Giovanni d’Avella’s *Regole di Musica*: A Defense of Gesualdo’s Chromaticism

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This dissertation provides the first critical reading and reassessment of Giovanni d’Avella’s *Regole di musica*. Written by a Neapolitan church music director from ca. 1610-1640, this treatise singularly bears witness to the censorship of Carlo Gesualdo’s *Responsoria* and a public demonstration in its defense. In contradistinction to all hypotheses about Gesualdo’s infamous chromaticism, d’Avella’s treatise reveals that Gesualdo employed out-of-tune sonorities as text-setting devices. Following d’Avella’s cue, new parallels are drawn between Gesualdo’s *Tenebrae* and the physico-theological reenactments of the crucifixion that Giambattista Marino performed with out-of-tune musical instruments in his contentious Holy Week orations, *Le dicerie sacre*. Harmonic, rhythmic, and text-underlay analyses of d’Avella’s musical citations indicate that Gesualdo endeavored to compose his *Responsoria* in accordance with post-Tridentine strictures and, moreover, Gesualdo assuredly did not stage his own tormented life in his musical telling of the Passion of Christ by means of extreme chromaticism. When placed within the context of the long sixteenth-century, Gesualdo’s out-of-tune sonorities in fact follow a long line of precedents in spiritual madrigals—even Palestrina’s 1581 book, long regarded as archetypal of Tridentine ideals. Further historical-theoretical concordances to this out-of-tune practice are found in *El melopeo y maestro* of Pietro Cerone, *L’Imperfettioni della moderna musica* of Artusi, and the *Musurgia universalis* of Athanasius Kircher. D’Avella’s polemical defense of Gesualdo was pedantic and invoked the sophisticated mathematical musical theories of the classical authority Boethius to supply incontrovertible reasons for Gesualdo’s chromaticism. His precisely indicated musical tunings and notations vastly differ from the theoretical music of Nicola Vicentino, whose imposing Ferrarese treatise, *L’Antica musica ridotta alla moderna prattica*, instigated many humanist yet, as I argue, extraneous ancient Greek explanations for Gesualdo’s harmonies. However, unexpected plagiarisms of the treatise on the Guidonian gamut in Francesco de Brugis’ *Graduale* ultimately undermine d’Avella’s theoretical credentials and pedagogical prescriptions for Gesualdo’s chromaticism. The insurmountable problems that d’Avella’s neo-Boethian and Guidonian theories posed his exceedingly few readers are gleaned from Giovanni Francesco Beccatelli’s scathing *Annotazioni* upon the *Regole* and, above all, Charles Burney’s “Gesualdo Controversy.” Beyond reconsidering d’Avella’s *Regole*, the dissertation calls for new performance practices of Gesualdo’s chromatic music.
For my mother and father
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The motivation for this dissertation stems from my very first music theory project on Monteverdi and Gesualdo in the studio of Robert Cogan at the New England Conservatory. Those of us involved would probably agree it was not the most successful of projects. Therefore, I am especially pleased that it is now starting to bear fruit. For the analytical, theoretical, and historical-theoretical training required to unlock the secret of Gesualdo’s chromaticism, I am indebted to my teacher Robert Cogan and his partner Pozzi Escot. I am all the more indebted to them for opening me up to the world of music and the promises and challenges it offers.

My initially unpromising Monteverdi and Gesualdo project got a tremendous boost at Princeton University during Wendy Heller’s seminar on Monteverdi’s operas. I’ve since greatly appreciated Wendy’s enthusiasm for this project and hope I have not tried her patience too much with too many emails about how it could develop here and there, after the dissertation. At the same time, I have maintained a pluralistic research agenda (even at the immediate expense of writing about Monteverdi and Gesualdo) throughout my time at Princeton, and I express my deepest gratitude to Kofi Agawu for his encouragement and patience in this domain. I already miss our theory hangouts with Chris Matthay and Sam Mukherji very much. To Scott Burnham, I mostly owe an apology, because my Beethoven project faltered. But I promise to return to it (like Monteverdi and Gesualdo). I remain most impressed that a Clevelander could name the ’93 Phillies roster from memory. For the opportunity to demonstrate the musical metaphysics of splitting the atom to our Cold War musicological allies at the very end of music history, I thank Simon Morrison. Indeed, a Princetonian air of “it’s not nuclear physics” still hovers over my Italian renaissance dissertation—so defining a moment that conference was for me in my early scholarly career. To Rob Wegman, I owe a “Fumeux fiume” article for his unflinching support of my early music interests and his valiant seminar on Boethius. I have every confidence he will reveal the identity of Anonymous IV. To repay Peter Jeffery’s eagerness to stay up late into the AMS night to look through with me an unknown renaissance treatise that calculates afresh the interval between an octave and 53 fifths, I shall offer the Roman and Ambrosian chant discoveries I made in Gesualdo’s Responsoria (but was not able to incorporate into this dissertation). Likewise, I have not yet incorporated any hypercubes into Gesualdo studies, but look forward to seeing Dmitri Tymoczko again in the group theory field. As I “chuck” this dissertation to enter the “now,” I thank Dan Trueman for the chance to join in with the composers (something musicologists really should do more of). Last, but not least, I thank Dr. Heba and Emmanuel Papoutsakis for the Arabic and Syriac skills I will definitely be taking to Italy with me.
Introduction; Or, a World-Wide Wild Wolf Chase and its Catches

There have been various conjectures on the tuning and temperament of Gesualdo’s extreme chromaticism (and the chromatic madrigal and motet repertoire at large), whether just-intonation and its closely related extended mean-tone temperaments, Vicentino’s particular extended mean-tone temperament and its closely related 31-tone equal-temperament, 12-tone equal-temperament, or that Gesualdo’s chromaticism was abstract and not dependent upon tuning and temperament at all (and, by extension, instrumental reference).¹ The present dissertation is founded upon yet another conjecture: Gesualdo’s extreme chromaticism was in a common-practice 12-tone mean-tone temperament with the syntonic comma practically distributed without theoretical and mathematical concern, the wolf fifth fixed between E-flat and G-sharp, and the out-of-tune sonorities employed as text-setting devices. It follows from this conjecture that Gesualdo’s chromatic notation must be acoustically false.

This potentially radical conjecture, that Gesualdo’s chromaticism is supposed to be out-of-tune to express the text, has, so far as I am aware, never before been seriously (if at all) advanced in historical, theoretical, and practical domains alike. There are several reasons for

this: First of all, 12-tone mean-tone temperament simply does not match Gesualdo’s indicated notations. Second, it is extremely dubious from a psycho-acoustical perspective that a capella madrigals and motets that predate Monteverdi’s unprecedented concerted style could be sung out-of-tune in 12-tone mean-tone temperament without an intrusive instrumental accompaniment. Third, the mean-tone wolf is simply intolerable to our ears—as are the already commonly out-of-tune performances of Gesualdo’s extremely difficult chromaticism without the wolf’s instigation. Fourth, there are no known historical sources from within this most esoteric repertoire’s confines that indicate that Gesualdo’s chromaticism was conceived out-of-tune, nevertheless in a specific 12-tone mean-tone temperament. Finally, there are no known historical sources from the fifteenth-century through the eighteenth-century that indicate that any unaccompanied vocal music was conceived with the mean-tone wolf, no matter the widespread commonality of the temperament. So, upon what basis might one found and develop this potentially radical conjecture without it becoming a conspiracy music theory?

In my understanding, there is only one means to make this conjecture into a sound argument; but there are, however, two different paths to this means. Either a) one theorizes through music analysis that Gesualdo employed the mean-tone wolf as a text-setting device and then validates this theory by turning up a new and extraordinary historical source on Gesualdo’s chromaticism in substantiation, or b) one surprisingly turns up a new and extraordinary historical source on Gesualdo’s chromaticism that indicates he employed the mean-tone wolf as a text-setting device without that theory in place first and then corroborates this source by means of musical analysis. No matter which path one takes, I suspect that turning up the primary source is essential to keeping the conjecture from dwindling into an academically unrespectable conspiracy theory—so “too risky” is the conjecture, as one commentator put it to me.
I myself went down path “a.” The first stretch of this path began with finding an indisputable mean-tone wolf in Monteverdi’s operas (Example Twenty in Chapter Four). This discovery immediately turned the red light green at the path’s starting line to analyze Monteverdi’s madrigals for the text-setting origins of this operatic wolf and re-examine the Monteverdi-Artusi Controversy and its original underpinnings on tuning and temperament. As I detail in Chapter Four, Artusi did not censure any wolves in madrigals, even though he did abstractly (i.e.: without any musical examples) condemn out-of-tune mean-tone tempered intervals as “imperfections.” Having found some possible out-of-tune mean-tonal text-settings in Monteverdi’s madrigals (when Tancredi stabs Clorinda, among a few others), the next stop light on path “a” turned green. Slowly passing along towards the next light, I thought I saw as many wolves in Gesualdo’s fourth, fifth, and sixth books of madrigals as there were “morti”—a thousand, if not more. The next light was blinking a cautious yellow; for the next stretch of path “a,” as one might imagine, could be nothing else but a series of wild wolf chases across the entire renaissance European madrigal and motet repertoire, its accompanying theoretical literature, the modern historical, theoretical, and practical literature and recordings, as well as the traditional Hebrew, Turkish, Arabic, Persian, and Hindustani repertoires (often rich in their tuning inflections—albeit not mean-tone tempered), and their accompanying classical theoretical literature. After all, Monteverdi, in a letter to Doni, had expressed particular fascination with the sounds of Turkish instruments he had once heard. Although I caught numerous possible wolves in the musical repertoire (including a historically-theoretically critical one by Costanzo Porta, placed in Chapter Four, among others), the renaissance theoretical literature bag came up (not surprisingly) empty on the first series of chases, as did the modern scholarship bag. To be sure, there are a few other modern theorists who conjectured that Gesualdo’s first three books of

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madrigals were in 12-tone mean-tone temperament—but none who ventured so far as to posit that any of the madrigalists were setting the wolf loose. 3 Inevitably, my un-wieldy trip down path “a,” having enjoyed some synchronized green lights, hit a long red light followed by the age-old renaissance music primary source pot-holes, now surrounded by the leading chromatic harmony theorists holding up “do not pass” signs. What was worse, nobody was making it through this light from the opposite direction, path “b.” From what I could make out in the distance, all the traffic from the archives of Ferrara, Naples, and the other seconda prattica centers had to have jammed somewhere long before this light. The mail of “A Newly Discovered Source” articles on chromatic madrigals and renaissance treatises from those on path “b” was not being delivered to those wandering about on any version of path “a.” We might call this particular empty stretch between where Gesualdo theory and history paths seem to hit dead-ends and never meet, where many confusions and irresolvable disagreements arise on the theoretical paths and their critical-analytical side-roads due to no authoritative news otherwise from path “b” historians, the root of the so-called “Gesualdo Controversy.”

Disappointed with my catch on path “a” and not willing to enter a possible conspiracy theory as is into the “Gesualdo Controversy,” it was time to turn around. Of course, that meant going by all those madrigals and treatises once more, making a year-long trip bitterly twice as long. Seeing all those wolves again, still without any historical evidence for their material existence, was, no matter the prospect of a discovery on the second way around, disillusioning in the least. But as I reached the starting point of path “a” coming from the direction of path “b,” I realized I had perhaps over-confidently set out on my historical-theoretical safari through renaissance Europe. This terrain was long mostly mapped out before my times by those on “b”

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paths and I thought I already knew from those explorers all the sights; but it may have been too presumptuous of me not to have first read and brought along the now dusty maps to renaissance musicology: RISM and Census-Catalogue of Manuscript Sources of Polyphonic Music, 1400-1550. After all, those on “b” paths did not start out on as extremely conjectural an “a” path as mine. It was a long shot, but they might have encountered and cited such a primary source as I was looking for; but, not recognizing what they were looking at, had inadvertently described the source incorrectly. Looking through RISM, I found, much to my surprise, a renaissance Italian treatise I had never heard of before, a *Regole di Musica* by Giovanni d’Avella. Lo and behold, my world-wide wolf hunt had come to a successful end at last as I crossed the path “a” starting-line. Not only that, there were almost forty surviving copies of this source and it was even looked at and cited by no-less than both Gesualdo’s most critical controversialist Burney and his most devoted historian Watkins. Veering around and speeding past all the thousands of Gesualdo’s wolves I had now seen three times, the stubborn red light on path “a” was taken down, the pot holes paved, and the leading chromatic harmony theorists waving on like a third bass coach towards the path “b” finish line.

The primary purpose of this dissertation is to provide a preliminary reassessment and read-through of d’Avella’s *Regole*. The dissertation does not presume to have arrived at a critical edition and translation; for, although d’Avella’s Italian prose is by and large most comprehensible, many of its specific lexicographical and syntactical problems require more focused inquiry and on-site research than a year treating the book with even the utmost skepticism has allowed. Ideally, such a final product will have had d’Avella’s original manuscripts (now lost) incorporated, as the *Regole*, we shall see, was variously compiled over thirty years and has many seams showing. These may or may not surface, considering the
destruction and dispersal of the monastic libraries during the nineteenth-century political revolutions, among other considerations.

Although d’Avella’s prose is mostly comprehensible, there are several obstacles in his treatise that obscured his contemporary proximity to Gesualdo, his theoretical explanations of what he heard in Gesualdo’s music, and his pedagogical prescriptions for Gesualdo’s chromaticism from his past and present readers. First and foremost is the 1657 Roman stamp on the Regole’s cover page that does not immediately place d’Avella within Gesualdo’s lifetime in Gesualdo’s native Naples. His prose, however, does position him as such. Second, a very mythological telling of ancient music history permeates throughout the Regole and blurs into the Neapolitan present, with which the reader must contend. Indeed, his attributions of various Guidonian hands to ancient philosophers like Plato, Aristotle, and Boethius led most of his few readers to fixate on these names and—rather extraordinarily, it seems to me—all but ignore the names Prince of Venosa, Giuseppe Pilonio, Scipione Stella, Pomponio Nenna, among others. Alongside that mythological history, d’Avella’s incredible speculations on the harmony of the spheres following certain astronomical events in the 1630’s come to influence retrospectively the composition of Gesualdo’s music and its perception. Third, he did not have access to much of Gesualdo’s music in print; therefore, his musical citations are limited and, if not carefully inspected, a potential reason to diminish the Gesualdo reception encapsulated in the treatise. Fourth, d’Avella’s mathematical explanation of the mean-tone wolf is anachronistic and cryptic; as such, it requires careful historical-theoretical elucidation and editorial intervention. These are the principal problems within the treatise we will encounter and begin to resolve. Outside of the treatise, the theological and literary contexts loom large for both d’Avella and Gesualdo; and, as
we work through the treatise’s contents, we will begin to fill in these vital components, left all but unwritten by d’Avella.

The dissertation works through d’Avella’s *Regole* in three chapters and provides a fourth chapter of key supplemental examples. Chapter One first places d’Avella within the congregational audience for a public performance of Gesualdo’s Holy Week *Responsoria* circa its 1611 printing and proposes his treatise on *canto figurato* was primarily conceived in defense of the chromaticism he heard. By providing an overview of this treatise’s chapter divisions, I exhibit how one must extract this origin from its middlemost chapter. I recount what little we currently know about d’Avella and the printing of his treatise and briefly rehearse the twenty or so treatises written in Naples in the environs of both his and Gesualdo’s lifetimes. We then delve into the most theoretically difficult issue in the treatise: The enumeration of the mean-tone wolf in a neo-Boethian theory. By reproducing Burney’s annotations on d’Avella’s *Regole* in facsimile, I exhibit the utter incomprehensibility of this neo-Boethian mathematics to the instigating Gesualdo controversialist. Over the course of deciphering d’Avella’s cryptic mathematics, we work through his equally obscure pseudo-empirical theory of sound production, highly unique application of Aristotelian theories of motion to musical intervals, and overly rational theory of judging consonance and dissonance with the eyes. As we work through these idiosyncratic theories, we read along with Giovanni Francesco Beccatelli in his scathing commentary on d’Avella’s treatise. We moreover begin to probe the various fluctuations of accidental #’s and b-fa’s throughout the *Regole* and, indeed, Neapolitan musical theory and practice at large. The chapter concludes by comparing and contrasting d’Avella’s neo-Boethian enumeration of the wolf in Pythagorean tuning to various other wolves. By examining his rebuttal of Francesco Orso’s division of whole-tone, we reaffirm that d’Avella was neither
witnessing nor exhibiting equal-tempered semitones in practice; yet there is something unsettlingly disingenuous about his scholarly character.

Having deciphered d’Avella’s mathematics, we turn in Chapter Two to the wolf in Neapolitan musical practice. Contrasting d’Avella’s citations of Gesualdo’s Responsoria to the 1611 prints, we raise the possibility that d’Avella never saw these exclusive prints, but rather transcribed them by ear. On the basis of d’Avella’s citations, I argue that Gesualdo indeed conceived his Holy Week Responsoria for public performance, not as private musica reservata. Examining d’Avella’s affective evaluation of Gesualdo’s use of the wolf to express the death of Christ, I contrast d’Avella’s exceedingly plain prose to the extravagant musical Holy Week orations of Giambattista Marino; and, having established that contrast, weigh Gesualdo’s compositional choice to use the wolf according to Marino’s sacred oratory. I recount how Gesualdo broke the “Holy Cross of Music Theory,” as christened by Beccatelli in his annotations on the Regole. I exhibit Cerone’s fears that these out-of-tune mean-tonal accidentals could destroy the modal system and reinstate the Chaos before the Creation. Recognizing Gesualdo’s rhythmic placement of the wolf according to the scansion of the text, I then pick up the perennial debate about the Council of Trent’s impact upon his sacred musical style. Applying a basic analytical tool I propose to assess this impact, we discover that Gesualdo predominantly restricted the out-of-tune sonorities according to the proper scansion of the text—with one glaring exception: Judas mercator. Focusing in detail upon this responsory, it is proposed that Gesualdo, while breaking just about every unwritten Tridentine rule possible to depict Judas’ betrayal, strategically parsed the text to insert a most heinous obscenity on an out-of-tune sonority. Although d’Avella was surprisingly mute on the Post-Tridentine issues at play, I nonetheless uncover several ways to further assess the out-of-tune mean-tonal sonorities’
(in)appropriateness in the Church. Particularly remarkable are the interfaces between mean-tonal venoms in the chromatic madrigals and the venoms censored by the Church. All the more remarkable is that the mean-tonal wolf is also located within the 1581 Palestrina spiritual madrigals, long held as archetypal of Tridentine reform.

Like d’Avella’s chapter on the wolf, Chapter Two then flows into what I dub the original “Neapolitan Gesualdo Controversy”—namely a public demonstration and/or trial of the wolf in a secular villanella deliberately composed for this purpose. Pointing out perhaps the worst seam in d’Avella’s Regole, I debate whether or not we can directly link this public demonstration to Gesualdo’s Responsoria, proposing that, if not, an unknown public performance of comparable magnitude must have sparked this controversy. Following d’Avella’s report that this demonstration was given by a “great” lutenist (one Simon Crescentio, of whom nothing else is currently known), I seek out concordances to the mean-tonal tuning of the lute, in light of Gesualdo’s well-known accomplishment on that instrument. Among others, an important concordance is found in the manuscript annotations of Gesualdo’s editor (and madrigalist in his own right), Scipione Stella, in his copy of Fabio Colonna’s neo-Vicentinian La Sambuca Lincea. Following Stella, I emphasize the discrepancy between this Neapolitan lute practice and the Zarlinian, Galilean, and Vicentinian equal-tempering of the lute. I moreover exhibit the role of out-of-tune lutes in the sacred oratory of Marino, the love poetry of Tasso, among other literary “concordances.” I seek out practical concordances to the public demonstration that additionally demonstrate the acoustically false chromatic notation, notably citing the Raval-Falcone Controversy and the analyses of Girolamo Chiti. Then developing upon the public demonstration, I strategically contrast the Neapolitan madrigal repertoire’s 12-tone mean-tone gamut and idioms to the 19-tone chromatic keyboard and its idioms that gained currency in
Naples around the turn of the seventeenth-century. Working with madrigals on the same poetic topics, I ultimately contrast Gesualdo’s and Vicentino’s madrigals. I allude to the problematic possibility that Vicentino’s fifth book of madrigals may also have been conceived in 12-tone mean-tone temperament—and not according to the arcicembalo. The chapter concludes with some remarks on the failure of the public demonstration.

Chapter Three examines the “Hand of Boethius”—d’Avella’s primary pedagogical tool to explicate and defend Gesualdian chromaticism, as well as the historical mythology that primarily sealed the Regole’s poor reception history. Objectively reading d’Avella’s historical account of the “invention” of music, I expose that his mythologizing is essentially but a vulgarized account of the Guidonian hexachordal expansion upon the ancient Greek Greater Perfect System of tetrachords. Working through his anatomical “dissections” of the Hand of Boethius into several simpler hands, I expose that the Hand is actually founded upon a most common set of conjunctions and deductions to place musica ficta on the hand. I show how that this gamut also appears within Cerone’s Melopeo y Maestro. However, there are some striking differences between Cerone’s common order of conjunctions and d’Avella’s dissection principles. I exhibit that this system of conjunctions is actually at odds with the common 12-tone mean-tone tempered gamut and that this discrepancy pervades throughout both treatises by d’Avella and Cerone. Unlike d’Avella, however, Cerone additionally presented another hand, one “for the composers,” according to the common keyboard gamut. The remainder of the chapter then wades through d’Avella’s pedagogical exercises for the hands, the transitions from mode to mode, and imitations. Pointing out the problem with solfeging Gesualdo’s extreme chromaticism as notated with an acoustically correct hand, I develop the “left and right Hands of Boethius” to accommodate his notations. As one example, I trace the opening progression of
“Moro, lasso” on both the Hand for the Composers and the Hands of Boethius. Finally, I reveal that d’Avella “plagiarized” the Hand of Boethius from a turn of the sixteenth-century treatise, again raising concerns about his theoretical disingenuity, yet sympathizing with the fact that he could never consult Gesualdo’s last books of madrigals to better establish the chromatic gamut.

Having argued through d’Avella’s *Regole* that Gesualdo employed the mean-tone wolf as a text-setting device, I then buttress this argument with some key historical-theoretical supplements in Chapter Four. These, surprisingly, are more numerous than one might expect. The first supplement is taken from the treatises from the Barberini Rome Gesualdo “academy:” Kircher’s *Musurgia Universalis* and its precedents in Doni. Focusing in on Kircher’s writing on enharmonicism, I reveal how he in fact reports the very same out-of-tune mean-tonal practice, citing the works of Mazzocchi and Sabbatini. I show how he, following Doni’s “metabolic” theory of modal transposition and octave species mutation, integrated the isolated enharmonic mean-tonal intervals into a larger framework. I correlate his affective evaluations of these text-setting sonorities to d’Avella’s and emphasize how Kircher valiantly tried—but until now failed—to “make the cost of his book worthwhile” by explaining this practice to his readers.

Given the posthumous publication of d’Avella’s *Regole* in Rome and the discovery of other Gesualdo sources from the Barberini academy, I call for another study in its own right of Gesualdo’s Roman reception history.

The second supplement is taken from the Artusi-Monteverdi Controversy and its theoretical precedents in the Zarlino-Galilei dialogues on tuning and temperament. Recounting Artusi’s Aristoxenean call for 12-tone equal-temperament to perfect modern music, I expose how he was, perhaps unknowingly, misrepresenting the modern musicians’ 12-tone mean-tonal text-setting practice. Questioning his *prima prattica* models for mode, I strategically substitute a
madrigal by Porta that “breaks every law of nature” and problematizes the natural and artificial tuning aesthetics of both Zarlino and Galilei. Finally, I exhibit Monteverdi’s ultimate seconda prattica manifesto in his Il Ritorno d’Ulisse in Patria.

The dissertation provided focused readings of hitherto neglected, unknown, and misread treatises. It is not a new history of tuning and temperament practices and, indeed, it presumes of the reader a working knowledge of the classic and well-known treatises. It also demands, however, that the reader temporarily lay aside their knowledge of Zarlino, Galilei, Bottrigari and others in order to enter the mindset of a monastic music theorist who probably did not have access to such authors’ works and who, strange as it has and may still seem, valiantly tried to adapt basic Boethian theory to explicate and defend Gesualdo’s use of the mean-tone wolf. One simply can not read d’Avella’s Regole expecting these nowadays more well-known theoretical paradigms where they are not. Moreover, one must equally lay aside these theoretical paradigms and evolutionary expectations when reading, performing, and listening to Gesualdo’s (and even Palestrina’s) madrigals. We simply can not approach this repertoire with the expectations that it must be in-tune and that any out-of-tune performance discrepancies ought to be idealized out. It is quite the contrary; and, strange though it may seem to us now, the madrigalists may have idealized out the a cappella just intonation performance of the mean-tone wolf—that is a very different mindset we might try to bring to the listening experience of this repertoire.

