CHAPTER 2

TWO PORTRAITS OF ELLIOTT CARTER

2.1 The Modernist (Background and Influences)

Elliott Carter was born on December 11, 1908, the same year that Henry Ford introduced the Model T, the U.S. Army first announced its intent to buy "flying machines," Monet painted "San Giorgio Maggiore at Dusk," Gabriel Lippmann won the Nobel Prize for introducing color photography, and ten days before the premiere of Schoenberg's landmark Second String Quartet. Considering this and his upbringing in a wealthy, cosmopolitan home that emphasized the Classics, one could almost imagine Carter was predestined to become a prominent figure in the modern world – musical or otherwise. Surrounded by an environment rich in culture, and given the financial means and advances in communications technology that allowed him to absorb such an environment, Carter amassed a list of artistic influences that would in varying degrees shape his idiosyncratic musical language over the course of seventy-five years. In the first part of this subchapter, some of the composers who have been a primary influence on Carter's style will be discussed including Charles Ives, Edgard Varèse, Nadia Boulanger, and the trio of Claude Debussy, Igor Stravinsky, and Arnold Schoenberg; in part two, non-musical influences taken from the fields of literature and film such as James Joyce, Wallace Stevens, Jean Cocteau, and Sergei Eisenstein will be mentioned. A brief conclusion will contemplate how Carter addressed the preceding influences and will suggest Carter's possible legacy in music history.

Elliott Carter's professional relationship with Charles Ives is problematic to assess. Throughout his career, Carter has alternately heaped both praise and scorn on the elder composer, sometimes within the same essay, lecture, or interview. Yet their personal relationship almost constantly remained one of mutual respect and appreciation, extending beyond Ives's death and beginning even before the two had been officially introduced: Ives famously assisted Carter's admission into Harvard in 1926 by writing a short letter of recommendation based upon his familiarity with an essay Carter had written for a school paper and his knowledge of the boy's sense

of humor and industriousness.[45] In his oft-cited lecture/interview "Shop Talk by an American Composer," Carter begins a long statement about his mentor with a summation outsiders have observed quite well: "My opinions about Charles Ives as a composer have changed many times since I first came to know him during my high school years...but my admiration for him as a man never has."[46] The scores of Ives that Carter first admired (and continues to do so today) are the *Concord Sonata*, *Three Places in New England*, and some of the *114 Songs*[47]; later, he acknowledged pieces such as the *Robert Browning Overture*, the *Fourth of July*, and movements from the Fourth Symphony despite Carter's reservations about the extensive use of quotation in those compositions. Indeed, the frequent quotation of raw material formed one of Carter's principal doubts about Ives's compositional language – the other being the large amounts of "undifferentiated confusion... during which many conflicting things happen at once without concern either for the total effect or for the distinguishability of various levels."[48] Nevertheless, Carter continued to push for performances of Ives's works later in life, rescuing photostat copies of *The Unanswered Question* and *Central Park in the Dark* from the American Music Center and arranging for their "official" first performances in 1946.

One of the most famous examples of Carter's ambivalence toward Ives's creative output and musical aesthetics comes from the younger musician's published statements about the *Concord Sonata*. After exhibiting initial enthusiasm toward the piece, Carter's reaction to the Sonata cooled considerably after studying abroad and he expressed his criticism quite sharply in a series of articles in *Modern Music* in 1939 – a decision he regrets to this day. After the first performance of the work in New York City, Carter wrote the following:

> ...all the ingenious interpreting in the world [by John Kirkpatrick] could not dispel the fact that the sonata is formally weak... In form and aesthetic it is basically conventional, not unlike the Liszt Sonata, full of the paraphernalia of the overdressy sonata school, cyclic themes, contrapuntal development sections that lead nowhere... Behind all this confused texture there is a lack of logic which repeated hearings can

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[45] Notably, Ives at no point mentions Carter's interest in being a composer and sadly misspells Elliott's name with only one "t" in his address to the Harvard Dean. Reference Elliott Carter, "Documents of a Friendship with Ives," in *Elliott Carter: Collected Essays and Lectures, 1937-1995*, edited by Jonathan Bernard (Rochester: University of Rochester Press, 1997), 107-118.

[46] Elliott Carter, "Shop Talk by an American Composer," *The Musical Quarterly* 46, no. 2 (April 1960): 189-201.

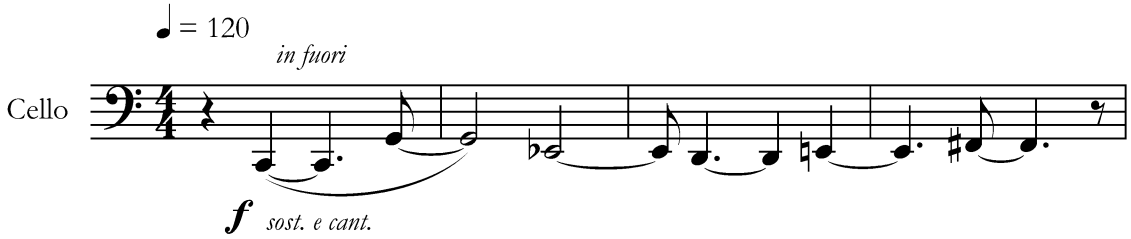
[47] I would be interested in knowing if the songs from the *114* that originally aroused Carter's interest as a young man referenced the New England geographic connection between Carter, Ives, *Three Places*, and *Concord*.

[48] Carter, "Shop Talk."

> never clarify, as they do for instance in the works of Bartók or Berg... The aesthetic is naive, often too naive to express serious thoughts, frequently depending upon quotation of well-known American tunes, with little comment, possibly charming, but certainly trivial.[49]

Ostensibly contradictory to the proclamation above, he goes on in the ensuing paragraph to praise Ives's statement of themes as "beautiful," including "a very funny" section on the tune "Hail, Columbia!" Carter concludes his report by asserting the present canonization of Ives as being "a little premature."

Notwithstanding his disappointment that Ives relied "on musical quotations for their literary effect" and was "unable completely to digest his experience as an American and make it into a unified and meaningful musical expression,"[50] Carter borrows an extract from Ives's First Violin Sonata verbatim in his own career-changing 1951 String Quartet No. 1 and draws on it as a main theme ripe for development early in the first movement. Rather than hiding the reference, Carter marks the passage *forte* and places Ives's material in the lowest stratum of the musical texture, the cello; since the cello opened the work only measures before with a dramatic solo followed by a brief pause, the listener is quite attuned to its reappearance bearing the Ives quotation (see Example 2-1).



Example 2-1 – Ives quotation in Carter's First String Quartet, mm. 27-30

Granted, Carter's selection of the quoted material fits the overall expressive and intervallic guidelines of the cello's material in the opening of the First Quartet without self-consciously breaking musical

[49] Elliott Carter, "The Case of Mr. Ives (1939)," in *Elliott Carter: Collected Essays and Lectures, 1937-1995*, edited by Jonathan Bernard (Rochester: University of Rochester Press, 1997), 89.

[50] Carter, "Shop Talk"; the latter quote has curious overtones of Ezra Pound's Modernist credo "Make it new!"

continuity, but his decision to cite Ives so explicitly remains remarkable in a piece intended to be a definitive, uncompromising, and self-exploring work for Carter's own benefit (and his alone).[51]

For a later example of Ives's influence on Carter's musical language, consider the genesis and composition of Carter's 1963-64 Piano Concerto. In the early sixties, Carter became intrigued and impressed by the contrapuntally dense scores of Penderecki, Ligeti, Xenakis, and others, finding that the "thick, packed, dissonant textures and vivid juxtaposition of whole clusters or constellations of notes" produced lively musical results.[52] In conversation with David Schiff, however, the composer revealed that the inspiration for his massive string writing in the Concerto was the *Fourth of July* by Charles Ives:

> While composing the second movement [of the Piano Concerto], Carter left New York to Warsaw for a performance of the Double Concerto. His plane was grounded in London, however, and when he rang up some friends there he found out that at that very moment Frederik Prausnitz was rehearsing...the *Fourth of July*. Carter arrived just in time to hear the rehearsal of the dense string passages in the Ives, which convinced him that he was on the right track in the Piano Concerto.[53]

It is entirely possible that Carter was wishing to attribute inspiration to an older, personal, and American model in order to distinguish himself from his European peers in the '60s, but if we take his testimonial (and Schiff's recounting of it) at face value we find Carter drawing aesthetic encouragement from Ives while writing the piece for which he would achieve European renown and his greatest international accolades/infamy to that date.

In the biographical documentary *A Labyrinth of Time*, filmmaker Frank Scheffer captures a moment in Carter's apartment one afternoon while the composer is diligently working with cellist Fred Sherry on the creation of his recent solo cello piece, *Figment No. 2 – "Remembering Mr. Ives"* (2001). When explaining the title of the piece to the documentarian, Carter's respect for the older composer is still evident: "Mr. Ives was very much older than I was at the time that I knew him, so I

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[51] On his own First Quartet, Carter has stated: "I decided for once to write a work very interesting to myself, and so say to hell with the public and with the performers too. I wanted to write a work that carried out completely the various ideas I had at that time about the form of music, about texture and harmony – about everything." Elliott Carter, *Flawed Words and Stubborn Sounds: A Conversation with Elliott Carter*, edited by Allen Edwards (New York: Norton, 1971), 35.

[52] Elliott Carter, "Letter from Europe (1963)," in *Elliott Carter: Collected Essays and Lectures, 1937-1995*, edited by Jonathan Bernard, (Rochester: University of Rochester Press, 1997), 36.

[53] Schiff (1998), 255-56.

called him Mr. Ives and never Charles."[54] During the next scene in the film, Carter reveals his continued simultaneous affinity for and distancing from the *Concord Sonata* when discussing the compositional material of *Figment No. 2*:

> "I used tiny bits of the *Concord Sonata* that I remembered... I didn't actually start by looking through it, because I haven't thought about it in a long time. So I just chose little things that to me suggested Charles Ives's music. For instance, this little hymn tune in the 'Alcott' movement is... [Carter plays the harmonized melody at the piano from memory] ...and it also ends with a minor third. [Fred Sherry plays a measure or two from *Figment No. 2* in response] Yeah, that's it..."[55]

It is intriguing that Carter wishes to pay homage to Ives by re-arranging fragments of arguably his most famous work in one moment, yet in the next breath insists "he hasn't thought about it in a long time."

Carter also mentions that he wanted to pay tribute to Ives by writing a short chamber work since he had done likewise for two other composers in the recent past: *Statement – Remembering Aaron* for solo violin (dedicated to Copland, 1999) and *Fantasy – Remebering Roger* for the same instrument (Roger Sessions, 1999). Although this is true, technically Carter has composed several chamber miniatures in the past decade or so before *Figment No. 2* to honor and celebrate the work of other composers – *Riconoscenza* (1984) and *90+* (1994) for Goffredo Petrassi, *Esprit Rude/ Esprit Doux* (1984) and *Esprit Rude/ Esprit Doux II* (1994) for Pierre Boulez, *Gra* (1993) for Witold Lutosławski, *Inner Song* (1992) for Stefan Wolpe, and even *Con Leggerezza Pensosa* (1990) for the author Italo Calvino all predate Carter's tribute to Ives. Perhaps this is not a deliberate "snub," but the reflection of an anxiety over creating a musical laud for a man who influenced Carter's work and personality so greatly.

Another composer who influenced Carter as a young man (and whose presence is still felt in his music) is Edgard Varèse. Carter explains that his continued fascination with Varèse's compositions comes from the latter's extraordinary musical vitality, his exciting approach to integrating large percussion forces into and independent from the orchestra in pieces such as

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[54] Frank Scheffer, *A Labyrinth of Time*, timecode 19:15. Quotations from Scheffer's film are transcribed by the author.

[55] Again, see Frank Scheffer, timecode 19:15.

