Writing at the Speed of Sound: Music Stenography and Recording beyond the Phonograph

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As a sound-recording technology lasting from the eighteenth to the mid-twentieth century, music stenography resists standard narratives of sound recording’s advent and development. In such accounts, the phonograph typically plays a starring role. Thomas Edison’s 1877 invention is viewed as a powerful historical turning point largely due to its technical innovations. Although music notation had helped convey sounds through symbols for centuries, the phonograph reproduced sound vibrations through mechanical means; a recording’s microscopic grooves were a one-to-one trace—in C. S. Peirce’s terminology, an “index”—of the “sounds themselves.” In an influential account...

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based on this interpretation, Friedrich Kittler argues that the phonograph could capture sonic data flows without human mediation, thus undercutting the need for acculturation into the reading of texts or scores.\footnote{Music stenographies consulted in the preparation of this article are listed in the Appendix. Catalogs of music stenographies may be found in Johannes Wolff, \textit{Handbuch der Notationskunde}, vol. 2 (Leipzig: Breitkopf & Härtel, 1919), 419-49, and in Gardner Read, \textit{Source Book of Proposed Music Notation Reforms} (Westport, CT: Greenwood Press, 1987), 369-400. Secondary literature on music stenography is limited, but see Frédéric Hellouin, “La Sténographie musicale,” in \textit{Feuillet d’histoire musicale française} (Paris: A. Charles, 1903), 155-67, and Jacques Chailley, “Sténographie musicale,” \textit{Schweizer musikpädagogische Blätter} 14 (1953): 15-19. Chailley mentions but does not describe a system that he had been using for almost twenty years.} If—as Alfred Cramer has shown—speech stenography served as a notable analogy for Romantic melody, then music stenography sought instead to capture “music itself,” or rather, musical ideas in their moment of emergence.\footnote{Alfred W. Cramer, “Of Serpentina and Stenography: Shapes of Handwriting in Romantic Melody,” this journal 30/2 (2006): 133-65. Cramer touches on Prévost’s and Stains’s music stenographies. I use “speech stenography” to refer to the main branch of stenographic practice, that which attempted to capture the speech of an orator. In nonmusical scholarship, speech stenography is referred to simply as “stenography.”}

To do so, music stenographers refashioned notation as a tool for recording. Rather than merely enabling subsequent performance, stenographic notation would capture musical thoughts as they unfolded in real time.

Since music stenography recorded sound via improvements to writing techniques, it depended on the stenographer’s ability to translate sounds into symbols. Despite superficial similarities with the symbols used in ethnographic transcriptions, it found no “field” applications; stenographers were only interested in notating the same sounds that Western notation could. Why would music stenographers’ concern with literate recording technologies persist even as seemingly more powerful means for capturing music gained ascendancy and popularity? To answer this question, I foreground the experiments and controversies spawned by music’s textual technologies, complexities that are often overshadowed during this period by notation’s prominent role as an emissary of composers’ intentions and as a reliable proxy for the musical work itself.\footnote{For the standard account of textuality under the work concept, see Lydia Goehr, \textit{The Imaginary Museum of Musical Works: An Essay in the Philosophy of Music}. rev. edn. (Oxford: Oxford University Press, 2007), 224–27.}

The phonograph’s dominance in scholarly discussions has obscured the fact that explorations of text-based sound recording continued through the late nineteenth century and well into the twentieth, as indicated by the list of publications in the Appendix. In contrast to the phonograph, music stenography [or shorthand] pursued sonic fixity through the assumptions of a literate musical practice. To capture sound, it replaced the familiar note-heads, beams, and stems of Western music notation with idiosyncratic systems of squiggles, lines, and dots. Visually striking, these new forms of musical writing promised to fastidiously preserve a composer’s most transient musical inspirations and to capture improvisations in real time. Thanks to stenography, melodies could be jotted down as quickly as the composer invented them; the new notation “[rival]ed the rapidity of inspiration.”\footnote{Friedrich A. Kittler, \textit{Discourse Networks 1800/1900}, trans. Michael Metteer and Chris Cullens (Stanford: Stanford University Press, 1990), 14 (“rivaliser de rapidité avec l’inspiration”). All translations are my own unless otherwise stated.}

Although speech stenography had been in use since antiquity, music stenography was a more recent historical development. Between 1768 and 1950, over seventy music-stenographic treatises appeared in cities as far afield as Chicago and Warsaw. Music stenographies were invented by professional musicians, autodidacts, respected stenographers, now-forgotten amateurs, and even one director of the Paris Opéra.\footnote{Friedrich A. Kittler, \textit{The Audible Past: Cultural Origins of Sound Reproduction} [Durham: Duke University Press, 2003].}
Music stenography opens a window onto the cultural techniques that helped musicians transform quotidian encounters with musical texts into abstract conceptions of compositional labor. As Cornelia Vismann explains, cultural techniques denote how “the self-management or auto-praxis [Eigenpraxis] of media and things” helps to “determine the scope of the subject’s field of action.” Similarly, I ask how stenographers’ concerns for the inscription, storage, and reproduction of musical ideas were shaped by the material worlds on which these processes depended. Stenographers believed that their inventions would revolutionize composing. For us, however, stenographers’ unspoken assumptions about how musical ideas become texts and their purported innovations to this process shed light on the otherwise opaque roles played by paper and ink within the musical life of their day. My contention that music stenography offers insights into the material underpinnings of print-centric musical culture may seem open to a fundamental critique: there is little evidence that music stenography ever really worked. While speech stenography was widely used in politics, spawned translations of canonic novels into its signs, and has even been detected in Charles Dickens’s mimetic prose style—music stenography never gained widespread popularity. While speech stenographers transcribed and published improvised poetic performances, stenographic transcriptions of musical performances have not survived; nor have I located sketches from composers who employed stenographic methods.

Coated in a veneer of practicality, music stenography remained a decidedly speculative project. How, then, can it illuminate such perennial historical issues as the construction of genius, the workings of inspiration, or the creation of musical texts? Failures can be instructive: as Jussi Parikka and Siegfried Zielinski have argued, the study of unsuccessful or theoretical inventions may productively illuminate long-lost technological assumptions of another era. Technologies that never found widespread adoption were nonetheless products of a wider field of know-how; these past medial conditions are, however, obscured by teleologically reconstructing the prehistories of successful, still-familiar inventions. Music stenographies form an especially intriguing corpus to probe for insights into historical media cultures since they were the work of marginal figures who nonetheless confronted central musical issues. Their persistent yet peripheral reinvention reveals that concerns for the preservation of musical thoughts helped shape notions of compositional creativity itself.

This article begins by investigating stenography’s intended application within music and its explicit purpose as a corrective to the deficiencies of staff notation. I then shift perspective from the stenographic treatises themselves to the wider technological and medial landscape of their day. Music stenography’s myriad versions, I show, are more accurately viewed as repeated adaptations of speech stenography into a musical domain, efforts driven by stenography’s prominence within the print-based public sphere. When so seen, music stenography appears as part of a durable cultural project of text-based sound inscription. At the conclusion, I suggest some ways that music stenography helps to rethink the dominant narratives of sound recording’s development.

**New Symbols for Music**

From Guido of Arezzo in the eleventh century, to Arnold Schoenberg in the 1920s, to the myriad contemporary proposals of the Music

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Notation Project, musicians have long attempted to improve musical writing and reading. Several music stenographers studied the early history of notation and saw their own efforts as its modern-day continuations. Even music stenographers lacking antiquarian inclinations would have been familiar with numerous eighteenth- and nineteenth-century attempts at music notation reform. Often drawing on Jean-Jacques Rousseau’s Plan Regarding New Signs for Music, reformers believed that the Guidonian staff posed barriers for the beginning student, as its “quantity of lines, clefs, transpositions, sharps, flats, naturals, simple and compound meters, whole notes, sixty-fourth notes, and rests... yields a throng of signs and combinations,” which overload the student’s capacities. To simplify musical reading and instruction, new notations employed numbers or symbols to stand directly for solfège syllables, an innovation that also afforded economical printing.

Like notation reformers, stenographers embraced new musical signs. Music stenographers were, however, singularly obsessed with improving the speed at which a notational system could be written, thus distinguishing them from the reformers’ broad-ranging interests in pedagogy and literacy. As stenographers observed, conventional notation is a poor vehicle for real-time recording. By adding stems, flags, or beams to indicate shorter note values, the speed of conventional musical writing is inversely related to that of note values themselves: a whole note requires a single motion of the pen, but the equivalent duration of thirty-second notes requires ninety-six strokes (plate 1). In an unending pursuit of greater rapidity, stenographers assessed alternative musical signs for the efficiency of the quill motions they demanded. Even so, the more complex a piece of music and the more rapidly it unfolded, the less amenable the music was to real-time capture through notation of any kind.

In an era when music was preserved in manuscripts and transmitted through printed pages, stenographers and composers alike shared E. T. A. Hoffmann’s conviction that “the art of composition” consists in the ability to hold onto “intuitions as if with a special spiritual power and to preserve them in writing.” They could disagree, however, over the tools through which imagined sounds could be turned into texts. In 1833 Hippolyte Prévost brought his newly invented music stenography to the retired Rossini, who noted that “this new art would prove of valuable assistance to the composer, whom it would enable to note down on paper his sudden inspirations as they suggested themselves to him—but that, as for himself, he had never felt the want of it.” As Rossini explained, such assistance was superfluous for composers who had received rigorous childhood training. In his own case, Rossini’s father insisted that “after he had read a whole page of music once or twice, he should repeat it without the notes and without a fault. Soon afterwards, it was two pages then three, and then four, the dose going on crescendo until it included an entire score. This had to be recited by heart, after only a few perusals.” Thanks to such disci-

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14 Pierre Joubert de la Salette, De la Notation musicale en général et en particulier de celle du système grec (Paris: Normant, 1817); V. D. de Stains, Phonography; or, the Writing of Sounds (London: Wilson, 1842), 157–78; August Baumgartner, Kurzgefaßte Geschichte der musikalischen Notation (Munich: Wolf, 1856).


