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Orthography

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Orthography

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Abstract

The myth of Pope Gregory I taking melodic dictation from a magical singing bird is the imaginative starting point of Western music's love-hate relationship with the music notation systems it later developed. This essay traces that development through Thomas Tallis and J. S. Bach to the dichotomous modern examples of Brian Ferneyhough and Arvo Pärt. In it, I suggest that Western music's eventual development hinged upon that earliest desire to document and codify melodies, answering Gregory's contemporary Isidore of Seville, who lamented that "unless sounds are held by the memory of man, they perish, because they cannot be written down."

Keywords: orthography, Gregorian chant, Isidore of Seville, improvisation, twelve-tone, Bach, Berg, Crumb, Ferneyhough, Mozart, Pärt, Schoenberg, Sibelius, Tallis, Tchaikovsky, Wagner, harmonic circularity, notation, musical scores

A little bird chanted what would become the medieval Christian church's repertoire into the ear of Pope Gregory I, but that was not the miracle. The miracle came next: Gregory jotted the melodies down, codified them, and distributed them to the singing Christian world. To these, composers added voices that morphed to fit the meanings and prosodies of various texts—Kyrie, Gloria, Credo—and the resulting polyphony engendered tonalities that eventually settled into major and minor modes, which burgeoned into large-scale key structures and dense chromaticism that spilled over into abstract, rational pitch conglomerates. Rhythms, once accommodated to and regulated by the feet and hands of dancers, were mathematized into regular and irregular clusters, and spread out to impossibly slow and impossibly fast iterations and speeds.

The bird was mythological, of course, but so was Gregory's role in the recording and dissemination of its repertoire. He reigned from 590 to 604; though there were numerous other ways to notate pitch along the way, our modern five-line staff was finally developed by Guido d'Arezzo, who lived from about 991 to 1033 (he also taught us *ut-re-mi-fa-sol-la*, which gave names to fixed intervals, though not specific pitches). Rhythmically, the Notre Dame monks developed longs and breves, and the *Magnus Liber* (compiled in 1250, nearly

650 years after Gregory's death) presents one of the earliest compilations of notated counterpoint. In terms of the development of a unique world music, the *Magnus Liber* really represents a miraculous moment: it suggests that composers had begun to create music on the page, figure it out on the page, instead of using the page (or stone obelisk, in the case of the "Seikilos Epitaph" in the first century CE) *ex post facto*, to record what otherwise and heretofore had existed only in the vibrating air.

Gregory's contemporary, Isidore of Seville (c. 560–636), offers a beautiful "definition" of music in his *Etymologies*:

Music and its name (De musica et eius nomine)

1. Music (musica) is the practical knowledge of modulation (modulatio) and consists of sound and song. Music is so called through derivation from the word 'Muse,' for the Muses (Musae) were named . . . from "seeking," because it was through them, as the ancients would have it, that the power of song and the modulation of the voice were sought.
2. Their sound, because it is something perceived by the senses, vanishes as the moment passes and is imprinted in the memory. Whence came the invention of the poets that the Muses are the daughters of Jupiter and Memory, for unless sounds are held by the memory of man, they perish, because they cannot be written down.¹

From the perspective of our current world, in which we can and do document the most frivolous minutiae of our mostly insignificant lives, such a statement is difficult to fathom—that sounds must needs perish "because they cannot be written down." Here, Isidore's calling attention to music's innate evanescence is an explicit acknowledgment of the problem that confronted Pope Gregory: how was one to notate and disseminate an inviolate, sacred repertoire? Personally, I would prefer that definition 1 still holds—that all music is "seeking" music, or *musica ricercata*—even though definition 2—that music can only exist in the memory—has been reversed by the centuries-long development of music notation (leaving aside all arguments about the unique, unrepeatable magic of live performance).

But not just reversed: the act of writing Western music—literally *writing* music, recording and *creating it* in written form—is, to my mind, directly responsible for its unique development from a clutch of monodic liturgical chants into the polyphonic riches of Bach and beyond. Physically writing music down liberated composers from the limitations of their ears and their short-term memories and allowed for the creation of works too complex

1. Isidore of Seville, *The Etymologies of Isidore of Seville*, trans. Stephen A. Barney, W. J. Lewis, J. A. Beach, and Oliver Berghof (Cambridge: Cambridge University Press, 2006), 95.

to retain in the memory whole, too sophisticated to hear clearly and in consummate detail by even the most gifted ears.