Ionisation (1929-31),[56] and the irregularities of durations in Varèse's mature works that lead to "what has been called a 'prose rhythm'."[57] Even more importantly, it is the American composer's opinion that Varèse made an amalgam of the Stravinskian and Viennese rhythmic procedures in compositions including *Déserts* (1950-54) and adopted this durational structuring not as a way of furthering the almost hysterical expressivity sought by the Second Viennese School, but "rather as a way of producing a new rhythmic structure with a high degree of forward drive not resulting from regular beat patterns."[58] Carter has also been interested in the highly sensitive manner in which Varèse's compositions include continuities based upon harmonic structures working concurrently with instrumental sonorities, regions articulated in registral space, and the play of rhythmic motives.

Nowhere in Carter's output is the influence of Varèse felt more than in the introduction of the Double Concerto for Harpsichord and Piano with Two Chamber Orchestras (1956-61). Each of the solo keyboard instruments is accompanied by its own ensemble (an agonistic gesture owing more than just a tip of the hat to Ives) as well as a bevy of percussion devices – bongos, bass drums, anvil, cowbells, gongs, tamtams, temple blocks, wood blocks, slap-stick, snare drums, soprano cymbals. The orchestration is one police siren and a kitchen sink away from *Ionisation*. Double Concerto is set in motion when the unpitched percussion rocks one end of the sound spectrum with seemingly undifferentiated noise, struggling to coalesce into the structural long-range polyrhythmic pulses featured in the composition (Example 2-2 is similar to David Schiff's chart of the polyrhythmic plan in the opening bars of the Concerto).[59] From the protracted, savage waves of percussion, the listener is left momentarily wondering when the "concerto" part will begin. Single dyads very gradually emerge from the Big Bang, minor and major seconds reverberating and quivering like overtones from cymbal rolls.[60] This is Varèse's futuristic compositional utopia realized.[61]

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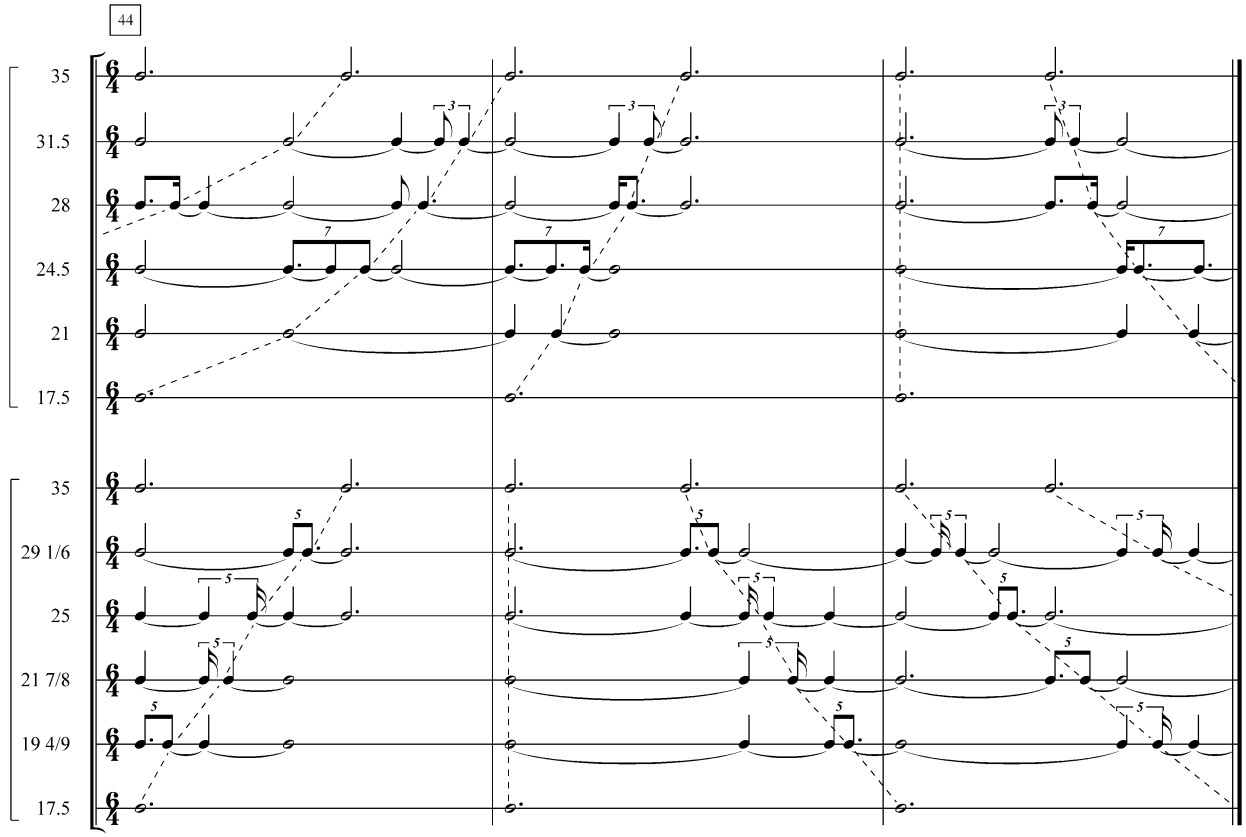
[56] Scheffer, *Labyrinth of Time*, timecode 16:30.

[57] Elliott Carter, "On Edgard Varèse (1975)," in *Elliott Carter: Collected Essays and Lectures, 1937-1995*, edited by Jonathan Bernard (Rochester: University of Rochester Press, 1997), 147.

[58] Carter (1975), 148.

[59] Schiff (1998), 247.

[60] The technique here is reminiscent of Berg's *Three Orchestral Pieces*, but the overall rhetorical effect is quite different.



Example 2-2 – Double Concerto's rhythmic scheme (modeled after Schiff)

Other works in Carter's catalogue are imbued with Varèsian ideals. The central portion of *A Celebration of Some 100 x 150 Notes* (1986) constantly rearticulates the same static, granitic all-interval twelve-note chord and sustained spatial boundary for dozens of measures at a *fortissimo* dynamic. Even in the Americana *Holiday Overture* (1944), the previously joyous threads of pentatonic and quartal materials reach a point of combustion one minute before the end, and the music becomes a horrific machine collapsing under its own weight. The result sounds like Copland imitating Varèse but in a way that could only be Carter's for its masterful transition into (and out of) that climactic moment. The comparison of Carter's sound masses to Varèse's suggests an interesting analytical approach, as the same examinations of the effect of spatial boundary motions on our perception of

[61] Carter also begins his one-act opera *What Next?* (1999) with a similar gesture, employing a ferocious clatter of unpitched percussion to introduce the hesitant singers and to musically depict a car crash. Leonard Bernstein also wrote a percussion racket to simulate a fatal automobile wreck in the first scene of his critically-panned opera, *A Quiet Place.*

form in Varèse's music that Jonathan Bernard writes about in his book may yield similarly positive results when applied to Carter.[62]

Like many American musicians in the earlier half of the 20th century, Carter journeyed across the Atlantic to study with Nadia Boulanger; in Carter's case, his tenure in Paris lasted from 1932-35 and occurred at the insistence of Walter Piston. Even though he did not end up composing the music Boulanger would have imagined him creating by the end of his apprenticeship (initially hearing the First String Quartet, she reproved Carter by commenting on her disbelief that he "would ever write something like that"), his lessons with the famed pedagogue were defining experiences nonetheless.[63] Time spent with "Mademoiselle" was akin to entering a contrapuntal and intellectual boot camp. Comments on Carter's experience may be found in many sources, but the best summation is in his interview for Frank Scheffer's film:

> I loved music anyhow, but she made me love it a great deal more and be much more aware of what was happening in music and what it was that made it so wonderful and so remarkable. She would make us learn to play the *Well-Tempered Clavichord* of Bach with [our] hands crossed. She was very serious about this typical French method of doing very complicated exercises in order to develop technique and this was something she said forced you to pay attention in a very intense way.
>
> She gave us very strict counterpoint lessons. The discipline of writing counterpoint was a very important thing for me, that is we had to pay strict attention to every note that we wrote so that it fit into this very narrow system of rules and at the same time we had to discover how to make this sound like a piece of music – that it had a musical quality to it. It took us about two or three years of weekly lessons during the ordinary school year to arrive at this so it was really satisfactory.
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> Contrapuntal lessons involved first of all choosing a nice melodic line. After we learned how to do that, we would do two-part counterpoint... and then three-part counterpoint led to four-part counterpoint and five- and six- and seven- and then in musical performance [we would] do our examples of seven- and eight-part counterpoint. [My] big eight-part counterpoint was one that Nadia Boulanger asked me to copy so that she could use it as an example for other students because she thought so highly of it.
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> She was a very useful teacher to me. It was not something I would have ever learned if I had stayed in the United States...[64]

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[62] Jonathan Bernard, *The Music of Edgard Varèse* (New Haven: Yale University Press, 1987).

[63] Schiff (1998), 14.

[64] Scheffer, *A Labyrinth of Time*, timecode approx. 27:00.

According to Schiff, the study of counterpoint under Boulanger (1) prompted Carter to think of music as a set of problems, each of which had multiple solutions and (2) taught him to conceive of melody, harmony, and rhythm in systematically related ways.[65]

Even though Carter destroyed all of the compositional endeavors from that time period (much like he had done with his Harvard-era pieces), a few works from the '40s bear the heavy stamp of his French instructor. *Elegy* (for cello and piano 1939, revised for string quartet 1946) matches the expansive landscapes of Copland (a fellow Boulanger pupil), but with distinctly bitter tonal shifts characteristic of Carter; the Woodwind Quintet of 1948 was specifically dedicated to Nadia Boulanger because the composer penned it hoping to "create music of the kind Nadia would have wanted me to write when I was her student."[66] The Quintet is unmistakably Carter's creation, though, due to its Ivesian independence of musical *dramatis personae*, jazzy rhythmic profile, and humorously understated coda. After Carter's style changed permanently following the completion of the First String Quartet, his trademark preoccupation with coordinating the horizontal and vertical dimensions of music remained as did his fastidious compositional manner – a result of the rigorous training acquired in Paris.

In a 1969 essay on his mid-century change of compositional aesthetic, Carter writes:

> …I began to question the familiar methods of presentation and continuation, of so-called "musical logic," based on the statement of themes and their development. Certain…works, particularly those of Debussy, suggested a different direction. In considering change, process, evolution as music's prime factor, I found myself in direct opposition to the static repetitiveness of most early twentieth-century music, against the squared-off articulation of the neoclassicists, and…against much of what is written today in which "first you do this for a while, then you do that." I wanted to mix up "this" and "that," make them interact in other ways than by linear succession. Too, I questioned the inner shape…of musical ideas – as well as their degrees of linking or non-linking. Musical discourse needed as thorough a rethinking as harmony had at the beginning of the century.[67]

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[65] Schiff (1998), 13.

[66] Elliott Carter, *Elliott Carter: In Conversation with Enzo Restagno for Settembre Musica 1989*, translated by Katherine Silberblatt Wolfthal (Brooklyn: Brooklyn College, 1991), 41.

[67] Elliott Carter, "Two Sonatas, 1948 and 1952." Liner notes. Nonesuch Records H-71234 (H-79183-2), 1992. Compact Disc.

It comes as no surprise then that despite the thinning of textures and self-imposed limitation of pitch(-class) resources in his recent works, the composer still eschews repetition of large chunks of music and delights in the juxtaposition of disparate characters, melodies, and narratives. Carter's term for his free mature-period musical rhetoric (general avoidance of large-scale recapitulation, clearly delineated formal paradigms, and traditional thematic development) is "emancipated discourse,"[68] which serves a broader aesthetic analogue to Schoenberg's famous "emancipation of the dissonance." Among other sources, scores by Debussy, Stravinsky, and Schoenberg provided the inspiration for this principle.