Plate 1: Michel Eisenmenger, Traité sur l’art graphique et la mécanique appliqués à la musique, 81.

<table>
<thead>
<tr>
<th>Valeur des notes</th>
<th>Nombre de notes écrites</th>
<th>Nombre de notes exécutées</th>
<th>Rapport de l’écriture à l’exécution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rondes</td>
<td>120</td>
<td>30</td>
<td>4 à 1</td>
</tr>
<tr>
<td>Blanches</td>
<td>80</td>
<td>60</td>
<td>4 à 3</td>
</tr>
<tr>
<td>Noires</td>
<td>80</td>
<td>120</td>
<td>2 à 3</td>
</tr>
<tr>
<td>Croches</td>
<td>60</td>
<td>240</td>
<td>1 à 4</td>
</tr>
<tr>
<td>Doubles-croches</td>
<td>40</td>
<td>480</td>
<td>1 à 12</td>
</tr>
<tr>
<td>Triples-croches</td>
<td>30</td>
<td>960</td>
<td>1 à 32</td>
</tr>
</tbody>
</table>

The first column lists note values from whole notes [top] to thirty-second notes [bottom]. The second column calculates the number of notes of a given value that could be written in a minute, while the third column lists the number of notes that could be performed in a minute. The last column provides the ratio of column two to three, demonstrating that shorter note values require more time to write: it takes thirty-two times longer to write a thirty-second note than it does to perform one.

To sway musicians who may have lacked Olympian musical minds, stenographers consistently evoked two beliefs about the nature of musical composition in support of their projects. First, they echoed a central tenet of Romantic aesthetics, asserting that musical ideas were most spontaneous, fresh, and vivacious in the moment they were initially conceived. Second, they assumed that such musical ideas were liable to vanish from the composer’s mind as quickly as they had appeared. Hector Berlioz, one of music stenography’s early practitioners, reported that while composing the Requiem, his “brain felt as though it would explode with the pressure of ideas” and that “it was impossible to write fast enough.” He continued: “All composers know the agony of forgetting ideas and of finding that they have vanished for ever, for want of time to set them down.” While Berlioz’s stenographic sketches do not survive, his agonies elicited ample sympathy from his contemporaries. Prävost asked, “How often, in moments of verve and enthusiasm, is the vivacity of the composer’s inspirations stifled by this musical writing . . . How often does he not have reason to deplore being unable to conserve this first effusion, always so precious, where the ideas present themselves in all their freshness and originality!” Some nineteen years later in 1853, August Baumgartner claimed that music stenography would likewise “fix in the moment of enthusiasm the first sketches, which all too often lose freshness and originality through time-robbing notating-down and pass them down to posterity.” Such rhetoric ech-
oes that of mid-eighteenth-century attempts by both the Rev. John Creed and J. F. Unger to develop keyboard attachments that could notation the transient musical improvisations of performers.22 Charles Burney noted that such a device once added to the keyboard would “fix such fleeting sounds as are generated in the wild moments of enthusiasm . . . giving permanence to ideas which reflection can never find, nor memory retain.”23 If the failure of such keyboard devices to fully and accurately preserve improvisations speaks to, in Annette Richards’s formulation, the “unbreachable rift between performance and score,” then, by comparison, music stenographers did not intend to close this rift, but rather side-step it all together.24 Most music stenographers hoped to provide the composer with an unmediated form of textual inscription, thus evading the reliance on both performer and instrument that was the postulate of Creed and Unger’s devices.

Strikingly, music stenography’s guiding concern for transcribing ephemeral ideas retained currency well into the twentieth century. Recast with tinges of associationism psychology, the introduction to Emile Gouverneur’s 1950 Traité complet de sténographie musicale invokes a trope commonly encountered in 1850, or for that matter, 1750: “So many moving ideas and sublime thoughts are lost for the composer and for posterity because the speed of thought too often considerably exceeds its graphic expression. Ordinary musical notation, slow and easily deformed, blocks the integral linking of impressions and ideas. These follow in rapid succession and often disappear never to return again.”25 On one level, the publication of music stenographies into the twentieth century speaks to the unflagging perseverance of music notation itself, as well as to the fact that phonographic recording did little to diminish the importance of dictation (which is to say the transcription of sound as symbol) in musical training.26 On another level, however, the stenographers’ amalgamation of freewheeling meditations on musical inspiration with new, writing-based inventions, presents a striking temporal continuity. Stenography followed a static course of technical inquiry and remained relatively stable across 180 years of seismic changes in composition, aesthetics, and social history.27 It evinces both a durability and a mutability that challenge the expected points of the narratives relaying the histories of sound recording.

### Stenographic Techniques

At their core, music stenographies aimed to more efficiently transmit and store musical data. They attempted to shear seemingly extra-

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22Annette Richards, The Free Fantasia and the Musical Picturesque [Cambridge: Cambridge University Press, 2001], 76–79; Peter Schleuning, “Die Fantasiemaschine: ein Beitrag zur Geschichte der Stilwende um 1750,” Archiv für Musikwissenschaft 27/3 [1970]: 192–213. The thread of a now-lost device able to record improvisations from a keyboard, similar to Creed’s, runs throughout the stenographers’ discussions. Prévost mentions a similar device [p. 3], Eisenmenger develops both a stenography and a mechanism for a piano capable of producing such notations, and a review of Austin makes a similar reference [W. A. Barrett, “Musical Shorthand,” Musical Times and Singing Class Circular 15, no. 352 [1872]: 945–97].


24Richards, The Free Fantasia, 79. Somewhat unusually among music stenographers, Prévost suggests his invention could be used for capturing improvisations. François-Joseph Fétis points to several reasons why Prévost’s stenography is unable to do so, although he agrees that it will be useful for composers. Fétis, “‘Sténographie musicale ou art de suivre l’éducation [sic] musicale en écrivant par Hypollite [sic] Prévost,’” Revue musicale 7, no. 31 (1833): 241.

25Emile Gouverneur, Traité complet de sténographie musicale [Brussels: Schott frères, 1950], 8: “Combien d’idées touchantes, de traits sublimes sont perdus et pour le compositeur et pour la postérité parce que, trop souvent, la pensée dépasse considérablement en vitesse son expression graphique. La notation musicale ordinaire, lente et déformable, enraye l’intégral enchaînement des impressions ou des idées qui souvent, dans leur succession rapide, s’envolent pour ne plus revenir.”


neous elements from the system of musical writing that they had inherited. Like the MP3 or FLAC formats, stenography was a system for eliminating redundant data, a chapter in what Jonathan Sterne has termed the “general history of compression.” Unlike more familiar forms of digital compression, however, stenographic compression was applied to musical sounds that were first filtered through a system of writing. An analysis of the technical assumptions of stenographic systems will help reveal how stenographers engaged in the nitty-gritty work of evaluating the limitations of conventional notation and the strengths of alternatives to it. An exposition of three representative examples shows that stenographic systems both maintained and supplanted the spatial logic of the modern staff. Ultimately, these examples suggest that limitations of notational compression did little to quell the stenographers’ exaltation of unpremeditated inspiration.

In Michel Woldemar’s 1798 Tableau mélo-tachygraphique, the stenographer keeps the quill on the page, tracing the contour of a melody over the staff. The result is an arc whose “corners” denote pitches (plate 2). Across the Tableau, however, Woldemar attempts to go beyond the staff-based system by condensing complex or zigzag-prone stenographic figures. Scalar abbreviation, as the proliferating examples given (plate 3) suggest, is more complicated than it would appear. Woldemar’s compressive system makes no modifications to the representational system of the staff. Even so, his rudimentary attempts at musical abbreviation spawn ever-more complex compensatory marks in an effort to clarify the desired execution of the scales.

Prévost’s 1833 Sténographie musicale ou art de suivre l’exécution musicale en écrivant notates the intervals that comprise a melody, allowing each pitch to be connected with any other with the same ease. The stenographer’s hand remains on the page for an entire measure, forming all requisite interval signs into a single “monogram” (plate 4). Prévost’s system uses the conventional staff, even extending it through the addition of two dotted lines above and below. “The adoption of this base,” Prévost claims, “will facilitate the study of this new art.” In Prévost’s hands, however, the staff acquires two distinct representational uses. First, it serves as a conventional system of absolute pitch references—as a way to anchor the initial pitch of each monogram. Second, Prévost turns the staff’s representational system on its head, using its lines and space to convey duration instead of pitch.