As Western music developed larger-scale musical formulas—harmonic-melodic sequences, tonic-dominant polarities, various imitative and fugal procedures—these fed back into the art of improvisation, in which music was created extemporaneously, without intention of preservation. Improvising composers could thus spontaneously invent canons and fugues, dance movements, and even whole sonatas out of these shared procedures. Among the many famous composer-improvisers, J. S. Bach notably stands out, but even he had his limits. Recalling his recent (1747) meeting with Frederick the Great, upon which the latter requested that Bach improvise a six-voice fugue on a theme of Frederick’s choosing, Bach admitted that “the performance did not succeed as well as such a superb theme required.”²

Bach’s blandishment aside, many would acknowledge that *no one* could have improvised a six-voice fugue on what is—famously—a pretty lousy subject (Schoenberg suggested in his 1950 essay on Bach that it had been intentionally devised by Bach’s son Carl Philipp Emanuel to embarrass his old man).³ But *writing* such a fugue—figuring it out on the page, with time allowed to re-think and revise—was not remotely beyond him. In fact, Charles Rosen has suggested that the resulting fugue—or *Ricercar a 6*—is “the most significant piano work of the millennium” (based on its merits but also, and partly because, it was among the first works expressly composed for the new instrument).⁴

Bach’s wasn’t the first—or even the most “populous”—musical work that resulted from such a compositional dare. Thomas Tallis wrote *Spem in alium*, a motet of forty independent parts, sometime around 1570. The story of its composition, as related by Thomas Waterbridge in 1611, has that an English duke, having been made aware of a work for at least thirty (though likely more) voices by a visiting Italian, wondered “whether none of our Englishmen could sett as good a songe.”⁵ Tallis had likely met this same Italian—Alessandro Striggio—during Striggio’s visit to the north and had probably at least perused his many-voiced mass. He took up the challenge of composing an English equivalent.

Tallis’s inherited style of composition was more conducive than Bach’s to such vocal profligacy. Harmony, in his day, was less fecund generally and was more or less still the *result*

2. Bach’s dedication appears in *The Art of the Fugue & A Musical Offering*, ed. Alfred Dörffel and Wolfgang Graeser (Toronto: Dover Publications, 1992), v.

3. Arnold Schoenberg, “Bach,” in *Style and Idea*, ed. Leonard Stein, trans. Leo Black (London: Faber and Faber Limited, 1975), 394.

4. Charles Rosen, “Best Piano Composition; Six Parts Genius,” *The New York Times Magazine*, April 18, 1999, <https://www.nytimes.com/1999/04/18/magazine/best-piano-composition-six-parts-genius.html>.

5. Suzanne Cole, “‘This Mistake of a Barbarous Age’: *Spem in Alium*,” in *Thomas Tallis and His Music in Victorian England* (Martlesham: Boydell & Brewer, 2008), 97.

of contrapuntal lines, not a thing unto itself. Modulation, in a functional tonal sense, did not exist. Even so, Tallis further reduced the complexity of his task by grouping his forty voices into eight discrete sub-choirs of five parts each (throughout the work, these groups of five are most often paired such that four sub-choirs of ten parts usually obtain). Such chunking made navigating the forty voices infinitely more manageable, and allowed for long stretches of his roughly ten-minute work to be handled by alternating groups of five to ten voices—rarely forty all at once.

As it turns out though, *Spem in alium* isn't really "about" its forty voices at all. Rather, it is concerned with the sonic spectacle of spatializing sound around the listener. It's likely that *Spem in alium* was premiered (or performed, early on) in an octagonal room in Nonsuch Palace, where each of the sub-choirs took a side, singing to the listeners in the center. Tallis carefully controls how the music moves around the room, circling clock-wise at first, later alternating opposite groups in antiphonal one-upmanship. *Spem in alium*'s true glories are revealed in such a performance environment, and as such, this sacred motet of 1570—at least to my ears—is most akin to its successor by nearly four hundred years, the equally spectacular early tape piece *Gesang der Jünglinge* (1955–56) by Karlheinz Stockhausen.

This idea of treating music spatially was nothing new, even in Tallis's day. It was the stock-in-trade of the San Marco composers in Venice, and antiphonal singing as call-and-response was the foundation of Jewish psalmody, suggestively preserved in the binary texts of David's psalms, themselves long antedating the single-line chants of Pope Gregory. But Tallis's careful control of the spatialization in *Spem in alium*, as well as the sophisticated mapping of that spatialization in the piece, was really only possible—perhaps even only conceivable—because Tallis was the beneficiary of by then a sophisticated and reliable musical orthography.