In Carter's opinion, the need for "serviceable routines" such as themes and accompaniments, canon, fugue, sonata form, and development, was first challenged by Debussy in his later period.[69] In particular, he cites the *Préludes* of 1910, *La Mer*, *Jeux*, and the late sonatas (for Cello, for Violin, and for Flute, Viola, and Harp). Regarding the latter, Carter has tried to emulate its "continuities of great freedom. Each movement...has many different speeds and different characters which nevertheless add up to a whole, not only because of a subtle sensitivity which contrasts things that seem to have some relationship of spirit, but also owing to...rather clear relationships of motives..."[70] The Sonata owes its discourse to a formal plan without pre-fabricated paradigms from the past and to a carefully-constructed intermingling of associated musical elements patterned to elicit a desired psychological response.[71] Carter drew comparable conclusions about and creative stimulation from Stravinsky's *Le Sacre du Printemps*, *Symphonies of Wind Instruments*, and the first part of the *Symphony in Three Movements* (which Carter frequently lists among modern compositions comprised of daring new formal processes) as well as Schoenberg's free atonal works (*Erwartung*, Five Pieces for Orchestra Op. 16) and final compositions (String Trio Op. 45 and the Violin Fantasy Op. 47).

Because of his omnivorous intellectual appetite, the influences on Carter's musical language have not only been derived from other composers but from disciplines as diverse as literature and film. The impact of cinematic art situates Carter as a man in touch with his century(-ies), since no other art form is so uniquely a product of modern thought; unlike dance, music, painting, sculpture,

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[68] Elliott Carter, "Two Essays on Goffredo Petrassi," in *Elliott Carter: Collected Essays and Lectures, 1937-1995*, edited by Jonathan Bernard (Rochester: University of Rochester Press, 1997), 187-197.

[69] Ibid.

[70] Elliott Carter, "The Three Late Sonatas of Debussy," in *Elliott Carter: Collected Essays and Lectures, 1937-1995*, edited by Jonathan Bernard (Rochester: University of Rochester Press, 1997), 132.

[71] Lutosławski's views on formal analysis made him a kindred spirit of Carter. See Lutosławski (2007), 12-41.

literature, poetry, and theater, film is only made possible through relatively recent advances in technology and exhibits powerful means of shaping a narrative in ways no other medium can. Through film, a nonlinear juxtaposition of elements is able to create new meanings not explicitly existing in the given cinematic elements. Early pioneers who championed nonlinear montage included Soviet director and experimenter Lev Kuleshov, who by 1918 had discovered a cognitive trick still named in his honor. The "Kuleshov Effect" consists of a presentation of three images, the first and last of which are identical. Oddly, when viewers behold the three images, they invariably describe the third image as being different from the first or attribute emotive characteristics to the third image that are influenced by the second (contrasting) image. Sergei Eisenstein, Kuleshov's pupil and a famed director in his own right, used this cognitive ploy to great advantage in the nonlinear montages of his films *October*, *Strike*, and *The Battleship Potemkin* (Eisenstein's term for this technique was "intellectual montage" and differed from classical Hollywood practices in its shunning of traditional linear narrative).[72]

Carter's interest and thinking about musical time were "very much stimulated by the kinds of [montage] and continuity [found] in the movies of Eisenstein, particularly *Ten Days That Shook The World* and *Potemkin*, and such as are described in his books, *Film Sense* and *Film Form*."[73] He describes the relationship between his music and Eisenstein's films as rooted in a "strong feeling of action that also is constantly recalling different parts of the past. A great deal of the texture and character of my music is like a film. If there are three or four things being played at once – while they all contribute to a general effect, the details are all rather different. This is something like the various shots that Eisenstein would show around a general central subject."[74]

The seventh variation from Carter's *Variations for Orchestra* contains a straightforward musical interpretation of Eisenstein's montage theories from a relatively earlier (1955) Carter composition. Here, the composer breaks apart three strands of musical thought partitioned according to orchestration (woodwinds, brass, strings) and intersperses them (see Example 2-3).

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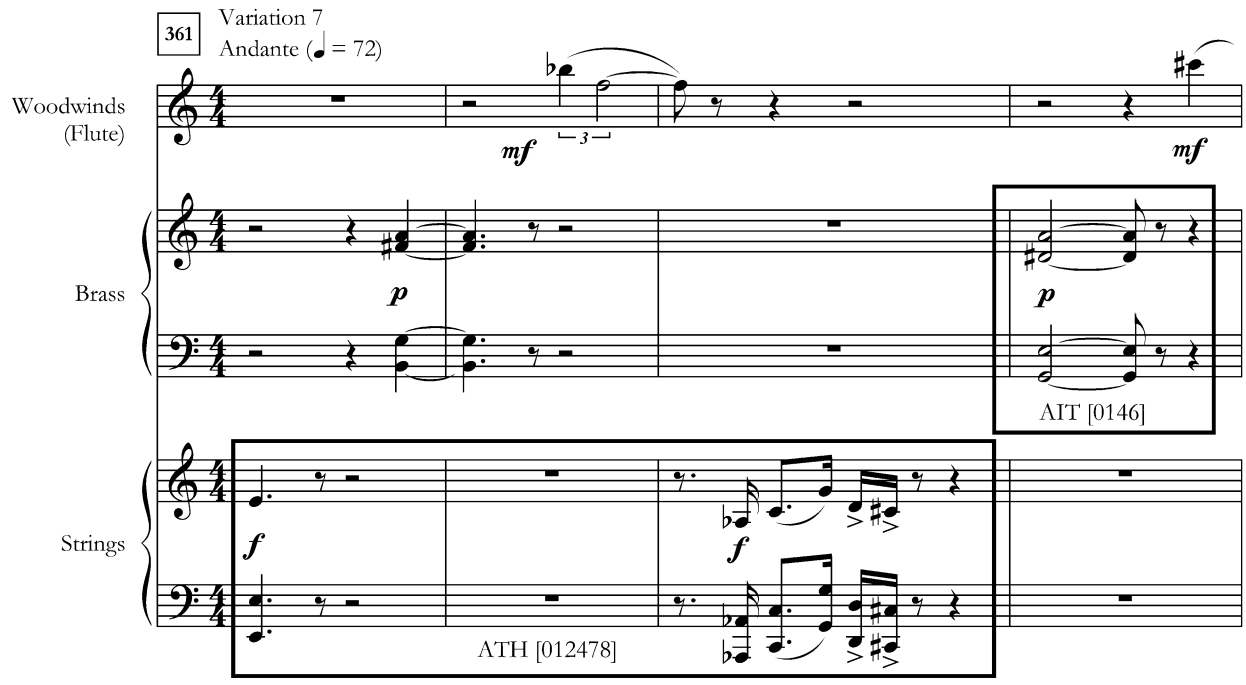
[72] I wrote about this subject in an unpublished paper (2007) entitled "Elliott Carter's Phenomenology and the Film Metaphor."

[73] Carter, *Flawed Words*, 99.

[74] Scheffer, *Labyrinth of Time*, timecode 49:31. Carter mentions the famous scene in *Potemkin* involving actions between masses of angry people and, simultaneously, a baby carriage tumbling down the palace steps where the revolutionary battle is taking place. The composer evidently has an eye for creative film editing – Brian De Palma famously paid homage to the same scene in his movie *The Untouchables*.



Example 2-3 – Variations for Orchestra (1955), *Beginning of Variation 7*

Thirty years later, Carter explored a more sophisticated, long-range approach to musical "cross-cutting"[75] in his solo violin piece *Riconoscenza per Goffredo Petrassi* (1984). Once again the composer interlaces three individual musical strands to form a montage, but since the work is for a solo instrument the materials are differentiated by associations of intervals, rhythmic gestures, and character. Throughout *Riconoscenza* the three species of music, each with its own distinct developmental path, continually interrupt each other; the cross-cutting is so literal that when a music type resumes, it typically begins with the same pitches with which it previously ended. As the composition ensues, cross-cutting becomes increasingly rapid as any one music category is not allowed to reign for more than a few measures. This process intensifies until the point when, by the conclusion, the once intransigent intervallic and character profiles of the music types break down and a communion takes place as three compositional strands share materials and fuse into one. Carter is perspicuously performing the task that we as listeners might have been doing all along: actively imagining the cross-cutting as creating a *fourth* type of music – a music not performed by the

[75] Schiff's term for Eisenstein's "intellectual montage" as used in a musical context, particularly Carter's: abruptly jumping between different musical ideas without transition. Schiff (1998), 39.

violinist or dreamt by the composer, but shaped in the mind of the perceiver.[76] By doing so, Carter comes closer to emulating the appearance of several small gestures contributing to a cohesive structure that so fascinated the composer in Eisenstein's films.

Although not an instance of montage, the general formal plan for the First String Quartet was "suggested by Jean Cocteau's film *Le Sang d'un poète*."[77] Cocteau's experimental 1930 cinematic experience begins with a slow-motion shot of a brick chimney being dynamited; the brief scene is interrupted and cut away from as the chimney collapses, whereupon the hallucinatory action of the main plot takes over (see Example 2-4). After the entire movie proceeds in a fashion entirely unrelated to the opening scenario, the shot of the chimney is resumed at the point which it left off, showing its mid-air disintegration and closing *Le Sang* with a shocking crash of bricks and mortar. Carter's composition exploits a similar interrupted continuity as the Quartet embarks with a passionate and extended cello solo, lasting almost a full minute. The "dream time" core of the First Quartet inhabits the listener's attention for thirty-five minutes, eventually concluding with a protracted violin cadenza that is an extension of the cello's opening salvo. Carter's involvement with the cinema evidently persists through his late-late period, since the plot of his only opera, *What Next?*, was inspired by his viewing of Jacques Tati's odd comedy *Trafic* (1971).

Example 2-4 – Still photo from Cocteau's Le Sang d'un poète

[76] These analytical comments are expanded in my "Phenomenology and the Film Metaphor" paper and in my 2006 thesis. See Theisen, "Emancipated Discourse, Temporal Unfoldings, and the Articulation of Harmonic Regions in Selected Chamber Compositions by Elliott Carter" (MM thesis, University of Southern Mississippi, 2006), 23-30.

[77] Elliott Carter, "String Quartets Nos. 1, 1951, and 2, 1959." Liner Notes. Nonesuch Records H-71249, 1970.

In an effort to create "form as proceeding" rather than "shape as superinduced",[78] Carter has also turned to literature – hardly surprising, considering he majored in English (not music) while at Harvard. The epic stream-of-consciousness shapes of James Joyce's novels excited the composer from an early age and impacted how Carter understood musical discourse. Joyce's creation of the "epiphanic moment"[79] is a subject oft-mentioned by Carter in interviews and essays, such as this longer excerpt from *Flawed Words and Stubborn Sounds*, predominantly because of the term's apparent misapplication to what was at the time a fashionable fascination with "moment form":

> ...no "moment" can have any meaning except as the result of its context, and can never be anything like the "epiphany" the word seems to imply...unless it has been led up to so that it constitutes a meaningful stage in a previously ongoing musical process. In Joyce's *Dubliners*, in which the first conscious use of this technique in a literary work was made, it's very obvious that "epiphanies" occur always as a result of a situation in which the person who is experiencing the events finally recognizes, in a "moment of truth," what they all mean.[80]

In an earlier essay on Debussy, Carter hypothesizes that the French composer's work is filled with emotionally-charged associative patterns and epiphanies rather than logical ones, mirroring symbolist poets such as Rimbaud and, later, Joyce's *Ulysses* or *Finnegans Wake*.[81]

Carter's ubiquitous focus on Joyce's epiphanic constructions have led the composer and others to hypothesize the presence of "epiphanic forms" in modern music. Carter's multiple writings on the subject are somewhat opaque, as is David Schiff's definition – "a form where the relations between musical ideas are revealed non-linearly across a piece rather than in the form of theme and variation or development."[82] I am uncomfortable with his inclusion of the word "non-linear" since it tends to undermine some of the arguments made by Carter about the importance of

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[78] Samuel Taylor Coleridge, "On Poesy or Art," in *English Essays: Sidney to Macaulay*, edited by Charles W. Eliot (New York: P.F. Collier & Son, 1909-14).