A third variety of music stenography abandoned the staff entirely, attempting instead to convey both pitch and duration through newly invented signs. One of the most comprehensive systems of this type was developed by the Munich organist August Baumgartner between 1839 and 1853. Taking a professional musician, Baumgartner was a student of Gabelsbergian shorthand, a cursive system based on Latin longhand characters that had gained widespread popularity throughout Germany by the mid-nineteenth century. Taking a

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30Prévost, Sténographie musicale, 19–20. Prévost mentions Woldemar’s Tableau (p. 3), but by his own acknowledgment he knew it only through Féret’s review cited in n. 29.
31Prévost, Sténographie musicale, 13.
32Prévost, Sténographie musicale, 11.
Woldemar proposes special stenographic notations for scales in octaves or tenths, figures which would otherwise require the stenographer to draw zigzags spanning the staff. The notation of the scale-plus-octave unit is closely followed by a number of further combinations. Each of these variants requires modifications to the basic stenographic notation for a scale.


Woldemar draws on the distinction in Gabelsberger’s system between *Schriftkürzung* and *Schreibkürzung*; see Franz Xaver Gabelsberger, *Anleitung zur deutschen Redezeichenkunst oder Stenographie* (Munich: Franz, 1850), 11.

earlier attempts. The budding stenographer must practice not only the signs for pitches and intervals, but must be trained in their efficient combination (plate 5). To convey rhythm, the stenographer varies the thickness and curvature of the pen stroke (plate 6). In a further attempt to match the rapidity of musical discourse, a single motion of the pen accounts for each measure, producing a connected “monogram” that is densely packed with notational information.

Each measure is written stenographically using a continuous ink line, forming what Prévost terms a “monogram.” The beginning of each monogram occupies the conventional pitch location on the staff, but all subsequent pitches in the monogram are given intervallically: a line indicates a second, horizontal semi-circles stand for thirds, the left-hand side of a vertical semi-circle for fourths, and the right-hand side for fifths, all irrespective of where these signs fall on the staff itself. Prévost notates rhythm through the number of lines or spaces on the staff the stenographic sign crosses: three spaces for a quarter note, two for an eighth note, one for a sixteenth note, with special marks for whole and half notes.


This is an excerpt from a two-page-long table that details Baumgartner’s techniques for connecting pitches with intervals into a single sign. The table provides combinations of absolute pitch (rows) with ascending intervals (columns). For example, the sign in the upper left-hand corner denotes the pitch G followed by the interval of a second (that is, the melodic dyad G–A), the one to its right denotes the pitch G plus an ascending third, and so on.

In the second half of the treatise, Baumgartner supplies shorthand abbreviations for a plethora of scalar passages, progressions by both step and leap, repeated patterns, and inverted ones. As plate 7 reveals, even the simplest musical patterns lead to considerable notational complexities. The symbolic means he marshals to compress the patterns require ever-increasing detail to account for all requisite musical parameters. In this light, his disclaimer that this
pattern-based notation is “hardly as arbitrary as it may appear at first glance” sounds suspiciously like special pleading. As Linda Orr has observed in the parallel realm of speech stenography, systems designed to simplify writing “kept reproducing the shadow of the old [language] in all of its complexity.” Similarly, the successful notation of musical patterns that exceed the most rudimentary repetition or sequence required detailed symbolic resources that were as difficult to master, write, and remember as ordinary notation itself.

These attempts raise an important question: if Baumgartner intended to record the most original and fleeting ideas, then why did he focus on efficiently notating scales, sequences, and musical patterns that are far more formulaic than novel? Clues may be found in Baumgartner’s own aesthetic principles. “A peculiarity of music [Tonsprache],” he writes, is “that it repeats itself”: “it presents repetition in the most varied alterations, and searches in this manner to join unity with variety, so that without fatiguing, one can dwell longer on the basic idea.” Musical repetition that reduces too easily to a single “basic idea,” is less desirable than a process of iteration that leads to “unity with variety,” Baumgartner suggests. One may extrapolate from his belief that compression on the level of musical pattern is a risky endeavor: by rendering too much musical detail as the product of a simple algorithm, one could eliminate precisely the subtle variants

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35Baumgartner, Kurz gefasste Anleitung, 28 (“keineswegs so willkürlich ist, als sie allerdings auf den ersten Anblick erscheinen dürfte”).
Baumgartner’s examples reveal how pattern-based compression could expose an unsophisticated framework buried beneath complex musical passagework. As shown in plate 8, Baumgartner’s stenography allows him to notate Rodolphe Kreutzer’s third étude from the Études (1796) as five repeated patterns. By reducing the 257-note étude to a half-line of stenographic symbols, Baumgartner provides a successful example of lossless compression of musical patterns: his signs supply sufficient information to reconstruct the étude in its entirety. Baumgartner’s stenography reveals that the étude is built from a mere handful of patterns and transpositions. Perhaps in so doing, it also reveals a straightforward correspondence between the étude’s “basic idea” and its musical surface. By privileging the textual encoding of patterns, however, Baumgartner does not acknowledge that the étude’s repetitive pitch structure provides an armature on which the violinist may practice the twenty bowing patterns given in the previous étude, nor does he consider how the performer could imbue such patterns with coherence in the course of performance.\(^{38}\) In short, he overlooks nontextual means of joining “unity with variety.”

Baumgartner’s fascination with pattern-generated musical utterance resonated with contemporaneous practice and pedagogy. As Jim Samson notes, the “demand for constant spontaneity” among even the greatest virtuosi “ultimately promotes the formula, and at the same time elevates the idiomatic, the capacity to ‘think with the fingers.’”\(^{39}\) Not only the territory of virtuosi, the mastery and deployment of such idiomatic figures were central to musical training. As Leslie Blasius argues, the preponderance of musical figures in pianoforte treatises from the turn-of-the-nineteenth-century Paris conservatory environment derived from beliefs about the close connection between bodily sensation and musical sound, as studies encouraged musicians to decompose and re-


Baumgartner’s stenography is highly efficient at compressing patterns that are formed by the repetition of intervallic patterns in transposition. The bulk of this étude consists of three such intervallic patterns, corresponding to the passages and signs labeled 1, 2, and 3.

Plate 8: Baumgartner, *Kurz gefasste Anleitung*, plate 13. Brackets and numbers have been added to clarify the correspondence between passages in staff notation and the stenographic signs. Bayerische Staatsbibliothek München, Mus.th. 280, urn:nbn:de:bvb:12-bsb10598235-9.
construct bodily sensations. In short, Baumgartner’s stenography attempted to capture patterns that musicians knew as embodied musical gestures.

Insecurities concerning original and derivative pattern-based musical thought were especially apparent in discussions around improvisation. A rather extreme example of the elision of patterns into purported originality is offered by Dietrich Nicolaus Winkel’s 1821 Componium, an orchestration that could “improvise” by randomly combining short, pre-composed musical segments. Capable of generating over 14,500 quintillion unique variations, the machine could sate a desire for the new and original through a seemingly boundless, mechanically generated combinatoriality. A similar technical logic, albeit scaled to a human level, undergirded improvisation treatises by Frédéric Kalkbrenner and Carl Czerny. Kalkbrenner hoped to instruct aspiring pianists by demystifying improvisation, in the process promoting greater circulation of pattern-based techniques. He urged the aspiring improviser to master short progressions, to “learn to develop them” using figuration patterns, and finally “enchain them one after another.”

Perhaps Baumgartner believed that patterns were the raw materials of original thoughts. But perhaps he was also suspicious of their preponderance. By efficiently notating patterns, Baumgartner’s stenography could help to unmask the formulaic skeletons of musical ideas. At the same time, the stenography could help the composer see which ideas are not formulaic, since these would be more difficult to notate through the pattern-based stenography. When ideas are birthed through the aid of stenographic notation, the composer could discipline nascent inspiration, isolating novel ideas from those infected by quotidian musical formulae. Such a use of stenographic inscription would resemble that feared by poetic improvisers, whose seemingly improvised verses could be exposed as mere memorization by the careful scribe. What is more, by divorcing such musical patterns from their embodied guises in an improviser’s repertoire and instead treating them as dry textual patterns, Baumgartner’s stenography expunges musical ideas whose coherence derives primarily from the performer’s body. Such sieving of inadvertently remembered musical gesture must have been particularly powerful since virtuosic performance depended not only on the extensive use of such formulae, but also on their masterful concealment under the hands of Paganini, Kreutzer, or Liszt.

Baumgartner, Traité d’harmonie. 16: “il est impossible d’épuiser une mine aussi fédéante; chaque individu y verra de nouvelles combinaisons.”


Kalkbrenner writes that his treatise lifts “un coin de ce voile, qui recouvre la partie technique de la musique et la rend presque incompréhensible à tous ceux qui n’y sont pas profondément initiés.”


To the naked eye, music stenography’s eccentric squiggles appear to fundamentally reject contemporary music notation. In fact, however, Woldemar, Prévost, and Baumgartner voraciously recycled graphic elements from the staff. What is more, they prioritized the same musical parameters as the staff—pitch, duration, and a concern for the linear, note-to-note construction of a musical idea. As the plates show, treatises abound with side-by-side comparisons of stenography and staff notation, suggesting a concrete sense in which both authors and readers evaluated these new systems in accordance with the standards offered by the staff itself. The ubiquity of the musical staff surfaces not only in the mutual affinities between these inscriptive systems, but also in their subcutaneous technical logics. As a grid-like system for conveying discrete pitches, the staff allows any pitch to be followed by any other with considerable ease. Stenographic systems that abandoned this principle by attempting to capture large-scale patterns invented a dizzying array of symbols to do so. The supposed clarity of pattern-based paraphrase was little better than the idiosyncratic complexities of conventional notation. Yet even so, by exploring the boundaries of successful inscription, these music stenographies brought into focus the perpetually hazy horizon that separates inscribable musical qualities from those that resist transduction into textual form.

