites the

musicians to develop and extend the piece he wrote, giving the work an identity that is defined not just by the composer but also by his collaborators.

If composition-as-collaboration is one core principle of Braxton's theory, then the other fundamental principle centers on musical materials. As established above, the materials that Braxton uses to compose his scores are the same as the materials that he and his collaborators employ when improvising on his pieces. This ensures an unmistakable unity of expression in each work, and indeed across the entirety of Braxton's compositional output. Some pieces are more thoroughly notated, and some rely more on in-the-moment creation, but no matter where the balance is struck between composition and improvisation, the music still hangs together as a "state of sonic experience" with its own "structural identity", in Braxton's terminology.[45] And this, in turn, shows that Braxton's theoretical contributions are inextricable from his acclaimed work as a composer and performer. As Braxton observes: "I am describing something that's really very similar to [...] Johann Sebastian Bach or Beethoven or Jelly Roll Morton. We tend to forget that Mr. Bach kicked it about on the organ; he wrote some of it down. And as a theorist, he continued to develop his system. [...] I wanted to have the same reflection of balances in my experience."[46]

The Language Types are not the only essential materials in Braxton's theory. Besides the Language Types, the theory also encompasses the sound classifications, silence, and the many notational devices that Braxton has pioneered. But the Language Types are the most adaptable elements of the theory, a crucial consideration in a "restructural", "modular" system that is all about combining (and recombining) musical materials both old and new.[47] The first fruits of Braxton's Language Types were the solo alto saxophone pieces: *Composition No 8*, followed by *No. 14, No. 26, No. 77, No. 99, No. 106, No. 118, No. 119, No. 138, No. 170, No. 191, No. 308, No. 309, No. 312*, and *No. 344*.[48] Along the way, the Language Types took on even greater significance. Braxton started using the Language Types in his ensemble compositions, and also as a system for conducting improvisations in real time.[49] Eventually Braxton associated each of the twelve Language Types with a character in his Trillium operas—and with some of his major music systems, including Diamond Curtain Wall Music, Echo Echo Mirror House Music, Falling River Music, Ghost Trance Music, Pine Top Aerial Music, and Zim Music.[50] Every aspect of Braxton's theory (and Braxton's music), therefore, can be connected to the Language Types.

Although the Language Types reach their purest articulation in Braxton's most personal music—his pieces for solo alto saxophone—they can also be abstracted from their original context and used to generate entirely new theories and musical practices. In 2019, two computer-music researchers transformed the Language Types into a grammar for machine listening, where a computer interacts with the real-time musical output of a human improviser. The software architecture that the researchers developed, called Heretic, analyzes the sounds created by the improviser, extracting certain features from the audio and parsing the sounds into one or more of Braxton's Language Types. From there, the soft-

ware can improvise alongside the human musician, answering with Language Music output of its own or engaging in other kinds of responses, from soloistic playing to silence.[51] The initial version of Heretic was designed to interact with an improviser playing drumset—not the alto saxophone—but the software can be adapted to work with any instrument (or the voice), a powerful illustration of the utility of Braxton's Language Types.[52]

From alto saxophone solos to drumset improvisations, from creative orchestras to human-computer interaction, the Language Types and the other components of Braxton's theory can serve as the foundation for all kinds of music-making: composed, improvised, and everything in between. Few musicians—in the twentieth and twenty-first centuries, or any era—can claim to have created a theory that proved to be as innovative and influential as the ideas that Braxton began to cultivate in the 1960s. But then again, Anthony Braxton has always been exceptional. At the outset of his career, he immediately established himself as one of the leading members of the AACM, an organization that introduced to the world a new kind of composer/performer, one that would change the face of twentieth and twenty-first century music.[53] In the decades that followed, Braxton became a uniquely proficient multi-instrumentalist, a renowned soloist and bandleader, and an incredibly prolific composer whose music cuts across all the lines that formerly divided classical music from experimental music, from jazz, from ritual music, from everything else. Braxton remade the world of music to be more like him, succeeding in ways that no one, perhaps not even the composer himself, could have imagined. And none of this would have been possible without his theory—another gift to the music world from an uncommonly generous musician.

1 Anthony Braxton, *Composition Notes. Book A–E*, Synthesis Music, (Lebanon, NH), 1988; Anthony Braxton, *Research Papers*, manuscript collection, undated, https://tricentricfoundation.org (Writings); Anthony Braxton, *Tri-Axium Writings 1–3*, Synthesis Music, (Lebanon, NH), 1985; Anthony Braxton, *Tri-Centric System Notes: 2016*, unpublished manuscript, 2016.