[79] "Epiphany" was adopted by Joyce to mean the sudden revelation of meaning though accrued insights and symbolic gestures.

[80] Carter, *Flawed Words*, 94.

[81] Although the macrostructures superimposed upon smaller units of freer associative connections in *Ulysses* reminds me more of Berg's *Wozzeck*, for instance. See Carter, "Three Essays on Debussy."

[82] Schiff (1998), 39.

continuity in assembling an epiphanic composition; my definition of epiphanic form, as I understand Carter's writings and intent, is a form wherein seemingly unrelated tableaux are linearly integrated in a stream-of-consciousness fashion that defies traditional teleologic thought; later in the form, a decisive moment usually occurs that connects previously-heard materials, simultaneously (1) casting sudden insight into hidden relationships between elements and (2) illuminating the structure as the whole. The defining epiphanic flash, then, corresponds in function to the apotheosis/*peripeteia* complex presented in Michael Klein's narrative account of Lutosławski's Fourth Symphony.[83]

Carter's Second String Quartet (1959), in addition to its alternation between a pseudo-Classical four-movement architecture and various instrumental cadenzas, is large-scale evidence of Carter's epiphanic formal processes. The cadenzas periodically transpiring in the Quartet act as *attacca* interludes connecting the "actual" movements in order to prevent breaks in the musical discourse; Carter's effort to maintain continuity is heightened by the other three string players persistently accompanying the soloist. After the *Andante espressivo* yet before the finale the first violinist takes its turn as a featured performer, but this cadenza is truly unaccompanied, allowing the listener to focus intently on one isolated voice for the first (and only) time in the composition. The music's psychological time stops as the violinist steps outside the established temporal boundary of the Quartet. The wall of rhetorical flow that the composer fought so hard to establish has been effectively dismantled. Everything in the previous thirteen minutes has led gracefully to this segment, wherein the soloist begins an impassioned, flighty, virtuosic improvisation on material listeners first heard performed at the start of the first movement. The rhapsodic monologue whips itself into a frenzy culminating on a stratospheric A7, unexpectedly crashing into a *fortississimo* quadruple-stop.

And then silence. Beats, seconds (seemingly minutes, hours) of silence fill the space where tones once were. Timidly, the soloist creeps back in with the (G♯, B, A, C) motive the listener has encountered a few times since the beginning of the quartet. Some more broken starts and the rest of the ensemble joins in with sustained tones and tremolos, gradually accelerating like a video in slow motion resuming normal speed, sweeping headlong into the final *Allegro*. The epigrammatic progression of *fortississimo* quadruple-stop, tonal lacuna, and minor-thirds motive constitutes the emotional epiphany of the Second Quartet. It is the instant, led to in illogical and labyrinthine ways,

[83] Klein, *Intertextuality in Western Art Music*, Chapter 5. Carter's ideal construction of constantly-evolving, disparate, yet interlocking *tableaux* draws a parallel to Lutosławski's "chain form."

that reshapes the discourse of the composition, wrangling all information acquired thus far, and after which the narrative path of the composition shifts. In Carter's *Dialogues* for piano and orchestra (2003), written decades later, the episodic nature of the composition comes to a standstill when a tranquil English horn solo recalls a parallel moment heard at the onset of the concerto. It too is an epiphany, a fragment beyond the temporal narrative of the composition, acting as a harbinger of new material (in this case, the pianist initiates a filigree "coda" topic that both answers the English horn and is the material that will dominate the remainder of the piece).

Other literary figures have been the impetus for Carter's creative force over eighty years, including American poet Wallace Stevens, whose aesthetic notion of a "Supreme Fiction" – a fiction of conflicting subjectivities so insightful that it, if only temporarily, offers a glimpse of actual reality – found particular resonance with the composer as his style began to shift in the late '40s. A listener can think of the Second Quartet as Carter's attempt at such a Supreme Fiction, an endeavor to unite numerous temporal senses at once to give us hope into understanding the nature of "actual" musical time. On a less philosophical level, the composer's reliance on poetry to provide mottos, titles, and creative impulse for his major instrumental pieces should also be mentioned, ranging from the familiar (William Carlos Williams for the *Boston Concerto*) to the esoteric (17th-century metaphysical poet Richard Crashaw for *Symphonia: Sum Fluxae Pretium Spei*).

After returning from Paris to the United States in 1936, Elliott Carter settled in Boston as a choral conductor, wrote finely-crafted populist pieces for the Harvard Glee Club, and became active in leftist political and artistic communities. Two years after his repatriation, a significant opportunity came Carter's way when he was commissioned to write an epic score for Lincoln Kirstein and the Ballet Caravan. The composition he produced in 1939 (the same year as his parricidal review of the *Concord Sonata*) was *Pocahontas*, a piece epitomizing Carter's struggle to make sense of the influences he had gradually accrued over three decades. The contradictory nature of Carter's artistic loves created a perplexing melting pot of a score, mixing Fauvist thumps straight from *Le Sacre* (used to represent nature), American popular/Broadway tunes (for the titular character), refined European neo-Classicism, Ivesian sound masses, and Elizabethan keyboard music. The New York premiere of *Pocahontas* was a critical and popular disaster for Carter, due in no small part to another first performance on the same concert – Copland's *Billy the Kid*. Perhaps, then, the famed critique of Ives in *Modern Music* was more of a self-reflection on the need to "digest" one's influences; at any rate, the

1940s proved to be the laboratory in which Carter began piecing apparently incongruent ideas together.

For a major composer, Carter has been (and continues to be) remarkably open about his influences, easily citing what passages in which works by what decisive figures (such as Stravinsky, Boulanger, Copland, Robert Lowell, Boulez, Varèse, Berg, Cocteau) either excite or bore him. From the '40s to the present date, Carter's question became not how to reject, copy, bury, destroy, cover, mimic, deny, or worship influences, but how to forge alloys. In writing his ambitious 1946 Piano Sonata, Carter entered a standoff with two other revered American works of the same genre – the *Concord* and Copland's. He found rejecting the past wholesale to be an nonviable solution,[84] yet equally invalid was a full embrace of the mystical stillness and stylized Americana of Copland's work or the quotation found in the Ives. Carter chose to select features of both and to disregard what he found unappetizing. In setting Copland's pandiatonic hymns and angular dances against Ives's dramatic sensibility, Carter revealed "his grand ambition – to surpass both of them."[85] In the world of piano literature he succeeded, as the Sonata was Carter's first work to enter any instrument's standard repertory; well-respected pianists have favorably compared Carter's opus to Liszt (Rosen), the *Hammerklavier* (Oppens), and Chopin (Schein).[86]

I believe that Elliott Carter's position in music history will be that of a grand synthesist, placing him among the ranks of Witold Lutosławski and Henri Dutilleux. Charles Rosen's estimation is more extensive:

> It seems to me that Elliott Carter has a very striking role, absolutely fundamental in the second half of the 20th century, one in fact which explains why his music becomes important a little bit later in his life than with other composers. *He is the only composer who actually synthesizes the two great traditions of the earlier part of the 20th century.* [Carter is] the first composer to see to what extent the whole Stravinsky tradition... could be combined with all the great influences [of the Second Viennese School]... The solution was to reject most of the doctrine of both schools and something very original comes out which sounds very American and at the same time very specifically integrated into the European tradition. One thinks of [Carter] as coming out of these two traditions but the synthesis he makes of them is considerably in

[84] Daniel Barenboim on Carter: "he [is one of the few modern composers who] doesn't feel that Mozart is old-fashioned or that Schubert is passé." Scheffer, *Labyrinth of Time,* timecode 5:00.

[85] Schiff (1998), 20.

[86] Schiff, tongue-in-cheek, calls the piece "*Concord* rewritten by Boulanger." Schiff (1998), 19.

> advance of anyone else and also considerably more idiosyncratic, more characteristic, and more original than anyone else's synthesis of the music of the 20th century.[87]

In the opening movement of the Cello Sonata (1948), which was the last of the four sections to actually be composed, Carter sought an explicit opposition between chronometric and psychological times, between a set of obsessive Stravinskian downbeats and Schoenbergian musical prose. The piano acts like a giant metronome (or rather metronomes), compulsively sounding single tones and dyads in strict pulse streams while the cello sings a fluctuating, Romantic melody emulating speech rhythms through irregular note durations. The contradiction in styles *becomes* the very substance of the piece and provides the dramatic discourse that will shape the form of the Sonata. All of Carter's compositions after the Cello Sonata are manifestations of his synthesizing spirit.

Aaron Copland summarized Elliott Carter's output as being the result of eclecticism when he quipped, "Carter has shaped a music of his own out of a wide knowledge of music of our time."[88] While it is easy to notice a lack of individual compositional voice his from earliest efforts, the composer demonstrated his true aptitude later in life with the extraordinary ability to synthesize multiple tributaries of contemporary music as they arose during the past century – ranging from Varèse's experimentation with sound masses to Debussy's sensitive linking of minimal melodic materials. Like a master chef at a hotel buffet, Carter brought little new raw material to the table but fashioned an exquisite meal by choosing contradictory elements and fusing them in a way that had never before been considered. Carter's music is an imaginary neutral island floating in the middle of the Atlantic, trying desperately to reconcile Ives with Schoenberg, Eisenstein with Hart Crane, jazz with Joyce. Carter's legacy as a musical modernist is best captured in lines, coincidentally, by Wallace Stevens:

> He had to choose. But it was not a choice
> Between excluding things. It was not a choice
> Between, but of. He chose to include the things
> That in each other are included, the whole,
> The complicate, the amassing harmony.[89]

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[87] Scheffer, *Labyrinth*, timecode 35:00 and 40:00. Italics my own.

[88] Aaron Copland, *Copland on Music* (New York: Norton, 1963), 177.

[89] Wallace Stevens, "Notes Toward a Supreme Fiction," in *The Collected Poems of Wallace Stevens* (New York: Vintage, 1990), 380-410.

2.2 – The Materials (AITs, ATHs, AITNs, Aggregates)

Elliott Carter has utilized and explored a vast majority of sonorities available within the twelve-tone equal-tempered universe, but over the past six decades he has frequently focused on three types of pitch/pitch-class materials in particular: all-interval tetrachords, all-trichord hexachords, and all-interval twelve-note chords.[90] This subchapter will outline the distinctive traits of these characteristic harmonies, describe their combinatorial potential, and offer brief illustrations of how each may contribute to the fabric of a composition. Carter's technique of defining formal boundaries by means of aggregate completion (particularly by chaining all-interval tetrachords) will also be discussed.

The vaunted all-interval tetrachords, abbreviated as AITs, have served a critical role in the pitch-class organization of Carter's mature compositions (here defined as his *oeuvre* after and including the First String Quartet of 1951). Collections [0146] and [0137] are extraordinary among the twenty-nine four-note set-classes (assuming T*n*/T*n*I equivalence) for including one and only one instance of the six interval classes – in other words, each has an ecumenical interval-class vector of <111111>. As a consequence, the two AITs are the only Z-related tetrachords in Forte's catalogue, 4-Z15 and 4-Z29 (these set classes are listed as four-note chords #18 and #23 respectively in Elliott Carter's *Harmony Book*).[91] From a creative standpoint, all-interval tetrachords are extremely powerful due to their ability to provide almost limitless intervallic flexibility while maintaining harmonic uniformity; put differently, an industrious composer could construct a piece from a single tetrachord (or pair of tetrachords) but still have access to the expressive capabilities afforded by the entire spectrum of intervals. It is precisely this malleability that may account for why Carter has been fascinated with [0137] and [0146] for well over a half century.[92]

The all-interval tetrachords may be partitioned in interesting ways. Example 2-5 demonstrates how each AIT bisects into trichords with residual singletons. Sets [0146]

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[90] Significant literature on Carter (including David Schiff's excellent book) still colloquially refers to [012478] as the "all-triad hexachord," although "all-*trichord* hexachord" would technically be a more precise term for this sonority.