While listening to *Spem in alium*, one doesn't hear—really *can't* hear—its forty independent voices, despite the fact that they are each, and in their groupings of fives and tens, foundational to the structure of the piece. Equally structural—and far more abstract, sonically—are the numerological games Tallis plays, specifically with regard to the three points in the work at which all forty voices sound simultaneously. But the fact that such structural principles can't be heard doesn't lessen their concrete musical value. If nothing more, Tallis's employment of forty voices forced him to find meaningful ways to validate their use, and his numerological games helped him shape the work, provided him architectural landmarks toward which the music could build and from which it could retreat. Such an abstract musical structure is critical to the success of musical form—and becomes more critical the larger the work in question.

Mozart's *Idomeneo* is widely regarded as his first mature opera. Written in 1780–81 and finished a few days after his twenty-fifth birthday, it was his thirteenth operatic work. Among its many glories and innovations is one that Mozart would make the rule for every

one of his remaining operas: it ends in—and revisits at crucial moments throughout—the key of its overture. Such a practice was not typical of composers of his day, and there is no audible reason for ending a work—in thirty-two numbers (plus overture) with breaks between its three acts, the whole lasting three or more hours—in the same key as one started. But adopting a home key for his operas meant that Mozart was 1) imagining a tonal world for the work, and 2) erecting a framework wherein he could build the dramatic arc of the work, now moving away from, and now toward, the pole of his home key. This manner of thinking is already (audibly) apparent at the end of *Idomeneo*'s overture, where its tonic D major is converted into the dominant of G minor, in which the action of the opera—Ilia's first aria, in G minor—begins in earnest.

Seventy-eight years later, Wagner's *Tristan und Isolde* (1859) reveals similarly long-range harmonic thinking writ large. *Tristan*'s famous opening gesture which hinges on the “Tristan chord” (its function is still the subject of many music-theory debates) is not really so astonishing in itself—one can think of any number of unresolved opening gestures in music—but Wagner's harmonic patience in *Tristan und Isolde* is unprecedented. He effectively delays the ultimate resolution of this Tristan chord—which moves through a half-diminished ii chord directly to the opera's tonic B-major chord—until the final moment of the opera, concluding Isolde's “Liebestod” nearly four hours (and three acts) later. One actually *can* hear this connection, even over such a very long span, because of the frequent reminders of the Tristan chord and the opening gesture that permeate the work. But it is also a powerful metaphor, focusing the protracted sexual energy of this work that made Wagner the poster boy for moral decline in the late nineteenth and early twentieth centuries. (Psycho-sexual interpretations of *Tristan* and its delay of the final tonic—a hallmark of late Romantic harmony—run throughout late-nineteenth-and early twentieth-century literature.)⁶

Large-scale harmonic schemes like Wagner's become commonplace in the music of Romantic composers. Mahler's Fourth Symphony (1899–1900) seems to eschew harmonic identity—it begins in G major but ends in E major—until one recognizes that E major represents a “translation” from the earthly to a heavenly realm (this move is presaged at the end of the slow third movement, in a justly famous passage). Sibelius's Fourth Symphony (1911) introduces a different sort of harmonic identity through circularity: its movements are in A minor, F major, C# minor, and A minor, so that the non-A keys orbit A by like (M₃) intervals. This allows for no escape from its symmetrical logic, and this symphony is certainly Sibelius's most pessimistic, written as he was sensing that the musical winds were

6. Hanno in Thomas Mann's *Buddenbrooks* and Walter in Robert Musil's *The Man Without Qualities* are two characters who embody this interpretation.

changing and his preferred—his only possible—Romantic style was becoming increasingly anachronistic.

Sibelius was no modernist, but his dealings with circular harmonic sets were much more than flirtations. Each of the symphonies that follow his fourth use similar harmonic structures. The Fifth Symphony's first movement sets up E \flat and G major in an ersatz tonic-dominant relationship, and then moves decisively toward B major to begin its second half. The Sixth Symphony is probably the most harmonically complex of his symphonies, not least because it is also the most thoroughly modal. Perhaps taking a cue from the raised sixth scale degree of its Dorian mode (which lies a tritone away from the minor-quality third degree), Sibelius here indulges in many whole-tone inflected sequences that often move between keys a tritone apart, and the tritone is explicitly called upon in ostinato passages as beginning here:

Example 1. Sibelius, Symphony no. 6, first movement, letter D, Violin I only.