2 See, for instance, Arnold Schönberg, "Composition with Twelve Tones", in *Style and Idea*, New York, 1950, pp. 102–143.

3 Charles Mingus, *Charles Mingus Presents Charles Mingus*, Candid CJS 9005 (LP), 1961.

4 Fred Anderson and Paul Steinbeck, *Exercises for the Creative Musician*, Chicago, 2002; George A. Gibbs, *Chord Construction and Analysis for All Instruments: An Aid to the Art of Improvising*, New York, 1937; Yusef A. Lateef, *Repository of Scales and Melodic Patterns*, Amherst, MA, 1981; Oliver Nelson, *Patterns: An Aid to Improvisation*, Hollywood, CA, 1966.

5 Joseph Schillinger, *The Schillinger System of Musical Composition*, Lyle Dowling / Arnold Shaw (ed.), 2 vols., New York, 1946; Nicolas Slonimsky, *Thesaurus of Scales and Melodic Patterns*, New York, 1947. For more on the popularity of Schillinger's method among jazz musicians in Chicago, see Aaron Cohen, *Move on Up: Chicago Soul Music and Black Cultural Power*, Chicago, 2019, pp. 70, 93; Marc E. Hannaford, "Theory on the South Side: Muhal Richard Abrams's Engagement with Joseph Schillinger's System of Musical Composition", in *Journal of the Society for American Music* 17, 1/2023, pp. 43-67; and George E. Lewis, *A Power Stronger Than Itself: The AACM and American Experimental Music*, Chicago, 2008, pp. 58–60, 62, 79, 178–179, 295, 455.

6 George Russell, *The Lydian Chromatic Concept of Tonal Organization*, New York, 1953. Several more musician-authored theories were published in the wake of Russell's book, including David Baker, *Jazz Improvisation: A Comprehensive Method of Study for All Players*, Chicago, 1969; John Mehegan, *Jazz Improvisation, Vol. 1: Tonal and Rhythmic Principles*, New York, 1959; and John Mehegan, *Jazz Improvisation, Vol. 2: Jazz Rhythm and the Improvised Line*, New York, 1962. For more on Russell's theory, see Marc E. Hannaford, "Adventures in Tonal Gravity: George Russell's Analysis of Maurice Ravel's 'Forlane'", in *Music Theory Spectrum* 46, 1/2024, pp. 150–174; Marc E. Hannaford, "Fugitive Music Theory and George Russell's Theory of Tonal Gravity", in *Theory and Practice* 46/2021, pp. 47–81.

7 Ronald M. Radano, *New Musical Figurations: Anthony Braxton's Cultural Critique*, Chicago, 1993, p. 113.

8 Lewis, *A Power Stronger Than Itself*, op. cit., pp. 147–148; Ishmael Wadada Leo Smith, interview by Taylor Ho Bynum, New Haven, CT, July 14, 2011, Oral History of American Music (OHAM), Major Figures in American Music, 409a, Irving S. Gilmore Music Library, Yale University.

9 Joseph Jarman, quoted in Peter Kostakis and Art Lange, "Joseph Jarman Interview", in *Coda* 158, 1977, p. 3. These solo concerts may have been private recitals in which the featured artist performed for an audience of fellow AACM members. In the AACM archives at the University of Chicago Special Collections Research Center, there are dozens of posters, programs, and ticket stubs for late-1960s concerts by various ensembles from the Association, but documentation for unaccompanied solo performances is harder to find.

10 Timo Hoyer, *Anthony Braxton – Creative Music*, Hofheim, 2021, p. 306; Kostakis and Lange, "Joseph Jarman Interview", op. cit., p. 3; Graham Lock, *Forces in Motion. The Music and Thoughts of Anthony Braxton*, London, 1988, p. 27.

11 Anthony Braxton, "Anthony Braxton Keynote Address at the Guelph Jazz Festival, 2007", in *Critical Studies in Improvisation/Études critiques en improvisation* 4, 1/2008, https://www.criticalimprov.com/index.php/csieci/article/view/520; Lewis, *A Power Stronger Than Itself*, op. cit., p. 148; Lock, *Forces in Motion*, op. cit., p. 26.