[91] Carter, *Harmony Book*, 193-194.

[92] For more information about AITs and the compositional spaces they may inhabit, see Capuzzo's dissertation, the second edition of Schiff's book, and Morris's article from *Perspectives of New Music* 34 cited in Chapter 1.1. In particular see Adrian Childs's recent article on the subject, "Structural and Transformational Properties of All-Interval Tetrachords," *Music Theory Online* 12, no.4 (2006).

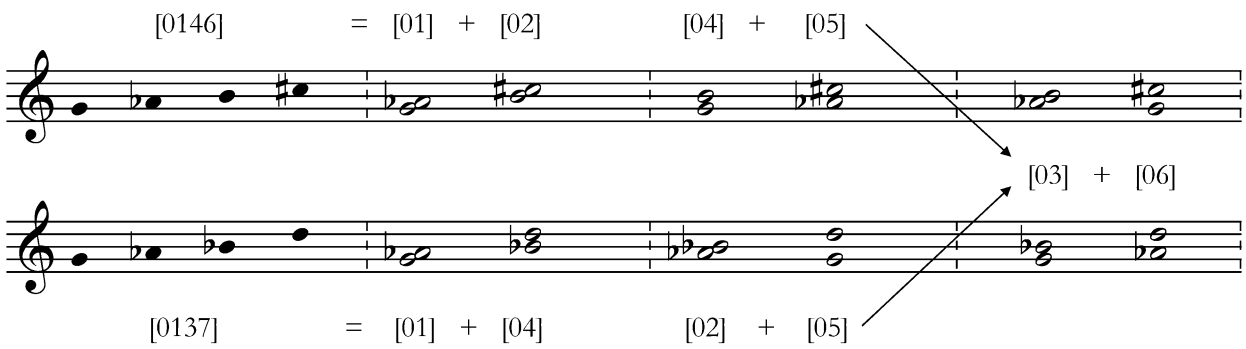
[0146] = trichord + single pitch class	[0137] = trichord + single pitch class
[016] + singleton	[016] + singleton
[026] + singleton	[026] + singleton
[014] + singleton	[037] + singleton
[025] + singleton	[013] + singleton

Example 2-5 – Partitioning of AITs into trichords plus singletons

and [0137] similarly partition into [016]+singleton and [026]+singleton; the important presence of a tritone in [016] and [026] will be discussed briefly within the context of dyadic divisions. Navigating between different AIT types while maintaining a healthy number of common tones is quite easy because a full fifty percent of the possible "trichord plus singleton" partitions are shared between AITs. Even more attractive is the following simple device one may employ to maintain three common tones and shift to a contrasting all-interval tetrachord class: beginning with either AIT, if an embedded form of [016] or [026] is held invariant and the remaining pitch is transposed by a tritone, the result will always be an inverted iteration of the AIT type opposite of the initial one (e.g. C C♯ E F♯ [0146]; hold C C♯ F♯ invariant; E transposes at T6 to A♯; result is C C♯ F♯ A♯ or the "inverted" [0137]). One may extract half of all possible trichord classes (6 of 12) by 3+1 partitioning of AITs and that the [0137] includes a division into a major/minor triad plus a semitone or tritone above the root (a particularly useful property when writing for a string instrument or when one desires a very sonorous texture).

Perhaps the more familiar bisection of all-interval tetrachords in Carter's music is into two dyads. Example 2-6 graphically represents such parsing. From an [0146], one may extract [01]+[02], [04]+[05], or [03]+[06]; from [0137], [01]+[04], [02]+[05], or [03]+[06]. On a purely intuitive level (based upon common dyadic division), I view [0146] as being an AIT capable of stark oppositions, containing both a stringent partitioning of [01] combined with [02] while also grouping into a resonant fusion of [04] (thirds & sixths) plus [05] (perfect fourths & fifths).[93] Set [0137] is more of a

[93] [0146] dyadic division might be an excellent time to recall György Kurtag's metaphor of "closed" versus "open" intervals.



Example 2-6 – Partitioning of AITs into two dyads

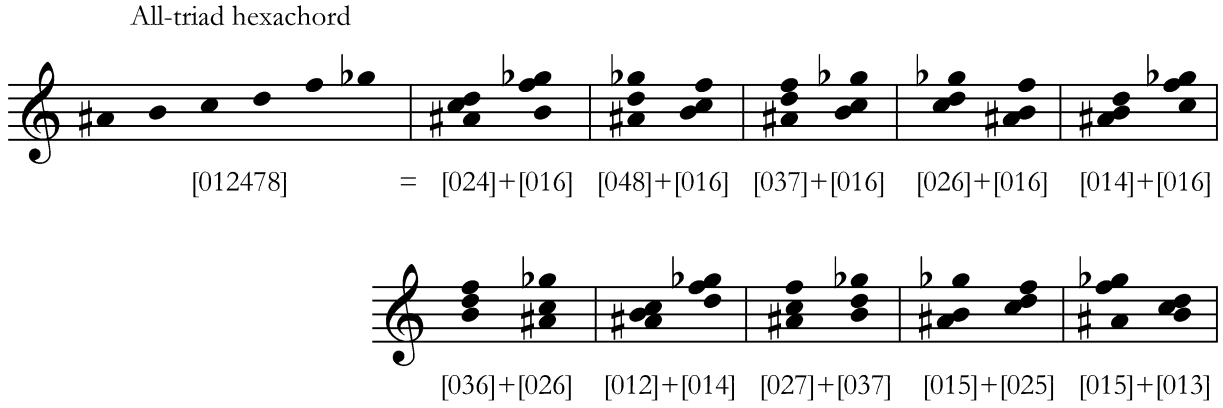
"mixed bag," uniting the sharpness of [01] with the sweetness of [04] and the mild dissonance of [02] with the starkness of [05]. In Example 2-6, arrows highlight the shared [03]+[06] partitioning that both all-interval tetrachords have in common. When one imagines all-interval tetrachords as being comprised of dyads from different 3-cycles, the mutual [03]+[06] partitioning is logical and also explains in part why larger collections formed by fused AITs tend to exhibit striking increases in ic3 and ic6 interval class content (e.g. AITs can easily be used to construct octatonic collections).[94]

In a manner of thinking, the all-triad hexachord [012478] is the six note analogue of the all-interval tetrachords. Just as AITs are singular among tetrachords for containing all six interval classes, the all-triad hexachord (ATH) is the only hexachord class of fifty from which one may extract each of the twelve trichord classes. Although a composer could hypothetically realize the six-note set as pentachords plus singletons, the more likely scenarios (and those recurrently drawn on by Carter in his compositions) feature textures that separate tetrachords/dyads and trichords/ trichords. Examples 2-7 and 2-8 display the aforementioned partitionings respectively.

[94] This phenomenon was discussed in detail in the context of Carter's music in a paper delivered at the Society for Music Theory National Conference 2009 by Michael Buchler and the author entitled "Elliott Carter and the Sorcerer's Stone: All-Interval Tetrachords as Musical Building Blocks."

DYAD		TETRACHORDS		
[01]	+	[0124]	[0146] (AIT)	[0148]
[02]	+	[0156]	[0147]	
[03]	+	[0157]	[0126]	
[04]	+	[0167]	[0136]	[0127]
[05]	+	[0247]	[0137] (AIT)	[0148]
[06]	+	[0248]	[0147]	

Example 2-7 – All-triad Hexachord (ATH) divided into dyads plus tetrachords (2+4)

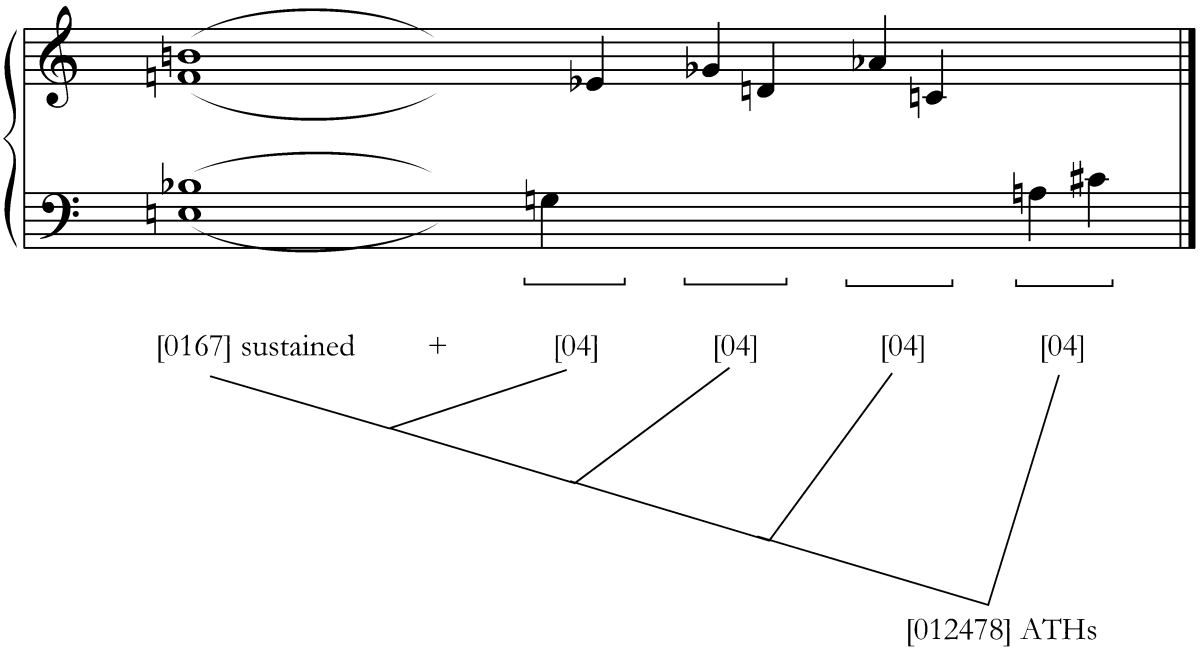


Example 2-8 – ATH divided into two trichords (3+3)

As demonstrated in Example 2-7, the all-triad hexachord does embed one iteration of each of the all-interval tetrachords. Nevertheless, in the twelve-tone equal-tempered system it is impossible to form an ATH by combining two AITs of (any variety) with an overlapping dyad. Proof of this is provided in Appendix 1. Concerning 3+3 (trichordal) partitioning, certain three-note chords will always leave the same complementary trichord when extracted from an ATH. In his dissertation, Guy Capuzzo wrote extensively on this topic and its expressive role in some later chamber compositions by Elliott Carter including *Gra* for solo clarinet and the trio *Con Leggerezza Pensosa* for clarinet, violin, and cello. As an example, we could remove an [048] augmented triad subset from an all-triad hexachord superset and always be left with an [016] trichord remainder. This property does not always work in the opposite direction though (i.e. it is noncommutative), since we could easily round out an ATH by holding some realization of an [016] in one hand and

particular realizations of an [024], [048], [037], [026], or [014] in the other. Due to the prevalence of [016] as an ATH trichord subset, the five [016]+[xyz] partitions are listed as the top row of Example 2-8; not surprisingly, Carter repeatedly takes advantage of [016] as a means to connect various transpositions of the all-triad hexachord in his music. While I have not done enough research to support the following statement's applicability to Carter's works, it occurs to me that the [026]+[016] division of the ATH would be an efficient means to navigate between ATH and AIT harmonic spaces since [026] plus a singleton and [016] plus a singleton are the 3+1 scenarios in particular shared by the two all-interval tetrachords (refer back to Example 2-5).