Uncapturable Sound

Why do stenographic treatises consistently praise contingent sounds and believe that those most likely to disappear are among the most desirable? Few stenographers addressed this seemingly fundamental question directly, instead assuming that their projects met a self-evident need. One of the few stenographers to write at length and in detail about the compositional process, and hence a main source for understanding the wider patterns of technological thought that informed music stenography, was Michel Eisenmenger. His 1838 *Traité sur l’art graphique et la mécanique appliqués à la musique* suggests that musical ephemerality as an aesthetic ideal gained force through its opposition to both inscription and musical memory. Eisenmenger’s treatise offers three related innovations: first, he proposes a new staff, one directly based on the morphology of the keyboard itself; second, he outlines a music stenography derived from his keyboard staff; and finally, he proposes a special keyboard attachment capable of notating a performance [plate 9].

Eisenmenger’s inventions would help the composer capture inspirations, which he understands as powerful forces that override the composer’s conscious will. When “inspiration takes hold of him,” Eisenmenger writes, “these moments of verve and inspiration cannot be controlled.” A “rapid melody” crosses “his mind like a flash”: “how many ideas strike at any hour on the door of his genius and disappear like imps!” In this confounding light, Eisenmenger’s depiction of the frustration attending the labor of composition is telling:

[The composer’s] head is nothing more than a vast concert hall, which resounds with a mysterious music that he hears as well as if he were listening to real music... After having found... the idea that suits him, his only concern is the manner of rendering this idea. It appears to him first only as a whole, because he is too heated with excitement to analyze it, so he tries to reproduce it on his instrument... Thus he distinguishes the sounds that follow one another and the sounds that are heard simultaneously; thus he sees the character of the rhythm and the meter, the nature of the scale and mode; thus he begins to represent each sound individually, according to its pitch, its rhythm, its meter, its beat, its scale, its mode, its key.49

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49Eisenmenger, *Traité*, 35–36: “Sa tête [the composer’s] n’est plus qu’une vaste salle de concerts, qui retentit d’une musique mystérieuse, qu’il entend aussi bien que s’il écoutait une musique réelle... Après avoir... trouvé l’idée qui lui convient, il ne s’occupe plus que de la manière de la rendre. Cette idée ne lui apparaît d’abord qu’en bloc, car il a trop de fièvre pour l’analyser; il essaie alors de la reproduire sur son instrument... c’est alors qu’il distingue les sons qui se succèdent et les sons qui se font entendre simultanément et qui constituent l’harmonie; c’est alors qu’il voit le caractère du rythme et de la mesure, la nature de la gamme et du mode; c’est alors qu’il se met à représenter chaque son à part et l’un après l’autre, selon sa valeur, selon son intonation, selon son rythme, selon sa mesure, selon son temps, selon sa gamme, selon son mode, selon sa clef.”
The composer is acted upon by musical ideas. Since Eisenmenger portrays the composer as a tormented transcriber of thoughts, it is unsurprising that he would be drawn to stenographic inscription: much like the speech stenographer—who dutifully records others’ voices in order to project them to a readership—the composer’s ideas, once captured, will be performed by others elsewhere.

In Eisenmenger’s view, the composer faces these difficulties because imagined and written sounds are separated from one another by a nearly unbridgeable chasm. When the arduous process of analyzing the inspiration into its component parts is finally complete and the composer “has notated the first idea, he must begin to work again, regain his outburst, his passion, his delirium, become impassioned again only to fall one instant later into the labyrinth of sounds and their signs, from which he will leave only with a cold soul and impatient mind.”

This incongruity between imagined sound and written symbols finds parallels in Kittler’s account of nineteenth-century means of spatially storing time-dependent data. “Texts and scores,” Kittler notes, “are based on a writing system whose time is [in Lacan’s term] symbolic.” Yet sound, noise, and—we would add based on Eisenmenger’s description—musical inspirations do not come pre-packaged into symbolic units. In order to be processed and stored, such phenomena first “had to pass through the bottleneck of the signifier.” The stenographers’ attempts to use symbolic systems of writing to match music’s real-time unfolding may seem prescient, foreshadowing how film and mechanical sound recording could replicate, rearrange, and invert temporal orders. Stenographers, however, consistently deployed symbolic systems of writing, never escaping the “bottleneck of the signifier.”

Although Kittler identifies alphabetic writing and music notation as analogous forms of symbolic inscription, in Eisenmenger’s view differences between the two cemented the urgency of developing music stenography: “[with speech] thought can stop, and the idea is interrupted without inconvenience. Each phrase gives a complete meaning, which remains readily present to the memory while one writes it down; and on the basis of which one can at leisure work out the phrase that should follow.” In Eisenmenger’s view, the representational nature of language facilitated its transcription, since semantic content could serve as a mnemonic crutch. In music, conversely, the idea is so immaterial, each note is so independent from that which precedes it and that which

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Psst Eisenmenger, Traité, 36: “il est parvenu ainsi à fixer une première idée, il faut qu’il se remette à l’œuvre, reprenne l’élan, de la chaleur, du délire, se passionne de nouveau pour retomber un instant après dans ce labyrinthe des sons et de leurs signes, dont il ne sortira chaque fois que l’âme froide et l’esprit impatienté.”

Psst Kittler, Gramophone, Film, Typewriter, 4.

Psst Eisenmenger, Traité, 14: “la réflexion peut s’arrêter, et la pensée être brisée sans inconvenient, car chaque phrase donne un sens complet, qui reste facilement présent à la mémoire pendant qu’on l’écrit, et sur lequel on peut à loisir calculer le phrase qui doit suivre.”
Eisenmenger offers a typical paean to music’s Romantic ephemerality, as his rhetoric distinguishes between the coldness of rational, speech-based invention and the impassioned fervor of musical inspiration. In repeating this trope, he draws connections between the weakness of human memory and musical fragility. In normal speech, he believes, an underlying sense of the phrase’s entire meaning allows the speaker to pause, assured that a complete formulation of the thought will naturally follow. In music, by comparison, there is no equivalent to such semantic content. Rather, the musical idea’s “meaning” consists exclusively in the precise manner that its pitches and rhythms unfold, whether in the concert hall or in the composer’s imagination. Failure to match its speed produces confusion and frustration; the pauses that speech allows would upend the flow of musical inspiration. As a result, thinks Eisenmenger, the composer must follow the nascent inspiration in real time with virtually no assistance from mental paraphrase or summary. This formulation further suggests that imagined music’s ephemeral state is heightened due to the composer’s own inadequate means of preserving the imagined musical thought via memory or inscription.

In expressing the difficulty of processing temporal sequences in symbolic units, Eisenmenger seems sympathetic to Kittler’s observation that the mind alone has difficulty retaining, repeating, and manipulating real-time temporal phenomena. Although Woldemar and Baumgartner stumbled upon the difficulty of condensing complex musical patterns into efficient paraphrases, Eisenmenger connected this problem with music’s temporality. If paraphrase cannot subvert music’s temporal linearity, then stenography could match it by following music’s real-time progression. In this sense, Eisenmenger employed stenography as a form of externalized musical memory, exporting one component of compositional labor to a technical system.

To close the fissure between the musical idea and its inscription, Eisenmenger searched for a means of writing music “without thinking about the writing itself,” just as one writes speech without thinking of its mechanics. In conceiving of writing as a transparent vehicle for thought that precedes it, Eisenmenger’s aspirations align with the systematic prioritization of orality over writing that Jacques Derrida famously construed as a dominant paradigm of Western culture. Yet music stenographers were unable to consummate their logocentric desires. Eisenmenger supplanted his stenographic system with an indexical means of recording the impact of piano keys on a sheet of paper, allowing the keyboard’s interface to take the place of unmediated composerly writing (plate 10), while Prévost in later life considered his earlier efforts a “utopian folly” and an act of “downright impiety.” For others, the prerequisite for stenographic writing was a reduction of musical ideas to homophonic texture, or even to a melody alone.

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55Eisenmenger, Traité, 37: “permis d’écrire la musique comme on écrit le discours, c’est-à-dire sans penser à l’écriture même.”
58Prévost, Stains, Baumgartner, and Raab recognized the need for a notation of harmony, but only Stains and Raab made substantial proposals in this regard. Baumgartner
Probing the limits of what could be musically inscribed, stenographers distinguished the aspects of music that were preservable from those that were not. The power of this conceptual delineation was as striking as it was simple. It allowed qualities that eluded inscription’s symbolic order to be bracketed as noninscribable, a precise function that stood in stark contrast to the seemingly vague adjectives that stenographers employed. The theory of compression (discussed in Stenographic Techniques above) assumes that a stable input is being compressed. This assumption falls apart when compression is applied not to a definable data source, but to inchoate ideas spewing from the mind. In claiming to capture these ideas, stenography constructed the object it sought to record, valorizing that which it could not preserve through its very attempt to do so. The music-stenographic project was in this sense impossible: to fully transcribe inspirations in their fleeting richness would have undermined the opposition between the inscribable and the noninscribable that justified such attempts in the first place.