12 Anthony Braxton, quoted in Lock, *Forces in Motion*, op. cit., p. 27.

13 Braxton, "Anthony Braxton Keynote Address at the Guelph Jazz Festival, 2007", op. cit.

14 Arnold Schönberg, *Drei Klavierstücke*, Vienna, 1910.

15 Braxton, "Anthony Braxton Keynote Address at the Guelph Jazz Festival, 2007", op. cit.

16 "I would find myself looking at the wonder of syntax as the first degree of the friendly experiencer in terms of expression output. Syntax – as related to vocabulary and language." Braxton, "Anthony Braxton Keynote Address at the Guelph Jazz Festival, 2007", op. cit.

17 The first eight works in the *Composition No. 8* series were recorded on Anthony Braxton, *For Alto*, Delmark Records DS-420/421 (LP), 1971.

18 Braxton, *Composition Notes. Book A*, op. cit., p. 118.

19 Ibid., p. 120.

20 Ibid., pp. 118 ff.

21 Lock, *Forces in Motion*, op. cit., p. 27.

22 Braxton, *Tri-Centric System Notes: 2016*, op. cit.; Lock, *Forces in Motion*, op. cit., p. 28; Nate Wooley, "Anthony Braxton's Language Music", in *Sound American* 16, 2016, http://archive.soundamerican.org/sa_archive/sa16/sa16-language-music.html.

23 Braxton, *Composition Notes*, op. cit., pp. 129, 132, 150–154.

24 Braxton, *Composition Notes*, op. cit., pp. v, vii, ix.

25 Anthony Braxton, quoted in Lock, *Forces in Motion*, op. cit., p. 27.

26 Braxton, *Composition Notes*, op. cit., p. 132.

27 Anthony Braxton, *Catalog of Works* (Introduction), Synthesis Music, (Lebanon, NH), 1989.

28 Ibid.

29 Anthony Braxton, quoted in Lock, *Forces in Motion*, op. cit., pp. 30–31.

30 Braxton, *Composition Notes. Book D*, op. cit., p. 145.

31 Braxton, *Catalog of Works* (Introduction), op. cit.

32 Braxton, *Composition Notes, Book A*, op. cit., p. 118.

33 Carl Testa, "Echo Echo Mirror House Music", in *Sound American* 16, 2016, http://archive.soundamerican.org/sa_archive/sa16/sa16-echo-echo-mirror-house-music.html.

34 Braxton, *Catalog of Works* (Introduction), op. cit.

35 Braxton, *Tri-Centric System Notes: 2016*, op. cit.

36 Braxton, *Composition Notes. Book A*, op. cit., pp. v–vi.

37 Christa Haring, "Anthony Braxton's Ghost Trance Music: 9 Compositions (Iridium) 2006", in *Filigrane*, 8/2012, https://revues.mshparisnord.fr/filigrane/index.php?id=353.

38 Erica Dicker, "Ghost Trance Music", in *Sound American* 16, 2016, http://archive.soundamerican.org/sa_archive/sa16/sa16-ghost-trance-music.html; Haring, "Anthony Braxton's Ghost Trance Music", op. cit.

39 Wooley, "Anthony Braxton's Language Music", op. cit.

40 Braxton, *Composition Notes. Book A*, op. cit., pp. 1:v–x.

41 Dicker, "Ghost Trance Music", op. cit.; Haring, "Anthony Braxton's Ghost Trance Music", op. cit.

42 Dicker, "Ghost Trance Music", op. cit.; Haring, "Anthony Braxton's Ghost Trance Music", op. cit.

43 Braxton, *Composition Notes. Book D*, op. cit., pp. 136–154; Paul Steinbeck, *Sound Experiments: The Music of the AACM*, Chicago, 2022, pp. 60–87.

44 Dicker, "Ghost Trance Music", op. cit.
45 Braxton, "Anthony Braxton Keynote Address at the Guelph Jazz Festival, 2007", op. cit.
46 Ibid.
47 Ibid.
48 Hoyer, Anthony Braxton, op. cit., pp. 306-315.
49 Sean Sonderegger, "'It's more personal than we think': Conducted Improvisation Systems and Community in NYC", MA thesis, Wesleyan University, 2014, pp. 34–56; Wooley, "Anthony Braxton's Language Music", op. cit.
50 Braxton, *Tri-Centric System Notes: 2016*, op. cit.; Hoyer, *Anthony Braxton*, op. cit., p. 299.
51 Hunter Brown and Michael Casey, "Heretic: Modeling Anthony Braxton's Language Music", in *2019 International Workshop on Multilayer Music Representation and Processing (MMRP)*, Piscataway, 2019, pp. 38–39.
52 Ibid., p. 38.
53 Lewis, *A Power Stronger Than Itself*, op. cit.; Alexandre Pierrepont, *chaos, cosmos, musique: Particularités des aventuriers de l'AACM et du champ jazzistique dans leurs courses*, Paris, 2021; Alexandre Pierrepont, *La Nuée. L'AACM: Un jeu de société musicale*, Paris, 2015; Steinbeck, *Sound Experiments*, op. cit.