Although my inquiry began from both historical performance practice and theoretical perspectives, it is not my intent to here put forward comprehensive theories of Gesualdo’s chromaticism, analyses and criticisms of his text-settings, or practical insights just how to sing his chromaticism in 12-tone mean-tone temperament. To this point, I have only begun providing the historical foundations upon which these theories, analyses, and performances must be built. I
have regarded those foundations to be the principle challenge. As I believe that those foundations are now in mostly in place, the more holistic study and performance of Gesualdo’s music may developed alongside the historical source work. After all, the treatises of d’Avella and Kircher and the musical sermons of Marino were all in vain if we do not hear the painful sounds of Christ’s suffering, the blasphemous obscenities of Judas’ sins, and the secular pains and pleasures of mean-tonal “morti.”
Chapter One

The Ancient Sonorous Proportions of Gesualdo’s Ensweetened Modern Tritones

Setting the Scene

During Holy Week of 1611, or one year thereabout, Giovanni d’Avella, a preacher in the Terra di Lavoro province within the Kingdom of Naples, the rector of the Oratorio della Passione, and future music director of the Chiesa di Santa Maria la Nova and its schola cantorum within the city of Naples, attended a performance of the Responsoria by “that grand Prince of Venosa, and Prince of the Musicians,” Carlo Gesualdo. D’Avella was not a member of Gesualdo’s musical entourage; and, as such, this sacred event was likely his (and the general Neapolitan public’s) first exposure to the extraordinarily chromatic sounds otherwise reserved for noble Neapolitan and Ferrarese connoisseurs of the madrigal. On the solemn day of Good Friday in particular, d’Avella heard a chromatic sonority, quite unlike anything he had heard before, express the death of Christ. D’Avella, for one, admired Gesualdo’s chosen sonority. As

4 The only archival inquiry into d’Avella’s life and works remains P. Gioacchino d’Andrea, “Un Musicista-Cantore Poco Conosciuto del Seicento: P. Giovanni Piscione d’Avella O.F.M.,” Cenacolo Serafico XV (Marzo-Aprile 1963): 54-68. According to d’Andrea, we are indebted to a seventeenth-century chronicler, P. Teofilo Testa da Nola, for what little biographical information there is about d’Avella. Da Nola’s manuscript chronicle, Serafici Fragmenti della Provincia osservante di Terra di Lavoro, is kept in the archive of the Provincia del SS. Cuore di Gesù in the Chiesa di Santa Maria la Nova in Naples. D’Avella’s family was presumably from the town of Avella, which is located in the Neapolitan province directly north above the town of Gesualdo, Avellino. His date of birth is unknown. D’Andrea proposes that d’Avella was certainly born before the turn of the seventeenth-century, since he was already a rector at the Oratorio della Passione in Naples in 1620 (where he served until 1635). D’Avella died in 1640. Thus, he was perhaps a contemporary of Carlo Gesualdo (1566-1613), or most probably a generation younger (b. ca. 1580?) D’Andrea did not examine d’Avella’s relationship to Gesualdo. Details of d’Avella’s career are scant: Da Nola names P. Bonaventura Galante da Salza, P. Francesco da Benevento, P. Francesco da Napoli, and P. Francesco da Cava among d’Avella’s students. As choir director, d’Avella notably questioned the church’s acceptance of a 1628 gift by Tiberio Carafa, Prince of Scilla and Bisignano, which sponsored secular professional singers for the church.


6 The year of this performance is tentatively proposed according to the printing of Gesualdo’s Responsoria in 1611, two years before his death and, as will be seen, d’Avella’s recounting of it in the past historic tense. At present, it is not known precisely where in Naples this performance took place, who the performers were, or even if the composer himself was present, if he was still alive.
a musician himself, he inquisitively approached the performers afterwards and asked how they conceived of this sonority. He then learned that its use was in fact a common practice for the madrigalists associated with Gesualdo. However, other listeners in attendance vastly disagreed with d’Avella and were outraged by the intrusion of Gesualdo’s chromatic sonority into their sacred space and contemplative mindsets. Gesualdo’s chromaticism, as d’Avella would one day write, had sparked a controversy among the Neapolitan congregation on that Good Friday.

Not long after this Holy Week, one of Gesualdo’s performers responded to the congregation’s criticisms by giving a public demonstration of the Responsoria’s chromatic sonority in a madrigalian context. D’Avella of course eagerly attended this event, anxious to learn more about how Gesualdo’s music worked; this time, as he witnessed once again the obdurate censorship of Gesualdian chromaticism, vowed to compose a treatise to defend, teach, historicize, and preserve precisely what he had heard on these two occasions. D’Avella compiled and worked on his treatise over the next thirty years until his death in 1640, but he did not live to entirely complete it or see it published. His defense of Gesualdo’s chromaticism would come too late.

More than forty years after this Gesualdo controversy in Naples, d’Avella’s treatise would at long last be published. Under the auspices of his brethren, the treatise was printed in 1657 in Rome, a city far removed from the Gesualdo Controversy’s Neapolitan-Ferrarese origins. D’Avella did not have a patron to acknowledge; nor did he preface his treatise with a dedication. No epistolary poems appeared in praise or in memory of d’Avella. No stamps of

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7 The causality between Gesualdo’s Responsoria, the public demonstration of the chromaticism, and d’Avella’s treatise is here only tentatively proposed to provide an introductory context and will require substantiation (as discussed further in Chapter Two of this study).
8 Giovanni d’Avella, Regole di Musica (Rome: Francesco Moneta, 1657). The path by which d’Avella’s manuscript treatise came to be printed is currently unknown. Archival inquiry would have to uncover the life and works of one Fr. Sebastianus à Caieta, who, as the verso side of the title page reveals, headed the process.
approval came from the Neapolitan madrigalists who succeeded Gesualdo. His treatise had a most generic and seemingly un-polemical title (albeit one of his own choosing): *Regole di Musica.* Its title page further advertised that the book “divides into five treatises, in which *Canto Fermo* and *Figurato* are taught through true and easy rules;” the book offered “the means of composing counterpoint, of composing one and another [kind of] song, of singing some difficult songs, and many [other] new and curious things.” It was written by “Padre Fra Giovanni d’Avella, a preacher of the [Franciscan Order’s] *minori osservanti* in the *Terra di Lavoro.*”

The title and its qualifiers were no doubt common tricks of the trade designed to sell as many copies of the treatise as possible to monastic libraries and amateur musicians seeking the basic rules of music. They greatly understated the book’s most worthy contents and, along with the posthumous Roman stamp, regrettably obscured the author’s identity and purpose. D’Avella’s *Regole* contains, in fact, the only contemporaneous Neapolitan or Ferrarese treatise exclusively devoted to Gesualdian chromaticism.

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9 D’Avella’s own uses of the terms “*Regole*” and “*Regolisti*” predominantly figure in Chapters 27-28 (46).

10 *Divise in cinque trattati, con le quali s’insegna il Canto Fermo, e Figurato, per vere, e facili regole. Il modo di fare il contrapunto. Di comparre l’uno, e l’altro Canto. Di cantare alcuni Canti difficili, e molte cose nuove, e curiose. Composte dal Padre Fra Giovanni d’Avella, predicatore de’ minori osservanti della Provincia di Terra di Lavoro.* It is noteworthy that d’Avella is characterized as a preacher and not a music director or teacher on the title page. Perhaps this was à Caieta’s designation, as, on the verso side of the title page, he reiterates that d’Avella is “*Proviciae nostræ Observantis Terræ Labore Concionatore.*” Beyond affirming that this book was intended for a monastic and ecclesiastical readership, this characterization will invite speculation on the role of preaching in d’Avella’s musical theoretical discourse. Another matter for speculation is the emblem on the title page (a praying monk riding a chariot surrounded by what appear to be flames. Only a study of the Moneta Press’ title pages and seventeenth-century emblem books will reveal if this is a uniquely chosen emblem with particular significance for the treatise or, less provocatively, generic in its utility.

In addition to d’Avella’s *Regole*, almost thirty treatises on music survive from Gesualdo’s native Naples, written circa 1550-1650. Of course, the vast majority of these sources have not brought the Gesualdo Controversy to a conclusion. Many of the treatises, including those by Bartolomeo Lieto, Giovanni Tomaso Cimello, Giovanni Battista Olifante, Ottavio Ferraro, Domenico Auriemma, Oratio Caposele, Giovanni Filippo Cavalliere, and Nicolás Doizi de Velasco are basic compendiums of the rudiments of plainchant, figured music, and instrumental practices that do not mention the Gesualdo circle at all. Other treatises are of greater theoretical and practical scope than a compendium, yet still do not explicitly provide an account of Gesualdo’s chromaticism; authors of these treatises include Luigi Dentice, Scipione Cerreto, and Silverio Picerli. The most substantial musical

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12 I exclude Tinctoris from this survey, as d’Avella seems unaware of his distant Neapolitan predecessor’s work.
15 Giovanni Battista Olifante, *Porta aurea: multae cantiones vario cantus firmo explicitae ad usum, et ecclesiastic canendi, tum praecipue in Angeli Custodis Officio, Missa Sancti Caroli celebrandis comoditatem* (Napoli: Ottavio Beltrano, 1616). The second edition (unknown date) of the *Porta Aurea* is lost. I have not yet seen the third edition of it: *Porta Aurea sive directorium chori. Opera utilissima a chi desidera imparar di Canto fermo*, come anco a tutte le chiese collegiate dove s’officia in choro ... in questa terza impressione corretta et arricchita di molte cose et nel fine aggiuntovi una breve regola per rispondere con l’organo al choro del R.D. Giovanni Salvatore (Napoli: Ottavio Beltrano, 1641). The added rules for accompanying choruses on the organ will be a vital supplement to the practices observed by d’Avella and Cerone.
16 Ottavio Ferraro, *Opera Nova di Canto Fermo* (Napoli: Costantino Vitale, 1620). This treatise is notably dedicated to Detio Carafa, Archbishop of Naples (1613-1626). This point may be significant, as a thorough study of the musical thought in the theological writings of the Carafa family in Naples is certainly wanting—both before and after Gesualdo’s famous murder of Fabrizio Carafa. For now, it must suffice to quote Ferraro’s impetus to write his treatise (in contrast to d’Avella’s impetus): “SAPENDO io qua[n]to si sodisfaccia, & s’appa hi V.S. illustrissima nel veder, che ’l Clero di questa sua Chiesa sia bene instrutto, & ammaestrato nell’ essercito del Choro per la divotione, & riverenza, che se n’ accresce à divini officij, mi son’ ingegnato d’accompagnar con le mie fatighe questo suo santo pensiero; formando il presente Canturino.”
18 Oratio Caposele, *Prattica del’ Canto Piano, o Canto Fermo* (Napoli: Costantino Vitale, 1623). Caposele was, of note, a student of Giovanni Thomasim Cimello. This treatise promised another one on *canto figurato*, but that has not surfaced (35).
21 Luigi Dentice, *Duo Dialoghi della Musica* (Napoli: M. Cancer, 1552).
theoretical source written in Naples is Pietro Cerone’s *El Melopeo y Maestro*. Published contemporaneously with Gesualdo’s *Responsoria* and written by a priest and singer who likely practiced alongside some of Gesualdo’s musicians at the *Sanctissima Annunziata* (just over a mile from d’Avella’s church in Naples), this conservative treatise surprisingly mentions Gesualdo’s name but once. Indeed, Cerone’s *Melopeo* provides a vital counterpart to d’Avella’s *Regole*. Treatises by musicians who served (or, at least, claimed to serve) Gesualdo include those by Rocco Rodio, Mutio Effrem, Romano Micheli, and Scipione Stella, who, as part of a notorious polemical exchange over the re-invention of an enharmonic keyboard, annotated the treatise of Fabio Colonna, a member of the *Accademia dei Lincei*—but not

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22 Scipione Cerreto, *Della Pratica Musica Vocale, et Strumentale* (Napoli: Giacomo Carlino, 1601). Cerreto additionally wrote two manuscript dialogues on music: “Dialoghi Armonici pel Contrapunto e per la Composizione” (Napoli: Biblioteca del Conservatorio San Pietro a Majella, MS 1626) and “Dialogo Harmonico” (Bologna, Museo Internazionale e Biblioteca della Musica, MS C.131). The latter dialogue includes some brief supplemental material on Neapolitan chromatic keyboards (210).

23 Silverio Picerli, *Specchio Prima di Musica* (Napoli: Ottavio Beltrano, 1630). This notably includes a correlation of the hexachordal system to the 19-tone Neapolitan chromatic keyboard (Barbieri 2007, CXLIV).


28 Romano Micheli, *Virtuoso avviso ... sopra la nuova, e facile maniera d’imparare à cantare* (Napoli?:, 1636). [lost?]
Gesualdo’s academy. Concordances and discrepancies between these treatises and d’Avella’s *Regole* will prove essential. In addition to d’Avella, another contemporary listener’s account of Gesualdo’s music is given by Bartolomeo Giovenardi, a Spanish scientist who visited Rome and Naples; his treatise attributes (what he coined) “expressive suspensions” to the Gesualdo circle (albeit without practical or theoretical detail). Among other Spaniards who served in Naples, Francisco de Salinas (in Naples from 1553-1558) made no mention of the chromatic madrigal in his subsequent *De musica*. Finally, Gesualdo was presented a scholastic treatise on acoustics (with no practical musical applications) as a wedding gift in Ferrara by Vincenzo Rondinelli da Lugo. Of these numerous treatises, d’Avella’s *Regole* and Stella’s annotations are the only sources which explicitly report the Neapolitan madrigalists’ chromatic tuning systems and—equally important—their discourse about chromaticism. D’Avella’s *Regole* is the only treatise which includes citations of Gesualdo in musical notation and a reception history of Gesualdo’s *Responsoria*.

D’Avella’s *Regole* consists of five treatises broadly devoted to (I) the historical origins and praises of music, (II) *canto figurato*, (III) the harmony of the spheres and modes of plainchant, (IV) *canto fermo*, and (V) counterpoint. D’Avella notably extrapolated his treatise

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31 Francisco Salinas de Salinas, *De musica libri septem* (Salmanticae: Gastius, 1577).
32 Vincenzo Rondinelli da Lugo, *De soni e voci...ne quali de le cause, modi, specie, significati, effetti, e tutt’altre più utili, curiose, e dilettevoli considerazioni a questi, e quelle pertinenti filosoficamente trattasi* (Ferrara: Biblioteca Communale Ariostea, MS Cl.I 73).
33 The treatise on the harmony of the spheres will be exempt from the present study, save for two overlapping moments with the treatise on *canto figurato*. However, I must strongly caution against entirely disregarding this treatise and arguing, on the basis of its contents (d’Avella mostly develops the harmony of the spheres by applying astronomical eclipses to the commixture of the church modes), that the *Regole* esoteric. To be sure, d’Avella’s extraordinarily heightened fascination with astronomy, natural
on *canto fermo* and placed it after *canto figurato*. By so doing, I would propose that he foregrounded his treatise on Neapolitan polyphonic music, which is certainly the most important and unique of his five treatises. This treatise on *canto figurato*, which forms the near exclusive focus of this study, is a remarkable amalgam of medieval musical theory (as one would expect of d’Avella’s monastic education and church music directorship) and modern Neapolitan madrigal practice. Here the classic figures of Boethius, Aristotle, and Guido d’Arezzo impart reason, authority, and practicality to the music of Gesualdo, Scipione LaCorticca, Domenico Montella, and others. D’Avella’s sources of music theory were frankly modest in number and his theoretical outlook was provincial (and extremely narrow at that). For his defense and explication of Gesualdian chromaticism, d’Avella only enlisted Boethius’ *de Musica*, a turn of the sixteenth-century *Graduale* and *Antiphonarium*, and a basic knowledge of Aristotle’s *Physics*. He did not acknowledge by name any of his Neapolitan theoretical peers and only vaguely referenced their philosophy, and the physical sciences is resolutely a product of his Neapolitan times. For the eruption of Mount Vesuvius in 1631 coupled with some evidently remarkable eclipses in 1632 and 1633 inspired a host of new empirical and speculative theories of products of nature. At the least, these eclipses may also be used to more firmly date the composition of (some of) the *Regole* after 1630. However, it is even plausible—no matter how potentially disappointing for present day musicologists—that d’Avella devoted more time late in his life to writing his treatise on the harmony of the spheres than completing and augmenting his treatise on *canto figurato* (this, a comparative scrutiny of the writing style in the two treatises will affirm or deny). On the impact of Vesuvius in the sciences, see Sean Cocco, *Watching Vesuvius: A History of Science and Culture in Early Modern Italy* (Chicago: University of Chicago Press, 2012). Equally informative is Cocco’s “Locating the Natural Sciences in Early Modern Naples,” in A *Companion to Early Modern Naples*, ed. Tommaso Astarita (Leiden: Brill, 2013): 453-476. Moreover, Vesuvius was an occasional topic for madrigals and musical settings in its own right, as evinced by Urbano Giorghi’s *Scelta di Poesie nell’ Incendio del Vesuvio* (Romae: Corbelletti, 1632), Antonio Abati’s *Il Forno; Poesie...sopra il Monte Vesuvio* (Napoli: Francesco Savio, 1632), and, most notably vis a vis Gesualdian chromaticism, Michelangelo Rossi’s setting of the Neapolitan poet Giovann Battista Basile’s sonnet, “Mentre d’ampia voragine tonante.” Additionally, as the Post-Tridentine reforms underlie d’Avella’s treatise and, as will be gleaned from it, the composition of Gesualdo’s *Responsoria*, future research must consider d’Avella’s third treatise in light of Laurence Wuidar’s recent study, *Musique et Astrologie après le Concile de Trente* (Bruxelles: Institut Historique Belge de Rome, 2008). A contextual study of the d’Avella’s *Regole* alongside contemporary Neapolitan literature on eclipses (and the surely continuing presence of Tommaso Campanella in Neapolitan astronomy) might be rewarding. The key sources appear to be: Angelo Perrotti, *Discorso Astronomico Sopra li Quattro Eccissi del 1632 & uno del 1633* (Napoli: Roncagliolo, 1632); Giovanni Antonio Giuffo, *Tractatus de Eclipsibus* (Napoli: Ottavio Beltrani, 1623); Onofrio Giliberto, *Ruote dell’ Uniuerso* (Napoli: Francesco Savio, 1646).
theories when they are at odds with the madrigalists’ practice. News of the recent and analogous Monteverdi-Artusi controversy in the north had evidently not reached d’Avella in the south;\textsuperscript{34} nor had d’Avella read the theoretical precedents of this controversy, the treatises of Zarlino, Galilei, and Bottrigari. Most tellingly of all, Vicentino’s \textit{Antica musica ridotta alla moderna prattica} and its Neapolitan derivative, the \textit{Sambuca Lincea} by Fabio Colonna do not figure in d’Avella’s \textit{Regole}. Although d’Avella was not up to date with the musical theoretical literature of his time and, as a consequence, his treatise abounds with medieval anachronisms, he nevertheless provided an unmatched and vital contemporaneous account of the Neapolitan madrigalists’ chromaticism. To be sure, the present-day reader must recognize these anachronisms as reflective of d’Avella’s learning, occupation, and distant relationship to the madrigalists—and not as reasons to dismiss his treatise.

D’Avella’s collection of musical sources was likewise modest and provincial. His musical examples were taken from but a dozen prints: A Neapolitan reprint of Arcadelt’s first book of madrigals (1608, 1625, 1628, or 1632); Simon Crescentio’s first and second books of villanellas (lost); Gesualdo’s first book (first edition, published under the name Gioseppe Pilonij, now lost), first book reprinted as the second book (Ferrara, 1594), and \textit{Responsoria} (1611); Grandi’s first book of motets (1610); a lost book by LaCoria; Montella’s fourth book (1602) and fourth book of villanellas (1606); Nenna’s sixth (1607) and seventh (1608) books; Orso’s first book (1567); Palazzotto’s first book (1617); and Salamone Rossi’s third book (1603). He additionally recalls hearing the music of the Roman Francesco Soriano. The most notable omission is the 1613 Molinaro score edition of Gesualdo’s complete madrigals. Although the precise reasons for the limited quantity of musical sources in d’Avella’s \textit{Regole} remains open to

\textsuperscript{34} It may be noted that the dedicatee of Artusi (1600), Pompeo Arigoni, moved from his datary position in Rome to become archbishop in Benevento (1607-1616), the Neapolitan province directly north of Avellino.
speculation, I would propose that the treatise is exhibitive of a madrigal print culture so exclusive that Gesualdo’s own defender could not acquire or see his prints and study score edition. This proposition, however, fails to explain how d’Avella had access to a Ferrarese print of Gesualdo’s madrigals.

D’Avella’s treatise on *canto figurato* rather generically promises, according to its title, “effective reasons and demonstrations why the common hand is poor for learning *canto figurato*, principles of singing well with six hands, the numeric fundamentals of proportions and sonority, as well as some curious subjects and necessities, with sensible examples from many talented musicians” (the reader will quickly learn that these “talented musicians” are Neapolitan in particular). The treatise unfolds in twenty-six intertwined yet variously compiled chapters. D’Avella first extends the Guidonian gamut and its hexachordal precepts to accommodate the Neapolitan composers’ chromatic gamut (Chapters 21-23). He then integrates excerpts of these composers’ works into a neo-Boethian demonstration of musical intervals and their consonance and dissonance (Chapters 24-30, 33-40), with a brief digression on the effects of chromatic accidentals along the way (Chapters 31-32). The citation of Gesualdo’s *Responsoria* and the public exhibition of its chromaticism are the culmination of this neo-Boethian demonstration (Chapters 39-40). The remaining chapters primarily contextualize Neapolitan chromaticism within the history of diatonic, chromatic, enharmonic, and harmonic music. He composes some demonstrative examples for these four kinds of music along the way. Finally, he examines a selection of the madrigalists’ imitative and fugal passages and provides some didactic exercises to facilitate their performance (Chapters 41-46). The treatise as a whole, however, was

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35 D’Avella, 34. *SECONDO TRATTATO, NEL QUALE SI DIMOSTRA CON RAGIONI EFFICACI, e Dimostrazioni, come la Mano Comune non sia buona per imparare il Canto Figurato; Si dimostrano parimente i principij del ben cantare, con sei Mani, e li fondamenti delle proporzioni, e sonorità per via di numeri, con alcuni curiosi discorsi, e necessarij sopra ciò, con esempij senzati di molti Musici Valent’huomini.*
(arguably) conceived and revolves around the events recounted in Chapter 39. It is there that d’Avella hands his readers the key to unlocking the secret of Gesualdo’s chromatic art. Chapter 39 will therefore be the entry point of this study into d’Avella’s *Regole*.36

**Ensweetened Modern Tritones and their Sonorous Proportions**

Chapter 39 is the culmination of a neo-Boethian demonstration of musical intervals and their consonance or dissonance. Having reached the tritone in Chapters 37-38, d’Avella then takes another step beyond any of his predecessors or contemporaries in music theory: He sets out to define, most extraordinarily, “Other [kinds] of major fourths, or modern tritones, and the ensweetenings,” which he had heard in Gesualdo’s *Responsoria*.37 This chapter is a terse half of a page long, yet filled with hitherto unscrutinized information on the notation, tuning, and affective significance of Gesualdo’s chromaticism. D’Avella’s prose and musical examples at times verge on the cryptic as he endeavors to explicate the “modern tritone” he had heard Gesualdo’s *Responsoria* in most medieval terms. Indeed, there are only three prior readings of this chapter in the history of music, none of which successfully deciphered d’Avella’s musical-theoretical content. In 1714, Giovanni Francesco Beccatelli, a Florentine theorist and student of

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36 At this point in the study, the reader might want to have a copy of d’Avella’s treatise at their side to completely preserve the original page layouts and orthographies. It is not within the scope of the present study to arrive at a complete critical edition and translation of d’Avella’s treatise. In the interim, this study narrates through the treatise by interweaving translations and paraphrases. Moreover, I enter the treatise at (what I argue) is its inception point—not page one—and work across the chapter divisions, grouping related contents together. By so doing, however, I acknowledge that the printed ordering of d’Avella’s treatise becomes distorted. Ultimately, I suspect a translation straight through and a commentary will be the right solution. In what follows, the original Italian text is provided in the footnotes, yet inevitably becomes disconnected as I segment the passages. The Library of Congress’ copy is most readily available and may be found on the RISM microfilm series and digitalized online: www.scribd.com/doc/24373999/Regole-di-Musica-Giovanni-d-Avell
Also digitalized is the copy at the Conservatorio di Musica San Pietro a Majella di Napoli; www.internetculturale.it/opencms/opencms/it/ricerca_metamag.jsp?q=avella+regole&instance=mag
The occasional orthographical issues we will encounter might be resolved by Altobello Gagliaro da Buccino’s *Ortografia Italiana, et altre Osservazioni della Lingua* (Napoli: Nucci, 1631).

37 Ibid., 58. *Dell’altre quarte maggiori, ò tritoni moderni, e degli’indolcimenti.*
the Vicentinian composer, theorist, and instrument maker Francesco Nigetti, wrote a scathing 200-page criticism of d’Avella’s *Regole*; yet he passed over Chapter 39 (and the rest of the Neapolitan madrigal content) entirely.\(^{38}\) Beccatelli’s intent, as stated in his dedication, was to “correct” d’Avella’s *Regole*, the “most erroneous” of all the “great quantity of very harmful and pernicious errors in the teaching and practice of ecclesiastical song.”\(^ {39}\) Indeed, Beccatelli did not read the *Regole* with the intent of understanding and reclaiming Gesualdo’s chromatic practice; yet it will be useful to consult his annotations on d’Avella’s theoretical thought as we proceed through the second treatise. Although Beccatelli was the only theorist or historian to study d’Avella’s *Regole* in any detail, Giuseppe Pitoni, in his 1720’s *Notitia de Contrapuntisti e de Compositori di Musica*, at least gathered from this chapter that Gesualdo composed his sacred music in the same style as his secular music.\(^ {40}\) Finally, the lead Gesualdo Controversialist Charles Burney, as seen in his copy of d’Avella’s *Regole* kept in the British Library, merely underlined each of the Neapolitan composers’ names throughout this chapter (and the entire treatise).\(^ {41}\) He too was stumped by d’Avella. Put simply, nobody understood this chapter of

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\(^{38}\) Giovanni Francesco Beccatelli, *Annotazioni sopra di un certo libro, di Teoriche, Musicali. Stampato in Roma l’Anno 1657* (1714). 1-Bc. F.8. The *Annotazioni* were dedicated to an anonymous friend of Beccatelli’s. Beccatelli notably “concealed” the name of the author of this book, only noting its many errors, “bad things” [*male*], and his need to “remedy the book” [*il rimedio*].

\(^{39}\) Ibid., 1. *Ho avuto di leggere il da lei consaputo Autore, dal quale come da fonte, molti moderni scriittori, non troppo fondati nelle teoriche musicali, anno bevuto [sic] una quantita grande, d’errori molto nocivi e perniciosi, all’ insegnamento, e uso pratico del Canto Ecclesiastico, mi è stata di stimolo, a raccogliere in queste, Annotazioni, quel più d’erroneo, che in ditto Libro si legge; tanto più, che il mostrarne di questo la correzione, mi serve di motive, a spiegar molte cose, che non pochi forse anno mai sapute, per la scarsità, e oscurità degli’ Autori, che fondatamente di tali materie anno scritto. Beccatelli continues that he did not intend to write a “satirical discourse:” *Non intendo però, di formar con queste un satirico discorso, dal quale possa veruno restarne offeso.* Moreover, for Beccatelli, one must read not only the good authors, but also the mediocre bad ones; by so doing, he found in d’Avella’s *Regole* an “abyss of ignorance” in both practical and theoretical matters: *Ma l’aver letto in questo Autore un abisso d’ignoranza, non solo nelle materie teoriche, come ancora nella pratiche.*


\(^{41}\) For a thorough account of Burney’s instigating role in the “Gesualdo Controversy,” see Watkins, *Gesualdo: The Man and His Music*, 370. I have not yet ascertained when Burney acquired his copy of d’Avella’s *Regole*.\[^{289}\]
d’Avella’s *Regole* (and the treatise as a whole). Here is a reproduction of d’Avella’s chapter on Gesualdo’s *Responsoria* with Burney’s annotations:

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42 D’Avella has not fared any better with musicologists from the nineteenth-century to now. A review of the brief citations and discussions of his *Regole* certainly does not require more than a footnote. Only Dinko Fabris, in his encyclopedic survey of Naples’ music history, has rightly dated and recognized d’Avella’s *Regole* as “the most vivid treatise of the period [seventeenth-century Naples]...which upheld the music of Gesualdo and his circle as the ideal model of musical composition.” However, he did not foray into the treatise’s contents. See Renato Di Benedetto, et al. "Naples." *Grove Music Online. Oxford Music Online*. Oxford University Press. Web. 1 Jan. 2014.