**Speech Stenography and Print Media**

So far, my observations have suggested tensions between the technical procedures of stenographies and their aspirations. Although this technical account sheds light on the aesthetic values that stenographers endorsed, it does not yet explain how music stenography could persist for nearly two centuries despite never leaving the outskirts of musical culture. To elucidate music stenography as a cultural phenomenon, I here shift perspective from the stenographic treatises themselves to the broader technological landscape of their day. The stenographers’ obstinate claims to be concerned with the compositional process are misleading. After questioning the coherence of the composer-centric world they present, I show that illuminating parallels may be drawn to common views about speech stenography and espe-
cially its promise to revolutionize modern society. When seen as adaptations of speech stenography, music stenography appears as both a reflection of, and window into, the print culture of its time.

Few composers conceived or deployed stenographic methods. To be sure, some composers sketched with a rapidity similar to that of stenographic writing. Beethoven encouraged the Archduke Rudolph to “immediately [write] down those fleeting inspirations that may come to you”; in doing so, “not only is the imagination strengthened, but also one learns how to instantly secure the most remote ideas.” Unlike most composers, music stenographers sought formalized and systematic resolutions to the problems posed by the rapidity of musical inspiration. In addition, stenographers’ preoccupations are curiously out of touch with the nitty-gritty aspects of composition. There are no discussions of revision, instrumentation, publication, or even performance needs. Stenographic treatises are not written in the first-person voice of a composer, but rather in that of an abstract, third person offering a service for composers’ use. The disconnect between the treatises’ claims to aid the needy composer and their schematic, highly idealized descriptions of compositional labor casts doubt on the stenographers’ insight into the compositional process.

Stenographers’ concrete musical discussions suggest a further level of ignorance. By the early nineteenth century, composers had developed a conventionalized language to signal inspired, real-time musical thought in written form. When included in compositions, unexpected modulations, rapid shifts in topic, and free-wheeling arpeggios could evoke values associated with improvisation, and by extension, a sense of spontaneity and musical fecundity.

Although stenographers and composers alike attempted to translate spontaneous utterances into textual form, the musical examples included in stenographic treatises are curiously barren of improvisatory tropes, focusing instead on études, popular tunes, and occasionally excerpts from well-known compositions. What is more, no stenographer considered the thorny challenges arising from notating hallmarks of improvisation, such as rhythmic freedom, unconventional harmonic motion, or complex idiomatic textures. Music stenographers not only made promises they could not uphold, but seemed unaware of what they were promising in the first place.

Neither are stenographic treatises convincingly pitched to the aspiring composer or amateur, despite occasional marketing toward “diletantes.” Few music stenographers discuss the fact that their systems require a highly developed ear. The treatises assume that the stenographer can instantaneously parse melodies into intervallic content while also catching a melody’s rhythmic profile. Although these skills are common among highly trained musicians, stenographers rarely consider this prerequisite or the substantial investment of time, training, and professionalism it requires. Detailed explanations of how to train the hand in producing new symbols are rarely matched by discussions of training the ear. Yet for many aspiring music stenographers, an under-developed sense of musical hearing would have been

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60Baumgartner, Kurz gefasste Anleitung, 1; Prévost, Sténographie musicale, 2. Prévost advertised courses in music stenography to take place in the Galerie Vivienne, and they were marketed especially to women: “Prospectus: Cours de sténographie musicale,” Revue musicale 7, no. 9 (1833): 71.
61Baumgartner, Kurz gefasste Anleitung, 35–38. Adalbert de Rambures’s stenography is an intriguing exception to this claim. Rambures believed that a stenographic notation could facilitate the early stages of musical instruction, thus echoing notation reformers’ calls for a more accessible system of reading. Once the students had graduated to use of conventional notation, they would retain the stenographic system for recording new musical ideas. Eager to expand musical literacy, Rambures evidently tested his ideas on the inhabitants of Vaudricourt, a small town in northern France. See Adalbert de Rambures, Sténographie musicale (Abbeville: Paillart, 1843).

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the greatest barrier to capturing musical thoughts in real time.

By addressing neither the demands of seasoned composers nor the needs of aspiring musicians, music stenographies were more or less dead on arrival. Their lengthy persistence in the margins of musical culture cannot be explained as a felicitous response to a real need. What led so many tinkerers to enthusiastically (and largely independently) stumble into the same dead end? Why would improvements to the technical expedients of composition fascinate non-composers? Answering these questions requires a shift in perspective from that of the stenographic treatises themselves to the wider technological and medial landscape of the day. For however marginal music stenography remained, its speech analog was extremely popular and widely practiced into the twentieth century. Taking into account this context reveals that music stenography’s serial reinventions are more accurately viewed as adaptations of speech stenography into a musical domain. Seen in this light, the question of its persistence can be reframed: what did music stenographers believe speech stenography had accomplished, and why did they believe that the creation of musical texts would be aided by a similar technology?

The roots of stenography may be traced to the secretarial culture of the Roman Empire and to Tironian notes, a system of abbreviations through which Cicero’s secretary recorded his master’s speeches and correspondence. By the late nineteenth century, however, stenography’s origins in a scribal elite were long vanished, replaced by its widespread and everyday application. Stenography proliferated through a ricochet of adaptations, as systems were translated between English, French, German, Italian, and so on, while individual stenographers improved old systems and several developed their own. Special associations were formed to help in its propagation, lavish international congresses debated its finer points, and its advocates built their own hagiographies of forebears and innovators. By the turn of the twentieth century, over twenty cities had streets named after Franz Xaver Gabelsberger, a leading German stenographer [and Baumgartner’s inspiration]. As late as 1971, McGraw-Hill published a practical textbook on the subject. As a technical craft, stenography required considerable training. Yet it could be learned through correspondence courses and mastered through assiduous independent study. Thousands of novices were drawn to stenography’s self-taught ethos, close alignment with narratives of societal progress, and promises of financial betterment.

While stenography could help facilitate commercial or personal record keeping, the prestige accorded to real-time recording derived largely from its use in law and in politics. Stenography’s popularization across the nineteenth century followed in the footsteps of democratic reform, whether in July Monarchy France, or in German lands, where Gabelsberger’s first forays were inspired by the 1818 constitution in Bavaria and by its new, bicameral parliament. By 1877, legislative debates in the United States, Canada, India, and across Europe were recorded by teams of stenographers, who would work in shifts to transcribe and check one another’s work for verbatim accuracy. So too, was its force felt in public life—at least for the Earl of

63H. C. Teitler, Notarii and Exceptores: An Inquiry into Role [sic] and Significance of Shorthand Writers in the Imperial and Ecclesiastical Bureaucracy of the Roman Empire [Amsterdam: J. C. Gieben, 1985].

Rosebery (and future Prime Minister)—who saw stenographers as a “tremendous tribunal before which every public speaker has to appear, who sharpen their pencils as if they were poniards, and whose record there is no angel whatever to blot out with a tear.”

The distinct national chronologies for the propagation of speech stenography were unified by an underlying increase in demand for print media and a growing concern for the new and newsworthy. As Jürgen Habermas has famously argued, a bolstered density of trade relations and the formation of a public sphere were supported by the rapid circulation of information, placing added weight on print as a medium for public opinion. For Benedict Anderson, the proliferation of “print capitalism” built novel commonalities of experience among those separated by geographic distance, a paradoxically impersonal community undergirded in no small part by the unceasing circulation of newspapers. As parliamentary recorders and newspaper reporters, stenographers were closely allied with these developments. In addition, stenography capitalized on emerging shifts in temporal experience, in which the past became distinctly other and the future promised unrealized potential. As Reinhart Koselleck observes, this era was “impregnated with the difference which was torn open between one’s own time and that of the future, between previous experience and the expectations of what was to come.” Thus, membership in the political public expanded at the same moment that this community seemed to be progressing toward an open-ended modernity; print technologies promised to coordinate and inform against the background of expanding physical and temporal distances.

Stenography played a crucial, if often invisible, role in this print culture. Capturing speech in real-time could promise to bring concrete statements and acts into wide and immediate circulation. While printing provided the armature for distribution, stenography enabled print to encompass real-time speech. In the self-aggrandizing view of the English stenographer Sir Isaac Pitman (1813–97, knighted in 1894), stenography was nothing less than the guarantor of modern democracy: “Speaking in a general way, without Stenography, there would be no reporters—without reporters, no newspapers—without newspapers, no readers—and without readers, England would be thrown back two or three centuries in the march of civilization.”

In this slippery-slope argument, England’s national power was indebted not only to the circulation of newspapers, but ultimately to the ability of reporters to notate words and ideas on the fly. Real-time documentation was the first link in this chain of mediations, capturing events as they unfolded. Stenography converted “non-discursive reality” into “discourse.” In so doing, however, the stenographer always served a wider audience; he, in the words of the Earl of Rosebery, “appears as the visible conscience of the public man.” To be sure, a concern for permanence also drove stenographic efforts, which could afford transient speech a lasting place in the printed record. But stenography’s greatest promise was to more fully enable textual dissemination, and thus to help the public sphere to better understand and scrutinize the workings of politics. Thanks to stenography, printing could relay momentary words and fleeting acts to an impersonal read-

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75Transactions of the First International Shorthand Congress, 1.

ership, promising dispersed citizens some measure of democratic accountability.

Prévost’s career reflects stenography’s rapid rise in social prestige and newfound proximity to power. Born in 1808, Prévost and his family suffered financial setbacks that led him to study mathematics with the aim of entering the navy. During these studies, he first encountered Théodore-Pierre Bertin’s stenographic method and soon improved it. In 1825 he started teaching lucrative courses in his own stenographic system, which he soon published. In 1828 he began his career as a parliamentary stenographer, first with the Messager des chambres, the following year with Temps, and in 1830, with the Moniteur universel, which reproduced parliamentary debates with rigor and exactitude. In 1843 Prévost was decorated as a Knight of the Legion of Honor and from 1848 he was a government functionary.78 His system outlived him, becoming the basis of the popular Prévost-Delaunay stenography. He was also a frequent music critic and amateur violinist.79 Thus Prévost developed his music stenography at a relatively early point in a career spent at the cutting-edge of textual technologies and their successful application to the political stage.