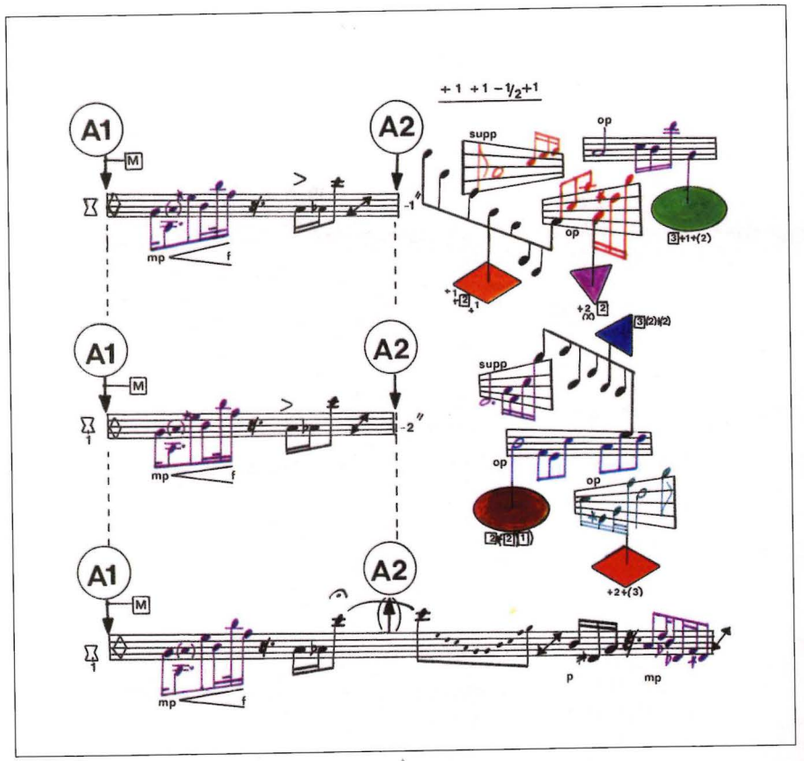


Figure 4 The first two modules of *Composition No. 76* (for three musicians)

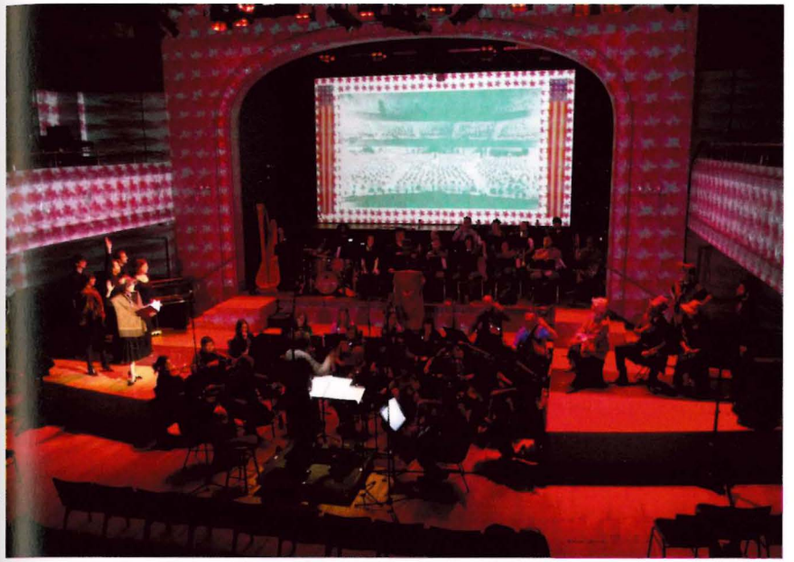


Figure 1 Anthony Braxton: *Trillium J*, Act One

Figure 2 Anthony Braxton: *Trillium J*, Act One