Within the opening minute of Elliott Carter's short piano work *90+*, the listener is treated to a crash course in the composer's all-triad hexachord combinatorial play. In mm. 6 and 7, a tetrachordal subset remains invariant while dyads gently patter in the middle of the piano's register and within the spatial boundary of the tetrachord. The sustained four-note set in this passage is a member of [0167], which must always be complemented by an [04] dyad to form an ATH according to Complement Union Property (CUP).[95] In rapid succession, four transpositions of the all-triad hexachord are created via four dyadic pairs in addition to the [0167] (see Example 2-9).

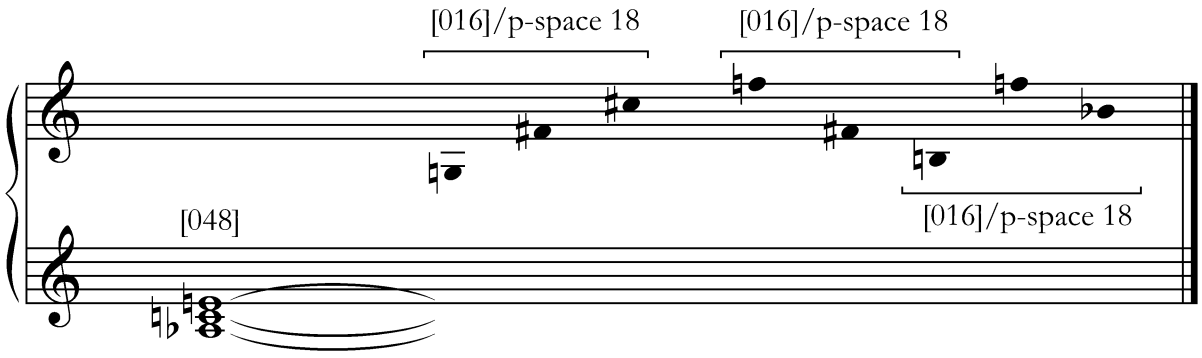


*Example 2-9 – Sustained [0167] + four [04]s = four ATH iterations (*90+*, mm. 6-7)*

[95] Reference Capuzzo's dissertation and Example 2-7 above.

Not content to simply explore possible ATH completions from a source tetrachord, the composer does so using all four ic4 intervallic possibilities within the span of an octave: an ascending minor sixth, a descending major third (spelled enharmonically), a descending minor sixth, and an ascending major third. Additionally, the eight tones (four dyads) forming the ATHs merge with the initial [0167] tetrachord to fulfill a chromatic aggregate without repeating a pitch class in the process.

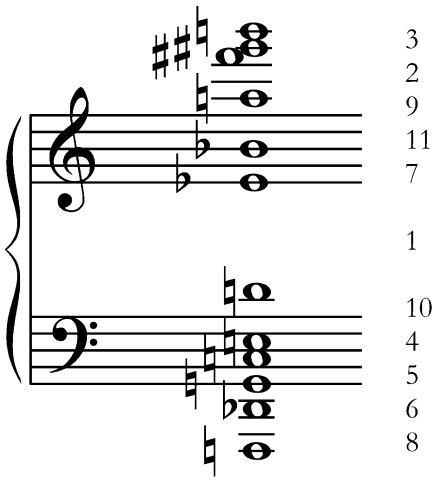
A discussion of 3+3 all-triad hexachord partitioning in the same section of *90+* balances the preceding 4+2 illustration. Three measures after the previous example (mm. 10-11), the left hand intones a quiet augmented triad [048]. As mentioned above, any [048] joined with a complementary [016] generates an ATH. Through a dramatic right-hand gesture that grows and ebbs in intensity, Carter achieves just that threefold – three linear presentations of [016] (the last two of which share a common B3 and F5) sound with the augmented triad to establish three all-triad hexachord transpositions. Carter underscores the similarity between the [016] ATH-completing subsets by spacing each with the same pitch-space boundary of 18 semitones (an octave and a tritone separate G3/C♯5, B3/F5, and B3/F5). See Example 2-10.



Example 2-10 – 90+, mm. 10-11, ATH completions through [048]/[016] complementation

Perhaps most fundamental to the large-scale harmonic/formal organization of Elliott Carter's recent compositions is the all-interval twelve-note chord (or AITN). Simultaneities containing all twelve pitch classes have a notable history over the past hundred years in Western art music. There are examples in the repertoire from composers as diverse as Berg, Boulez, Lutosławski, Persichetti, and Salonen. However, beyond simply including the dozen pitch classes,

the aggregate chords found in Carter's compositions tend to possess characteristics that give them an immediately recognizable sonic profile; in particular, Carter favors twelve-pitch-class sonorities constructed so that each of the eleven unordered pitch intervals (from minor second to major seventh) is exhibited in a particular spatial configuration – hence the name: all-interval twelve-note chord.[96] At least in the context of Carter's music, it is important to stress that "all-interval twelve-note chords" differ from "all-interval twelve note *rows*" since AITNs should principally be regarded as *spatial* referential structures rather than linear, sequential, cyclic, and/or serial presentations of the twelve pitch classes.[97] Example 2-11 below is a sample all-interval twelve note chord (pitch classes from bottom to top: 5 1 7 0 4 2 3 A 9 6 8 B; intervals from bottom to top: 8 6 5 4 10 1 7 11 9 2 3).



Example 2-11 – A sample All-Interval Twelve-Note Chord

[96] AITNs are so important to Carter's harmonic thinking after the 1970s that an entire chapter is devoted to them in his *Harmony Book* – the only such sonority to have its own section in the catalogue. Not even the all-triad hexachord or all-interval tetrachord receives such substantial treatment.

[97] In fact, with the exceptions of certain portions within the longer theme from the *Variations for Orchestra* and later occasional works such as the *Canon for 3 – In Memoriam Igor Stravinsky*, Carter is not a composer who has used serial rows to any notable extent. See Mead (1995).

Although all-interval aggregate arrays are not new in practice or in the theoretical literature,[98] Carter's interest in AITNs was first stimulated by Stefan Bauer-Mengelberg and Melvin Ferentz's 1965 *Perspectives of New Music* article on rows exhibiting eleven intervals.[99] Carter contacted Bauer-Mengelberg, received a computerized print-out of the rows as a result, then began writing them out by hand as simultaneities (not as series). A few years later, Carter used all-interval twelve note chords as powerful generative structures and significant referential sonorities for the first time in his Third String Quartet (1971),[100] perhaps as an effort to greater unify the incredibly dense contrapuntal texture of the composition.[101] Since AITNs feature all eleven pitch class intervals in fixed pitch-space distribution, a composer can associate groups of intervals with specific registers and also with the instruments, tone colors, and tempi with which those intervals are presented; because of its unique nature, Carter can forge a typical all-interval twelve-note chord into a nexus of pitch space, long-range polyrhythms[102] or other conflicting tempi, pitch class materials, dynamics, and orchestration. The very wide spatial configuration of all AITNs, 66 semitones, facilitates their perception and reinforces their usefulness as a referential simultaneity in a post-tonal harmonic landscape.

During the composition of *Night Fantasies* for piano (1978-80), Carter's work with AITNs reached a zenith and allowed him to explore a special subtype of those chords: symmetrical inverted AITNs. Symmetrical inverted AITNs (SI-AITNs) are so named because complementary intervals are distributed in opposite directions away from a central tritone within the chord – that is to say, the lowest interval in the bottom hexachord and the highest interval in the top hexachord will sum to twelve, as will the second highest and the second lowest, and so forth. Example 2-12 is a model SI-AITN from the introduction to Carter's *Partita* (the first movement of the 1990s orchestral

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98 Nicolas Slonimsky, *Thesaurus of Scales and Melodic Patterns* (New York: Charles Scribner's Sons, 1947) and Alois Hába, *Neue Harmonielehre des Diatonischen, Chromatischen, Viertel-, Drittel-, Sechstel-, und Zwölfteltonsystems*, trans. by Suzette Mary Battan (unpublished for legal reasons).

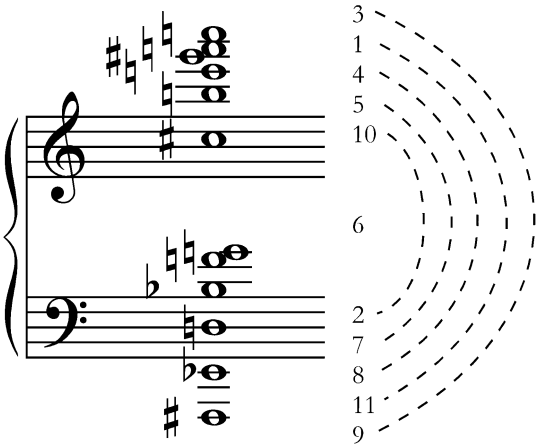
99 Stefan Bauer-Mengelberg and Melvin Ferentz, "On Eleven-Interval Twelve-Tone Rows," *Perspectives of New Music* 3, no. 2 (1965): 93-103.

100 John F. Link, "The Combinatorial Art of Elliott Carter's *Harmony Book*," in *Harmony Book*, by Elliott Carter, ed. by Nicholas Hopkins and John F. Link (New York: Carl Fischer, 2002), 15.

101 David Schiff likens the function of AITNs in Carter's mature music to that of a "tonic". Schiff (1998), 48-49.

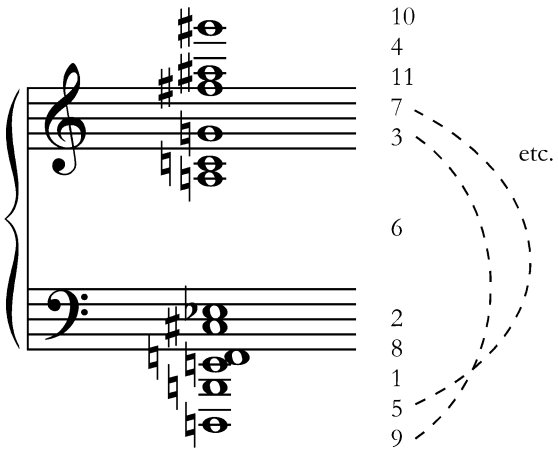
102 John F. Link, "Long Range Polyrhythms in Elliott Carter's Recent Music" (PhD diss., City University of New York, 1994).

triptych, *Symphonia*). Complementary intervals fan out from the tritone (6) in the middle: 2+10=12, 7+5=12, 8+4=12, and so forth.



Example 2-12 – Symmetrical inverted AITN from the introduction to Partita

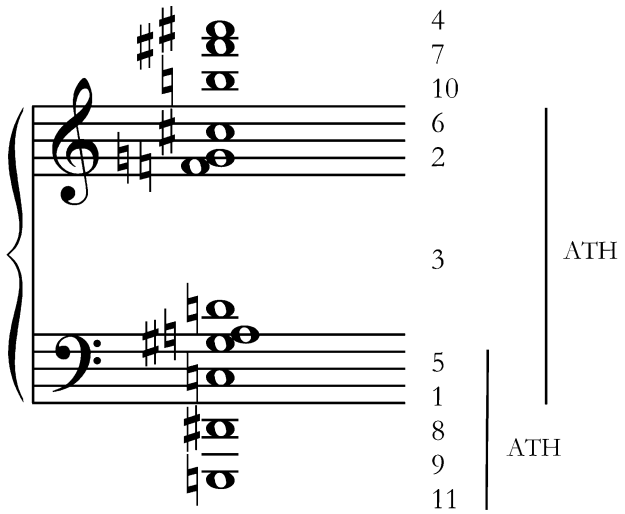
In the few years following the completion of *Night Fantasies*, Carter turned his theoretical and compositional attention to a close relative of the symmetrical inverted AITN, the parallel inverted AITN (PI-AITN). Much like SI-AITNs, PI-AITNs possess a relationship between the intervals contained within their top and bottom hexachords, except in this instance complementary intervals are located in identical positions within the hexachords rather than reflecting around a middle tritone. Example 2-13 graphically illustrates a PI-AITN from the composer's 1986 orchestral miniature *A Celebration of Some 100 x 150 Notes*.