Music stenographers explicitly justified their efforts by drawing parallels between speech and music. Some treatises, such as Holdsworth and Aldridge’s 1768 Natural Short-Hand, rehashed ancient analogies between music and language—in this case, by confining music stenography to an appendix devoted to “inarticulate sounds.”780 For others, however, the commonalities between speech and music were distinctly modern. For E. T. T. Vidal, printing and writing had led to marked advances in knowledge, but music had yet to profit fully from the transformations in print circulation.81 Eisenmenger likewise believed that music was missing out on the progress brought about by textual technologies, noting that thanks to the formidable combination of alphabetic writing and the printing press “thought” could “multiply in a marvelous manner, and that, traversing—as if in flight—kingdoms, rivers, and oceans, it speaks at once to all the nations and is conserved for all time.”82 Of course, conventional notation had accompanied music into the era of print and bred its own resonances.83 Yet, Vidal and Eisenmenger imply that conventional notation limited the scope of musical information entering print. The vague promise of music stenography was to chip away at the constrictions blocking the entry of more original ideas into circulation and, hence, realize the full potential of the textual revolution in music.84

Nor was it only music stenographers who saw their inventions through narratives of unchecked progress brought about by writing itself. For one critic writing in the Allgemeine musikalische Zeitung in advance of the German publication of Prévost’s treatise, music stenography conjured dreams of musical progress: “Many Parisian artists have realized that stenography will cause a complete revolution in music. We also believe this. What brilliant works will we receive then, that otherwise died in the inkwell because of slow notation!”85

78Eisenmenger, Traité, 11: “elle [la pensée] se multiplie d’une manière merveilleuse, et que, traversant comme au vol les royaumes, les fleuves, et les mers, elle parle à la fois à toutes les nations, et se conserve pour tous les âges.”
80It was less common for speech stenographies to note parallels to music. However, in a reversal of the dominant technological flow, Auguste Bertini’s Stigmatographie, ou l’art d’écritre avec des points (Paris: Martinet, [1812]) uses the five-line staff to phonetically notate the French language. Isaac Pitman, a lifelong advocate of phonetic spelling reform, was also attuned to the shared sonic dimension of music and speech, although he did not pursue music stenography. Henry Pitman, Hints on Lecturing, 79.

80Havette, Bibliographie, 162. He used the pseudonyms G. Crocius and Paul Kolbert.
81William Holdsworth and William Aldridge, Natural Short-Hand [London: the authors, 1768], 71–78.
But revolutions are dangerous: “What will become of our music publishers in the future?” the critic wondered; “If one can write down entire pieces in so short a time, who will then still buy expensive scores?—and finally, what will happen with our composers? Who will buy works from them?”

Music stenography would fundamentally revise not only the quality of works, but also the print-based system through which works are created, disseminated, and consumed.

Some twenty years later, anxieties about opening the floodgates of easily reproduced music had grown even stronger:

If after the performance of a new opera both composers and music publishers had reached a publishing agreement, the astute stenographer would have sold the best melodies from the opera to every Tom, Dick, and Harry already long before the appearance of the score, and would have made a considerable business with many people, from music sellers all the way to organ grinders. And how perplexed would German composers be if they could not immediately find a publisher for one of their works, e.g., a symphony, in their homeland, and suddenly they received it shipped in neat print from Paris or London or Milan, or from New York and Boston.

In addition to exacerbating headaches over nineteenth-century piracy and copyright law, music stenography would promise to put new music into wide and virtually unregulated circulation.

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86”Musicalische Stenographie,” Allgemeine musikalische Zeitung 35, no. 19 (1833): 321–22: “Was wird in Zukunft aus unseren Musikalien-Verlegern werden? Wenn man in so kurzer Zeit ganze Stücke abschreiben kann, wer wird dann noch die teuern Noten kaufen?—Und was wird endlich aus den Componisten? Wer soll ihnen die Werke abkaufen?”


89Dance saw far fewer such attempts, perhaps due to its lack of a developed textuality or longstanding parallels with language. Arthur Saint-Léon’s La Sténochorégraphie ou art d’écrire promptement la danse [Paris: Brandus, 1852] includes little discussion of real-time recording; the “sténo” of the title indicates rather a system of notation for ballet.

90Charles Grelinger, La Sténographie musicale [Paris: Smit, 1918], 6: “Qui sait si ces grands maîtres auraient dédaigné la sténographie musicale? et qui sait s’ils n’avaient pas à eux une méthode ou un moyen de noter leurs impressions, et qu’ils ont négligé de nous transmettre?”
If my interpretation is correct, then the practical preoccupations of music stenographies with composition obscure their insights as extended theoretical reflections on the technical infrastructure of musical mediation in the print era. Stenographers focused their attention on the most charged link within the process of textual dissemination—the moment at which immaterial ideas become text. This is the limit point of textual mediation: before this border, only the mercurial creative process has sway, while after it, printing and publishing gradually take over. In proffering new techniques for capturing unmediated inspiration, stenographers dreamed of tearing down this border by extending textual dissemination to the ever-receding point of initial musical inception. Stenographers’ propensity for re-notating others’ ideas in new and striking symbols suggests that their systems supplied reverse justifications for how music came into being, as if to suggest that these ideas could have been so conceived. Presented as experiments with writing itself, music stenography developed elaborate fantasies about the origin of musical texts.

Stenographic attempts reveal that the dissemination of print did not run only from composer to listener in a unidirectional stream of emboldened composerly intentions, but ignited the imagination of those who consumed texts, inspiring them to consider how the material objects from which they played and performed had been created in the first place. To be sure, music stenographies show that a belief in musical genius as the originating force behind musical composition was a longstanding obsession for musicians. But the continued attempts to breach the barrier between genius and text suggest how strongly mid-nineteenth-century medial conditions consigned genius to a realm beyond the page, just barely out of textual reach, thereby rendering composers’ inspiration mysterious, all-powerful, and ultimately unpossessable.

Textual Recording Technology

From quills and staves to stenographies and presses, systems of musical textuality permeated popular awareness well into the era of the phonograph and mechanical sound. As music stenography’s mutable durability reveals, the translation from sound to sign demanded the trained mind and hand of an able interpreter, skills as indispensable in the eighteenth century as they were in the twentieth. Mechanical recording did little to facilitate the writing of sound. Rather, symbolic and indexical recording followed distinct, and seemingly mutually unintelligible, technical logics. To a considerable degree, the coexistence of these two regimes for encoding sound still colors our own evaluations of the past: on the one hand, the staff-based musical notation of the mid-nineteenth century continues to reign as the default mode of recording musical ideas on paper, suggesting that the function of musical writing was the same then as it is now. To this day, first-year music students are trained in the dutiful translation of sounds into notation; perhaps their impromptu squiggles are the last vestiges of the stenographic project. On the other hand, textuality’s one-time monopoly on sonic inscription has been supplanted by present-day listening practices that are dominated by the heirs of mechanical sonic reproduction. As a result, older valences of print culture have grown murky, equally obscured by the seeming continuity of musical writing across the last two centuries and by the propensity to implicitly evaluate texts by the standards of mechanical recording. The vibrancy of past technologies is clouded by writing’s simultaneous familiarity and remoteness.

Music stenography offers one microcosmic view into this textual past. As we have seen, its attempts to improve conventional musical writing gravitated back toward the assumptions of received notational practice. The stenographers’ conceptions of sonic possibility were delimited by the scope of their own musical literacy. Yet stenographies simultaneously expose how the purported inadequacies of symbolic writing—whether in the form of conventional notation or stenographic systems—emboldened beliefs in sound’s chimeric presence. The elusiveness of real-time capture opened a realm of unchecked imagination that could ennable inchoate musical ideas independently of their often ill-defined musical qualities. Such a fertile imaginative process could also extend backwards—behind the page, as it were—to the bor-
der between text and musical mind. In so doing, stenographers reveal how the textual reprod-
cuibility of musical ideas, a process alleged-
edly controlled by the composer, bred a desire
to both narrate and influence the moment of primal
inception. Their experiments lead to
questions that are perhaps as fundamental as
they are unanswerable: could stenographers
splitter music into sign and sound? Or rather—
did written signs authorize musicians’ fantas-
ies, just as sounded music carried fingerprints
textuality within it?

With stenography, an alternative path
through the history of sound comes into focus:
sound recording ceases to be exclusively an
external technology, whose impact on musical
culture must be described and measured. Mus-
ic stenography reveals instead that the con-
cepts of sonic fixity, reproducibility, and me-
ediation have long coursed through the veins of
modern literate music-making, endowing it
with permanence and creative affordance. Texts
construct ideas of sound, molding its character
and delimiting its conceptual boundaries. To
be clear, this conclusion is not based on music
stenography’s success, nor on appeals to its
status as a long-lost link in received narratives
of sound recording. Rather, it is music
stenography’s myriad shortcomings and inad-
equacies that make visible long-obsolete dimen-
sions of sonic textuality. When so decentered
from heroic inventions and individuals, a his-
tory of sound recording re-emerges in the inti-
mate moments of play that bind material tech-
iques with ideal imaginings.