The Seventh Symphony features minor-third-related keys but is less systematic than the previous works—perhaps because Sibelius had by this time already explored each of the non-scalar intervals that create circularity: minor thirds, major thirds, and the tritone.

From Sibelius's Third Symphony on, we can hear him intentionally moving away from the influence of Tchaikovsky (which is palpable in the first two symphonies). But Tchaikovsky also dealt with circularity in his Fourth Symphony, in the famous third movement scherzo, where the keys of F major, A major, and D \flat major are further reinforced and clarified by its unusual orchestration: pizzicato strings alone (in F), winds alone (in A), and brass and timpani (in D \flat).

One can trace such circularity—at least in its nascency—back to Beethoven, but where it leads is actually much more significant. What Sibelius was reacting *against*, in his Fourth Symphony, was the atonal world as personified by Arnold Schoenberg. But Schoenberg's famous 1926 dictum about the “emancipation of the dissonance” traces that emancipation to the outcome of “what has been done in the works of Wagner, Strauss, Mahler” which had

“placed the tonal center of gravity in jeopardy.”⁷ Unlike Sibelius, Schoenberg was not particularly worried about this destabilization, as he had already developed and implemented (for the first time just three years prior, in the last movement of his Five Piano Pieces, op. 23) his “Composition with twelve tones related only to one another.”⁸ What his twelve-tone method essentially accomplished—whether the row is “heard” by its composer as a melodic line or invented, as it was by later, serial composers, from a nifty construction—was an abstraction via which pitches are manipulated according to set principles (transposed, inverted, retrograded) that *resulted in* melodies and chords and whole works. Here, the actual pitches used throughout the work are predetermined by a set of rules that are not based *a priori* in sound or the tonal language as it had developed over centuries.

It’s easy to dismiss twelve-tone music (and, even more, serial works in which not only pitches but also durations, dynamics, articulations, and even timbres can be subjected to the same set of arbitrary permutations) as being unnatural or unmusical. But Schoenberg’s discoveries—first, of free atonality, and then of the twelve-tone method—enabled the composition of any number of fantastic works and engendered fabulous new sound worlds that plumbed the dark depths of the human psyche—on the one hand—and, somewhat paradoxically, allowed for new explorations of mythology and magical worlds. (As music moved further into such theoretical realms, composers often applied their newly discovered sounds to ancient stories—from *Pelléas et Mélisande* to *Bluebeard’s Castle* to *Oedipus Rex* to *De temporum fine comoedia*.)

Among the composers that explored the newly unveiled human subconscious, a curious alliance obtains between raw, often frightening and unsettling emotions and rational, abstract constructing. One of the most thoroughly modern operatic composers—Alban Berg—is also the one in which the dichotomy of wild and controlled is most extreme. His operas might stand in for the purest expressions of the *id* in music, but the final revisions of his operas found him reworking even his metronome markings (for example) to create the most mathematically interesting and numerologically significant relationships.⁹ Berg was no idiot about tempi—he knew that metronome markings are always approximate, with tempi adapted to the hall, players, singers—but leaving his works with no stone unturned, structurally speaking, speaks volumes about the neuroticism of their creator, and his neuroticism in turn sheds light on his (not surprisingly) equally neurotic works. In a way, his

7. Arnold Schoenberg, “Opinion or Insight?,” 258.

8. Schoenberg, “Opinion or Insight?,” 263.

9. George Perle, *The Operas of Alban Berg*, vol. 2, *Lulu* (Berkeley: University of California Press, 1985), 224–

obsessive control of his musical material could easily represent the *superego*, working like mad to prevent the *id* from running wild, leveling all in its path.