<http://www.oxfordmusiconline.com/subscriber/article/grove/music/01577>. After Watkins’ above-mentioned mis-dating of d’Avella, perhaps the most important footnote relegation of d’Avella appears in Edward Lowinsky’s ever provocative *Secret Chromatic Art in the Netherlands Motet* (New York: Russell & Russell, 1967): 76. Lowinsky, in quest for un-notated accidentals, only footnotes d’Avella as supplemental evidence that an accidental lasts as long as it is notated. Had he deciphered d’Avella’s treatise, I suspect Lowinsky would have thought twice about supplying un-notated accidentals beyond the E-flat to G-sharp compass. Moreover, as the public demonstration piece of Gesualdian chromaticism included in d’Avella’s treatise is a villanella (as will be discussed presently, a form with proto-functional harmonic progressions), Lowinsky may have reconsidered the “atonal” component in his equally provocative *Tonality and Atonality in Sixteenth-Century Music*. Among historians of tuning theories and practices, Patrizio Barbieri includes d’Avella in his study of the continuity of instrumental tuning clashes at the core of Bottrigari’s *Desiderio* and Artusi’s *Imperfettioni* into the seventeenth-century. He too placed d’Avella among the mid-century Romans, not acknowledging the Gesualdo content. See his “Conflitti di intonazione tra cembalo, liuto ed archi nel ‘concerto’ italiano del Seicento”, in *Studi Corelliani IV*, ed. Pierluigi Petrobelli and Gloria Staffieri (Firenze: Olschki, 1990): 144. Within the history of music theory, Klaus Jurgen-Sachs cites d’Avella’s treatise on counterpoint (which does not explicitly deal with Gesualdo), without foraying into the treatise on *canto figurato*. See his “Kontrapunkt,” in *Terminologie der Musikalische Komposition*, ed. Hans Heinrich Eggebrecht (Stuttgart, Steiner, 1996): 19. Within Gesualdo reception histories, Maria Grazia Sita cites Pitoni’s reading of d’Avella’s Chapter 39, but goes no further than to observe that the Regole “è una fonte che rimane estranea ai rimandi bibliografici ‘automatici’ degli altri trattatisti.” See her otherwise informative “La ricezione settecentesca di Gesualdo,” *Studi Musicali* 134 (2004): 291. Carlo Piccardi footnotes d’Avella for the extension of secular madrigals to the sacred musical sphere: “Carlo Gesualdo: L’aristocrazia come elezione,” *Rivista Italiana di Musicologia* 9 (1974): 106.
Example One: D’Avella, *Regole di Musica*, Treatise II, Chapter 39; Burney’s Annotations
As we gather from Burney’s annotations, d’Avella here cites the music of Gesualdo, Montella, and Crescentio. Let us decipher the remainder of this chapter. Having indicated in his title that “modern tritones” will be discussed along with “ensweetenings” [indolcimenti], d’Avella first restates the general Guidonian hexachordal solmization rule for forming (ancient) mi-contra-fa tritones: Place three whole-tones above any fa in the mutated sequence fa, sol, re, mi. The solfege syllables are critical to d’Avella’s thought process. He reiterates this sequence as he next posits one tritone in particular built upon E-flat fa, Example Two. Since this tritone is also spelled fa, sol, re, mi, it assuredly has “all of the conditions characteristic of the natural [i.e.: ancient] tritone” (perhaps there were those who thought otherwise).\(^{43}\) The reader gathers, however, that there must be something else new and different about this tritone that makes it a “modern tritone.” It could not merely be an “accidental tritone” built upon any ficta note outside the Guidonian diatonic gamut. Note that d’Avella only notates this one modern tritone. Whether or not E-flat A is intended to represent all of the modern tritones promised by the chapter’s title is not clear (a significant point to which we will return).

Example Two: A Modern Tritone

\[
\begin{array}{cccc}
E & \flat & A & \flat
\end{array}
\]

“Then,” d’Avella continues, “the ensweetening [of this tritone] is necessary.”\(^{44}\) This particular term for “ensweetening” [indolcire] a tritone is curious and most rare in medieval and renaissance musical discourse.\(^{45}\) Other Neapolitan theorists, by way of contrast, write of

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\(^{43}\) D’Avella, 58. *Se sopra ogni fa per qualsivoglia modo, come s’è detto, & in parte mostrato, quattro note sopra si può fare il tritono, è, quarta maggiore, fa, sol, re, mi, da E per b fino ad a la, mi, re, e nelle ottave, si può fare, e nasce questo tritono fa, sol, re, mi, con tutte le condizioni, proprietà del tritono naturale.\)

\(^{44}\) Ibid. *Dunque vi è necessario l'indolcire.*

“softening” [asaver] or “undoing” [ablandar] a tritone.\textsuperscript{46} As will be seen presently, however, Gesualdo’s musicians also apparently used this term with respect to the given modern tritone, as well as the ancient tritones. Thus, “ensweetening” was a key term for a select population of Neapolitan musicians.\textsuperscript{47} To “ensweeten” a tritone is not, as one might expect from a later tonal perspective, to “resolve” a tritone (in this case E-flat to D and A to B-flat). According to d’Avella, in Chapter 38, “How the major fourths or tritones are ensweetened, and may be made singable,”\textsuperscript{48} to “ensweeten” a tritone is to “proportion” \textit{[per indolcire, ò proportionare]} it.\textsuperscript{49} In turn, to “proportion” a tritone is to “transfer it into a singable [perfect] fourth” [\textit{sarà trasferito à quarta minore cantabile}].\textsuperscript{50} D’Avella then defines two ways in which tritones are ensweetened (for both \textit{canto fermo} and \textit{canto figurato}), which produce different effects. “These ensweetenings,” as a rule, “are not made by chance, but according to the effects, positioning of the [solfege] syllables, and the quality of the modes.”\textsuperscript{51} The first way makes use of the soft-b accidental, always fa, by substituting it in place of the tritone’s mi.\textsuperscript{52} D’Avella shows this ensweetening for two ancient tritones FB and B-flat E. As seen in Example Three, the B and E mi’s become B-flat and E-flat fa’s. These fa sol re mi tritones are thereby ensweetened into ut re mi fa perfect fourths (alternatively: fa sol la fa, fa sol mi fa). This kind of ensweetening is not restricted to the flat side of the gamut exemplified.

\textsuperscript{46} Cerone, 702.
\textsuperscript{47} It will be useful to contrast their terminology to Vicentinian discourse about “ensweetening” madrigals through chromatic and enharmonic inflections. So too do the Roman Nanino brothers speak of “ensweetening” tritones (but not an E-flat A “modern” tritone) in the multiply transmitted \textit{Trattato di Contrapunto di Giovanni Maria Nanino e di Bernardino Nanini} (I-Bc). I suspect these influential pedagogues passed down this interval’s use orally; a provisional survey of their noted student Antonio Cifra’s imitations of Gesualdo’s madrigals suggests that he was versed in the practice.
\textsuperscript{48} D’Avella, 56. \textit{Come s’indolciscano le quarte maggiori, ò tritoni, e si faccino cantabili}.
\textsuperscript{49} Ibid.
\textsuperscript{50} Ibid.
\textsuperscript{51} Ibid. \textit{Questi indolcimenti non si fanno à caso, mà secondo li effetti, positure di sillabe, e qualità de’ toni}.
\textsuperscript{52} Ibid. \textit{E quando si vuole indolcire col b detto si mette nel luogo del mi, il quale per la natura di b che il varia, detto mi, diventa fa}. 
Example Three: The First Way to Ensweeten a Tritone

The second way to ensweeten the tritone makes use of the hard-B, always mi, in *canto fermo* and with the # for *canto figurato*, by substituting it in place of the tritone’s fa. D’Avella shows this ensweetening for two ancient tritones FB and CF#. As seen in Example Four, the F and C fa’s become F-sharp and C-sharp mi’s. These fa sol re mi tritones are ensweetened into mi fa sol la perfect fourths. This kind of ensweetening is not restricted to the sharp side of the gamut exemplified.

Example Four: The Second Way to Ensweeten a Tritone

Note that d’Avella does not further define a third way to “doubly ensweeten” a tritone, in which the above two ways are combined: Substitute fa in place of the tritone’s mi and mi in place of its fa; Example Five. The resultant doubly ensweetened tritones are the diminished fourths that are so prevalent in the *seconda prattica* madrigal. D’Avella will analyze one of these undefined ensweetenings presently.

Example Five: Doubly Ensweetened Tritones

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53 Ibid. *E per indolcire il tritono, à quarta maggiore col B nelli canti fermi, e col # per i figurati, si metta il B per il fermo, & il B ò # per il figurato nella corda di F [fa] che diventàrà mi.*
Turning to the ensweetenings’ historical development, d’Avella claims that the first kind of ensweetening with b-fa had been “frequently used” by the ancient musicians and their followers. He therefore does not cite its use in *canto figurato*. The second kind of ensweetening with B- and #-mi was, by way of contrast, used “rarely, or never.” It was the moderns who “placed [this kind of ensweetened tritone] in good use” and created “such beautiful effects” with it. On account of this ensweetening’s novelty, many people (including d’Avella) evidently perceived it as “chimerical and fantastic.” This perception will return in the discussion of ensweetened modern tritones.

In the remainder of Chapter 38, d’Avella cites numerous examples of the second kind of ensweetened tritone in a selection of Neapolitan madrigal part-books. These citations were certainly chosen by d’Avella alone and not singled out as exemplary by the Neapolitan madrigalists themselves (this crucial distinction will be made regarding the imminent citation of the ensweetened modern tritone in Gesualdo’s *Responsoria*). They are unique within the Neapolitan-Ferrarese theoretical literature, as Cerone, Vicentino, Cerreto, and others do not include any “ensweetened tritones” among their examples of text-setting in madrigals. D’Avella’s citations and critical remarks (which densely fill an entire page in his treatise) may be succinctly summarized in the following chart, Example Six. The composer, madrigal book number, and title of the madrigal are listed in the first column. In the second column are the musical notations with the texts (given by d’Avella), as well as d’Avella’s indicated solfege syllables and critical remarks (where present).

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55 *Ibid.*. *E perché a’ tempi nostri è posto in buon’ uso, come quello, che opra tanti bellissimi effetti, da molti è stato tenuto per chimerico, e fantastico, come non fosse nelli stromenti musicali.* The reference to musical instruments is unclear to me.
### Example Six: Chapter 38's Ensweetened Ancient Tritones

<table>
<thead>
<tr>
<th>Composer; Book; Madrigal</th>
<th>Text; Hawai's Ensweetened Tritones; Solfege; Remarks (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tartaglino (Arcadelt I)</td>
<td><em>Hor le tue forze adopra</em> No notation given</td>
</tr>
<tr>
<td>2. Montella IV$^57$</td>
<td><em>Dura legge d'amore</em> [Diagram]</td>
</tr>
<tr>
<td>3. Nenna VII</td>
<td><em>Anch'ei di furt'è nato</em> [Diagram]</td>
</tr>
<tr>
<td>4. Nenna VII</td>
<td><em>Tirsi morì, Clori crudel l'uccise</em> [Diagram] Remark: “The same effect [as #3] with such <em>melodia</em>.”$^58$</td>
</tr>
<tr>
<td>5. Stella I [sic] [Gesualdo II]</td>
<td><em>Acciò ritorni [sic]</em>$^59$ [Diagram]</td>
</tr>
</tbody>
</table>

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$^56$ D’Avella included the text, albeit not underlaid.

$^57$ D’Avella mistakenly ascribes this to Montella’s second book.

$^58$ D’Avella, 57. *Fà l’istesso effett con tanta melodia*. The precise meaning of *melodia* is uncertain. Certainly one hesitates to ascribe the all-encompassing definition of *melodia* as the composition of oration, rhythm, and harmony prominent in Artusi-Monteverdi polemics to this one example (1603, 23). D’Avella’s use of this term is minimal; however, as will be seen presently, he includes *melodia* as one of the constituents of “harmonic” song.

$^59$ The text should read “*a voi ritorno*.” There is not a misprint in the alto part of the 1594 Ferrara print. This copying mistake is another subtle clue for establishing d’Avella as reader of madrigal texts (beyond music theorist searching for examples of tritones). The original text is “*Morir mi sento, Non sperando di far à voi ritorno*” (“I feel myself dying, not hoping to return to you”). D’Avella’s text would be “*Morir mi sento, Non sperando di far acciò ritorni*,” the agency of which distorts the departure/return topic’s death/life metaphor (“I feel myself dying, not hoping to make it so that you might return”). D’Avella’s text also distorts the AABBBBCC rhyme scheme.
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>6. Stella I [sic] [Gesualdo II]</td>
<td><em>Chi non arde d’amor</em></td>
<td></td>
</tr>
<tr>
<td>Non mi toglie</td>
<td><img src="image" alt="Music Notation" /></td>
<td></td>
</tr>
<tr>
<td>Remark: “It makes a most beautiful effect.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Nenna VI</td>
<td><em>Fonte d’ogni mio ben</em></td>
<td></td>
</tr>
<tr>
<td>Mà se tu sei</td>
<td><img src="image" alt="Music Notation" /></td>
<td></td>
</tr>
<tr>
<td>Remarks: “It imitates [#6] with different words and in a different hexachord.” “If the last note would have been b, it would be most false.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Nenna VII</td>
<td><em>Amorosetto nego</em></td>
<td></td>
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<tr>
<td>Amorosetto nego</td>
<td><img src="image" alt="Music Notation" /></td>
<td></td>
</tr>
<tr>
<td>Remark: “It destroys that nature of b and reduces it to b.”</td>
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</tr>
<tr>
<td>9. Nenna VII</td>
<td><em>Coridon</em></td>
<td></td>
</tr>
<tr>
<td>In me desio sol d’honesta d’ hà loco</td>
<td><img src="image" alt="Music Notation" /></td>
<td></td>
</tr>
<tr>
<td>Remarks: For the “curious” readers (see below).</td>
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Although Chapter 38 predominantly features a list of examples of tritones, there is one subtle but glaring issue in d’Avella’s attributions that must be addressed before proceeding with

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60 D’Avella, 57. *Fà belliss. effetto.*

61 Ibid. *L’immita sotto altre parole; & in altro essacordo.* D’Avella speaks of imitating an ensweetened tritone in the abstract. I do not believe he is stating that Nenna’s *Mà se tu sei* directly imitated Gesualdo’s *Non mi toglie*. D’Avella was not aware of the teacher-student or imitated-imitator relationships that have been variously proposed for Gesualdo and Nenna. Note, also, his hexachordal comparison of the two madrigals.

62 Ibid. *Se havesse da esser b l’ultima nota, sarebbe falsissimo.* That is to say, if the F B tritone was “doubly ensweetened” into an F-sharp B-flat diminished fourth, it would be “most false.” Curiously, d’Avella does not similarly remark that the E-flat B-natural “doubly ensweetened” tritone found in the final citation in this chapter was “most false.”

63 Ibid. *Distrugge quella natura di b. la riduce à [#].*
the musical readings. Strikingly, in numbers five and six, d’Avella mistakenly identified Gesualdo’s second book (as printed in Ferrara, 1594) as Scipione Stella’s first book (all three of Stella’s known madrigal books are now lost). In fact, Stella was the editor of Gesualdo’s first two books for publication in Ferrara (their second edition). This misreading, although peripheral to deciphering the “ensweetened modern tritone,” has important implications for the reception history of the Ferrarese prints of Gesualdo’s madrigals, as well as for characterizing d’Avella as reader of madrigal books (beyond a music theorist searching for examples of tritones). The mistake happened as follows: The title-page of the print, Example Seven (recto), neither names Gesualdo as author (to conceal his noble identity), nor identifies the book as a reprint of his first or second book (in Naples under the name Pilonij—to whom d’Avella shall introduce us later). The reason for this, as Watkins explains, is that a “renaissance noblemen wishing to publish his own compositions typically took pains to avoid the impression that he was a professional musician who engaged in such activities for monetary gain.” Hence, they either used a penname or went anonymous. Watkins further observes that the Ferrarese printing of Gesualdo’s Books III and IV by Ettore Gesualdo and the Neapolitan printing of Books V and VI by Giovanni Pietro Cappuccio continue with this decorum, indicating that the idea of publication might not have begun with Gesualdo himself. D’Avella therefore assumed that it was a “first” book. The “collector” of the madrigals and editor of the book, Scipione Stella, as seen in Example Seven (verso), wrote and signed the books’ dedication to his “revered patron,” “Il Sig. Don Carlo Gesualdo Prencipe di Venosa.” This dedication might lead one to believe this was Stella’s first book. But d’Avella did not read closely the rest of the dedication, in which Stella (in but even a

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64 Another Neapolitan outsider’s reading of noble madrigalists’ pen-names in the Gesualdo circle would be Cerone’s listing of Geronimo Branchiforte, count of Camerata, alongside Gesualdo (not Pilonij). Branchiforte was Alfonso Fontanelli (150).

65 Watkins, Gesualdo: The Man and His Music, 298-299.
cursory reading) clearly states that, to serve his patron, he collected and printed these madrigals “by your Excellency” [parto dell’Eccell.Sua] (ie: by Gesualdo).66

Example Seven: Title Page (Recto) and Dedication (Verso) of Ferrara 1594 Prints (here Book II)

66 Watkins likewise writes that Stella’s editorial prefaces to the first to books “announce clearly that their contents were by the Prince of Venosa” (ibid., 299). Certainly, we are witnessing a reader unfamiliar with the problems of decorum that arose when publishing the works of a nobleman. D’Avella simply approached this book (even with its peculiarly empty title page) with the schematic norm in his mind that the composer wrote the dedication to a nobleman. In that sense, it is remarkable that Gesualdo and Stella did not foresee this potential problem (especially in light of the former’s claims to original authorship for later books).
The final citation in Example Six, Nenna’s *Coridon*, requires close scrutiny, as
d’Avella’s detailed analysis of it runs astray. Here, d’Avella supplies sharps that Nenna did not
indicate to the pitches D, E, F, and G in the turn figure in the middle of the phrase. His problems
with the passage begin, expectedly, with the E-flat B-natural diminished fourth (or “doubly
ensweetened” tritone). The B-natural should be solfeged as mi, via an implicit hexachordal
conjunction from D la mi re to D la sol re after the E-flat fa. However, d’Avella treats the B-
natural as if it were still B-flat, in which case it would be solfeged as B-flat ut under E-flat fa. In
turn, he solfeges this B-flat ut as a disjunctive B-natural ut. As this B-natural forms a diminished
fifth with the ensuing F, d’Avella supplies a sharp to this F to ensweeten (in the second way) this
interval into the “best consonance” of an accidental perfect fifth. This F-sharp is simply
solfeged as sol above the B-natural. F-sharp sol, in turn, implicates that the E-flat notated
beneath it should become E-natural fa and the D natural beneath it should become D-sharp mi.
At this point, d’Avella pauses and asks: What is the difference between the E-flat fa and the E-
natural mi encountered thus far? Although d’Avella leaves it to the “curious” readers to “tire
themselves” over this question (and refers them all the way to Chapter 45 for a hint), he provides
a brief answer which one may understand with “a little work.” D’Avella refers the reader to a
keyboard and provides some precise tunings between the white and black keys to explain the
interval between E-flat fa and E-natural mi. Following this brief digression, d’Avella observes

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67 The final five notes in this excerpt do not appear in Nenna’s madrigal and were likely added by d’Avella himself, for no apparent reason.
68 Ibid. *Dove vuole, che in b si dica ut, e fa quel diapente incidentale col sol, in f acuta, per ottima consonanza.*
69 Ibid. *Dove s’havrebbe à discorrere, che differenza sia tra quel primo fa, col b in e & il fa, che precede sotto quel sol, in f col #.*
70 Ibid. *Però si lascia al curioso d’affaticarsi, e vedere i modi nel decimoquinto esempio del capo 42 mà perche con poca fatica la sappia, quel primo fa col b ordinariamente si sonda nel negro di d acuta, però non è fa di 4 come, mà di cinque: vedi il capo 45 D & il fa, in c [sic] senza b nel bianco viene per l’ordine di due #, e trà il primo fa, col b e quel fa, in c [sic] bianco, vi è distanza di Quattro come, mà dal # in f vi è la distanza d’un tuono.* He observes that the first fa on E-flat is the black key above D and has a value of five commas (not four, d’Avella points out). The second fa on E-natural, however, is the white key above E-flat and stands
that one would not be able to sing this passage properly with his indicated sequence of solfege syllables unless a sharp accidental is supplied to the F to remove the B-natural F tritone. In this way, d’Avella claims the proper mutations are made “without twisting the mouth and making a million falsities, which are called durezze.” D’Avella’s analysis of this passage, of course, is an example of un-notated musica ficta supplied by the reader out of causa necessitas. His reading proves to be unnecessary and anachronistic for the chromatic Neapolitan madrigal, the

in a relationship of four commas above E-flat. These intervals are seemingly miscalculated in d’Avella’s chosen Pythagorean tuning: D E-flat should be four commas, but d’Avella writes that it is five commas (ie: the E-flat has the value of D-sharp). E-flat E-natural should be five commas, but d’Avella writes that it is four commas (ie: the interval from D-sharp to E-natural). This brief error is significant, as d’Avella is about to enumerate the ensweetened modern tritone. The reference to Chapter 45 D is most pertinent and perhaps accounts for d’Avella’s present miscalculation and/or confusion. In that chapter, discussed presently, d’Avella exemplifies how the Neapolitan musicians substituted E-flat for D-sharp (which was lacking on the common keyboard). Here, d’Avella has erroneously substituted D-sharp for E-flat. D’Avella’s chapters Pythagorean tuning will also be discussed presently, as will the possible descriptions of mean-tone tempered keyboard intervals in Pythagorean tuning.

71 Ibid. E non cantandosi à questo modo quel passo, In me desio sol d’honesta d’hà loco: non sarà possibile giamai si possa cantare mi, fa, do, mi, sol, fa, mi, fa, sol, la, re, sol, fa, sol, la, sol, in quinta, & entra alla prima natura di b molle, & à questo modo si lieva il tritonò, si fanno le ordinate mutationi, senza torcer bocca, e fare mille falsità, quali chiamano durezze.

72 To be sure, this will re-open the “secret chromaticism” debate once more; and I will pose the key question here for inclined readers, albeit prematurely in our study of d’Avella’s treatise: Were the chromatic madrigalists playing with the long held rules of causa necessitas in their text-settings, testing if readers would supply un-notated out-of-tune accidentals to ensweeten modern tritones? In my preliminary revisiting of the manuscripts, I only found one such instance thus far, which I will pose here for future prospects: Rore’s Schiet’ arbuscel (IIà4, renowned for the chromatic Mia benigna fortuna) sustains a modern tritone D G#, defined as “modern” presently, on the text “vita misera infelice.” Being a tritone, that could be fitting expression of the text. Out of cause of necessity, however, one ought to provide an un-notated D# to (keeping the term at hand) ensweeten that tritone into a consonance. The text-setting, however, is no longer miserable sounding without the tritone. The big “however,” however, is that the D-sharp is tuned as E-flat, as will be revealed presently. The resultant ensweetened modern tritone supplied out of cause of necessity is therefore out-of-tune and sounds even more miserable than the originally notated tritone. What was Rore’s intent? Was it to raise this “cognitive dissonance” in his singers’ minds and thereby make the text-setting all the more dissonant? If so, how all the more artistically brilliant was Rore and deserving of his seconada prattica praise. The next questions arise: Is there any trace in the prints or manuscripts that singers supplied a D# out of necessity? If so, is there any evidence that this alleviated the text’s misery (i.e.: the D-sharp is tuned as D#) or accentuated the misery? The answer to the first question is yes, the 1577 partitura of Rore’s madrigals supplies the D# (manuscript annotations digitalized in I-Bc). Unfortunately, however, I see no indication that the supplier of this accidental provides an answer either way to the second question. Let this preliminary example suffice to illustrate the issue at hand. As my next citation suggests, there is not any un-notated musica ficta for Gesualdo and the post-Gesualdo generation Neapolitan madrigal. Therefore, d’Avella has here grievously erred. However, this is not so for Rore’s generation, through some of whose eyes d’Avella (and ostensibly others who I have not yet found) is clearly still reading.
prints of which sometimes included a warning beneath the table of contents: “Do not sing accidentals where they are not indicated.”