Example 2-13 – Parallel-inverted all-interval twelve-note chord from Celebration *(1986)*

Working from the bottom of both hexachords surrounding the spatially central tritone, we may sum the intervals to twelve: 9+3, 5+7, 1+11, etc. PI-AITNs played a critical role in some of Carter's most notable works from the middle part of the 1980s including the Oboe Concerto and *Penthode*. Carter's technique of parsing complementary intervals into high and low registers in pitch space throughout the '70s and '80s is a sophisticated extension of the opposition of interval qualities found in his early 1960s *Double Concerto for Piano and Harpsichord* wherein the pianist plays "major" intervals throughout (major second, major third, etc.) and the harpsichord soloist performs "minor" versions of the same intervals.

The newest species of AITN that Carter has incorporated into his recent compositions is the group of "Link" chords. Around the time of *Partita* (1993) and the *Trilogy* for harp and oboe, Carter became interested in compiling a list of AITNs (PI-AITN, SI-AITN, or otherwise) that contained at least one contiguous subset of an all-triad hexachord (ATH). Coincidentally, fellow composer and theorist John Link was working on the same project but doing his work more quickly with the assistance of a computer. When Carter discovered that Link had already completed the task, he communicated his desire to see the results, which Link gladly shared. Since then, these special AITNs have borne the name of John Link in the literature on Carter's post-1990 music, including the second edition of Schiff's book and even more significantly Carter's own *Harmony Book*. Like Example 2-12, Example 2-14 is drawn from the opening of *Partita* and shows what might be the earliest use of a "Link" AITN in Carter's output. The AITN is not parallel inverted or symmetrical inverted (hence the lack of a central tritone between upper and lower hexachords) and that the two ATHs are the bottom six tones in the aggregate simultaneity (E, D♯, C, G♯, A, D = 012478) and the middle six pitches (G♯, A, D, F, G, C♯ = 012478). The Link chords allow the composer to utilize his favorite hexachord as a generator of more "foreground" harmonic and melodic events while managing those sonorities within the controlled context of larger-scale spatial sets and intervallic distribution associations.

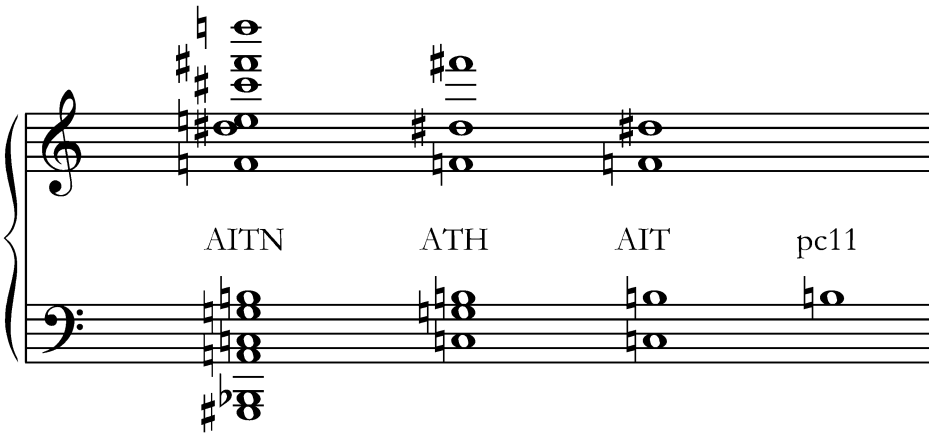


Example 2-14 – "Link" chord (AITN) from Partita *with two contiguous ATH subsets*

Although the musical applications of AITNs are limitless, the following excerpt from the conclusion of Elliott Carter's *Boston Concerto* (2002) will demonstrate an approach to AITN, ATH, and AIT interaction via simple embedding. Through the closing measures of the entire composition (shown in reduction as Example 2-15), the string family inhabits an AITN harmonic field by plunking rhythmically erratic pizzicato tones. As the piece winds to a close, six pitch classes disappear from the AITN leaving a residual ATH; mere moments after that, two more pitch classes are eliminated resulting in an [0146] all-interval tetrachord. A brief silence interrupts before all string instruments, from contrabasses to first violins, converge on the ultimate tone of the concerto, B3. *Boston Concerto*'s dwindling finale acts as a synopsis not only of that individual composition's featured sonorities, but as a collapsed "Russian doll" version of the harmonies championed by Elliott Carter over the past half century.

During a lecture at Brandeis University in the mid-1980s (after the Boston premiere of *Penthode*), Carter synopsized the essence of his latest compositional style as being a series of chorales whose chords were connected with "great attention to issues of common tones and voice leading."[103]

[103] David Schiff, review of *Harmony Book*, by Elliott Carter, edited by Nicholas Hopkins and John F. Link, *Tempo* 57, no. 224 (April 2003): 55.



Example 2-15 – Boston Concerto, *reduction of measures 352-358*

Carter was surely referring to the passages in his compositions that feature considerable overlap from one harmonic field to another. The all-interval tetrachords obviously provide ideal harmonic source materials since they each produce all six interval classes and, consequently, finding common dyads between sets is relatively unproblematic. In recent Elliott Carter compositions, AITs frequently form octatonic groupings which subsequently set up the completion of phenomenologically prominent, form-defining aggregates. Thus, examining chained successions of AITs and their assembly into aggregates becomes a useful tool for aurally navigating many passages in Carter's music.

For a first illustration, we will examine the composer's often-performed 1984 duo for flute and clarinet, *Esprit Rude/Esprit Doux*. Composed for Pierre Boulez's sixtieth birthday, the piece begins with a musically enciphered version of the French composer's last name: B♭ for B and O, C for U (or *Ut*), A for *La*, and E for E(z). This four-note collection becomes the material from which Carter fashions his duet; the four pitch-classes B♭, C, A, and E coincidentally form one of the AITs: [0137]. Although many passages from *Esprit Rude/Esprit Doux* are not related to either of the all-interval tetrachords, David Schiff notes that "the two [AITs] appear during the sustained parts of the piece as the harmonic link between the instruments."[104] AITs, then, act like harmonic glue during moments when a listener might most easily perceive larger sets.

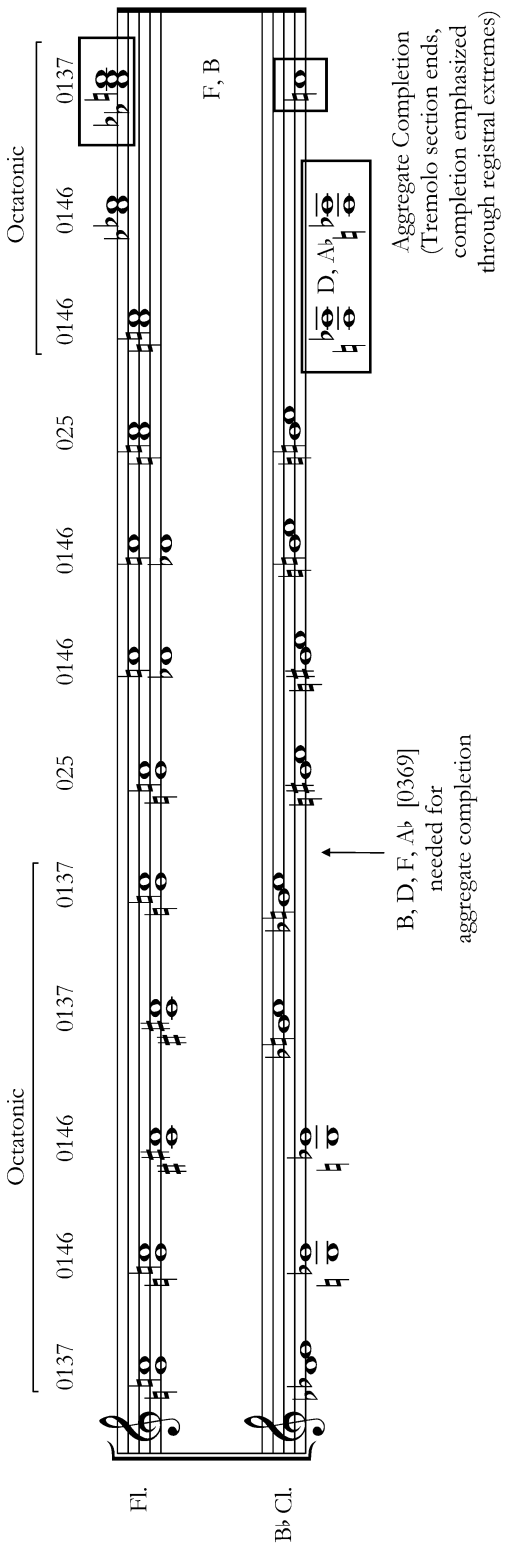
[104] Schiff (1998), 139-141.

Schiff moreover notices the overwhelming abundance of all-interval tetrachords in measures 43 through 47 of *Esprit Rude*. During this passage each wind instrument plays rapid dyadic tremolos that, when combined with the other player's pitches, form all-interval tetrachords (a reduction is shown as Example 2-16). In addition to the saturation of [0146] and [0137] shown by Schiff, subsequent AITs form a chain in which each adjacent pair shares a common dyad and the AITs coalesce into multiple octatonic sets, notably at the onset and end of the section. As one can plainly see, most harmonies in this passage instantiate one of the two AITs (using the standard T*n*I equivalence model); even the odd-man-out [025] trichords are clearly subsets of [0146].

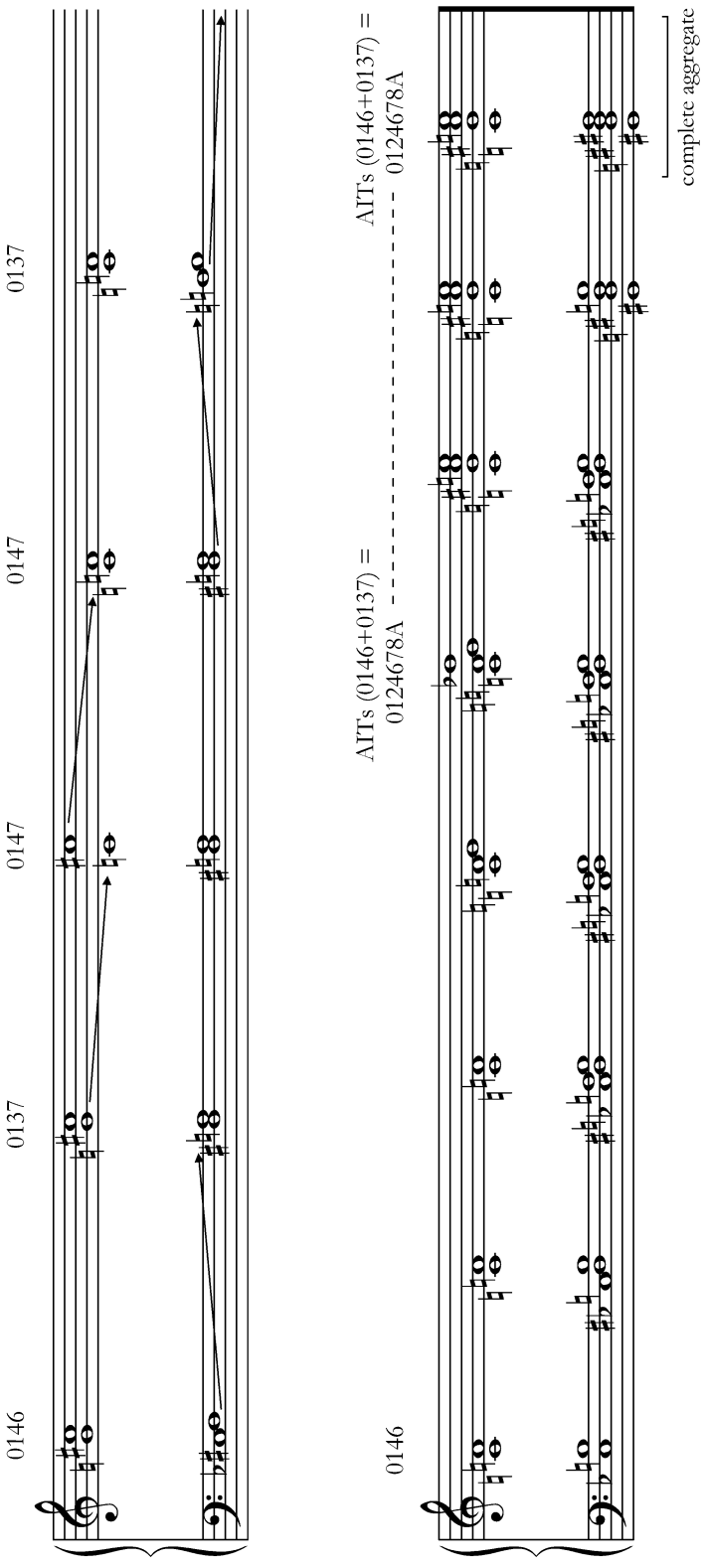
After the initial octatonic set is formed by chained AITs, the pitch classes needed to complete the aggregate are the diminished-seventh chord B, D, F, and A♭. These pitch classes eventually appear at the termination of the second AIT-forged octatonic group, whereupon this section of *Esprit Rude/Esprit Doux* ends (tremolos cease, new melodic gestures ensue, and the dynamic shifts from *forte* to *pianissimo*). In other words: dyads shape AITs, AITs shape octatonic sets, octatonic pairs complete the aggregate, and the attainment of the aggregate (signaled by a diminished-seventh chord that clearly contrasts with the previous AITs) helps signal the end of a formal unit. Furthermore, Carter often marks aggregate completions by placing the previously omitted pitch classes in salient registral extremes (for example, the ultimate pitch class, B, is the highest sounding tone in the passage and the "missing" D is located at the lowest end of the clarinet's range).