Alban Berg's operas are performed frequently nowadays, and the level of musicianship required to pull them off—from singers, players, conductors, and certainly répétiteurs—is astounding, particularly given the fact that *Wozzeck* (1922), for example, is now a century old. Meanwhile, musical complexity has continued to increase apace, through the post-World War II European avant garde to our own day. Today, there is music that can't literally be performed "correctly" at all due to its complexity, and—should such Herculean musicians as it requires get the job done—couldn't be proven to be correctly performed due to its perceptual density. In such works—I'm thinking specifically of those by the so-called "New Complexity" composers—it seems that music has been pushed past its performable and perceptible limit. Brian Ferneyhough is acknowledged as the Father of New Complexity, and the premiere of his *La terre est un homme* (1976–79) was nearly derailed by recalcitrant orchestral musicians who rejected its extreme complexities as—in short—a waste of their time. There is no question that *La terre est un homme* expresses a raw and visceral power in performance. But this musical effect, according to Ferneyhough, is really—one might say, merely—the result of the piling up of material, not of an expressive plan *per se*. He writes:

I believe that one should never start from the global effect, but rather allow it to emerge synthetically as a result of the confluence of other compositional considerations.¹⁰

Elsewhere, Ferneyhough defines his role as a composer as one who "suggests to the ear sequential bundles of possible paths through the labyrinth."¹¹ The specific "compositional considerations" that make up these "sequential bundles" will naturally vary from piece to piece, but Ferneyhough insists that "most of the textures in my works are to a large degree relatable to gestural conventions already familiar from other contexts."¹² But he explains the crucial difference:

What is unfamiliar is, firstly, the unusual rapidity with which these elements unfold and succeed one another; secondly, the high level of informational density in notational terms; and, thirdly, the extreme demands made throughout on the performer's technique and powers of concentration.¹³

10. Brian Ferneyhough and James Boros, "Shattering the Vessels of Received Wisdom," *Perspectives of New Music* 28, no. 2 (1990): 7, <https://doi.org/10.2307/833006>.

11. Ferneyhough and Boros, "Shattering the Vessels," 10.

12. Ferneyhough and Boros, "Shattering the Vessels," 8.

13. Ferneyhough and Boros, "Shattering the Vessels," 8.

These extreme demands don't go over well with some performers, who might suggest that the same sound worlds could be realized through improvisatory means, or via graphic scores (which leave the details of what specific notes, durations, dynamics, articulations, etc. the performer will execute to the performer). But Ferneyhough maintains that "the approach to learning the work is an essential polyphonic strand in the final result"¹⁴ and that "the performer's personal confrontation with a richly-articulated musical environment can contribute to a gripping aural experience."¹⁵ Here, we find ourselves at an interesting historical inversion. For Bach—back in 1747 in the presence of Frederick the Great—improvisation was an inadequate path to the realization of a musically complex work—his *Ricercar a 6*—whereas for Ferneyhough today, performers could recommend improvisation as a simpler, achievable means to realize his complex sets of sounds, similar enough to those he has notated.

Ferneyhough, however, is not only defending his method of composition (as quoted here), but the right of the score (the *written* score) to exist on its own terms. In his words:

Scores are more than just tabulatures for specific actions or else some sort of picture of the required sound: they are also artifacts with powerful auras of their own, as the history of notational innovation clearly shows us. As such, they are capable of playing an active but not authoritarian role, even in a period of pluralistic aesthetic standards: they carry their own history on their backs.¹⁶

So we reach the polar opposite of where we started, with Pope Gregory seeking a way to record in written form the tunes his magical bird sang. By contrast, Ferneyhough is essentially advancing the right of the printed score to exist independently of the sounding music that results from performers' attempts to execute it. For Gregory, the tunes existed and needed to be recorded; for Ferneyhough, the score exists and may or may not ever—perhaps may not even *need*—be realized or heard accurately. Is this, then, the end point of our musical orthographic journey? the point to which Western music has been inexorably drawn these many centuries?

If so, then what are we to make of that wildly famous work by Arvo Pärt—*Spiegel im Spiegel* (composed in 1978, so breathing the same air as *La terre est un homme*)—that occupies the other end of our current complexity spectrum? It is so clear and simple in its construction that one is literally able to hear—in real time, even on a first hearing—the complete musical structure. Somehow both of these musics strike me as equally of our time. The primal, volcanic eruptions of *La terre est un homme* are answered and contrasted by the

14. Ferneyhough and Boros, "Shattering the Vessels," 7.

15. Ferneyhough and Boros, "Shattering the Vessels," 8.

16. Ferneyhough and Boros, "Shattering the Vessels," 11.

abstract, interstellar choreography of *Spiegel im Spiegel*. With a crucial difference: Pärt's work could exist solely in the vibrating air, without notation—at least at our current point in (Western musical) time—while Ferneyhough's is unthinkable without it.