Note that there are not any tritones actually present in Example Six’s excerpts, only ensweetened tritones. Unfortunately, d’Avella did not define the difference between a perfect fourth in and of itself and an ensweetened tritone, both of which might equally have been used to express a madrigal’s text. This apparent oversight causes ambiguity when one tries to contextualize d’Avella’s analyses within the given madrigals’ scores or look elsewhere for further examples of ensweetened tritones: When is a perfect fourth an ensweetened tritone versus just a perfect fourth? How do we know an ensweetened tritone is not an ensweetened diminished fifth (which d’Avella, incidentally, never defined)? Of the above citations, this ambiguity is most prevalent in number six, Gesualdo’s Non mi toglie, which may serve as a representative example. D’Avella excerpts the alto part D B-natural D E, in which the B-natural mi, according to his reading, ensweetened a B-flat fa C sol D re E mi tritone. Although d’Avella did not say so, one presumes, following his citation, that Gesualdo ensweetened this tritone to negate the word arde: He who does not really burn with love for the lady may not be text-set by the burning sensation of a tritone. Turning to the score of Non mi toglie in Example Eight (A), however, we find that d’Avella’s citation is but one of a dozen imitations of the four-note motif on chi non arde d’amor. Is the first iteration of this motif, the quinto’s F D F G in measures three and four, really an ensweetened D-flat fa E-flat sol F re G mi tritone? This reading would entail that the alto’s imitation of this quinto part, as cited by d’Avella, would begin on an ensweetened D-flat fa (i.e.: D mi). But d’Avella did not indicate this; rather, he solfeged the alto’s first D as sol by

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73 For example, Salzili’s second book (Carlino: 1611): Non i hà da cantar #, ò b, se non dove stà signato. This warning does not appear on the Gardano 1609 edition of Nenna’s seventh book; however, I do not know which edition d’Avella worked from.
virtue of the ensweetened B-natural mi. Likewise, the tenor’s B-flat G B-natural C would be an ensweetened G-flat fa A-flat sol B-flat re C mi tritone. The Canto’s C A C D would be an ensweetened A-flat fa B-flat sol C re D mi tritone. The Basso’s F D F-sharp G would be an ensweetened D-flat fa E-flat sol F re G mi tritone. Most important of all, the alto’s second imitation, G E G A, would be an ensweetened E-flat fa F sol G re A mi tritone—the very modern tritone posited in Chapter 39. But d’Avella did not cite this tritone; nor does it appear more modern or significant than any of the other ensweetened tritones. These purported tritones and the extremely chromatic origins they imply (which, of course, are far too remote for Gesualdo’s second book) are seen in Example Eight (B). Similar concerns will surface again when one places d’Avella’s citation of a modern tritone in Gesualdo’s Responsoria within its score context. Certainly, I do not think the ensweetening of Example Eight (B) accurately represents Gesualdo’s compositional process in Non mi toglie. Therefore, it will be most necessary to distinguish the ensweetened tritones identified by the Neapolitan musicians themselves from d’Avella’s own identifications.

Example Eight: Non mi toglie, Ensweetened and Un-Ensweetened

74 This un-ensweetening process will, moreover, have profound implications for the theoretical analysis of Gesualdo’s madrigals by means of diatonic reductions.
There are even greater consequences of d’Avella’s reluctance (if not inability) to score these ensweetened tritones in their polyphonic contexts. Indeed, by not scoring the parts, he missed one of Gesualdo’s first documented ensweetened modern tritones, as appears in the very madrigal before Non mi toglie in the Ferrara print: All’apparir di quelle luci ardente. Beyond further characterizing d’Avella as reader, this now key madrigal, on the lume topic, in which the lady’s glance erotically consumes her lover, will presently acquire even more significance when we contrast the chromatic ensweetenings of Gesualdo’s consumptions to those of Vicentino. The poem tells of the disappearance of the poet’s tormenting pains when his lady’s “burning lights appear.” Now, his torments are “turned into joy;” he begs Love to continue “burning, wounding, and piercing” him, if such a “little [light]” could bring him such “pleasure.”\footnote{All’apparir di quelle luci ardenti/ Il duol che si m’annoia/ Subito sparve e convertissi in gioia./ Amor, ferisci pur, ardi e saetta, Se un cosi picciol ben tanto diletta.} As seen in Example Nine, Gesualdo’s setting is, on the surface, rather commonplace, featuring lively figurations on “luci” and augmenting the accentuation on “ardenti.” The following mutation of pain into joy is likewise predictable, exchanging flats on the second verse for naturals and sharps on the third verse. Note, however, that Gesualdo appears to have here “modernized” this
ostensibly commonplace text-setting by means of placing a “modern tritone” on the first “m’annoia” (measures 8-9). First doubling the root of the tritone, E-flat, in the quinto and tenor on the c minor triad on the final beat of measure eight, Gesualdo then sustains this E-flat into an F major triad on the first beat of measure nine. He then ensweetens the resulting E-flat A modern tritone formed between the quinto and alto by means of an A-flat (this is what d’Avella missed without a score). I suspect the torments continue in the counterpoint through the parallel fourths between the quinto and alto that are “incorrectly” supported by the canto. Note, however, that the E-flat A-flat is, in d’Avella’s discourse, an ensweetened modern tritone in the first way; but we may again doubt that the following D G and C F fourths are ensweetened D-flat G and C-flat F tritones in the second way. Cadencing on B-flat major to conclude the second verse, Gesualdo changes to naturals and sharps on the third verse, moving towards a G major cadence on measure ten. Here, in my d’Avella-inspired reading, the A-flat in the alto is not merely “cancelled” by the natural sign. Instead, the A-natural is an ensweetening for an A-flat D tritone between the alto and the canto (and tenor). This still tormenting A-flat D tritone was ensweetened in the second way, at once (“subito”). Also gone are the unsupported parallel fourths. In the repetition of these verses, Gesualdo curiously takes away the modern tritone’s ensweetening in the quinto and tenor, leaving us to wonder: Which of the chromatic progressions is more painful: Ensweetened or un-ensweetened? I suspect that, for Gesualdo, it was here more painful to have a sweet pain taken away than ensweetening a previously bitter pain. But, no matter what reading one arrives at, the important point here is that it is precisely this critical thought process that is missing from d’Avella’s Chapter 38 (and underdeveloped throughout his treatise), again, on account of his monophonic reading.76

76 D’Avella additionally missed another polyphonic ensweetened modern tritone in this book in Candida man qual
Example Nine: Score Reading and the Ensweetened Modern Tritone in *All’apparir di quelle luci*

Through our reading of Chapter 38, we may presume that there are two ways in which the modern tritone given in Chapter 39, E-flat A, could be ensweetened: E-flat A-flat or E A. On the basis of the above discussion, we should anticipate that the ancient musicians already knew and used the first ensweetening, E-flat A-flat. Therefore, this ensweetening should not be able to modernize the tritone. Rather, one presumes that the modern Neapolitan madrigalists would have introduced the second ensweetening, E A, which would also have been perceived as “chimerical and fantastic.” But why should this ensweetened tritone be any more modern than *neve* (Il/15), in which the poet runs to embrace his snow angel and cries out that she burned him. On his cry, “O, me misero Amore!” Gesualdo sets an ensweetened modern tritone that will be seen presently to have been unacknowledged (or unknown) to d’Avella: D-sharp G-sharp. The point is, for future analytical considerations of Gesualdo’s stylistic development, that this “modernism” was present in his madrigals from the very start. D’Avella could have discovered this important fact through more careful and detailed readings of tritones in his preparations of Chapters 38-39, but did not.
the B E, F# B, and C# F# ensweetened tritones cited above? Surprisingly, d’Avella only
discusses the first kind of ensweetening for the given modern tritone, E-flat A, in which “the b
must be placed on a la mi re.” There is a problem with this ensweetened tritone, as d’Avella
immediately interjects: “Who will deny that fa may not be [placed] on A?” His question,
clearly intended as rhetorical for his contemporary Neapolitan audience, first of all betrays a
well-known ambiguity inherent to the Guidonian solfege system. Fa certainly may (and must) be
placed on A when there is a G-sharp mi in its presence. Accordingly, d’Avella would have done
better to express his question in slightly more specific terms: Fa may not be placed on A, when
mi is placed on G[-natural]. Or, better yet, d’Avella should have affixed the soft-b accidental to
the syllable fa. With this question, however ambiguously posed, d’Avella might be prohibiting
the use of the pitch A-flat fa (particularly in conjunction with a tritone on E-flat fa). Or, he

77 D’Avella, 58. & in a la, mi, re, si deve fare il b.
78 Ibid. Chi dunque negherà, che in a non può stare il fa? D’Avella’s description of his ideas in this chapter, as
Burney’s underlines indicate, is difficult; this question in particular is perhaps the most problematic. One
wonders if d’Avella himself struggled to find the right words of explanation here. The question’s
grammatical construction, in itself, poses problems. The denial clause may implicate that the “non” is not
to be translated, as in: “Who would deny that fa may be on A?” This construction indisputably exists in
the Neapolitan Italian at hand, for it may be found in Santoro’s treatise (discussed later). A most clear
example is when the student asks if song is ancient. To this, the teacher answers with a rhetorical
question: Chi potrà negare, che il Canto non sia antico? Timagene assersice, che quest’Arte sia
antichissima (12). This, of course, must be translated as “Who will deny that song is ancient? For
Timagenes asserts that this art is very ancient.” Translating the “non” here results in nonsense: “Who will
deny that song is not ancient? For Timagenes asserts that this art is very ancient.” D’Avella notably
concludes the treatise with a similar rhetorical question; its construction will provide a point
of comparison here: Hora per tante varietà d’accidenti dette in questo trattato, (tanto necessarie per la
musica, e che la Mano Comune non li dimostra) non si dovrà dire, che detta Mano Comune non si
sufficiente per imparar canto figurato? (76). Translated correctly: “Now, on account of the variety of
accidentals spoken of in this treatise (very necessary for music and which the Common Hand does not
demonstrate), will it not be said that the said Common Hand is not sufficient for learning canto figurato?”
Alternatively, “Who will say that the Common Hand is sufficient for learning canto figurato? For a real
challenge, d’Avella elsewhere postulates this question with a triple negative: Non devono persuader’à
ciascuno, e tenerse che la Mano commune non sia neanco sufficiente per imparare di canto fermo ?] (125)
“Ought they [the difficulties] not persuade everyone to maintain that the common hand is not even
sufficient for learning canto fermo? As I will show presently, one must read around d’Avella’s treatise for
comparable musical theoretical statements to elucidate the content here. Elsewhere, d’Avella writes the
same idea more clearly. Moreover, as I will reveal, d’Avella is actually expressing the fact that “fa may not
be on A” by means of the number five above it. Finally, if “fa may be on A,” then there is nothing
remarkable enough about the ensuing musical excerpt from Gesualdo’s Tenebræ worth penning a
polemical treatise about!
might be denying the very existence of the pitch A-flat fa. In either event, his readers are led to believe that not a single musician in Naples at the time would have placed the b-fa on A. To understand d’Avella’s rhetorical question, we must first briefly recount the positioning of the syllable fa in medieval and renaissance musical theory and then look for related discussions of this topic elsewhere in d’Avella’s treatise.

Why might fa not be placed on A, as was routine in countless theories and practices of *musica ficta*? D’Avella, on account of his select reading of the literature, did not subsequently raise this question. Certainly, fa was consistently on A within the “expanding limits of *musica ficta*” observed by Karol Berger in treatises ranging from the fifteenth- through early sixteenth-centuries. As Berger discerned, theorists generally applied the accidentals b-fa and #-mi to only those notes in the Guidonian gamut that lacked the syllables fa and mi. Climbing up the Guidonian gamut: G sol re ut lacked both fa and mi; hence, G-flat fa and G-sharp mi existed. A la mi re lacked only fa; hence, A-flat fa (and rarely A-sharp mi) existed. Soft-b fa and hard-B mi existed. C sol fa ut lacked mi; hence, C-sharp mi (but not C-flat fa) existed. D la sol re lacked both fa and mi; hence, D-flat fa and D-sharp mi existed. E la mi lacked fa; hence E-flat fa (but not E-sharp mi) existed. F fa ut lacked mi; hence F-sharp mi (but not F-flat fa) existed. The result was a sixteen-note gamut in which fa certainly could be (and surely was in practice) on A. In fact, the rhetorical question posed by d’Avella was typically the other way around and might be framed: Who would deny that #-mi may not be on A? (i.e.: A-sharp does not exist).

Even with the emergence in the early sixteenth-century of a more practical twelve-note gamut, one consisting of the seven white keys plus five black keys of the keyboard, fa remained

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80 Ibid., 33.
on A. The rationale of this gamut, according to Berger, was to place the syllable fa in the Guidonian gamut wherever there is a mi, and vice versa, a mi wherever there is a fa. This obviated the prohibited mi contra fa intervals and replaced them with acceptable mi contra mi and fa contra fa intervals. Climbing up the Guidonian gamut once more: G sol re ut lacked both fa and mi; hence, neither G-flat fa nor G-sharp mi existed. A la mi re lacked only fa; hence, A-flat fa (but not A-sharp mi) existed. Soft-b fa and hard-B mi existed. C sol fa ut lacked mi; hence, C-sharp mi (but not C-flat fa) existed. D la sol re lacked both fa and mi; hence, neither D-flat fa nor D-sharp mi existed. E la mi lacked fa; hence E-flat fa (but not E-sharp mi) existed. F fa ut lacked mi; hence F-sharp mi (but not F-flat fa) existed. The result was a twelve-note gamut consisting of two sharp keys, F-sharp, C-sharp, as well as three flat keys, B-flat, E-flat, and A-flat. An alternative version of this twelve-note gamut developed in the mid to late sixteenth-century, however, in which G-sharp mi replaced A-flat fa. Following Aaron, Lanfranco, and Zarlino, Berger attributes this development to the want of the leading tone at cadences on A. Yet even though A-flat fa was lacking on keyboard instruments, theorists recognized that it could still be sung.\(^{81}\) Hence, fa certainly still could be (and surely was in practice) on A.\(^{82}\) Where, then, did A-flat fa go in d’Avella’s late sixteenth- and early seventeenth-century Naples?

When placed in the company of his Neapolitan predecessors and contemporaries, d’Avella’s rhetorical question “Who will deny that fa may not be on A?” proves too presumptuous. A brief survey of the accidentals found in other treatises will suffice to make this point. Some Neapolitans, notably Rodio, Cerreto, and Picerli placed b-fa on A without reservation; they would have denied d’Avella’s claim. Rodio, although he did not provide a precise limit or rationale for the chromatic gamut, included an example of *musica ficta* with flats

\(^{81}\) Ibid., 52-54.
\(^{82}\) Ibid., 48.
placed on E, A, and D at the end of his demonstration of the modes. Cerreto likewise did not provide a precise limit or rationale for the chromatic gamut; in his chapter on placing the six syllables outside the Guidonian diatonic gamut, he only presented examples of hexachords with sharps on F, C, G, and D, without any examples of flats. However, he did introduce A-flat in \textit{ficta} transpositions of the modes. He also used the interval B-flat A-flat as an example of a \textit{tuono vocale accidentale}. Picerli, with the most elaborate theoretical expansion of the Guidonian diatonic gamut to match a chromatic keyboard, placed flats on E, A, D, and G. By way of contrast, other Neapolitans, notably Cerone and Cavalliere restricted the chromatic gamut to the two flats (B and E) and three sharps (F, C, and G) found on the practical keyboard; they would have affirmed d’Avella’s claim that b-la may not be on A. Cerone provided the most detailed discussion of this gamut in Chapters 24-28 of Book 16 of his treatise in which, en route to the formulation of accidental modes, he first gave an exhaustive three-page list of octaves divided into species of fourths and fifths consisting of only these two flats and three sharps. He then likewise gave a list of “defective” hexachords in which the accidentals not on the keyboard must be omitted. Example Ten presents the hexachord built upon E-flat ut, in which A-flat fa,

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83 Rodio, 87. Rodio’s example is discussed in Chapter Two of this study.
84 Cerreto \textit{Della Prattica}, 86. I am not convinced that Cerreto’s unrestricted use of A-flat in his theory accords with his apparently very restricted use of A-flat in practice in his surviving music. His “Come parlar poss’ io” of \textit{L’ Amarillide} (Napoli: Vitale, 1621), the only A-flat example I have found, applies the pitch in a manner consistent with the “departure” and “consumption” applications of it found in the Gesualdian Neapolitan madrigals (discussed in Chapter Two of this study). In this case, Cerreto’s A-flat represents the poet’s “death,” as, in the common poetic metaphor, his soul and affections have been given to his beloved. If my suspicion is correct, this would raise the question why Cerreto, a theorist competent in the minute distributions of commas (as will be seen presently), did not or could not explain that the A-flat was out-of-tune and, therefore, affective.
85 Ibid., 118.
86 Ibid., 52.
88 Cavalliere, 35-7.
89 Cerone, 922-930.
according to Cerone, is “lacking.”

Clearly, there was a lack of consensus among Neapolitan theorists concerning the placement of b-fa on A. D’Avella’s own *Regole*, in fact, abounds with contradictions on this matter outside of Chapter 39. Let us examine his other discussions of A-flat fa to better grasp his description of the ensweetened modern tritone.

**Example Ten: Fa May Not be on A, According to Cerone**

Although d’Avella did not admit it in Chapter 39, he himself denied at length elsewhere in his treatise that fa may not be on A. In his discussion of the “value and effects” of the Neapolitan madrigalists’ accidentals in Chapters 31 and 32, d’Avella presents a lengthy argument against “that Scholar” who did not understand that the accidental b could be on A (and G, for that matter) and who claimed that “such a thing was never used.” In this particular instance, “that Scholar” appears to be criticizing the accidentals in the madrigals of Scipione LaCorcia, to whose defense d’Avella comes throughout the *Regole*. Here it becomes clear that A-flat’s very existence is in question, not its prohibition in practice. D’Avella’s rebuttal in favor of the existence of A-flat fa and LaCorcia’s use of it unfolds with three leading questions. He first asks “that Scholar:” Is not b-fa placed most commonly of all on B mi to form a consonant fifth below F? The scholar agrees. D’Avella then asks: Is not b-fa also commonly placed on E la mi to form a consonant fifth below B-flat? The scholar again agrees. Then, d’Avella is quick

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90 Cerone, 930. *Formando las desde el Segundo Bemol negro, que esta entre D sol re y E la mi, falta el Fa: lo mismo sera formandolas desde su Octava y Quinzena.*

91 D’Avella, 48-49. *Del valore, & effetti, degli accidenti; Degli altri effetti, ch’opran gli accidenti.*

92 Ibid., 49. *E se pur quel Scolare non pare che capisca, che in a possa essere il b & in g usato dal Corcia, e dica, mai tal cosa s’è usato.*

93 Ibid. *Se sarà istrutto competentemente nelle consonanze, e contraponto, il b comunemente da tutti non si mette in b fa, B mi? si.*
to add, b-fa may be placed “with rule” on any E below B-flat, whether grave, or acute, or super-
acute.\textsuperscript{94} D’Avella finally refers “that Scholar” to Example Eleven and asks: Why might the E-
flat be placed beneath B-flat in the first measure but not the A-flat beneath E-flat in the second
measure? The scholar falls silent (perhaps all too easily).\textsuperscript{95} D’Avella victoriously concludes that
fa may be on A la mi re.\textsuperscript{96} LaCorcia is exonerated.

\textbf{Example Eleven:} D’Avella Defends LaCorcia from “That Scholar”

![Diagram]

Even after his rebuttal, however, d’Avella remained concerned that someone might still
deny that b-fa may be placed on A la mi re, claim that this fa is “unknown,” or that it is “not in
use.” To these allegations, d’Avella retorts that A-flat fa may be found on chromatic instruments
and is sung by the voice. If A-flat fa is unknown, this is a “defect of whoever does not know it
or that it might exist.” If the fa on A is not in use, this is not an “excuse” that it might not be
used.\textsuperscript{97} Certainly, as d’Avella crusades on, its use should not have to be censured \textsuperscript{[biasmato]}; for
placing fa on A is a “good thing” and, as such, one ought to follow the more knowledgeable
musicians \textsuperscript{[intendenti]} and use it.\textsuperscript{98} D’Avella concludes Chapter 32 by resuming his logical
placement of flat fa’s begun in Example Eleven to form even more consonant fifths. He now

\textsuperscript{94} Ibid. \textit{E per la consonanza di quinta sotto in E la mi non vi fanno il b? sì, dunque in ogni e ò grave, ò acuto, ò sopracuto, si può fare il b con regola.}

\textsuperscript{95} Ibid. \textit{Inoltre comunemente si fà la consonanza di quinta da e acuta à b fa B mi, sopracuta, come il presente esempio, e se ogni nota sopra, e sotto può havere ogni consonanza, e quinta, & ottava, perche dunque sotto il b in e non può havere la quinta, come nel secondo esempio, che viene in a la, mi, re?}

\textsuperscript{96} Ibid. \textit{Dunque in a la, mi, re, può essere il fa (vedansi le mani).} D’Avella additionally refers “that scholar” to his Guidonian hands, on which b-fa is indeed placed on A. I discuss this problem in Chapter Three of this study.

\textsuperscript{97} Ibid. \textit{E se alcuno dicesse, che in a la, mi, re, non vi è tal fa, o che non si sà, ò che non sia in uso, gli dico, che in a, come si è dimostrato per ragione di consonanza, per la quinta sopra vi è il fa, e che non vi sia, questo è falso, e nelli strumenti cromatici, e da corde si trava, e con voce si fa; e che non si sappia, questo è difetto di chi non sà che vi sia: che non sia in uso, né questo scusa, che non s’habbia à fare.}

\textsuperscript{98} Ibid. \textit{E che facendosi habbia da esser biasmato, perché essendo cosa buono, si deve mettere in uso, come han fatto molti intendenti.}
proceeds beyond A-flat and places a b-fa on D and every other note thereafter. With an implicit recognition of a circle of fifths, d’Avella envisions song *canto* (or, perhaps more accurately: the gamut) as a circular figure, which will subsequently reappear throughout the treatise. According to “true philosophy,” d’Avella argues, song ought to enjoy all of the privileges that the circle enjoys. As the parts of a circle are all similar to each other, that which one part enjoys, every part necessarily enjoys. Therefore, d’Avella proceeds to place not only fa, but all six syllables equally on every note around the circle of fifths.

Although d’Avella did not draw his implicit circle of fifths, it may be easily enough extrapolated, as in Example Twelve. Note that this is a diatonic circle of fifths with each of the six syllables [*voci*] placed on each of the seven pitch letter names [*corde*]. This extrapolated circle (as opposed to a chromatic circle of fifths with all six syllables additionally placed on each accidental pitch) will be confirmed and refined via the study of d’Avella’s chapters on the extended Guidonian hands. This implicit recognition of the circle of fifths will disappear in his generation of the ensweetened modern tritone.

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99 *Among Neapolitan music theorists, Cerone also reports a circular conception of the Guidonian gamut, but does not draw it (275).*

100 *Ibid., 50. Oltre che per ogni ragione conviene detto fa, non solo in d corda, mà in ogni altra, & in tutte le corde, ch’essendo il canto in figura circolare, secondo la vera filosofia deve godere, e gode di tutti i privilegi, che gode il circolo, il quale hà tutte le parti similari, e quel che gode una parte di quello, conviene ad ogni parte necessariamente: dunque non solo il fa, mà in ogni nome di nota conviene à qualsivoglia corda, per diversi rispetti.*
Example Twelve: D’Avella’s Implicit Circle of fifths

Although d’Avella did not include an example of LaCorcia’s censured chromatic madrigals in this chapter, such an example may be found in the final (mostly miscellaneous) chapter of the treatise. Perhaps, then, it could have been more suitably placed at this juncture in Chapter 32. As seen in Example Thirteen, an excerpt of an otherwise lost madrigal, LaCorcia indeed signed D-flats and G-flats—right alongside C-sharps and F-sharps\(^\text{101}\)—that were “censured by little learned [musicians] with little reason.”\(^\text{102}\) Although this excerpt does not happen to include A-flat alongside G-sharp, one could easily envision LaCorcia including this juxtaposition as well in another portion of this madrigal.\(^\text{103}\)

\(^{101}\) A supplemental example of this juxtaposition of flats and sharps by a Neapolitan madrigalist not mentioned by d’Avella would be Francesco Genuino’s *Io rido amanti* (III, 6), cited in Watkins, *Gesualdo: The Man and His Music*, 229).

\(^{102}\) D’Avella, 76. *Scipione la Corcia segna il b in d & gg nelle sue opre, biasmato da poco intendenti, e con poca ragione.*

\(^{103}\) D’Avella continues his discussion of this passage to help the censors sing LaCorcia’s works “politely” [compitamente], “in a lively way” [con vivacità], and “without twisting the mouth” [senza storcere bocca]; but his explanation for why LaCorcia juxtaposed these accidentals is unclear to me: “He placed the flats there, not having the guide of the sharps” [vi pose li b molli, non havendo la guida del #]. D’Avella finally claims to teach this effect in Chapters 43 and 45; but no comparable juxtaposition of sharps and flats appears in these chapters. Beccatelli writes that, although he never heard of LaCorcia, he should have been censured by many greatly learned musicians: *E mostra nell’esempio, di Scipione la Corcia, io non lo so, e non passo farne il riscontro. Ma dato che sia vero, non sarà stato biasimato da i poco intendenti, e senza ragione: Ma bensi da i molto intendenti, e con molta ragione* (86). He then turns satirical and claims that the proper use of accidentals according to common instruments was known at least since Plato; and surely La Corcia was not older than Plato! (87)
The reader might gather that the vast contradictions between Chapters 39 and 32 on the allocation of b-fa on A reflect different stages of the *Regole’s* compilation. This hypothesis proves false, however; for d’Avella concludes his Chapter 32 arguments in favor of the existence of b-fa on A by referring his readers to Chapter 39 for further examples of b-fa on G, A, and D!\(^{104}\) But Chapter 39 does not refer his readers back to Chapters 31 and 32 for further examples that fa may not be on A! The contradictions between these chapters are undissolvable. D’Avella additionally refers his readers in Chapter 32 to Chapter 45, “On the Utility of Knowing Diatonic, Chromatic, Enharmonic, and Harmonic Song,”\(^{105}\) in which he probes in greater detail the two-fold positioning of fa on A and mi on G seen in Example Fourteen. This portion of Chapter 45 concerns the restricted keyboard gamut of two flats and three sharps, as well as its split-keyed extensions.

**Example Fourteen: The Two-Fold Positioning of Fa on A, Mi on G**

In the first measure d’Avella exhibits the white-key A fa under C la (but, oddly enough, did not write a G-sharp mi immediately thereafter). The second measure exhibits the black-key

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\(^{104}\) Ibid., 50. *Dunque si comunemente il fa si dice nelle corde di e,b, c & F può competere anco à g, a & d. vedi il cap. 39 e 40. vedi anco la 2 difficoltà del capo 45 dove s’havrà compita sodisfattione.* D’Avella presumably meant to refer the reader to the 4\(^{th}\) difficulty discussed in Chapter 45.