Could this paradigm of textual recording also
eucidate early attempts at mechanical sound
inscription? One answer to this question is pro-
vided by the case of Édouard-Léon Scott de
Martinville, an enigmatic French inventor who
occupies a conflicted position at the intersec-
tion of indexical and symbolic recording. Scott’s
phonautograph inscribed melodies and speech
by using a membrane modeled on the human
ear. The device transformed sound waves into
oscillations and delicately etched them onto
rag paper darkened with lamp-black.91 Long ac-
nowledged as the first to transcribe sounds
through their physical substratum, Scott
showed no interest in sound reproduction, but
rather believed that his invention would “forcer[e]
nature herself to constitute a written general
language of all sounds.”92 His goal was “not to
repeat, but to write speech.”93 As a result of
this focus, his phonautograms have been seen
as sound recordings manqués, in need of coax-
ing into playback through optical imaging and
a digital stylus.94 When viewed through the
prism of a nonteleological account of textual
recording, however, Scott’s attempts reveal how
the binary between inscribable and noninscrib-
able acted as a motor for sonic exploration. In
1849 his Histoire de la sténographie endorsed a
dream shared by many music stenographers.
Who would not want, he asks, “a way of in-
stantaneously collecting that which strikes him
in a speech, in an improvisation, in a scenic
representation? A way that would permit the
poet, dramatist, novelist, to fix at will his bril-
liant inspirations, that are always so fleeting,
that sometimes come to brighten his mind,
and that he regrets not being able to find in his
memory in their first color.”95 Later in the
Histoire, Scott notes that attempts at instanta-

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91Thomas L. Hankins and Robert J. Silverman, Instruments
and the Imagination [Princeton: Princeton University Press,

1995], 133–37, Patrick Feaster, “Édouard-Léon Scott de
Martinville: An Annotated Discography,” ARSC Journal
41/1 (2010): 43–82.
92The Phonautographic Manuscripts of Édouard-Léon Scott
firstsounds.org/publications/articles/Phonautographic-
Manuscripts.pdf, 24.
93Edouard-Léon Scott de Martinville, Le Problème de la
parole s’écrivant elle-même [Paris: the author, 1878], 4
(“non pour répéter, mais pour écrire la parole”).
94Sterne, The Audible Past, 45–46: “Scott maintained a
monomaniacal emphasis on writing . . . His inability to
see even the Edison phonograph as a major improvement
on his own device was an artifact of a monomaniacal fo-
cus on writing, on the product of the machine.” On the
playback on Scott’s recordings, see Jody Rosen, “Research-
ers Play Tune Recorded before Edison,” New York Times,
27soun.html?hp; “Our Research: Édouard-Léon Scott de
95Edouard-Léon| Scott de Martinville, Histoire de la
sténographie [Paris: Tondeur, 1849], 7: “un moyen de
recueillir instantanément ce qui le frappe dans un discours,
dans une improvisation, dans une représentation scénique!
d’un moyen qui permettrait au poète, au dramatiste, au
romancier, de fixer à volonté ses inspirations brillantes,
mais toujours si fugitives, qui parfois viennent illuminer
son esprit, et qu’il a le regret de ne pouvoir retrouver dans
des souvenirs sous leur couleur première.”
neous collection faced barriers erected by the human writer of sounds. “I cannot deny stenographers, but I deny stenography. . . . Since Paganini, for example, is able to execute a concerto on the E string of the violin, does it follow that this tour de force belongs to the art of playing this instrument?”96 Through this analogy, Scott meant that although each virtuoso stenographer could develop an individual means of capturing speech, these techniques did not add up to a set of general principles of stenography any more than Paganini’s performances could provide general rules for aspiring musicians. Similarly, the inventor of a music stenography was often the only person able to master or deploy it, each invention’s momentum foreclosed by the idiosyncratic techniques it required. Writing depends on the person who wields it.

Music plays a central role in Scott’s thinking. In his earliest text on mechanical sound recording, “Principes de phonautographie,” he proposes a “natural stenography,” which could also inscribe the sound that music stenographers had coveted: “Can it be hoped that the day is near when the musical phrase, escaped from the singer’s lips, will be written by itself and as if without the musician’s knowledge on a docile paper and leave an imperishable trace of those fugitive melodies which the memory no longer finds when it seeks them?”97 Scott reflects the predominant concerns with text itself as a form of technological inscription and reproduction. Yet, writing based on sound itself would have important advantages over that of its alphabetic counterpart: “Our current writing expresses but one only of the modes according to which the voice represents thought; it is suited to representing nothing but articulation. Natural writing or stenography, of which here are the first rudiments, returns the rhythm, the expression thereof: it is a function of tone [tonalité], of intensity, of timbre, of meter [mesure].”98 Musical metaphors permeate Scott’s prose. The binary between dead textuality and life-imbued sound gains force through recourse to a musical vocabulary. It is the excess—the overflows beyond the signs—of both speech and music that interest him. Like the stenographers, he was pushed by the indelible sense of expressivity that seemed both authorized by and unachievable through the systems of writing that he knew. To understand his work as proto-recordings washes out this aesthetic of textuality, replacing it with the familiar experience of listening to technically unrefined recordings. Such a view diminishes our hearing—or rather, our sonic imagination. Through their experiments with page and trace, both Scott and the music stenographers dreamed of signs that would asymptotically approach the condition of heard or imagined sound. Neither succeeded. But in so fantasizing, they reveal the creative power wrought from the incommensurability of sign and sound. Has this power disappeared?

Abstract.

Music shorthand systems devised by Michel Woldemar, Hippolyte Prévost, and August Baumgartner adapted the quill strokes of speech stenography to the seemingly analogous domain of music. Eschewing conventional staff notation in favor of cursive lines that indicated pitch, register, interval, and duration, music stenographers endeavored to record in real time instrumental improvisations and fleeting inspirations that would otherwise have been lost forever due to a lack of recording technology. To advocates of such methods, more efficient technologies of musical writing were indispensable for capturing fugitive musical thoughts and acts: music stenography aided Hector Berlioz, for example, in the composition of his Requiem. For others, including Rossini, Fétis, and contributors to the Allgemeine musikalische Zeitung, the claims and merits of stenography were a source of controversy as well as fascination.

Grounded in a corpus of seventy music stenographies that have been largely ignored by musicologists and historians of technology alike, this article asks how musical intuitions became musical texts, thereby entering print-based networks of circulation. Although the importance of “genius” and “work” as historical concepts regulating the production, ontol-
19TH CENTURY MUSIC

ogy, and reception of nineteenth-century music has long been acknowledged, the material basis of these concepts has been overlooked until recently. The efforts of musical stenographers demonstrate that the inscription and circulation of material texts provided the means by which musical inspiration could be registered and stored, constituting a material substrate on which such idealist concepts depended.

Whereas historians of sound recording have focused on seismic historical and cultural shifts wrought by the introduction of the phonograph in 1877, the preoccupation with capturing music in the decades preceding and following this date suggests an alternate conception of text-based sound recording. Keywords: music stenography, sound recording, print culture, media archaeology, improvisation.

Appendix

Music Stenographies

Entries with an asterisk have been lost, destroyed, or were otherwise unavailable for consultation. Entries whose year and authors are set in italics have been consulted through the summaries provided in Johannes Wolf, Handbuch der Notationskunde, vol. 2 [Leipzig: Breitkopf & Härtel, 1919], 419–49. All others were consulted in their original form.