Carter's AIT gambit in *Esprit Rude* is remarkably similar to one employed ten years later in the fourth movement of String Quartet No. 5, a piece many believe ushered in the composer's "late-late" style. J. Daniel Jenkins compellingly analyzed the majority of this movement in terms of [0124678a] octachord completion, based upon his careful research of Carter's pre-compositional sketches held at the Paul Sacher Stiftung.[105] He notes that an initial AIT gradually changes one pitch-class at a time, morphing into other tetrachords and rounding-out an eight-note set in the process (shown in Example 2-17). At the time, though, his insightful analysis stopped short of the movement's ending – probably due to the absence of [0124678a] octachords in those concluding measures.

[105] J. Daniel Jenkins, "After the Harvest: Carter's Fifth String Quartet and the Late Late Style" (paper presented at the Society for Music Theory National Conference, Nashville, Tennessee, November 2008).



Example 2-16 – Esprit Rude/ Esprit Doux, *mm. 43-47*

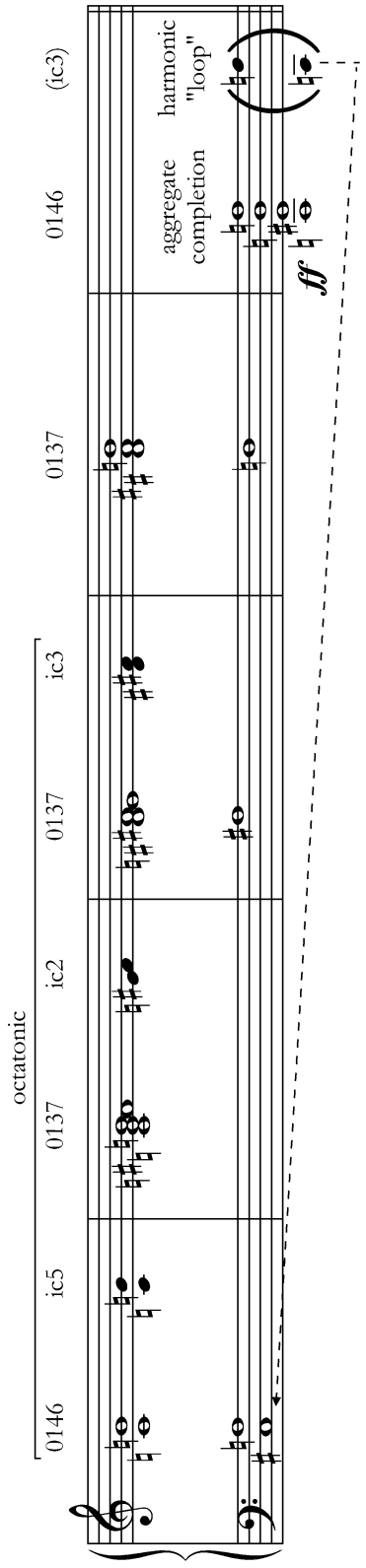


Example 2-17 – String Quartet No. 5, mm. 86-91

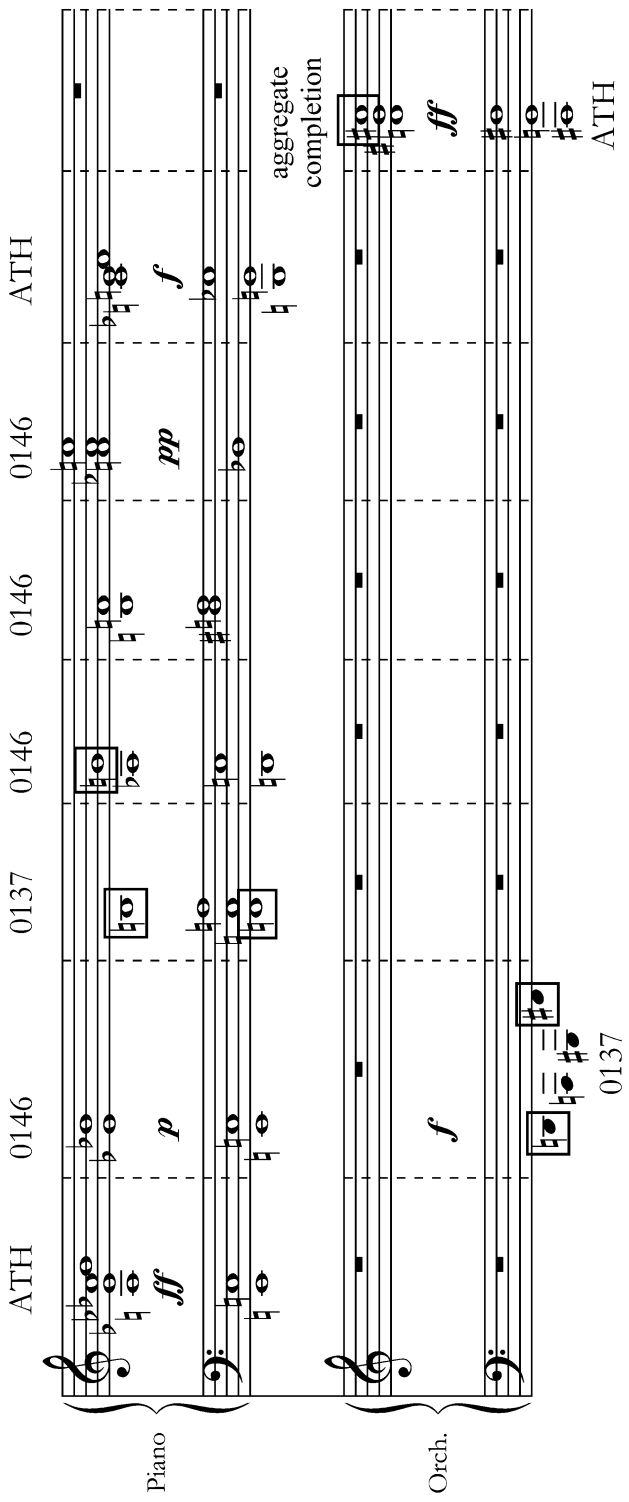
Although the importance of that particular eight-note set to the structure of the movement is beyond question (Jenkins's research is clearly convincing), observe that the octachord in discussion is a product of AIT combination: [0137] plus [0146]. The music, then, may be re-examined with a "bottom-up" approach through the lens of all-interval tetrachord fusion. Within this analytical framework, we resume where Jenkins concluded and explore a reduction of the final bars of the fourth movement (see Example 2-18). Instead of instances of set class [0124678a], all-interval tetrachords chain by shared dyads into an octatonic set within a quiet environment of long, sustained tones. Ten out of twelve available pitch classes have sounded when, by the final measure, only G♯ and D are needed to complete the aggregate. Suddenly, the cello unleashes a *fortissimo* quadruple-stop, sounding an AIT that includes the two remaining pitch-classes in a very low register; this dramatic gesture effectively ends the movement as the texture of the quartet changes and we begin the second interlude in the overall form. Interestingly, the cellist's final AIT shares a common dyad with the first AIT in the phrase, completing a harmonic "loop" that could spiral forever like an Escher staircase. To summarize, the fourth movement of the Fifth Quartet exhibits a closure process remarkably like the tremolo passage from *Esprit Rude*: AITs form a chain which complete an octatonic set; the chain is broken seemingly for combinatoric reasons; and the aggregate is ultimately fulfilled by pitch classes emphasized through extreme registers, radically different dynamics, and a change in texture.[106]

One final example from a recent one-movement piano concerto, *Dialogues* (2003), will illuminate the importance of AIT successions in completing aggregates and, hence, articulating larger formal units in Elliott Carter's compositions. In this case the phrase "AIT successions" was used instead of "AIT chains" since the all-interval tetrachords in this instance do not chain (i.e. share pitches) like the *Esprit Rude* and Fifth String Quartet excerpts. Example 2-19 is a reduction of measures 281-290 toward the end of *Dialogues*. After the music precipitously gains rhythmic momentum and surges forward with more impassioned gestures, the piano abruptly changes the course of the musical narrative by intoning a series of calm, protracted all-interval tetrachords after an initial *fortissimo* all-triad *hexachord*. These eight measures form a peaceful and timeless parenthesis in the midst of exuberant, coda-type activity.

[106] Daniel Jenkins is currently working on an updated article version of his 2008 SMT paper wherein he analyzes the remainder of this portion of String Quartet No. 5, focusing on AIT combination but not aggregate completion.



Example 2-18 – String Quartet No. 5, mm. 105-110



Example 2-19 – Dialogues*, mm. 281-290*

Starting from the left of Example 2-19 and working forward in time, the listener initially hears six pitch classes. The first AIT in the piano is extracted from the initial ATH so no new pitch classes are introduced as the quiet interlude commences. Four tones answered by the orchestra do, however, include two new pitch classes, D and F♯, which are emphasized as the first and last tones in the motive. The piano's next AIT incorporates yet another two pitch classes (B and F) which are orchestrationally emphasized as "outer voices." The as-of-yet-unheard pitch class, G, is likewise positioned in an outer voice in the ensuing all-interval tetrachord. At this point in the passage, only C♯ remains to complete the aggregate. Instead of satisfying the collection immediately, the composer makes a listener wait through three more long chords before hearing the aggregate-defining pitch class, which sounds as the uppermost pitch in a retaliatory ATH played by the orchestra.[107] Looking at the big picture, the aggregate is finally completed with the conclusion of the AIT- and ATH-rich passage, coinciding with a complete change in texture and rhythmic profile. This, in turn, ushers in the next section of the musical form – much like the aggregates from *Esprit Rude* and String Quartet No. 5 discussed earlier.

[107] Perhaps Carter delayed this critical moment to prolong the outside-of-time episode, almost doubling the length of the parenthetical interlude in discussion. I think this extra time makes the orchestral tutti *fortissimo* and the resumption of the energetic coda material even more shocking; I also appreciate that the final AIT is marked *pianissimo* instead of *piano* and that the melodic line leaps up a major seventh to E5 to heighten the contrast.