\(^{105}\) Ibid., 71. *Che utile si cava dal saper questi canti Diatonici, Cromatici, Enarmonici, & Harmonici?*
A-flat fa in the immediate presence of B-flat sol and G mi. A “doubt” remains, however, in d’Avella’s mind that there ought to be another fa on A which is lower than the indicated white-key A fa: It should be lower in pitch but higher in placement on the keyboard than the black-key A-flat fa (that is to say, there should be a split key). If the second measure were to continue and imitate the first measure’s minor third, C A, with a major third, C A-flat, the fa would not be formed perfectly on A. This is because the A-flat fa, according to d’Avella, is actually sounded in common practice by the black-key G-sharp mi. One gathers from the notated example that G-sharp evidently sounds plausible as an A-flat when it neighbors B-flat and G, but not when it forms a major third with C. Therefore, in order to make this hypothetical C A-flat major third imitation “perfect and sonorous,” there should be another black-key, A-flat fa, in addition to the black-key G-sharp mi. D’Avella reports that organists did not touch the said black-key G-sharp in similar passages with A-flat because it sounds “false.” String players, however, could

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106 Ibid. Inoltre questi fa, dimostrati in a l’uno per b nel tasto negro, e l’altra nel tasto bianco per i due # mi. The order of this sentence’s A fa’s is, confusingly enough, opposite to the musical example.  
107 Ibid. Resta un dubio, & è, che in detta corda di a dev’essere un’altro fa, minore di quello per li due # e più alto di quello del tasto negro.  
108 Ibid. Se fosse fatta un canto à questo modo, per fare quell’imitazione di quelle terze, non si potrebbe formare perfettamente quel fa, in a la, mi, re, perche secondo l’uso di sonarlo si sona nel g negro, qual tasto non stà nel spatio di a mà in quel di g nel negro, e sono il semitono mi, di dette corda, & è di cinque come. Here, in contrast to his miscalculation and/or confusion in Chapter 38, d’Avella accurately describes the Pythagorean tuning of G-sharp and A-flat.  
109 Ibid. Se dunque il b è di quattro, facendosi quella immittazione: la quarta nota viene nel g bianco, e dice la, sino al fa, di a devono essere quattro come, & il tasto di g negro, come s’è detto di cinque: dunque sotto il g negro di cinque come ci vorebbe un’altro tasto di quattro come, per fare perfetta l’immittazione, e sonora.  
110 This statement will stand in implicit contradiction with d’Avella’s observations of the ensweetened modern tritone in Gesualdo’s Tenebrae. He does not explicitly state in this chapter that the Responsoria was performed with organ accompaniment. Barbieri, in his “Conflitti di intonazione tra cembalo, liuto ed archi nel ‘concerto’ italiano del Seicento,” correctly read this passage of d’Avella (144), but did not work through the entire treatise to discover d’Avella’s many contradictions about A-flats and performing G-sharps in their stead. It is surely plausible that both practices existed in Naples, conservative organists passing over the A-flats, Gesualdo’s musicians sounding the G-sharp key instead. Note, moreover, that d’Avella did not address the issue of organ accompanied psalms and psalm-tones, in which mean-tonal organ transposition and omission is most pertinent.
perform the A-flat. D’Avella concludes in this portion of Chapter 45 that the difference between G-sharp mi and A-flat fa is “of more than a little importance.” D’Avella’s question “Who will deny that fa may not be on A?” therefore refers to a practical keyboard with G-sharp and not A-flat.

Even more contradictions on the placement of fa on A will be found in d’Avella’s expansion of the Guidonian gamut in Chapters 21 and 22, his pedagogical exercises for solfeging Neapolitan chromaticism, and even the one known surviving codex with his own plainchant compositions that was owned by a singer at the Chiesa di Santa Maria la Nova. As seen in Example Fifteen, one Johannes Abellanus signs an unremarkable ensweetened ancient tritone, A-flat E-flat, on a Beata Nobis Gaudia contrafactum of the Nicene Creed.113

Example Fifteen: An Ensweetened Ancient E-flat A Tritone in d’Avella’s Church

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111 Ibid. Però alcuni Musici, quando occorrono simili passi, con due terze sotto, e sopra negli organi, passano, e non toccano detto g negro, perché è falso d’una coma; mà alli stromenti di corde, sentano a e fà l’effetto.

112 Ibid. In questo dunque giudico, che gli stromenti Cromatici siano buoni, nè occorre sì dica, che quel coma di più poco importi, perché appresso di huomini d’honore, importa l’honore. I have not yet identified this saying, a unique occurrence in the treatise on canto figurato.

113 Biblioteca Provinciale Francescana di Napoli, codice 19. Dated 1640 by Abellanus (the year of d’Avella’s death). I thank Nicola Macchione of the Biblioteca for reproducing this manuscript. One can only hope that more sources from d’Avella’s church and his theological milieu lay waiting to be discovered in this as yet incompletely cataloged library.
To be sure, the question “Who will deny that fa may not be on A?” was too hastily (and rather disingenuously) asked and reflects a certain inability on d’Avella’s part to reconcile in words the various instrumental, vocal, and notational practices of his time at the very crux of his treatise. His final and most egregious contradiction on the placement of fa on A appears in the notation of the ensweetened modern tritone given in Chapter 39, Example Sixteen. Here, immediately after writing that b-fa may not be on A, d’Avella nevertheless proceeded to notate the ensweetened modern tritone as E-flat ut F re G mi and A-flat fa—now existent after all! As if his rhetorical question and contradictory musical example were not confusing enough for the reader, d’Avella additionally affixes a series of numbers above this ensweetened modern tritone, without any verbal explanation in this chapter. Following the precise printing, the number 4 appears above E-flat, 9 above both F and G, and 5 in between G and A-flat. These numbers (to say nothing of their ambiguous printing) were surely the greatest source of confusion for d’Avella’s few readers. Those who recognized Gesualdo’s appearance in this chapter (like Burney) and then tried d’Avella’s cryptic prose probably stopped at the undefined mathematics. In order to decipher these numbers and resolve their ambiguous placement in print, it is necessary to work through the neo-Boethian demonstration of musical intervals, consonance, and dissonance, which led up to Chapter 39. Perhaps d’Avella, as he often did, should have included a reference to these requisite chapters (24-37).114

Example Sixteen: An Ensweetened Modern Tritone

![Example Sixteen: An Ensweetened Modern Tritone](image)

114 Beccatelli’s annotations on Chapters 24-27 are terse summaries, in order not to make a long “chit-chat:” Per non fare una lunga diceria di tutto ciò, che quest’Autore insega nelli suddetti capitoli, per quanto, à me sarà possibile in poche parole ne spiegherò tutta la sostanza, divisa in più punti qual è questa (48).
These numbers are the ensweetened modern tritone’s “sonorous proportions.” According to d’Avella in Chapter 24, all of the sonorities of music are reducible to three “substances of the voice” [sostanze di voce]. The first substance is the whole-tone, which, in d’Avella’s unique conception, is contained on the syllables ut, re, sol, and la and in those syllables’ given pitches—and not as an interval in between the syllables ut and re, re and mi, fa and sol, and sol and la (the reasons for this unique conception are given in Chapters 27 and 28, discussed presently). For d’Avella, the whole-tone is considered perfect because it is expressed naturally, not artificially. The second substance is the major semitone, which is contained on the syllable mi and in that syllable’s given pitch (and not in between the disjunct syllables fa and mi). The third substance is the minor semitone, which is contained on the syllable fa and in that syllable’s given pitch (and not in between the syllables mi and fa). For d’Avella, these semitones are considered imperfect because they are expressed artificially, not naturally. Following Book III of Boethius, d’Avella enumerates the “sonorous proportions” of these three sostanze di voce in terms of Pythagorean commas. He does not rehearse Boethius’ precise

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115 Ibid., 42. Della diversità delle voci nella Musica, quanto all’essenza, ò quantità diversa per la sonora proporzione.
116 Ibid. & à queste tre sostanze di voce, e modi di proferir le sei note, si riducono le sonorità della Musica, e non vi è altra quantità, nè sostanza di voce, che queste tre.
117 Ibid. Sotto la voce tuono, sono contenute quattro note delle sei, ut, re, sol, e la, le quali si dicono voce perfetta, perfette; perché ciascheduna si proferisce senz’arte, e naturalmente.
118 Ibid. La voce di semitono maggiore sarà ogni mi, e la voce del fa, per ogni modo, sarà la voce del semitono minore.
119 Ibid. E questi semitoni, perché si proferiscono, no naturalmente, mà con arte. Beccatelli’s criticisms of this natural vs. art distinction are found, in fact, in his annotations to Chapter 28. He points out an inconsistency between Chapters 24 and 20 (which precedes the treatise on Neapolitan canto figurato): If ut, re, sol, and la are pronounced “naturally,” then why, Beccatelli asks, did d’Avella say in Chapter 20 that ut and sol are pronounced with “terribilità,” re and la with “affetto allegro,” mi with “affetto sdegno, e in collera, e che spiri più il fiato per il naso che per la bocca,” and fa “competentemente gagliardo, e non molto allegro?” For Beccatelli, these are all artistic utterings and therefore imperfect: Sicché in buona conseguenza, non vi è voce alcuna che si possa dire proferita naturalmente, ma tutte con arte, dunque saranno tutte imperfette? (52) Beccatelli continues with similar inconsistencies (or “giocondi pensieri”) found in other un-named authors. He rebuts them by reason of hexachordal mutation: An ascending ut is fa descending, ascending mi is la descending; ought, then, they be sung similarly? (52-53). He will presently use the same hexachordal mutation concerns to rebut d’Avella’s association of the sonorous proportions with particular syllables.
mathematical derivations; rather he takes it as a given that the whole-tone’s sonorous proportion is (approximately) nine Pythagorean commas. Note that this “sonorous proportion” is not actually a proportion between two numbers (for example, the 9:8 proportion of the whole-tone given in Boethius’ Pythagorean tuning system). Instead, it is a practical approximation of the exceedingly large number proportions in Boethius’ demonstration that the 9:8 whole is larger than eight commas but smaller than nine commas. D’Avella then supports this value of nine commas with some numerical speculation: According to Albert the Great, nine related instruments participate in the formation of the whole-tone, namely the throat, tongue, palate, four molars, and two lips. These nine commas are therefore found in the whole-tones of human voices and instruments. This perfect whole-tone of nine-commas, however, is insufficient by itself to cause the enjoyment of music. There must be other imperfections, which, following the well-known Aristotelian maxim, ought to be reduced to perfection. These imperfections are the major and minor semitones, whose sonorous proportions are (approximately) five and four commas. When added together, these semitones’ sonorous proportions, of course, form the

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120 Perhaps for this reason, then, Beccatelli began his Annotazioni with a lengthy “Spiegazione delle Proporzioni” (5-22). Then, before proceeding to his annotations on Chapters 24-27, he placed “Istruzione per bene intendere ciò che seguentemente si tratterà,” in which he rehearsed the Boethian and mean-tone tempered divisions of the whole-tone (43-48). In advance of postulating the “Holy Cross of Music Theory,” discussed presently, Beccatelli also rejected in these instructions the substitution of mean-tone tempered sharps for flats and vice versa, as practiced by those who were “more simple-minded than knowledgeable” [costoro sono stati più semplici che sapienti] (46).


122 D’Avella, 43. Alberto Magno dice, che per formarsi tal voce vi concorrono nove istromenti propinqui, la gola, la lingua, il palato, i quattro denti anteriori, le due labra insieme. E questa voce così formata dice Boetio al terzo libro della sua Musicà, che costa di quattro diesis, & una coma, e dice che ogni diesis hà due come, dunque la voce perfetta, ò voce tuono...costa di nove come.

123 Ibid. Queste come nelli stromenti da tasti si trovano nel spatio, che s’interpone divisibile in nove particelle eguali, per la formatione d’una voce perfetta all’altra perfetta, e queste particelle si chiamano come, ò diastimi, e nel fiato humano si ritrovano in quella quantità di fiato, che spira l’huomo, per formare sonoramente li suoni, e nomi delle note.

124 Ibid. Se la Musica cantasse sempre con questa sudetta voce perfetta, non cagionarebbe quel diletto, che cagiona...Dunque è necessario vi siano altre voci dalla sudetta perfetta, dunque saranno inequali, & imperfette, e per farsi perfette è necessario, secondo la regola del Filosofo 3. Physicorum, che si riduchino alla perfettione, e questa perfettione è il novenario.
Returning now to Example Sixteen, we immediately see that the ensweetened modern tritone consists of two whole-tones on F and G, each with the sonorous proportion 9, as well as two unequal semitones on E-flat and A-flat, with the sonorous proportions of 4 and 5. The 5, seemingly printed correctly as the interval *in between* G and A-flat, is in fact misprinted: It should appear *on* (ie: above) A-flat.

These numbers are not as obscure as they might seem. Practical treatises throughout the sixteenth- and seventeenth-centuries often included a discussion of the approximate number of Pythagorean commas in the whole-tone and two unequal semitones, albeit not termed “sonorous proportions.” Among Neapolitan theorists, Cerone, Picerli, and Cerreto included discussions of these Pythagorean commas. Perhaps the most accessible diagrams of the Boethian division of the whole-tone are found elsewhere, however, in Angelo di Picitono’s *Fior Angelico di Musica*; comparable diagrams are unfortunately wanting in d’Avella’s *Regole*. Picitono’s diagram appears in Example Seventeen. Working from the perfect whole-tone’s arch at the top to the number line of commas at the bottom, Picitono first subdivides the whole-tone into a major semitone on the left and a minor semitone one the right. In turn, both semitones are subdivided into two minor dieses, but the major semitone has a remainder left over. The minor diesis is then subdivided into two commas. Therefore, the minor semitone consists of four

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125 Ibid. *E queste voci di cinque, e di quattro come, per essere imperfette, da’ Musici volgarmente sono chiamate semitonii, non semis, per metà, mà per imperfettione, come s’è detto di sopra, che non ponno essere equali, e quella voce, che delle nove come ne hà cinque, si chiamà semitono maggiore, e la nota, ò voce di quattro come, si dirà semitono minore.* Beccatelli rejects the association of sonorous proportions to specific syllables again through hexachordal mutation: How could mi and la, ut and fa have different values on the same pitch ascending and descending? He then takes a satirical turn, asking: *Voi dite che la sillaba ut, è tuono perfetto di nove coma, in oggi che questa sillaba si chiama Do, sarei curioso, di sapere di quante coma costerà?* (54).

126 Cerone, 282.
128 Cerreto, *Della Pratica*, 45.
commas. The major semitone is seen to exceed the minor semitone by the remainder of one comma; thus it consists of five commas. Beneath this example, Picitono diagrams an “imperfect” whole-tone consisting of only eight commas. Notably, Picitono’s diagram is reprinted nearly verbatim in Camillo Perego’s 1622 *La Regola del Canto Fermo Ambrosiano* (dedicated to Gesualdo’s cousin, Federico Borromeo, Archbishop of Milan).  

**Example Seventeen:** Picitono’s (and Perego’s) Diagram of the Division of the Whole-Tone

![Diagram of the Division of the Whole-Tone](image)

Among Neapolitan theorists, Cerreto provides (what we might call) a tree diagram of the division of the whole-tone; see Example Eighteen. Upon the comma (represented by one vertical slash) at ground-level in the middle of the diagram grow two dieses (represented by two slashes), each of which consist of two commas. Upon these, two more dieses grow. On the left side of the diagram, the ground comma and two dieses grow into the major semitone (represented by five slashes) consisting of five commas. On the right side of the diagram, the

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131 Op. Cit. Cf. Santoro, *Scola di Canto Fermo*, 25. This 1715 Neapolitan treatise, discussed later in great detail vis a vis the late Post-Tridentine reception of out-of-tune intervals, provides a simplified version of Cerreto’s diagram, implying it was perhaps originally difficult to understand.
ground comma is (confusingly enough) not added into the two dieses which grow into the minor semitone (represented by four slashes) consisting of four commas. The two semitones then grow into the “division” of the whole-tone (represented by nine slashes) consisting of nine commas. The microtonal roots beneath the surface subdivide the comma into halves and fourths.

**Example Eighteen: Cerreto’s Diagram of the Division of the Whole-Tone**

Another Neapolitan context for d’Avella’s “sonorous proportions” may be found in Honofrio d’Andrea’s *Prose*, an academic discourse on the topics of beauty, friendship, love, music, courtesy, heroicism, marriage, nature, fortune, and happiness, which was written contemporaneously with d’Avella’s treatise in the mid 1630’s. D’Andrea places his Boethian knowledge of Pythagorean tuning alongside praises of the sounds of the Neapolitan countryside, comparisons of dissonant sounds in Tasso’s verses with those of music, the musical proportions
of the world soul in the *Timaeus*, and the horrible cries of the *Inferno*.  

Having succinctly summarized the subdivision of the whole-tone into two unequal semitones, D’Andrea accurately captures the difficulty of the mathematics found in Book Three of Boethius’ *De Musica*:

“Whoever has greatly tired to learn this most beautiful science, knows what I intend to say.”

Having defined the basic sonorous proportions of 4, 5, and 9, d’Avella continues with arguments that there are not more than these three (Chapter 25), and that it would be wrong to deny that there are not numbers in music (Chapter 26). He reiterates the definitions of the perfect whole-tone and imperfect semitones, this time adding new references to the harmony of the spheres (Chapter 27). D’Avella ascribes the Aristotelian principle of local motion to the sonorous proportions (Chapter 28). This chapter accounts for why the sonorous proportions are within the notes and not in between them. He rebuts those who deny that the major semitone exists in song (Chapters 29) and exhibits in musical notation the summation of the major and minor semitones into whole-tones, arguing that no whole-tone is absolutely perfect in and of itself (Chapter 30). These philosophical, argumentative, and at times redundant chapters are, with the exception of the end of Chapter 27 and Chapter 28 in its entirety, tangential to deciphering Chapter 39’s theoretical contents; as such, they may be here passed over without risk of under-representing d’Avella’s Boethian defense of Neapolitan chromaticism. D’Avella’s subsequent definitions of consonant and dissonant intervals, which he founded upon the three

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133 Ibid., 38. *Chi hà molto fatigato per acquistar cotssta bellissima scienza, so che m’intende.*
134 D’Avella, 44. *Come non sono più che le sudette tre voci nella Musica Tono, Semitono maggiore, e minore.*
135 Ibid. *Come errino alcuni che negano, che nella Musica non vi siano numeri.*
136 Ibid. *Quali siano le voci perfette, e quali siano semitoni maggiore, e minore.*
138 Ibid., 46-47. *Il Semitono maggiore, come si dimostri, e si trovi nelli stromenti, e per conseguenza sia nel canto.*
139 Ibid., 47. *Come niuna voce è perfetta, per qualsivoglia modo.*
basic sonorous proportions, are more important to understanding the ensweetened modern tritone. Let us therefore investigate d’Avella’s unique placement of the sonorous proportions on the syllables and in their pitches and not in between them, and then proceed to his definitions of consonance and dissonance in Chapters 33-37.

Chapter 27 continues the discussion of the perfect and imperfect substances of the voice, but also includes d’Avella’s reasons for placing the sonorous proportions on syllables and in their pitches, in contradistinction to their more commonly accepted intervallic placement. In the final paragraph of the chapter, d’Avella laments that “the professors of the Rules [of music]” could not understand and adopt his rule for the enumeration of the substances of the voice, for these theorists commonly understood the whole-tone as the “space” between the perfect voices ut and re, re and mi, and so forth (and, likewise for the imperfect semitones). By way of contrast, d’Avella’s conception of the substances of voice does not include that space (whether as a melodic or harmonic sounding of two notes); instead, d’Avella restricts the substance to “one voice in its absolute self, without respect to space.” In place of “space,” d’Avella substitutes “breath,” which, in his opinion, has the given quantities of commas. d’Avella’s

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140 Ibid., 45. *Vorrei, che li professori, di Regole mi capissero circa l’intelligenza di questa voce tono che non l’intendessero, come comunemente se dice, ut, re, tono, re, mi, tono &c. e che intendessero quel spazio da una voce perfetta all’altra.* I have not identified any contemporary Neapolitan theorists who disagreed with d’Avella in print. Surely, however, Beccatelli took issue with the sonorous proportions in his annotations of the *Regole.*

141 Ibid. *Perche io non intendo questo spazio, nè due note insieme, mà intendo una voce sola in se assoluta, e senza rispetto à spazio, mà al fiato.* I note in passing that d’Avella previously identified this “space” on the keyboard in Chapter 24: *Queste come nelli strumenti da tasti si trovano nel spazio, che s’interpone divisibile in nove particelle eguali, per la formazione d’una voce perfetta all’altra perfetta* (43). For Beccatelli, this association of breath and interval was “uno sproposito cosi grosso” and it was “superfluous” to speak of it further (54). Nevertheless, he continued to rebut d’Avella and asked him if he never heard singers sing the same pitches with different affects according to the sense of the words and, therefore, different quantities of breath: *Ma Padron mio, voi che dite, che questi coma risiedano nel fiato, che si spira dalla bocca, avete voi fatta mai reflessione, che li cantor ora cantano, con voce gagliarda, e ora con soave, quando forte, e quando piano: secondo il senso delle parole, e secondo il loro buono gusto; come ancora chi ha grande, e chi piccolo voce, tutte diversità, che portano lo spirar dalla bocca quando molto, e quando poco fiato?* Continuing his diatribe, Beccatelli next asked d’Avella
reason for this unique substitution is vague, terse, and best stated in his own words: The breath of the whole-tone has nine commas “not through reason of motion, but [through reason] of discrete quantity of breath.”\(^{142}\) He likewise ascribes the sonorous proportions 4 and 5 to the amount of breath needed to produce the voce mi and fa, in their own absolute states and not the amount of breath needed to move spatially from mi to fa and fa to mi.\(^{143}\) D’Avella’s Chapter 27 explanation for the other theorists concludes with this pronouncement.\(^{144}\) Although his unique conception of the sonorous proportions is beginning to become clearer, he will contradict this reasoning in Chapter 28.

Chapter 28, “On the insufficient way of ordering the propositions [ie: the substances of voices’ sonorous proportions] and their defects,”\(^{145}\) features the first notated example in which

\(^{142}\) Ibid. E tono, qual fiato, e voce hà, come s’è ditto tante volte 9 diastimi non per ragion di moto, mà di quantità discrete nel fiato.

\(^{143}\) Ibid. Così anco s’intenda de la voce, mi, che hà cinque, e la voce fa 4 come, non rispetto al spatio, mà rispetto al fiato.

\(^{144}\) This extraordinary early seventeenth-century account of vocal sound production, in which (to venture one attempt at its explanation, beyond Beccatelli’s criticisms) various pitch frequencies related by Guidonian solfege syllables are produced by breathing the approximate number of Pythagorean commas veritably found in between abstract pitches (irrespective of frequency) will surely merit extensive analysis in the future. For now, let our attention be strictly focused upon deciphering the notation of the sonorous proportions of Gesualdo’s ensweetened modern tritone. The principle contemporary text on the vocal apparatus, unknown to (or unacknowledged by) d’Avella is Giulio Cesare Casseri, De Voci Auditusque Organis Historia Anatomica (Ferrara: Baldino, 1600). It is worth noting here that d’Avella did not actively engage the anatomical literature, for, as will be seen presently, he “dissects” a post-Guidonian Hand (but not the larynx and lungs). However, Casseri’s scientific impact on contemporary music theory and apparent patronage of music composition will be a worthy investigation: Artusi’s sole surviving book of Canzonette (Venetia: Vincenti, 1598) is notably dedicated to Casseri. No other mention of Casseri, however, appears in Vogel. Also, contrast in particular the Franciscan Zaccaria Tevo’s anatomical Il Musico Testore written two generations after d’Avella (31-45).

\(^{145}\) Beccatelli’s annotations are most extensive for this chapter; indeed he copied it out entirely, before criticizing it (50-51). D’Avella’s theories in this chapter are, as always, unique; and it will be of interest to see which theories Beccatelli grasped and criticized, as opposed to those which he passed over.
the sonorous proportions are given for a series of substances of voice, a simple fifth from G to D, Example Nineteen (A). \(^{146}\) “Almost all of the rule-forming music theorists [Regolisti],”\(^{147}\) according to d’Avella, enumerate this fifth with 9 for the whole-tones G ut A re, A re B mi, and C fa D sol. As these theorists also commonly deny that the major semitone is found in practice, they, by default, enumerate the semitone B mi C fa as 4. \(^{148}\) Note that d’Avella (and, equally likely, the printer) has mis-represented these theorists’ enumeration by placing the sonorous proportions on (ie: directly beneath) the substances of voices’ given pitches according to his rules. He should have properly placed them “spatially” in between the pitches, Example Nineteen (B). “With a little diligence,” d’Avella found “four brutal errors” in this enumeration. \(^{149}\) The first error was that only four notes have numbers assigned to them; this means, for d’Avella, that the first note G is not “given form, although it is necessary.” If, however, the G is “uttered and consonantly sounded,” then “why,” d’Avella asks, “ought it not

\(^{146}\) Following d’Avella’s Chapter 24 distinction between the enumeration of commas in intervallic “space” on musical instruments and in “breath” in the human voice, Beccatelli understood Example Nineteen (A), to represent instrumental space in d’Avella’s conception. Of course, Beccatelli rejected this distinction: *Sicchè a numerare con i coma [sic] una consonanza negli strumenti ella sarà diversa da quelle che si formano colla voce?* (64-65)

\(^{147}\) With his one-time use of this term, one gathers that his *Regole* is also devised as a response to these unidentified theorists, independently of the censorship of Gesualdian chromaticism. In that case, the Gesualdo content would be a secondary stage of compilation, inserted into (and onto) the purely theoretical debates on measuring intervals and sound production. To be sure, d’Avella’s arguments with the “regolisti” do not surface in the other contemporary Neapolitan treatises.

\(^{148}\) Ibid. *Quasi tutti li Regolisti (poco esperti però) negano che si trovi il semitono maggiore, e per questo quando vogliono numerare una consonanza, e veder li numeri, che vi entrano, osservano questo modo (e l’han fatto presente me) vogliono, per esempio numerar questo diapente, e dicono ut, re, tono e scrivono nove: poi re, mi, tono, e scrivono nove: mi, fa, semitono, e scrivono quattro, e non assegnano, che semitono, e perché negano il maggiore, sarà minore, perché gli assegnano quattro come: poi, fa, sol, e scrivono nove per tono, vedasi l’esempio, & il modo di numerare*. Beccatelli rejected d’Avella’s argument that both minor and major semitones are found in music by means of diatonic songs, which are “more beautiful and harmonious than others and do not admit the major semitone.” *Ma che per formar l’Armonia si richiede metter in pratica ambidue li semitoni, quest’ è falso, per che le composizioni Diatoniche, che son le più vaghe, e più Armoniose dell’ altre, non ammettono, altro semituno, che il maggiore* [in Beccatelli’s chosen mean-tone temperament, unlike d’Avella’s Pythagorean tuning, the diatonic semitone is large and, therefore, it is the small semitone that is left out] (52). Of course, Beccatelli found the “regolisti” under attack to be “more learned than [d’Avella]” [*più dotti di lui*].