<table>
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<tr>
<th>YEAR</th>
<th>AUTHORS</th>
<th>TITLE</th>
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<tbody>
<tr>
<td>1768</td>
<td>William Holdsworth and William Aldridge</td>
<td>Natural short-hand . . . to which is annexed a shorthand character for expressing musical, or inarticulate sounds, without the use of ruled lines</td>
<td>London: the authors</td>
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<td>1787</td>
<td>Simon George Bordley</td>
<td>Cadmus Britannicus; or, the art of writing improved, pp. 23–26</td>
<td>London: the author</td>
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<td>’1787</td>
<td>Coulon de Thévenot</td>
<td>Moyen facile d’écrire la musique et de noter un air aussi, vite qu’on le chante</td>
<td>Paris: the author</td>
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<td>1794</td>
<td>Louis-Joseph Francoeur</td>
<td>Tachygraphie ou sténographie musicale</td>
<td>Autograph manuscript. Bibliothèque nationale de France, MS-1844</td>
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<td>1798</td>
<td>Michel Woldemar</td>
<td>Tableau mélo–tachygraphique</td>
<td>Paris: Cochet</td>
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<td>1805</td>
<td>Pierre Joubert de la Salette</td>
<td>Sténographie musicale</td>
<td>Paris: Coujon</td>
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<td>1812</td>
<td>Auguste Bertini</td>
<td>Stigmatographie, ou l’art d’écrire avec des points. Suivie de Mélographie, nouvelle manière de noter la musique</td>
<td>Paris: Martinet</td>
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<td>1822</td>
<td>John Marsh</td>
<td>“Hints on a kind of musical shorthand”</td>
<td>In Quarterly Musical Magazine and Review vol. 4: 150–53.</td>
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<tr>
<td>1827</td>
<td>Robert Milne</td>
<td>Harmonical stenography; or, a short way of writing music</td>
<td>Edinburgh: the author</td>
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<td>1831</td>
<td>Sophie Scott</td>
<td>Homographie, pp. 50–63</td>
<td>Vienna: Adolph</td>
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<td>1833</td>
<td>Francisco de Paula Martí and Angel Ramon Marti</td>
<td>Taquigrafía de la música, o arte de escribirla sin usar del pentágramo con igual exactitud que por el método usual, pudiéndose copiar por su medio una Sonata o una Aria mientras se toca o canta</td>
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<td>1833</td>
<td>Hippolyte Prévost</td>
<td>Sténographie musicale, ou art de suivre l’exécution musicale en écrivant</td>
<td>Paris: Prévost-Crocius</td>
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<td>Translated as: Musical stenography, or the art of following musical execution in short-hand</td>
<td>(London: Bossange, 1833); Stenografia musicale, o Arte di seguire l'esecuzione musicale scrivendo (Rome [?]: presso i principali librai, 1833); Musikalische Stenographie, oder die Kunst, die Musik so schnell zu schreiben als sie ausgeführt wird (Mainz: Schott, 1834); A System of musical stenography; whereby the auditor is enabled to note down any vocal or instrumental composition as rapidly and correctly as it is performed (London: Cocks and Co, 1849).</td>
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<td>1834</td>
<td>E. T. T. Vidal</td>
<td>Système de musique sténographique</td>
<td>Toulon: Baume</td>
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<td>1838</td>
<td>Michel Eisenmenger</td>
<td>Traité sur l’art graphique et la mécanique appliqués à la musique</td>
<td>Paris: Gosselin</td>
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<td>1839</td>
<td>P. A. Christophe</td>
<td>Sténographie lucrative, suivie d’une sténographie musicale</td>
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<td>ca. 1840 Vansynghel</td>
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<td>1842</td>
<td>Gaspare Romanò</td>
<td>Notazione stenografica musicale</td>
<td>Milan: Lucca</td>
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<td>1842</td>
<td>V. D. de Stains</td>
<td>Phonography; or, the Writing of Sounds</td>
<td>London: Wilson</td>
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<td>Bartolomeo Montanello</td>
<td>Intorno allo scrivere la musica</td>
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<td>ca. 1843 Adalbert de Rambures</td>
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<td>1844</td>
<td>J. A. Malatier</td>
<td>Citolégie et sténographie musicales: répertoire de musique vocale et instrumentale</td>
<td>Paris: Dictionnaire Universel</td>
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<td>1848</td>
<td>William Arthur Brown Lunn</td>
<td>A Manual of Sequentialism: being an exposition of the sequential system of musical notation; an improved method of signifying musical sounds on paper</td>
<td>London: Pitman</td>
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<td>1850</td>
<td>A. Busby</td>
<td>Exposition of a new method of writing music scientifically; and theoretic and stenographic railway for composition</td>
<td>London: W. Clowes &amp; Sons</td>
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<td>1853</td>
<td>Lodovico Roletti</td>
<td>Nuovo sistema di stenografia italiana e francese e nuovo meccanismo per la stenografia musicale</td>
<td>Alessandria: Luigi Capriolo</td>
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<td>1853</td>
<td>August Baumgartner</td>
<td>Kurz gefasste Anleitung zur musikalischen Stenographie oder Tonzeichenkunst</td>
<td>Munich: Franz</td>
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<td>1854</td>
<td>Thomas Mark Lucas</td>
<td>Music for the blind . . . in T. M Lucas’s stenographic characters as adapted to musical notation by W. Wood</td>
<td>London: the author [?]</td>
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<td>1854</td>
<td>C. Hermann</td>
<td>Über musikalische Stenographie</td>
<td>In Zeitschrift für Stenographie, Dr. Michaelis’ im zweiten Hefte des zweiten Jahrgangs</td>
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<td>Paris: Regnier-Canaux</td>
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<td>La Sténographie ordinaire et de la musique, extrêmement expéditive et complètement neuve</td>
<td>Paris: Regnier-Canaux</td>
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<td>1870</td>
<td>Augustin Grosselin</td>
<td><em>Alphabet sténographique de M. Auguste Grosselin.</em> Application des signes sténographiques à l’enseignement de la musique d’après la méthode simplifiée de M. L. Danel</td>
<td>Lille: Danel</td>
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<td>1872</td>
<td>Maurice Dépierre</td>
<td>Caractères servant à la notation de la musique appliquée et étudiée au moyen d’un système nouveau de claviers</td>
<td>Annecy: Burdet</td>
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<td>Antonio Aloysio</td>
<td>Nuovo sistema di notazione musicale che tende a facilitare la lettura, la esecuzione e la stampa della musica a tipi mobili</td>
<td>Venice: G. Cechini</td>
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<td>Jeremiah Wallis</td>
<td><em>Musical Shorthand</em></td>
<td>London [?]: Ryde</td>
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<td><em>Musikalische Stenographie</em></td>
<td><em>Harmonie, 1875, n. 22</em></td>
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<td>1875</td>
<td>Francis Rochard</td>
<td><em>Nouvelle Méthode de musique vocale, élémentaire, pratique</em></td>
<td>Paris: Société de musique alphabétique et sténographique</td>
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<td><em>Nouveau Système de notation pour la musique</em></td>
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<td>[Proposal for stenographic notation]</td>
<td>In <em>Magazin für Stenographie</em> 6, no. 19, p. 218</td>
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<td>Alex. M. Seymat</td>
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<td>1890</td>
<td>Léon Labatut</td>
<td><em>Méthode de sténographie musicale, ou la musique rendue facile par la suppression des portées et des clés</em></td>
<td>Condom, Gers: the author</td>
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<td><em>Original Manual Course for Reading Vocal Music at Sight. Known as the Affinity or Circle of Keys and Sound Circle, or System Steno-Phonetic</em></td>
<td>New York: the author</td>
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<td><em>Shorthand music: the simplest and most practical method of learning music extant</em></td>
<td>Windermere: H.C. Brookes</td>
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<td>1903</td>
<td>Louis le Corche</td>
<td><em>Harmonie sténographique ou la sténographie de l’harmonie musicale</em></td>
<td>Troyes: the author</td>
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<td>1903</td>
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<td>Chalon-sur-Saône: the author</td>
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<td><em>Reforma notového písma a hudební rychlopis</em></td>
<td>Prague: M. Urbánka</td>
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<td>1904</td>
<td>Enrico Mussa</td>
<td><em>Stenografia musicale: saggio di applicazione del sistema stenografico Gabelsberger alla notazione musicale</em></td>
<td>Turin</td>
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<td>1904</td>
<td>Clyde Edgar Sinn and Clarence E. Sinn</td>
<td><em>A self-instructing method of short hand musical notation</em></td>
<td>Chicago: the authors</td>
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<td><em>Méthode de sténographie musicale</em></td>
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<td>1908</td>
<td>S. E. Hunt</td>
<td><em>Trichrom Musical Notation. Compend of Trilinear Staff and Chromanumes</em></td>
<td>London: the author</td>
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<td>1908</td>
<td>Jan Michal Guminski</td>
<td><em>in Nieco wiadomości o stenografii, p. 60</em></td>
<td>Warsaw: Jan Fiszer</td>
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<td>1913</td>
<td>F. Raab</td>
<td><em>Stenonotie-Klavierschule zumeist nach Hohmann bearbeitet</em></td>
<td>Rothenburg: C. H. Trenkle</td>
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<td>1914</td>
<td>Ramón Andreu Bella</td>
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<td>Madrid: the author</td>
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<td>1915</td>
<td>Arthur Somervell</td>
<td><em>Shorthand for Musical Dictation</em></td>
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<td>1918</td>
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<td><em>La Sténographie musicale</em></td>
<td>Paris: Smit</td>
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<td>1922</td>
<td>Egidio Russo</td>
<td><em>La tonografia: stenografia musicale per tutti</em></td>
<td>Trieste: the author</td>
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<td>1922</td>
<td>Francis Taylor</td>
<td><em>Musical Shorthand for Composers, Students of Harmony, Counterpoint, etc., easily acquired, can be written very rapidly, is more legible than printed music</em></td>
<td>London: Reeves</td>
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<td>1927</td>
<td>Renato da Provenza, Angelo di Gosta</td>
<td><em>Stenografia musicale colorata del pensiero: arte di ricordare rapidamente con le musiche e i colori delle parole, delle immagini, delle idee</em></td>
<td>Piedimonte d’Alífe: La Bodoniana</td>
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<td>1932</td>
<td>Franck Sandaran</td>
<td>Méthode de sténographie musicale universelle</td>
<td>Arcachon: Graphica</td>
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<td>1940</td>
<td>Peter Kabala</td>
<td>Musical shorthand: a system of rapid musical notation</td>
<td>Wheeling, W. VA: the author</td>
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<td>1942</td>
<td>Charles Seelig</td>
<td>Semibreve Shorthand: A system of rapid musical script for taking down music from the voice</td>
<td>Wallington, Surrey: the author</td>
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<td>1947</td>
<td>Jack Levy</td>
<td>How to write music in shorthand in less than an hour</td>
<td>Johannesburg</td>
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<td>1949</td>
<td>Jean Kutahalian</td>
<td>La Sténographie de la musique</td>
<td>Marseille: the author</td>
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<td>1950</td>
<td>Emile Gouverneur</td>
<td>Traité complet de sténographie musicale</td>
<td>Brussels: Schott frères</td>
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**Andreas Giger:** “Svesti la giubba,” or, Uncloaking the Genesis of *Pagliacci*