I remember my first sustained encounter with the music of Monteverdi—a selection of his madrigals, including “Il combattimento di Tancredi e Clorinda” and the astonishing “Mentre vaga Angioletta,” in fantastic recorded performances by Les Arts Florissants. Each time I encounter new (to me) music that I want to know better, I purchase scores, and I was shocked by my first glimpse at Monteverdi's music. There's practically nothing there—pitches and rhythms, yes, but little else. The scoring is as simple as can be—a few strings and continuo, voices. (Years later I encountered some Machaut virelais in recordings by David Munrow—those “scores” are but a single unharmonized line!) The magic of this music was not housed in its notation, but was a true synchronization of the composer's sonic vision—recorded as accurately as the notation of each period allowed—with the imagination and musical creativity of the recording musicians. If anything, the paucity of written information inspired them to create and express more.

My own approach to musical notation fluctuates from work to work—my *Encomium of John Dowland* uses no dynamics throughout save a few hairpins, and relatively little in the way of articulations—but in general I try to present my musical ideas as clearly as I hear them while leaving room for performers to exercise their learned and instinctive musicality. Also—and really more significantly from the point of view of the score—I want to allow for the *significance* of notational elements. The difference between *p* and *pp* in Beethoven is enormous; in Tchaikovsky, who writes *pppppp* in his Sixth Symphony (m. 160 of the first movement, for example), the extrapolated difference must needs be negligible—we simply don't have the perceptual capacity to distinguish between six (at least) levels of “soft.” The hyper-specificity of the New Complexity composers explodes these kinds of nearly imperceptible distinctions into nearly all levels of the work, to the point that musicians can't distinguish between what is actually important—sonically and expressively—and what is superfluous, with the result that we as listeners are able to distinguish even less.

Schoenberg (reportedly) made two absurd predictions about twelve-tone music. First, that its discovery would “assure the supremacy of German music for the next 100 years,”¹⁷ and second, that within a generation or so schoolchildren would be singing twelve-tone tunes on the playground (at least, this is what I remember from my undergraduate theory curriculum with Steven Laitz—where *he* heard it I cannot say). The first prediction merits no comment; the second reveals a fissure between the heard and the constructed, and speaks to the separation that still exists between pop and art music today: folk and popular

17. Hans Heinz Stuckenschmidt, *Schoenberg: His Life, World and Work*, trans. Humphrey Searle (New York: Schirmer Books, 1977), 277.

music, including children’s music, is music that exists first and is transmitted primarily through the vibrating air. It doesn’t “require” notation, and often is not notated (think of the many popular bands that co-create whole albums—not from a score but through improvisation and collaboration). Art music as it has developed over the centuries, by contrast, is intrinsically bound up with the dichotomies of notation and sound, with a work like *Spiegel im Spiegel* being the (possible) exception that proves the rule.

Musical traditions around the world vary wildly, with extreme rhythmic complexity in African and Indian musics improvised over long rhythmic cycles and ragas. I visited Havana, Cuba in 2015, and interacted with a number of young composers there. It was abundantly clear they were listening, gleaning their understanding of rhythm and harmony through their ears, a residual benefit of their shared popular and folk music cultural heritage. It was so different from my experiences with many American music students, who appeared to learn rhythm as if it were math, and harmony as if it comprised a set of arbitrary voice-leading rules.

Many aspiring Western musicians struggle with notation, with the conversion of it into sound (and vice versa). But that step, that struggle with the notation, is a creative act in itself, and serves as a crucial step in formulating one’s interpretation of a score. And, as this essay has aimed to demonstrate, it shapes the music that is created by art music composers: without having to notate, and anticipate a musician’s interfacing with that notation, a composer would create vastly different music. Notation—musical orthography—is both the miraculous blessing and the limiting reality of Western art music. And it can also be—and has been, at various points throughout Western musical history—an art form in and of itself. Among the most famous and iconic musical scores of the American twentieth century are those by George Crumb. His scores are as easily identifiable by eye as by ear, and it’s no surprise that his entrée into the compositional world was through an early encounter with an Eulenberg miniature score of Beethoven’s *Egmont Overture*. He recalls being “amazed that all that sound was represented on the page,”¹⁸ and created a unique musical world out of the union and mutual amplification of the eye and the ear. His scores are perhaps some of the most explicitly beautiful manifestations of Western music’s graphic possibilities.

18. *Vox Hominis—with George Crumb*, directed by Zac Nicholson (Open G Records, 2020), 00:58, <https://www.youtube.com/watch?v=z6h-hpNyjxQ>.

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