\(^{149}\) Ibid. *E s’esamini con poca diligenza, e si troveranno Quattro brutti errori.*
have its number?"\textsuperscript{150} The other theorists respond, in a sentence of crucial insight into d’Avella’s intellectual contexts, that “there is not [the Aristotelian property] of local motion on the first note.” That is to say, simply put, that the first note has not undergone a change of place, as have the following notes. To this rudimentary application of Aristotelian physics to music, d’Avella retorts—in direct contradiction to his above Chapter 27 claim that the sonorous proportions of commas are in the quantity of breath, not in its motion—that “music always begins with motion because,” according to Boethius, “each percussion (including that made on the first note) may not be made without motion first.”\textsuperscript{151} The motion presupposes the percussion which stirs the sound of the first note.\textsuperscript{152} Yet d’Avella maintains that this motion on the first note is also local; thus, in assigning G ut the whole-tone’s sonorous proportion of nine, he understands this G ut as change of place from F fa to G sol ut—even though that F fa has not sounded. Contra the other theorists, this placement of nine on the first note, Example Nineteen (C) is, for d’Avella, the

\textsuperscript{150}Ibid. Il primo errore è che in quattro sole note è segnato il numero, dunque la quinta nota non serve, e non dà forma, e pure è necessaria, par si proferisce, e suona nella consonanza, e perche non dev’ haverne il suo numero?

\textsuperscript{151}Ibid., 45-46. Dicono che nella prima nota non vi è moto locale, però s’ingannano, perché la Musica sempre ha principio col moto, perché ogni percussione, e fatto di prima nota, non può essere senza moto come dice Boetio. Beccatelli’s response to d’Avella’s application of local motion to the first note is, by now, predictable: He questioned what the syllable of the first note (and first notes in general) might be, granting hexachordal mutations. He then asked if the motion should be away from another antecedent note that is non-existent in the actual musical example. What is the syllable of this absent antecedent note and how, then, could one assign it a determinate number? E se il moto deve prendersi dal figurarsi una nota antecedente, questo è incerto, per che puol [sic] esser’ quando una, e quando un altra: sicché non si potrà dare alla prima nota un numero determinato. Beccatelli then resumed his satirical writing and proclaimed to find this motion of commas in the opening of the singers mouth, the movement of the instrumentalist’s hands, depending how wide and far they opened and moved (65-66). Beccatelli then reads d’Avella’s citation of Boethius on motion, “Pulsus et Percussio non potest esse sine motu, idest nisi prius mutus precedat,” with an understanding of vibration theory that was foreign to d’Avella: Io le intendo così, che qualsiasi corda di strumento non darà suono alcuno, se avanti non le sarà data la vibrazione, e il moto: cessato il moto cesserà ancora il suono. Finally, Beccatelli succinctly corrects d’Avella: Commas are the “smallest particle” [piccolissime particelle] of the voice, not of motion or wind (66).

\textsuperscript{152}Ibid., 46. Dunque presuppone primo il moto, e poi il suono; dunque se la prima nota della suddetta consonanza suona, & è necessaria, dunque prima vi era il moto, e perche non vi scrivono il suo numero?
“optimal enumeration.” Continuing on to the remaining of the four errors in Example Nineteen (A), we may arrive at d’Avella’s complete conception of this hypothetical example.

The second error is that the other theorists have only assigned the perfect number 9 and imperfect number 4. However, 4 must be reduced to its perfection by means of the number 5, which is not present in the other theorists’ enumeration. Although d’Avella does not proceed to place in words a substance of voice mi with the sonorous proportion of 5 in this fifth, the reader may easily enough infer that the 9 on B mi should, in fact, become a 5 according to d’Avella’s rules, as shown in Example Nineteen (D). The third error is that the total number of commas in the fifth should, as, following d’Avella’s reference, we will encounter in Chapter 35, should sum to 36. This error has been corrected by means of assigning 9 to G ut and 5 to B mi instead of 9: G ut (9) + A re (9) + B mi (5) + C fa (4) + D sol (9) = 36 commas. The fourth error, which simply reiterates that the other theorists have taken away the major semitone from the fifth, is out of order and should have followed the second error by placing the sonorous proportion of mi on B. This example in Chapter 28 has readily explained why d’Avella placed a sonorous proportion on the ensweetened modern tritone’s first note E-flat (unexpected for the

153 Ibid. All’ ut della consonanza vi è il spatio di tono, dunque doveano scrivere il numero nove alla prima nota, e sarebbe ottima numeratione.

154 Ibid. Il secondo errore è, che nella numeratione assegna due sorti di numeri il 9 & il 4. il 9 perfetto, & il quarto imperfetto, e se questa imperfettione si deve ridurre alla perfettione...necessariamente si deve dire, che tal numeratione di due soli numeri non è buona, e vi è necessario altro numero.

155 Beccatelli understood Example Nineteen (D) to represent d’Avella’s conception of commas in the breath of the human voice.

156 Ibid. Terzo errore. Il sudetto diapente, essendo consonanza perfetta, deve havere i numeri e quali, acciò divisi possa far effetto consonante, e costoro la numerano col numero 31 de tre tuoni, il semiton inore, e deve costare di 36 come, come nel cap. 34.

157 Ibid. Il quarto errore è, che levano il semiton maggiore dal sudetto diapente, qual semiton, se vi fusse, lo numerarebbono col numero 5.
present-day reader), instead of leaving it blank. The four *on* the E-flat fa in Example Sixteen must be read as a local motion from D mi to E-flat fa.\(^{158}\)

**Example Nineteen (A-D): The Sonorous Proportions in Motion**

![Example Nineteen](image)

Having worked through d’Avella’s reasons for placing the sonorous proportions *on* and *in* the *voce*, we may now proceed to d’Avella’s assessment of the consonance and dissonance of the ensweetened modern tritone. In Chapter 33, “On the cause of sonority and consonance in music,”\(^{159}\) d’Avella first rehearses three theories of consonance and dissonance that he rejects en route to postulating his own. Some have said that percussing air with the voice causes sonority and consonance. These percussions are like the ripples of a body of water struck by a stone, which arrive at the auricular tympani.\(^{160}\) D’Avella replies that it is true that air receives consonant or dissonant sound and conducts it to the ear as it receives it, but that air itself is not the cause.\(^{161}\) Others have said that the sense of hearing judges consonance or dissonance by its sense of enjoyment or disgust. They have written that the second, fourth, seventh, and the compounds of these intervals are dissonant because they displease the sense of hearing. The unison, fifth, and octave are consonant because they are pleasing to the sense of hearing. D’Avella replies that they have mistaken effects for causes.\(^{162}\) Other “capricious” theories

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\(^{158}\) D’Avella did not develop this rudimentary Aristotelian physics and the “breath” he associated with commas.

\(^{159}\) Ibid., 50. _Delle cause della sonorità, e consonanza nella Musica._

\(^{160}\) Ibid. _Alcuni han detto, che la sonorità, e consonanza si cagioni dall’aria indissoluta, percossa dalla voce (come acqua, che giace da pietra) che in tanti anelli pervenuta al timpano auricolare, cagiona quel suono._

\(^{161}\) Ibid. _È vero che l’aria riceve il suono consonante, ò dissonante, e così come lo riceve, lo conduce all’orecchio, mà non per questo può l’aria cagionare la sonorità, e consonanza._

\(^{162}\) Ibid. _Altri dicono…che l’udito giudice del diletto, ò disgusto, riceve dalla consonanza, ò dissonanza: da quel suono determina, e dice, questa ò consonanza, e quest’è dissonanza, onde poi posto in pratica hanno detto, e scritto, la seconda, la quarta, la settima, e le composte de queste, perche splacciono all’udito,_
d’Avella neglects to mention because they have deprived “the Queen of the three sisters Rhetoric, Poetry, and Music” of principles and causes.\textsuperscript{163} By way of contrast to these opinions, d’Avella proclaims to derive his theory of sonority, consonance, and dissonance from Book III of Boethius. For d’Avella, the “true and real” cause of consonance and dissonance is not air or the sense of hearing, but rather Pythagorean commas, since music is “subalternate to mathematics.”\textsuperscript{164} (That, of course, Boethius did not say in Book III of his Musica).\textsuperscript{165}

D’Avella theorized two novel methods to determine the consonance or dissonance of a sonority in terms of Pythagorean commas. He presents these methods in Chapter 34, which is most provocatively titled “The way to judge consonance and dissonance with the eyes.”\textsuperscript{166} First, if the sum of the commas in a given series of pitches divides evenly, it is consonant; if the sum divides unevenly, it is dissonant.\textsuperscript{167} Second, if the sum of the commas in the two extreme notes of an interval divides evenly, the interval is consonant; if the sum divides unevenly, it is dissonant.\textsuperscript{168} D’Avella treats the two ears like two perfectly level balances. If one ear receives more weight in commas than the other ear, the balances are “exasperated” and the ears “feel at

\begin{itemize}
\item sono dissonanti; l’unisono, la quinta, e l’ottava, perche piacciono all’udito; sono consonanze, e questi tali prendono l’effetto per la causa.
\item\textsuperscript{163} Ibid. Et altri perche dicono cose à capriccio, & aliene, tralascio li loro capricci: In modo che, al dir di costoro, la Regina delle tre sorelle, Rettorica, Poesia, e Musica, si trova priva di principi, e cause.
\item\textsuperscript{164} Ibid. La causa dunque vera, e reale della consonanza, e dissonanza, sono le come, ò diastimi, quelle quantità dette nel cap. 27 perche la Musica è qualità subalternata alla Matematica.
\item\textsuperscript{165} Ibid. Et io per dimostrare queste cause ad utile di tutti; mi servirò della dottrina di Boetio, il quale nel 3 della sua Musica, trattando della Dissonanza, dice... D’Avella’s definitions are, in fact, taken from Book 1, Chapter 8 of Boethius.
\item\textsuperscript{166} Ibid., 51. Modo di giudicare la consonanza, e dissonanza con gli occhi.
\item\textsuperscript{167} Ibid. Il primo è dagli diastimi, che entrano in qualsivoglia spetie, li quali, se divisi in due parti, come s’è detto di sopra, saranno eguali; quella consonanza sarà Sonora: e se non saranno eguali, sarà dissonante.
\item\textsuperscript{168} Ibid. Il secondo modo sarà l’egalità nel numero dell’estreme note della consonanza, per esempio, sarà l’estremito d’una consonanza di numero paro di quattro come; e l’altro estremito di numero sparo di cinque, ò di 9 come (come si vedrà) quella tal consonanza sarà mala, e dissonante: mà se l’uno estremo sarà di numero sparo, e l’altro sparo sarà buona: overo, se l’uno estremo sarà di quattro, e l’altro pur di quattro come, sarà parimente buona consonanza. Beccatelli’s response to d’Avella’s theory of consonance and dissonance may be succinctly extracted: “Questa è una sciocchezza” (55). Previously, he also took d’Avella’s theory of consonance and dissonance, as exemplified by the perfect fourth GABC, to represent all of the “ineptitudes” of Chapters 24-27: Queste, e simili inezie insegna ne i predette capitoli (50).
once the touch of dissonance.” These two methods are exemplified in Chapters 34-39, in which d’Avella enumerates and judges by his eye the consonance and dissonance of a variety of intervals from thirds to ensweetened modern tritones. D’Avella is frankly aware of the speciousness of his theories and, on account of the many exceptions that arise, he discusses each interval in some detail. These chapters may be succinctly summarized in the following table, Example Twenty, which lists each interval discussed by d’Avella in the first column, the letter notations in the second column, the sonorous proportions in the third column, the two methods of judging consonance and dissonance in the fourth and fifth columns, and d’Avella’s judgments (where given) in the final column. D’Avella’s mathematics often goes astray since he assigned the sonorous proportions to the pitches’ solfege syllables and not the intervals between the pitches (I have therefore included for reference the correct intervallic values in brackets in the third column). To take d’Avella’s first example as representative: The major third GAB is solfeged ut re mi. Again, the whole-tone syllables ut, re, sol, and la contain 9 commas. The minor semitone syllable fa is 4 commas and the major semitone syllable mi is 5 commas. This major third’s sonorous proportions are therefore 9, 9, and 5, the sum of which is 23 (whereas the intervals between ut-re and re-mi are both 9, which sum to 18). Thus, this major third, according to the first method of judging consonance and dissonance, is dissonant since 23 does not divide evenly. According to the second method of judging consonance and dissonance, however, this

169 Ibid., 50-51. L’orecchie ricevendo quel suono inequale à guisa di due bilancie perfettissime, non potendo sopportare un poco di più da una parte; si esasperano, perché l’un’orecchia, quasi bilancia, riceve la metà dei diastimi della consonanza, e l’altra, l’altra metà, e se queste non sono equali, subito sentono dal tocco la dissonanza: e se queste parti divise, saranno equali, perché æqualiter perveniunt, & uniformiter; le due orecchie godono della soavità.

170 Ibid., 51. E perche vi sono molte eccettioni da notare in queste consonanze, e dissonanze nelli seguenti capitoli, brevemente si dirà di ciascuna spetie, e si dimostrerà la consonanza, e dissonanza dall’equalità, & inegalità de’ numeri, e l’occhio le giudicherà. It is ironic that d’Avella postulated such an arch rationalist theory for judging musical intervals, when, in fact, it was his ears that initially judged Gesualdo’s ensweetened modern tritone. D’Avella never negotiated the perennial divide between empirical and rational judgments of musical intervals, nevertheless rehearsed the standard literature on this topic in the manner of Cerone, 310-311.
interval is consonant since the sum of the extreme notes’ sonorous proportions 9 and 5 is 14, which divides evenly. For such split decisions, d’Avella adopts the term Emelle: Neither consonant nor dissonant.171

Numerous inconsistencies with d’Avella’s mathematics and judgments arise. For example, the minor third EFG is judged Emelle, despite the fact that both the total sum of the commas and the sum of the extremes divide evenly.172 Two of the minor (or perfect) fourths, ABCD and BCDE should be judged Emelle, but d’Avella did not write any judgment on them. Most problematic of all, the sonorous proportions of the major and minor (or perfect) fourths both sum to 27 commas,173 as does the ensweetened modern tritone. D’Avella was undisturbed that these various intervals have the same magnitudes according to his theory. I would suggest that the reader not get bogged down, in the manner of Beccatelli,174 over these inconsistencies and specious theories that are of doubtful application to Neapolitan chromaticism as practiced. Instead let us acknowledge them as part of d’Avella’s attempt to provide a neo-Boethian theory for Neapolitan chromaticism and focus upon the enumeration and judgment of the ensweetened modern-tritone.

171 Ibid., 147. Emelle, ne consonanti, ne dissonanti. D’Avella’s understanding of the term “emelle” diverges from its more common reference to the imperfect consonances of thirds and sixths. Among Neapolitan theorists, see, for instance, Dentice’s Dialoghi: Et l’emmelés son quelle [voci], che si possono adattare alla Melodia, cioè che si posson porre in mezzo delle perfette consonanze, come à dire le terze, le seste, & tutte l’alte (21).

172 Ibid. Questa terza, per essere divisibile in due parti equali, perche non è buona? Perche gli estremi sono ineguali del primo esempio, e del secondo esempio.

173 Ibid., 52. Ogni quarta, ò maggiore, ò minore hà 27 come indivisibili in due parti equali.

174 See, for example, the many variations of intervals’ solfege syllables and, therefore, commas, that Beccatelli (rather needlessly, it seems to me) unfolds in his annotations to show the inconsistencies in d’Avella’s obviously dubious theory (56-61). He then recalculates the number of commas in several intervals with the precision of Book III of Boethius (62-63). The fact that Beccatelli grappled so much with Example Twenty in theory and skipped the Neapolitan music in d’Avella’s treatise outright is particularly beguiling.
### Example Twenty: Summary of D’Avella’s Judgments of Intervals

<table>
<thead>
<tr>
<th>Interval species</th>
<th>Notation</th>
<th>Sonorous Proportions in Commas [intervallic values]</th>
<th>Total Sum of Commas</th>
<th>Sum of Extremes’ Commas</th>
<th>Consonance Dissonance Judgments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Third</td>
<td>GAB</td>
<td>995 [99]</td>
<td>23 [18]</td>
<td>14</td>
<td>Emelle</td>
</tr>
<tr>
<td>Major Third</td>
<td>CDE</td>
<td>499 [99]</td>
<td>22 [18]</td>
<td>13</td>
<td>Emelle</td>
</tr>
<tr>
<td>Minor Fourth</td>
<td>ABCD</td>
<td>9549 [949]</td>
<td>27 [22]</td>
<td>18</td>
<td>no remark</td>
</tr>
<tr>
<td>Minor Fourth</td>
<td>BCDE</td>
<td>5499 [499]</td>
<td>27 [22]</td>
<td>14</td>
<td>no remark</td>
</tr>
<tr>
<td>Minor Fourth</td>
<td>CDEF</td>
<td>9954 [994]</td>
<td>27 [22]</td>
<td>13</td>
<td>no remark</td>
</tr>
<tr>
<td>Fifth</td>
<td>DEFGA</td>
<td>95499 [9499]</td>
<td>36 [31]</td>
<td>18</td>
<td>Consonant</td>
</tr>
<tr>
<td>Fifth</td>
<td>EFGAB</td>
<td>54995 [4999]</td>
<td>32 [31]</td>
<td>10</td>
<td>Consonant</td>
</tr>
<tr>
<td>Fifth</td>
<td>FGABC</td>
<td>49954 [9994]</td>
<td>31 [31]</td>
<td>8</td>
<td>Consonant</td>
</tr>
<tr>
<td>Fifth</td>
<td>GABCD</td>
<td>99549 [9949]</td>
<td>36 [31]</td>
<td>18</td>
<td>Consonant</td>
</tr>
<tr>
<td>False Fifths</td>
<td>AEb\textsuperscript{176} etc.</td>
<td>Not Given</td>
<td>Not Given</td>
<td>Not Given</td>
<td>Dissonant</td>
</tr>
<tr>
<td>Major Sixth</td>
<td>GABCDE</td>
<td>995499 [99499]</td>
<td>45 [40]</td>
<td>18</td>
<td>Emelle</td>
</tr>
<tr>
<td>Minor Sixth</td>
<td>EFGABC</td>
<td>549954 [49994]</td>
<td>36 [35]</td>
<td>9</td>
<td>Emelle</td>
</tr>
<tr>
<td>Minor Sixth</td>
<td>G#ABCDE</td>
<td>994595 [49499]</td>
<td>40 [sic] [35]</td>
<td>14</td>
<td>Emelle</td>
</tr>
<tr>
<td>Major Sixth</td>
<td>EF#G#ABC#</td>
<td>995499 [99499]</td>
<td>45 [40]</td>
<td>18</td>
<td>Emelle</td>
</tr>
<tr>
<td>Minor Seventh</td>
<td>DEFGABC</td>
<td>95499549 [949994]</td>
<td>45 [44]</td>
<td>13</td>
<td>Dissonant</td>
</tr>
<tr>
<td>Major Seventh</td>
<td>FGABCDE</td>
<td>4995499 [999499]</td>
<td>49 [49]</td>
<td>13</td>
<td>Dissonant</td>
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<tr>
<td>Octave</td>
<td>DEFGABCD</td>
<td>95499549 [9499949]</td>
<td>54 [53]</td>
<td>18</td>
<td>Consonant</td>
</tr>
<tr>
<td>Octave</td>
<td>EFGABCDE</td>
<td>5499549 [4999499]</td>
<td>54 [53]</td>
<td>14</td>
<td>Consonant</td>
</tr>
<tr>
<td>Octave</td>
<td>FGABCDEF</td>
<td>49954994 [9994994]</td>
<td>53 [53]</td>
<td>8</td>
<td>Consonant</td>
</tr>
</tbody>
</table>

\textsuperscript{176} Beccatelli was quick to point out that d’Avella had left out the major second from his consideration and rules. He then provides examples in which the whole-tone sums to 18 and 14 commas and should therefore be judged consonant; yet it is dissonant (56). Later in the Annotazioni, he points out inconsistencies in d’Avella’s division of the A B-natural whole-tone. D’Avella knew it should be 9 commas in Chapter 29, for example, but there ought to be a 5 on B according to his theory (66).

\textsuperscript{176} D’Avella notably does not identify this example, A E-flat, as a “modern false [diminished] fifth.”
D’Avella’s enumeration of the ensweetened modern tritone’s sonorous proportions is problematic. E-flat F G A-flat should be solfeged fa sol la fa, in which the sonorous proportions should be 4 9 9 4. The total sum of these commas is 26 and the sum of the extremes 8. Therefore, the ensweetened modern tritone should be judged consonant. Alternatively, depending on musical context, it could be sung as an ascending mutation, fa sol mi fa, in which the sonorous proportions should be 4 9 5 4. The total sum of these commas, 22, is then substantially less; yet the ensweetened modern tritone should be judged consonant. Or, it might be sung as ut re mi fa, in which the sonorous proportions should be 9 9 5 4 yields yet more different results: The total sum of these commas is 27 and the sum of the extremes 13. Therefore, the ensweetened modern tritone should be judged dissonant. But d’Avella’s enumeration is unexpectedly different from all of these various possibilities: He indeed assigned 4 to E-flat fa, 9 to both F sol and G la, but 5 to A-flat fa. Why 5? As the small semitone fa, A-flat should be assigned 4 commas; but d’Avella assigned it 5 commas—the sonorous proportion of mi. The total sum of these commas is 27 and the sum of the extremes 9. Therefore, the ensweetened modern tritone is, by d’Avella’s definitions just as dissonant as a tritone (which, by his own admission, has the same magnitude as a perfect fourth). This is not a mistake or misprint; for what d’Avella has literally indicated here is that the A-flat fa has the sonorous proportion of G-sharp mi. As b-fa “may not be placed on A,” G-sharp mi was substituted in its

<table>
<thead>
<tr>
<th>Octave</th>
<th>GABCDEFG</th>
<th>99549549 [9949949]</th>
<th>54 [53]</th>
<th>18</th>
<th>Consonant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tritone</td>
<td>FGAB</td>
<td>4995 [999]</td>
<td>27 [27]</td>
<td>9</td>
<td>Dissonant</td>
</tr>
<tr>
<td>Ensweetened</td>
<td>Eb F G Ab</td>
<td>4995 [995]</td>
<td>27 [23]</td>
<td>9</td>
<td>Dissonant</td>
</tr>
<tr>
<td>Modern Tritone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[177\] D’Avella’s rationale for not enumerating the tritone’s sonorous proportions as three whole-tones is to divide one of the three whole-tones’ nine commas among the extreme fa and mi voce (55).
stead. The A-flat fa, however, retained its musical notation in Neapolitan practice. Unfortunately, d’Avella did not carefully spell out this notational conceit in his prose for the ease of his readers. Instead, he used the number 5 to contradict the notation of A-flat. The extraordinary trouble this chapter caused for readers could have been avoided had d’Avella simply written in words—as he did in Chapter 45—that “the notated A-flat fa is sounded on the keyboard by G-sharp mi” and then provided the correct sounding notation, as shown in Example Twenty-One, an augmented third. Perhaps, also, his prose would have read differently if he had censured the Neapolitan notation.

Example Twenty-One: The Correct Sounding Notation of the Ensweetened Modern Tritone

Let us now gloss d’Avella’s indicated sonorous proportions by plotting the modern tritone and the ensweetening on a Boethian number line of commas (in the manner Picitono). In Example Twenty-Two, the two divided whole-tones under consideration, D E and G A, are aligned on a number line consisting of 9 commas. Working from the bottom up, the small diatonic semitones E-flat- and A-flat fa, D-sharp- and G-sharp mi divide the whole-tone four commas from D- and G mi, E- and A fa. These semitones are disjunct from one another by one comma in the division of the whole-tone. The large chromatic semitones D- and G-sharp mi, E-flat- and A-flat fa, then divide the whole-tone five commas from D- and G fa, E- and A mi.

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178 If Cerone had detailed this Neapolitan practice, it would have (I suspect) come at the end of Book XVI, Chapter 26. There he explicitly censures the substitution of mi’s and fa’s (927). See also Book V, Chapter VII, in which a quote from San Bernardo’s Musica also censures the singing of mi’s where others sing fa’s and vice versa (407). But these are not necessarily substitutions that transgress common mean-tone.

179 Here again is the key sentence from Chapter 45: Se fosse fatta un canto à questo modo... non si potrebbe formare perfettamente quel fa, in a la, mi, re, perché secondo l’uso di sonarlo si sono nel g negro, qual tasto non stà nel spatio di a mà in quel di g nel negro, e sono il semitono mi, di dette corda, & è di cinque come.
These chromatic semitones overlap by one comma in the division of the whole-tone. According to d’Avella, however, the A-flat fa must be shifted one comma and be placed on the number-line with G-sharp mi. Although tuned as G-sharp, the ensweetening remains named A-flat.

Example Twenty-Two: Gloss on d’Avella’s Ensweetened Modern Tritone’s Whole-Tones

In Example Twenty-Three, the modern tritone E-flat fa F sol G re A mi is plotted. To ensweeten this tritone, A-flat fa should be substituted for A mi. A-flat fa is positioned as it should be: 4 commas above G la and 5 commas below A mi. But the ensweetened A-flat fa, according to d’Avella, actually has the sonorous proportions of G-sharp mi. The ensweetening is shifted one comma higher to G-sharp mi. Now, the ensweetening is 5 commas above G la and 4 commas below A fa. One may easily count the sum of 23 commas from E-flat to G-sharp.

Example Twenty-Three: Gloss on d’Avella’s Ensweetened Modern Tritone in its Entirety

Note that the modern tritone E-flat A may not be “doubly ensweetened” into the prized diminished fourth E A-flat, as this interval in fact has the sonorous proportions of the major third E G-sharp, as seen in Example Twenty-Four. Whether or not the Neapolitan madrigalists
therefore deliberately withheld the E A-flat doubly ensweetened modern tritone from their text-settings in favor of the properly proportioned diminished fourths B E-flat, F-sharp B-flat, C-sharp F, G-sharp C, and so forth must be ascertained through analysis.180

Example Twenty-Four: Gloss that the Modern Tritone may not be Doubly Ensweetened

Another way to generate this ensweetened modern tritone, which, most importantly, d’Avella did not mention (or evidently know), would be to ensweeten the tritone D fa E sol F-sharp re G-sharp mi, Example Twenty-Five. Each of the whole-tones, D fa E sol, E sol F-sharp re, and F-sharp re G-sharp mi, consists of nine commas. To ensweeten this tritone into a modern tritone, D-sharp mi should be substituted for D fa. D-sharp mi is positioned as it should be: 5 commas from D fa and 4 commas from E fa. But if, according to the practical keyboard gamut, “#-mi may not be placed on D” (to use a d’Avellian turn of phrase), then the ensweetened D-sharp mi could have the sonorous proportions of E-flat fa. As seen in Example Twenty-Five, D-sharp mi is shifted one comma lower to E-flat fa. Now, the ensweetening is 4 commas above D mi and 5 commas below E fa. The resulting E-flat fa contra G-sharp mi is the same as the ensweetened modern tritone given by d’Avella. One may again easily count the sum of 23 commas from E-flat to G-sharp. Note that this modern tritone too may not be “doubly ensweetened” into the prized diminished fourth D-sharp G, as it would have the sonorous proportions of a major third.

180 The E A-flat doubly ensweetened modern tritone invariably occurs in the basic C major f minor triadic progression. Although Gesualdo used this progression numerous times in his fifth and sixth books, by my count, he only used the E A-flat doubly ensweetened modern tritone once melodically in Se la mia morte brami (VI, 1) on “adoro” and once harmonically in Io pur respiro (VI, 10) on “gran duolo.”
Although d’Avella did not acknowledge this ensweetened modern tritone, he did in fact report and exemplify elsewhere in his treatise the Neapolitan substitution of E-flat fa for D-sharp mi. In Chapter 45, previously discussed for the two-fold positioning of fa on A and the keyboard substitution of G-sharp mi for A-flat fa, d’Avella also probes in the same vein the two-fold positioning of fa on E and the substitution of E-flat fa for D-sharp mi. The two E fa’s differ in sound and place. The first fa is E-flat fa. This fa, according to d’Avella, is also “commonly sounded” for the D-sharp mi under E-natural fa “through the mode of the soft-b.” Note that he here states this practice clearly, without another ambiguous rhetorical question: “Who would deny that [#-]mi may not be on D?” He then enumerates—erroneously—that E-natural fa is four commas higher than the E-flat fa that sounds in place of D-sharp mi. D’Avella has mistakenly given the value of commas that E-natural fa is above D-sharp mi that sounds D-sharp mi. If E-flat fa sounds in place of D-sharp mi, then E-natural fa is in fact five commas higher than E-flat.  

Recall that d’Avella made the same mistake in his enumeration of Nenna’s Coridon. This mistake or oversight in the enumeration of the sonorous proportion of D-sharp is significant, for it shows the consistent difficulty d’Avella had keeping the notations and sounds straight in his mind: He twice divided the whole-tone D E incorrectly (Chapters 38 and 45) and the whole-tone G A correctly (Chapters 39 and 45). G A is divided by G-sharp mi, which substitutes the sonorous proportion of 5 for A-flat fa. D E is divided by E-flat fa, which

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181 D’Avella, 70. In e & a siano dei fa, differenti...di suono, e luogo, e che sia così; nel tasto negro di d comunemente sonano il b per il modo di b. mà lo scrivono in e la, mi, mà questo’altro fa, viene fatto nel tasto di d la mi, bianco, per il modo, e mano dell’i due # Quattro come più alto del sudetto fa.
substitutes the sonorous proportion of 4 for D-sharp mi. We may more readily grasp d’Avella’s trouble by means of the whole-tone divisions seen in Example Twenty-Six. In Example Twenty-Six (A), we see that d’Avella simply shifted E-flat to D-sharp in the same direction that A-flat was shifted to G-sharp. In fact, it was D-sharp that needed to be shifted to E-flat, as in Example Twenty-Six (B). Although I think d’Avella knew in principle that these two whole-tones were divided differently by a fa and a mi, he equated the Neapolitans’ substitutions of fa for mi with those of mi for fa. This mistake, moreover, is a clear indication that d’Avella neither diagrammed divisions of the whole-tone nor empirically verified his examples of substituting E-flat fa for D-sharp mi. With these divisions of the whole-tone, we are entering into the mindset of a theorist who has wrongly normalized the accidentals—but does not know it.\textsuperscript{182}

\textbf{Example Twenty-Six (A-B): D’Avella’s (mis-) Cognition of the D E Whole-Tone Division}

\textsuperscript{182} This (mis)-cognition of chromatic pitch-space will, like d’Avella’s theory of sound production, demand further development.
D’Avella then continues his probing of the two-fold positioning of fa on E with non-rhetorical questions: “If a song [with D-sharp mi’s] should be put forward according to the keys of the keyboard, how ought it be sung? And how might it be sung harmonically, without twisting the mouth? Is [the song] a thing of the imagination, if [the singer] does not have the D-sharp in their eyes?” He then generates D-sharp mi correctly upon B-natural ut, C-sharp re—but stops again at D-sharp mi because “this mi is made on the black-key where, as I said, they sound the flat on E.” D’Avella concludes that the white E la mi will be made “most justly” and maintains its proper place; but the sound of E-flat fa is “false, as they say” when used as D-sharp mi. D’Avella puts forward one example of the two-fold positioning of fa on E, Example Twenty-Seven. Note, he does not exemplify E-flat fa when it sounds “most justly” above D-natural mi—only E-flat fa when it sounds “falsely” as D-sharp mi under E-natural fa. The example begins by building a scale in which D-sharp mi sounded by E-flat fa follows upon B-natural ut and C-sharp re. This E-flat fa then proceeds up 5 commas (or, in d’Avella’s mind, 4 commas) to E-natural mi. D’Avella then continues to F-sharp sol to demonstrate the “falseness” of the minor third descent to D-sharp mi sounded by E-flat fa; he then reiterates the false semitone to E-natural mi. The leap down to C-sharp presumably diminishes the falseness of the next D-sharp mi sounding E-flat fa, which does not return to E-natural fa for half-a-dozen notes over an ensuing hexachordal mutation to the low G-sharp mi. Curiously, d’Avella does not directly juxtapose or melodically unfold an ensweetened modern tritone, D-sharp G-sharp. This

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183 Ibid. *E che sia cosi, se fosse preposto un canto a questo modo gia ch’è secondo li tasti del Monacordo, come non dovrebbe cantarsi? E come si potrebbe cantare armonicamente, e senza storcer bocca, à forsi dire che sia cosa immaginaria; se non s’hà l’occhio al modo de’ due # in c & d?* The “mode of the two #’s” is unveiled in d’Avella’s extension of the Guidonian Gamut; see Chapter Three of this study. For present purposes, only the intervals between E-flat, D-sharp, and E-natural concern us.

184 Ibid. *Dunque per formare il mi, in d è necessario che B mi sia ut, c re, d mi, e questo mi, vien fatto nel negro, dove dicevo, che sonano il b (mà lo scrivono in e) dunque E la mi, bianco sarà fa giustissimo, e tiene il loco, e suono, di fa, finto (per qual modo) come dicono alcuni, l’esempio.*
interval would have arisen, say, had he continued the beginning scale up to G-sharp mi and then leapt down to D-sharp mi sounding E-flat fa.

Example Twenty-Seven: Two-Fold Positioning of Fa on E

Beccatelli’s annotations on d’Avella’s *Regole*, although predominantly of a pedantic theoretical nature far removed from Neapolitan practice, are particularly scathing for Example Twenty-Seven and worth highlighting here. He observed at this point in Chapter 45 that d’Avella has said in several places (Chapters 38 and 45) that E-flat fa sounds in place of D-sharp mi according to the common keyboard and that this practice is hard to comprehend since it can not be seen in the notation. He then accuses d’Avella of “ignorance” and reiterates twice that “sharps are not--and will never be--flats” and vice versa.\(^{185}\) To never exchange the one for the other was, for Beccatelli, the “Holy Cross of Music Theory;” and the unlearned d’Avella was committing a sin.\(^{186}\) Beccatelli’s chosen metaphor is ironic, considering that d’Avella’s treatise is devoted to the Neapolitan chromaticism he heard in Gesualdo’s *Responsoria*! Somehow, that just did not interest Beccatelli. He did not place that biblical annotation in Chapter 39, as we must now.

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\(^{185}\) Beccatelli, *Annotazioni*, 86. Mentre dice in più luoghi che il b molle, d’ e la mi suona nel tasto nero di D sol re, come poteva conoscere quello che non si vede, e che li detti nostri comuni strumenti non dimostrano? E se si son dati Autori, che anna preteso che il diesis, d’un tasto, sia b molle, dell’ altra: questo è [?] per ignoranza conciossiache, il diesis, non sarà mai b molle, ne il b mole sarà mai diesis; e dicendo il contrario sarebbe un dividere il tuono, in due parti uguali, il che non è mai stato, ne sara mai... Ma in verità li diesis, come ho ditto, non sono, e non saranno mai b molli.

\(^{186}\) Ibid. E non sapendo questo il nostro Autore viene a dimostrare di non sapere ancora la Croce santa delle Teoriche Musicali.
As the reader gathers from Chapter 45, there could indeed be two modern tritones, each with the same ensweetened sonority: 1. E-flat A, ensweetened by an A-flat with the sonorous proportions of G-sharp mi, and 2. D G-sharp, ensweetened by a D-sharp with the sonorous proportions of E-flat fa. The second one, according to Chapter 38 should be considered more “modern,” “chimerical,” and “fantastic” than the first one. The title of Chapter 39 promised “modern tritones;” it is not clear why d’Avella demonstrated only one in theory. Perhaps the “flat” ensweetened modern tritone, E-flat A-flat, was the only one he heard in Neapolitan practice and the “sharp” one, D-sharp G-sharp, was more reserved. We will have to ascertain through musical analysis whether or not the Neapolitan madrigalists used both of these ensweetened modern tritones, as well as even others. That is to say, are there A-flat D-flat ensweetened modern tritones in which the A-flat has the sonorous proportion of G-sharp and D-flat that of D-flat, B-flat E-flat ensweetened modern tritones in which the B-flat has the sonorous proportion of B-flat and E-flat that of D-sharp, and so forth?

Yet another way to generate the ensweetened modern tritone, which, most importantly, was certainly unknown to d’Avella, would be to plot a circle of Pythagorean fifths flat-wise to E-flat and sharp-wise to G-sharp, which results in what we would nowadays call a “wolf” fifth; the G-sharp exceeds A-flat by one comma, Example Twenty-Eight (A). The modern tritones E-flat A and D G-sharp are plotted with the ensweetening in Example Twenty-Eight (B and C). Note that this circle of fifths generation—and the references to the common keyboard, for that matter—additionally implicate that the D-flats, G-flats, C-flats, F-flats, D-sharps, A-sharps, E-sharps, and B-sharps observable in Neapolitan chromaticism respectively have the sonorous proportions of C-sharps, F-sharps, B-naturals, E-naturals, E-flats, B-flats, F-naturals, and C-naturals. With the exception of D-sharps sounded by E-flats, d’Avella did not explicitly state these substitutions;
however, this question will again arise (and be answered affirmatively) in the public
demonstration of Gesualdian chromaticism. It is remarkable that d’Avella generated (and the
Neapolitan musicians evidently conceived of) this sonority from the tritone and not the circle of
fifths, of which it will be recalled d’Avella had an implicit recognition, albeit without precise
Pythagorean tunings. Although he knew from Book III of Boethius that the major-semitone
exceeds the minor semitone by one comma, he did not know that this same comma arises when
twelve Pythagorean fifths exceed the octave. D’Avella’s tritone generation may have obscured
the fact that this is a “wolf” interval from his later readers. It is even more remarkable that the
Neapolitan musicians, who did not consider this interval a “wolf” [lupo], still called its sonority
an “ensweetened” (as opposed to “ensoured” or “embittered”) tritone.\footnote{This designation and perception reminds us not to necessarily approach this Neapolitan musical culture with the expectations of another (cf. Beccatelli) that rejects tuning and temperament wolves. These issues are perhaps best captured in Marc Perlman’s “American Gamelan in the Garden of Eden: Intonation in a Cross-Cultural Encounter,” The Musical Quarterly 78/3 (Autumn, 1994): 510-555. For Neapolitan applications of the ensweetened modern tritone to the word dolce, see, above all, Salzilli’s Sospirò dolcemente (II, 5). Another instance would be Genuino’s Se così dolcemente (V, 20). The interface between the painful sorrows and the erotic pleasures of the ensweetened modern tritone and its progeny will become clearer in Chapter Two of this study.}

**Example Twenty-Eight (A-C): The Ensweetened Modern Tritone on the Circle of Fifths**

\[\begin{align*}
\text{A) } & \quad F & C & G \\
& D & Bb & Eb \\
& G & Ab & C \\
& C# & F# & B \\
\text{B) } & \quad F & C & G \\
& D & Bb & Eb \\
& G & Ab & C \\
& C# & F# & B \\
\text{C) } & \quad F & C & G \\
& D & Bb & Eb \\
& G & Ab & C \\
& C# & F# & B \\
\end{align*}\]
It is doubtful that d’Avella witnessed a Pythagorean “wolf” in Neapolitan practice. He did not have any doubts about whether or not the Pythagorean comma was perceptible;\textsuperscript{188} therefore, he did not test his mathematical theory against Neapolitan practice. Mathematically speaking, d’Avella’s indicated Pythagorean ensweetened modern tritone most closely resembles Vicentino’s mean-tone tempered “Leap Larger than the Fourth,” which is explained in Chapter 34 of Book I of his \textit{L’antica musica ridotte alla moderna prattica}.\textsuperscript{189} This interval is a perfect fourth sharpened by a minor enharmonic diesis, or one-half of a small mean-tone tempered semitone. Vicentino notates this diesis with a dot above the upper pitch of the fourth. As seen in Example Twenty-Nine (A), he gives several examples of this interval, including coincidentally Eb Eb. A close approximation of this interval is the perfect fourth raised by a Pythagorean comma, or d’Avella’s ensweetened modern tritone, Example Twenty-Nine (B). The Pythagorean ensweetened modern tritone built upon an un-tempered E-flat is distinctly sharper than Vicentino’s interval, Example Twenty-Nine (C). Unlike the ensweetened modern tritone given by d’Avella, however, Vicentino’s “Leap Larger than the Fourth” was not restricted to just one place in the chromatic and enharmonic gamut. It was not generated from the tritone. It was not distinctly more modern than any other interval found on the arcicembalo. It did not have any exceptional musical significance. Vicentino merely described this interval as “lively when ascending but sad and slack when descending.”\textsuperscript{190} It certainly did not have the notational conceit of the ensweetened modern tritone; nor do I have reason to believe that the Neapolitan madrigalists were trying to notate this interval in a simpler manner. Most importantly, as will be seen presently, the arcicembalo was not used in the public demonstration of Gesualdo’s

\textsuperscript{188} Among Neapolitans, contrast Cerreto, \textit{Della Prattica}, 86.
\textsuperscript{189} Vicentino, 76.
\textsuperscript{190} Ibid.
ensweetened modern tritone. Therefore, I do not believe the ensweetened modern tritones d’Avella witnessed in Naples were Vicentinian.

**Example Twenty-Nine (A-D): The Pythagorean Ensweetened Modern Tritone, Vicentinian?**

Based on d’Avella’s discussion of the keyboard, the circle of fifths generation, and the Stella-Colonna dispute discussed presently in Chapter Two of this study, the ensweetened modern tritone is most likely a mean-tone temperament “wolf,” which, as is well-known, was
most commonly placed between E-flat and G-sharp; see Example Twenty-Nine (D). D’Avella, on account of his exclusively monastic training in medieval music theory, witnessed this modern interval and enumerated it in ancient Boethian terms. The book on tuning and temperament in Cerone’s 1613 *Melopeo* suggests that mean-tone temperament was (expectedly) still practiced in Naples at the time of the performance of Gesualdo’s *Responsoria*. Cavalliere’s treatise *Il scolaro principiante di musica*, published contemporaneously in Naples with d’Avella’s writing, suggests that it was (equally expectedly) still practiced in Naples through at least the 1630’s. These treatises include standard rules for tuning keyboard instruments in mean-tone temperament, which are wanting in d’Avella’s *Regole*. Unlike

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191 Supplemental historical evidence for my argument that the madrigalists were employing the mean-tone wolf is provided in my readings of the “Monteverdi-Artusi Controversy,” the Zarlino-Galilei “dialogue” on tuning, and Kircher’s writings on Domenico Mazzocchi’s madrigals; see Chapter Four of this study. Further supplemental historical evidence for this argument is provided in my readings of the “Raval-Falcone Controversy” and the “Beccatelli-Chiti Debate” in Chapter Two of this study.

192 It remains to be determined precisely how many late renaissance theorists described modern mean-tone temperament in medieval Pythagorean tuning. This theoretical context, however, will be essential for further exhibiting that d’Avella’s numbers are not as obscure as they superficially appear. Juan Bermudo’s 1555 *Declaración de instrumentos musicales* is one such precedent (see Lindley *Lutes*, 15-18). A second is the Spataro-Aaron et al. *Correspondence of Renaissance Musicians*, discussed in some detail presently (see in particular Bonnie Blackburn’s commentary to letter no. 99, 929-940). Another example, closer to home for d’Avella, is Cerone’s *Melopeo*, in which the Pythagorean enumeration of mean-tone temperament small semitones as 4 commas and large semitones as 5 commas notably appears in Book II, Chapters 49 through 55 (279-287). Andrea di Modano, a later Franciscan theorist highly influenced by d’Avella’s music history, but not so much musical theory, notably enumerates mean-tonal semitones in this Pythagorean manner too in his *Canto Harmonico* (Modana: Cassiani, 1690): 57. His enumeration places the large semitone of five commas in between E and F, A and B-flat. However, his conjunction system placing a fa on A la mi re permitted the existence of A-flat, which he similarly enumerates as five. The heated theoretical debates over this reversal of the small and large semitones from mi fa and fa mi in Pythagorean tuning to fa mi and fa mi mean-tone temperament encapsulated in these chapters are entirely wanting from d’Avella’s *Regole*. One might also investigate monastic composers of madrigals who used the ensweetened modern tritone and might have left Boethian musical theoretical statements. So far as I have found, nobody fits this rather obscure description. However, Sessa d’Aranda employs the interval most reservedly in his 1à5 (Venezia : Gardano, 1571). One wonders if he also tried to rationalize it via a basic knowledge of Boethius’ *De Musica*. Finally, the Nanino brothers provide another precedent, of such importance that I include it here in facsimile presently.

193 Cerone, 1052.

194 Note, however, that Cavalliere’s alias is Pollero Genovese. His biography is presently unknown. He may have hailed from Genoa but practiced in Naples.

195 Cavalliere, 34. He then provides a rule of the octave for beginners to keep straight which accidental thirds may be played in tune.
d’Avella (and the Neapolitan madrigalists), Cerone and Cavalliere did not term the interval E-flat G-sharp an “ensweetened tritone” or detail its practical applications in musical composition. The mean-tone temperament wolf, of course, also appears on the first keyboard of the mean-tone tempered arcicembalo; yet Vicentino did not demonstrate the wolf, nor ascribe it any affective significance in madrigals.

If d’Avella was aware of mean-tone temperament, that the mean-tone tempered whole-tone is not divided into nine commas but rather five dieses, and that, unlike Pythagorean tuning, flats are higher than sharps in mean-tone temperament, his enumeration of the ensweetened modern tritone would have appeared as in Example Thirty. Notably, d’Avella’s adherence to “ancient” tunings in place of “modern” ones was recognized by Beccatelli.  

Example Thirty: The Modern Sonorous Proportions of the Ensweetened Modern Tritone

The division of the GA whole-tone into five mean-tone diesis was exemplified by Vicentino in Chapter 11 of Book I on musical practice, “Explanation of the Practice of the Species of the Enharmonic Genus.” As seen in Example Thirty-One (A and B), Vicentino divided the whole-tone into dieses in two ways: First, with the large minor second G A-flat; second, with the small minor second G G-sharp.  

I have enumerated the “sonorous proportions” as intervals in mean-tone (or, for Vicentino: enharmonic) dieses at the top of the example. Vicentino’s indicated method of solfeging these divisions appear beneath the notations,

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196 Beccatelli, *Annotazioni*, 43-44, 54. Beccatelli includes this distinction in his preliminary “Instructions,” as it recurs over the course of his annotations to d’Avella’s Chapters 24-46. A basic comparison of these two divisions of the whole-tone in the manner of the present number-lines may be found in Kircher (132, 138).

197 Let us here note in advance of Chapter Four of this study that Kircher, having not recognized Vicentino’s alternation of G-sharp and A-flat in the two fold division of the whole-tone G A, misunderstood this particular division, instead understanding it divided into fourths of a tone (638).
where “N” stands for “Natural,” “S” for “Soft,” and “H” for “Hard” hexachords. Note that in the
natural and hard hexachords, both A-flat and G-sharp are solfeged as mi. Unlike d’Avella,
however, this does not indicate that the notated A-flat has the sonorous proportion of G-sharp.
On the contrary, A-flat has the sonorous proportion of A-flat; it is solfeged as mi on account of
the preceding Ġ, which is solfeged re (through an ascending hexachordal conjunction in the
natural instance). Moreover, these mi’s do not contradict the fa’s in the soft sequence. That is to
say, A-flat fa does not have the sonorous proportion of G-sharp fa. Taken together, the large and
small minor seconds divide the whole-tone into fifths, Example Thirty-One (C). Vicentino did
not provide solfege for this total division of the whole-tone; nor was this total division evidently
put into practice.

**Example Thirty-One (A-C): Vicentino’s Division and Solfeging of the G A Whole-Tone**

If d’Avella actually thought of mean-tone tempered semitones in his Pythagorean comma
enumeration of the ensweetened modern tritone, the sonorous proportions would have been
reversed, as in Example Thirty-Two. The 5 represents the large mean-tone temperament
semitone between D and E-flat; 4 the small mean-tone temperament semitone between G and G-sharp. We might term these “modern ancient sonorous proportions.”

Example Thirty-Two: Ensweetened Modern Tritone’s Modern Ancient Sonorous Proportions

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\[ \text{Diagram of semitones between D and E-flat, G and G-sharp.} \]
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This thinking of modern mean-tonal semitones in terms of ancient Pythagorean commas notably occurs in the highly influential pedagogical manuals of the Roman Nanino brothers that have come down to us in multiple exemplars.\(^{198}\) Given their preeminence in the Palestrina style, its contrapuntal pedagogy, and madrigal composition, it is worth examining their writing on this matter at this point.\(^{199}\) As seen in Example Thirty-Three (A),\(^{200}\) “How the Whole-Tone is Formed,” the Nanino brothers first indicate that the whole-tone is formed of nine commas or points [vigole] and is divided into major and minor semitones. Their first notation indicates the major semitone with a cross consisting of five slashes and the minor semitone with one of four slashes. The second notation exemplifies a major semitone E F and a minor semitone F F-sharp, which collectively form the whole-tone E F-sharp. They continue to say that the major semitone partakes of two corde (i.e.: the pitch letter name changes), the minor semitone one corda. They further exemplify the major semitones B C and B A-sharp; the minor semitones G G-sharp and B B-flat. These are all of course reversed from Pythagorean tuning and indicate a mean-tonal

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\(^{198}\) The present examples are taken from Regole di Contrappunto di Gio. M. Nanino, e del suo fratello minore Gio. Bernardino (I-Bc, B.124). We do not have this treatise in the Nanino brothers’ own hands; rather, according to the Gasparini catalogue: Si prezioso codice trovasi nella Biblioteca Corsini alla Lungara di Roma ed è scritto da Orazio Griffi Cappellano Cantore della Cappella Pontificia, il quale notovvi d’avere finito di copiare il 5 ottobre 1619.

\(^{199}\) I also highlight the Nanino brothers’ treatise in light of the recent renewed interest in these rather neglected composers. See Giovanni Maria Nanino, Complete Madrigals, ed. Christina Boenicke and Anthony Newcomb (Middleton: A-R Editions, 2012-).

\(^{200}\) Ibid., 6r.
understanding of the division of the whole-tone, even in Pythagorean terms. However, they have not indicated that the B A-sharp major semitone is actually conceived and/or sounded by the minor semitone B B-flat. As if the anachronistic calculations were not problematic enough, the Nanino brothers next deviate from their Pythagorean understanding of the mean-tonal division of the whole-tone and adopt a just intonation perspective. Discussing the “effects that the semitone makes in songs,” they write that the “property” of the semitone is to “increase” (seemingly a problematic word choice, but they are here talking about sharps) both the whole-tone (making it a semitone) and the semitone (making it a whole-tone). They then assign this property for all whole-tones, except for those in between re mi and mi re, “which can not be divided [according] to the entire order of Consonance and the musicians.” Here, they of course exhibit an unstated understanding of the syntonic tuning favored by Zarlino. But they next say that this re mi is, in fact, a major whole-tone and found “in truth” on keyboards, where, moreover, “there is not this semitone.” All this, of course, is entirely confused—and, this practical confusion between no less than three tuning/temperament systems is precisely what is missing from d’Avella’s strictly neo-Pythagorean discourse. The Nanino brothers next demonstrate these major semitones (including E D-sharp, again not stating that the D-sharp is E-flat) and repeat the discussion for semitones with flats. Conveniently, they then demonstrate the ensweetening [addolcire] of the tritone—but stop short of the modern tritone E-flat A, Example Thirty-Three (B). However, as we shall see when we turn to the ensweetened modern tritone’s place in the Roman repertoire, this omission surprisingly proves to be inconsistent with Palestrina’s (and the Nanino brothers’ own) practice. Ultimately, these teaching manuals exhibit a not all too unpredictable

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201 Ibid., 6v.
202 Like Gesualdo, G. M. Nanino used the ensweetened modern tritone from the very start of his madrigal career with his 1à5 (1572). See Ruth DeFord, Ruggiero Giovannelli and the madrigal in Rome, 1572-1599, Ph.D. diss. (Harvard University, 1975): 744.
The discrepancy between theory and practice—a discrepancy which makes d’Avella’s ability to take that next step and enumerate the ensweetened modern tritone, however imprecisely, all the more astonishing an accomplishment.

Example Thirty-Three (A): The Nanino Brothers’ Modern Ancient Sonorous Proportions
Example Thirty-Three (B): The Nanino Brothers Omit the Modern Tritone and its Ensweetening

One could potentially mis-read d’Avella’s Pythagorean enumeration of the ensweetened modern tritone in mean-tone temperament. G A-flat is a large semitone in mean-tone temperament; the 5 given by d’Avella could represent this interval. D E-flat is likewise a large semitone in mean-tone temperament; but the 4 represents a small semitone, which would be D D-sharp in mean-tone temperament. In this case, the indicated ensweetened modern tritone would be a doubly diminished fifth and its mean-tone temperament enumeration would have appeared as in Example Thirty-Four. However, d’Avella did not ask “Who would deny that fa may not be on E?”

Example Thirty-Four: The Incorrect Modern Ancient Sonorous Proportions

| 2 | 5 | 5 | 3 |

Although d’Avella is ostensibly referring to an instrumental mean-tone temperament, the ensweetened modern tritone in that temperament may also be generated in a cappella just intonation (but, of course, not as a vertical sonority). If, as one example, the hexatonic poles c
minor and an E major are juxtaposed, the ensweetened modern tritone E-flat G-sharp stands between the two triad’s thirds, Example Thirty-Five. Such justly intoned ensweetened modern tritones are, of course, not restricted to any one place in the gamut. They may be readily found in Gesualdo’s fourth through sixth books (one important one vis-a-vis the Tenebrae will be discussed presently in Chapter Two of this study); yet it will remain a matter of speculation if Gesualdo and the Neapolitan madrigalists recognized that the ensweetened modern tritones fixed in the common mean-tone temperament gamut occur throughout an un-restricted just-intonation gamut. Again, as d’Avella only knew Pythagorean tuning, he could not address these more theoretically involved questions about ensweetened modern tritones.²⁰³

Example Thirty-Five: Generating the Ensweetened Modern Tritone with J.I. Hexatonic Poles

²⁰³ For present purposes, I only assert this comparatively more involved generation of ensweetened modern tritones. This issue will demand a theoretical study in its own right. For an accessible introduction to these poles (hitherto divorced from the tuning/temperament wolf) and their place in both romantic era and Gesualdo’s madrigals, see Richard Cohn, “Uncanny Resemblances: Tonal Signification in the Freudian Age,” *Journal of the American Musicological Society* 57/2 (2004): 285-323.
Note that the ensweetened modern tritone indicated by d’Avella is not a more remote mean-tone tempered wolf found on the nineteen-tone chromatic keyboard (a subset of the arcicembalo). If the Neapolitan madrigalists had extended their chromatic gamut to match the 19-tone chromatic keyboard (increasingly prevalent in Naples at the time), then the ensweetened tritones E-flat A-flat and D-sharp G-sharp would, on account of the properly proportioned split-key A-flat, no longer be “modern;” nor would they be “ancient” for that matter, as they were recently “modern.” In their stead, ensweetened post-modern tritones would appear in much more remote chromatic environs, depending upon which chromatic pitches were tuned on the keys in between E and F, B and C. These variously possible ensweetened post-modern tritones appear in Example Thirty-Six (A-D). If, as seen in Example Thirty-Six (A), E-sharp and C-flat are tuned, then the tritone B E-sharp is modernized and its ensweetening is B-sharp E-sharp, where B-sharp has the sonorous proportion of C. Also, the tritone C-flat F is modernized and its ensweetening is C-flat F-flat, where F-flat has the sonorous proportion of E. If, as seen in Example Thirty-Six (B), B-sharp and F-flat are tuned (albeit highly unlikely), then the tritone F-sharp B-sharp is modernized and its ensweetening is F double-sharp B-sharp, where F double-sharp has the sonorous proportion of G. Also, the tritone F-flat B-flat is modernized and its ensweetening is F-flat B double-flat, where B double-flat has the sonorous proportion of A. If, as seen in Example Thirty-Six (C), C-flat and F-flat are tuned, then the tritone E A-sharp is modernized and its ensweetening is E-sharp A-sharp, where E-sharp has the sonorous proportion of F. Again, the tritone F-flat B-flat is modernized and its ensweetening is F-flat B double-flat, where B double-flat has the sonorous proportion of A. If, as seen in Example Thirty-Six (D), B-sharp and E-sharp are tuned, then the tritone G-flat C is modernized and its ensweetening is G-flat C-flat, where C-flat has the sonorous proportion of B. Again, the tritone F-sharp B-sharp is
modernized and its ensweetening is F double-sharp B-sharp, where F double-sharp has the sonorous proportion of G. These ensweetened post-modern tritones will be further probed in Gesualdo’s fifth and sixth books of madrigals following a comparison of the public demonstration of the ensweetened modern tritone and the Neapolitan chromatic keyboard repertoire in Chapter Two of this study.

Example Thirty-Six (A-D): Ensweetened Post-Modern Tritones
The enumeration of these ensweetened post-modern tritones’ modern sonorous proportions would be as follows in Example Thirty-Seven.

Example Thirty-Seven: The Modern Sonorous Proportions of the Ensweetened Post-Modern T.’s

If, in turn, the Neapolitan madrigalists had extended their chromatic gamuts beyond the 19-tone chromatic keyboard to the 31-tone arcicembalo as tuned by Vicentino, some of the post-modern tritones would, on account of the properly proportioned split-keys no longer be post-modern. These are B E-sharp, C-flat F (where C-flat has the sonorous proportion of Ĵ and F-flat that of Ė), F-flat B-flat (where F-flat has the sonorous proportion of Ė and B double-flat that of Ĵ, E A-sharp, and G-flat C (where C-flat has the sonorous proportion of Ĵ). F-sharp B-sharp, however, remains post-modern as there is not an F-double sharp on the arcicembalo. Instead of the ensweetened post-modern tritones, ensweetened ultra-modern tritones might arise on the arcicembalo. As seen in Example Thirty-Eight, Ė-flat Ė is ensweetened in the first way, where the missing Ė-flat has the sonorous proportion of Ĵ (which, again, has the sonorous proportion of C-flat). However, this tritone may, in fact, be ensweetened in an ancient manner by B-sharp, which has the sonorous proportion of Ė-flat. Note, the tritone Ė-B might appear to be ultra-modern; but the missing Ė-flat may be supplied by the sonorous proportion of G-flat. Such
ensweetened ultra-modern tritones are not found in the madrigal repertoire (and Vicentino’s own theory did not allow for them).

**Example Thirty-Eight**: The Ensweetened Ultra-Modern Tritone

![Circle of Fifths diagram](image.png)

The enumeration of this ensweetened ultra-modern tritone’s sonorous proportions would be as follows in Example Thirty-Nine:

**Example Thirty-Nine**: The Modern Sonorous Proportions of the Ensweetened Ultra-Modern T.

![Musical notation image](image.png)

D’Avella’s enumeration of the ensweetened modern tritone’s sonorous proportions clearly implicates that the Neapolitan chromatic repertoire we will encounter in his treatise is *not* equal tempered. Significant in this regard is a lengthy rebuttal that d’Avella posited against one particular Neapolitan madrigalist’s theoretical division of the whole-tone into two equal parts. This rebuttal is found outside of d’Avella’s neo-Boethian demonstration of musical intervals and
is printed at the very end of the second treatise in Chapter 46, an over-flowing chapter predominantly devoted to imitations and fuge (it will be recalled that LaCorcia’s chromaticism was oddly placed here too). It is as though d’Avella did not want to give this rebuttal a chapter of its own and did not know where to place it in the treatise; or, the (for him) spurious theory and practice of equal temperament was to be entirely demoted. However, as d’Avella’s rebuttal of equal temperament is, as expected, thoroughly Boethian in nature, and, as the division of the whole-tone is the prevailing theoretical concern of Chapter 39, I would propose that this rebuttal be examined at this point in our reading of the treatise.

In the final section of Chapter 46 (labeled as “G”), d’Avella reports that some modern musicians were of the opinion (and indeed remained convinced at the time of d’Avella’s writing) that multiple notes “could be signed by the same accidental on one corda alone.” The meaning of this phrase in and of itself is not readily apparent. Thankfully, then, d’Avella included a notated example of this opinion, which, as seen in Example Forty, consists of four C-sharps. According to d’Avella, these modern musicians claimed that the second note is higher than the first note by the same amount that the third note is higher than the second; the fourth note is higher than the third by the same amount that the third is higher than the second and so forth on “to infinity.” That is to say, the notated C-sharp unisons should sound an equal-tempered series C-sharp, D, E-flat, and E. Likewise, a series of flats on one corda would continually decrease by an equal amount. For d’Avella, this opinion was “without foundation.”

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204 D’Avella, 76. Alcuni Musici moderni sono stati, e sono di darere (mà senza fondamento) che se in una corda fossero più note segnate con lo stesso accidente; il secondo altera dal primo, il terzo dal secondo, & il quarto dal terzo, & à questo modo bisognerebbe concedersi all’ infinito; e così anco dice delli B che il secondo mancarebbe dal primo, & il terzo dal secondo, &c. Beccatelli did not find this practice worthy of annotation: Anno errato grandemente, ne ci è bisogno di prova (88).
Example Forty: Equal-Semitones in an Un-named Neapolitan Practice and Notation

In keeping with a scholarly etiquette, d’Avella did not name those modern musicians under criticism; nor did he cite any specific madrigals. His use of the proximate past and present tenses only slightly limits our search into the Neapolitan madrigal from its origin to its end for examples of this curious notation. Upon completing such a survey, one finds that d’Avella has greatly exaggerated the number of musicians (albeit “alcuni”) who held this opinion. Indeed, only one musician—Francesco Orso, a Neapolitan—advocated this equal-semitone practice and its means of notation. Apparently, not a single other madrigalist adopted or endorsed Orso’s unique opinion. Not a single other theorist even discussed Orso’s opinion in a treatise, so far as we know. Moreover, Orso himself relegated this opinion to two theoretical chromatic madrigals deliberately (and consistent with other composers of occasional “chromatic madrigals”) placed at the very end of his first book of madrigals. He otherwise subscribed to the common chromatic madrigal practice, a fact which d’Avella surely withheld. As this book was printed in 1567 and Orso died c. 1581, d’Avella is surely “beating a dead horse” and rather disingenuously misrepresenting Orso’s original ambition. Nevertheless, Orso’s theory of the equal division of the whole-tone and chromatic madrigals affirms the common practice of the unequal division of the whole-tone and afford us greater insight into d’Avella’s Boethian thought. It is indeed surprising that d’Avella, who evidently had such limited access to madrigal prints, encountered this dated notational oddity. All the more surprising would be that Orso’s theory maintained any currency in oral musical discourse well into the seventeenth-century.
Although d’Avella mentioned the basic ideas of Orso’s equal division of the whole-tone, he did not include Orso’s reasons for this division. These reasons were given in detail by Orso in a letter he addressed to readers of his first book of madrigals. They are rather vague and not as “obvious” as Orso intended: The unequal division of the whole-tone allowed the large semitone to be placed at the bottom of the whole-tone (ie: C C-sharp D), which is “falsely divided.” Orso does not further specify why that division should be considered “false” and the placement of the small semitone at the bottom of the whole-tone (ie: C D-flat D) should, by extension, be considered “true.” Furthermore, if the large semitone was placed at the top of the whole-tone (ie: D D-flat C), then “many consonances would be false” (ie: an A major triad). Therefore, Orso conceived of a sharp accidental that raises a pitch by the same amount the flat accidental lowers a pitch and vice versa. These were to be understood as “half accidentals” that fell “midway between the extreme limits of the [whole-tone] interval.”

Orso was defensive about his notational system for indicating these equal semitones and his practice of composing three or more consecutive semitones. He argued emphatically: “I do not know why having three semitones marked one after the other, the second may not be higher than the first and the third than the second, since putting three bridges (which are similar to semitones) under a string makes three different sounds, one higher than the other, and makes three entities--III--not one but three.” Of course, he ultimately claims that his two chromatic madrigals followed the “teaching of the ancients,” who also only used one semitone.

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206 Ibid.
This theory was a “bruttissima opinione” to d’Avella the Boethian, who refused to grant
the equal division of the whole-tone and, to rebut it, “petitioned to friends [of music]:” If the
second accidental should have varied the pitch from the first accidental, it ought to vary by at
least a minor semitone consisting of four commas (C-sharp D). The third accidental ought to
vary from the second accidental by as much (D E-flat) and likewise for the fourth accidental
from the third accidental (E-flat F-flat).207 Taken together, these three accidentals would alter
the first note by a total of 12 commas (a whole-tone of nine commas plus three more commas) -- a
doubly diminished fourth interval that is deficient by one comma of the minor third’s 13
commas, Example Forty-One.

Example Forty-One: Gloss for d’Avella’s First Rebuttal of Orso

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\[
\begin{array}{cccc}
| & C\# & D & Eb & Fb E \\
\hline
& 12 & 4 & 4 & 4 \\
\end{array}
\]
```

“Where might these voci sound?” d’Avella asks.208 They can not sound in the same
corda, C-sharp, for, as may be proved via Boethius, the generated semitone passes four commas
above C-sharp to the space of another corda, D.209 D’Avella then assumes that whoever holds
that these three intervals should be equal might say, following Philolaus in Book III of Boethius,
that the interval is made up of either a “diaschisma” (comma) or the “schisma” (two commas), as

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207 D’Avella, 76. *Bruttissima opinione, ed io l’hò posta à petitione d’amici, poiche se fosse vero, che ’l secondo accidente variasse dal primo, dovrebbe variare almeno un Semitonio minore, Quattro come più sù del primo, & il terzo accidente alterarebbe altrettanto, il quarto altrettanto, &c.* Note that d’Avella does not repeat this sequence with the large semitone repeated (presumably because he could not conceive of a C-sharp C-double-sharp major semitone).

208 *Ibid.* *Talche, se fussero tre accidenti, sarebbe alterata l’istessa corda un tono, e tre come; e queste voci, dove risonarebbono?*

209 *Ibid.* *Nell’ istessa corda, si nieg: nel semitonio, che si puo generare, lo trapassa: dunque trapassa al spatio dell’ altra corda, alla quale dal primo # non vi e altro che un semitonio minore di quarto come, come si prova con Boetio, che non vi sono altro che due voci nel spatio di ciascun tuono nel cap. 29 e 30.*
these can be added serially and equally *ad infinitum*.210 But if this should be so, then the diaschisma and schisma accidentals should be notated with different signs than a #.211 Moreover, this equal division is impractical: The diaschisma and schisma are not found on the common keyboard.212 Even if these minute alterations are performed on lutes and string instruments, they will not necessarily be consonant. Imagining this fretting, D’Avella asks: Will placing a schisma four times on a *corda* fill out the space of a whole-tone? As seen in Example Forty-Two, no; it will fall short by one comma. If the third sharp of these four differs from the second by two more commas, will it not enter into the space of another *corda*?213 D’Avella’s question here errs. As seen in the same Example, the first two schismas added to C sum to four commas and “enter the space” of the *corda* D. The third schisma added on top of this exceeds D-flat and enters back into the space of the *corda* C (albeit C-sharp mi). Finally, d’Avella considers filling out this same space with six individual commas—another “*brutta opinione.*” As the four sharps on one *corda* fail to form practical intervals with a series of equal small semitones, equal large semitones, schismas, and diaschismas, d’Avella has, in his opinion, rendered Orso’s chromatic theory false.214 He did not assess the merits of Orso’s chromatic text-setting.215

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210 Ibid. *E se pur questo opinante dicesse che le alterationi d’un diascisma, cioè d’un coma, ò d’un scisma, cioè di due come secondo l’opinione di Filolao Filosofo.*

211 Ibid. *Dico, che tali alterationi diverse d’uno, ò di due come se doverebbono segnar variatamente per toglier via la confusione, e questo s’osserva nel scrivere dette #.*

212 Ibid. *Secondo, dico, che queste alterazone di uno, ò di due come con voci non si ponno formare, ne nellii stromonti da tasti sono in uso, perche la voce non si potrebbe formare.*

213 Ibid. *Terzo dico, che se queste alterationi di Filolao si ponno fare ne’ leuti, e stromenti da corde, non seguita che alterandosi in una parte (per esempio) dalla parte di sopra, in quel modo, che rispetto alla parte di basso potrebbe consonare senza fare la medema alterazione, e se si facesse à questo modo, alterando le due parti, ne anco potrebbono corrispondere, e star nella medema corda: si che se fossero quattro # in una corda, alterando il secondo dal primo per un scisma di due come, e l’ terzo dal secondo alterando due altre come, sarà finito il spatio del tuono, e se il terzo # altera dal secondo doi altre come, non entrerà nel spatio dell’ altra corda?*

214 Ibid. *Brutta opinione, e se fosse l’alterazone di un diascisma, cioè d’un coma, se fussero sei # in una corda, quell’ alterazone di sei # ò come non entrerebbe allo spatio dell’altra corda? Dunque quest’ è opinione senza fondamento.*

215 For a description of Orso’s chromatic text-setting, see Jessie Ann Owens remarks in Orso, xiii.
Example Forty-Two: Gloss for d’Avella’s Second Rebuttal of Orso

At this point, we have deciphered and proposed a correction to the most theoretically intricate portion of Chapter 39 of d’Avella’s Regole: The ancient sonorous proportions of the ensweetened modern tritone. We may now proceed to the ensweetened modern tritone in Neapolitan practice.
Chapter Two

The Neapolitan Gesualdo Controversy: Ensweetened Modern Tritones in Post-Tridentine Practice and Thought

D’Avella’s Citation, Description, Analysis of Gesualdo’s Tenebrae

Having defined the modern tritone and its ensweetening in theory, d’Avella next turns towards its practice. To do so, he sets up a very brief quarrel of the ancients and moderns: “The ancient musicians had known this [b-]fa on E, but they did not know the ensweetening [A-flat fa], which,” d’Avella adds, aligning himself with the moderns, “they could have used.” To be sure, d’Avella’s quarrel is not reflective of a sustained inquiry into ancient and modern music in the manner of the Girolamo Mei and Vincenzo Galilei correspondence; rather, d’Avella’s quarrel seems reflective of a broad musical denigration of the ancients in Naples at the time. As Nicolo Tagliaferro, a singer in the royal chapel in Naples, complained in his turn of the seventeenth-century L’esercitio, “The moderns ought to discuss and judge musicians with more respect, for they use the word ‘ancients’ as if they wanted to say ‘fools’ (?) and ‘beginners.’” As d’Avella turns to the ensweetened modern tritone in practice, however, he abruptly switches sides and adopts the perspective of the ancients, who are amazed by modern advances: “[The ancients’] disciples and I, who saw [the ensweetened modern tritone] used by the Neapolitan musicians and other imitators, admired it as a chimerical and fantastic thing.” As representative of this modern Neapolitan music, d’Avella selects “in particular that passage which the prince of Venosa

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216 D’Avella, 58. _Li Musici antichi conobbero questo fa in E ma non conobbero l’indolcimento, che l’havrebbono usato._
217 Trans. Larson, 941.
218 So far as I have found, only Giuseppe Collisani (1998) has intuited that A-flats are “napoletanissimo” (54).
composed in the Responsories of Holy Week, in the sixth day’s *Tenebrae* responsory, on the
words *Et inclinato capite.*”

The fact that d’Avella here cites Gesualdo’s sacred music as opposed to his secular music
is of critical significance, for it confirms that Gesualdo’s *Responsoria* was not, as has been
previously advanced, an example of *musica reservata.* Bianconi, for one, has argued “It must be
admitted that like the madrigals, the *Responsoria* were meant for private performance at
Gesualdo’s castle, and, moreover, were intended for one listener, the composer himself.” To
this, Watkins has countered that Gesualdo oversaw the publication of the *Responsoria* at the
same time of his late madrigals, which suggests that he intended it to be distributed (albeit in a
limited edition), preserved, and perhaps performed in public. Unfortunately, d’Avella does
not specify if Gesualdo himself likewise oversaw and attended this performance of the
*Responsoria* (if he was still alive, for that matter). I would argue, on the basis of the careful
placement of the ensweetened modern tritone (seen presently), that Gesualdo knew (and perhaps
intended) that his *Responsoria* would be performed in public for listeners outside of his circle.
As d’Avella does not cite any ensweetened modern tritones in Gesualdo’s fourth through seventh
books of madrigals, I am skeptical that he heard any other performances of Gesualdo’s madrigals

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219 D’Avella, 58. *E li loro discepoli, li quali vedutolo usare da’ Musici Napolitani, & altri imitatori, con me, se ne sono ammirati, come di cosa, chimerica [sic], e fantastica, & in particolare di quel passo, che fà il principe di Venosa nelle Responsorij della Settimana santa, feria 6 ‡ Tenebræ, parola, Et inclinato capite.* The use of the colorful term “chimerical” cannot go unnoticed, however generically d’Avella seems to have employed it in the fantastical sense. The chimera is, of course, readily revealed: The ensweetened modern tritone appears notated with flats, one of which has the sound of a sharp. Perhaps incidentally, D’Avella invokes the animalistic chimera in the first chapter of the third treatise: Just as the common Guidonian Hand is no longer sufficient for *canto fermo*, so too, according to Horace, would a chimerial portrait of a “bellissim’ huomo” be insufficient. Again, a contextual study might reveal a fascination with chimeras in Neapolitan literature. One such example would be the “La Chimera” by Francesco Antonio Rocco Ernandez in his *Discorsi Academici* (Napoli: Ottavio Beltrano, 1636): 109-125.


(or those of LaCocia, Montella, and others), which must have been comparatively much more reserved from the general Neapolitan public than music intended for church.

Gesualdo’s ensweetened modern tritone sets the crucifixion and appears on the last line of the *Tenebrae* responsory. As seen in the complete text below, this line (here italicized) of the response is repeated after the verse (indented); thus, the ensweetened modern tritone is also repeated (which surely heightened its impression upon d’Avella and the Neapolitan congregation). This point is critical, for we shall soon wonder if d’Avella transcribed the ensweetened modern tritone by ear (on two tries alone).

| *Tenebrae factae sunt, dum crucifixissent*  | Darkness covered the earth, whilst the Jews |  
| *Jesum Judaei: Et circa horam nonam*  | crucified Jesus: And about the ninth hour, Jesus |  
| *exclamavit Jesus voce magna: Deus meus,*  | cried with a loud voice: My God, why hast Thou |  
| *ut quid me dereliquisti?*  | forsaken Me? |  
| *Et inclinato capite, emisit spiritum.*  | *And bowing His head,* He gave up the spirit. |  
| *Exclamans Jesus voce magna,*  | Jesus crying with a loud voice, said: |  
| *ait: Pater,*  | *Father,* into Thy hands I commend My spirit. |  
| *in manus tuas commendo spiritum meum.*  | *And bowing His head,* He gave up the spirit. |  

Although d’Avella reports that his “fellow disciples of the ancients” also “admired” this moment of Gesualdo’s *Responsoria*, it is not cited in any other Neapolitan treatise. This curious lack of concordances has many possible causes. Perhaps, however unlikely, other theorists were not in attendance, or they disapproved of Gesualdo’s *Responsoria* and did not censure it in their writings, or they lacked the theoretical capacity to discuss it, among other speculations. Curiously, however, Cerone discusses his own setting of this moment in the *Tenebrae* in the *Melopeo*, which was published two years after Gesualdo’s *Responsoria* in 1613.

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222 Further research into Neapolitan literature on the Passion might yield more citations.
Although Cerone’s music is now lost, his discussion of it nevertheless supplies a vital Neapolitan context and comparison for Gesualdo’s setting. After all, Cerone was a priest and singer in Naples’ Annunziata, where the Neapolitan madrigalists Scipione Stella, Giovanni de Macque, and Ascanio Mayone were organists. In Book XII, Chapter 5, “On the Imitation of Text with Song,” Cerone exemplifies several composers’ uses of evaporated cadences to imitate words such as “departure,” “disappearance,” and “death.” He cites one such evaporated cadence “of which nobody today has done better” in Roger Giovanelli’s third book of madrigals, on the text “C’hor hor voglio morire.” Cerone warns that the evaporated cadences used in madrigals do not seem to be appropriate for sacred music, on account of the forces of a “full chorus.” However, evaporated cadences may be “freely composed” in sacred music if they are set in “delicate, serious, and devout tempos” and sung by “plain voices.” Cerone then cites his own use of an evaporated cadence in the Tenebrae factæ sunt responsory on the words Et inclinato capite emisit spiritum. The reader can imagine the voices dropping out one by one on the words emisit spiritum. In comparison to Cerone, Gesualdo also used an evaporated cadence (albeit semi-evaporated) immediately following the ensweetened modern tritone on the word capite (as may be seen in Example Eleven), thus overlapping the text’s semiverses. Therefore, Cerone could have in principle also cited Gesualdo’s Responsoria (even without access to its

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223 Cerone, 665.
224 Ibid., 671. Muchos Componedores ay, que acabaron azeves con suspension, haziendo desaparecer las bozes, calando todas juntamente, con la terminacion de una Minima: y esto, para imitar la palabra que significava, faltar, partir, asonder, desaparecer, callar, y morir &c.
225 Ibid. Pero nadie hasta oydia (que sepa yo) lo ha hecho major, que el dicho Rogier. El qual en el 13 Madr. del 3 lib. No solamente haze la terminacion con Minima, mas haze desaparecer una parte, luego empues de la otra; con que mucho mas puntualmente viene à imitar el sentido de la palabra, morire; cantando assi.
226 Ibid. Adviertan que en Composiciones ecclesiasticas, siendo cantadas à Choro lleno, (salvo el major juyzio) no parecen bien semejantes terminaciones: mas siendo la obra compuesta con andamientos delicados, graves y devotos, y cantada à vozes senzillas, se podra hazer libremente. Cerone’s discussion of the size of the chorus is important, since it might also carry over for the performance of Gesualdo’s Responsoria.
227 Ibid. Yo me atrevi à terminar con semejante terminacion, un Mot. à dos Choros, que comiença; Tenebræ factæ sunt: y acaba diziendo, Et inclinato capite emisit spiritum.
print) in this chapter, had he heard or perhaps even performed it. Elsewhere in his *Melopeo*, Cerone notably selects Paolo Aretino’s 1564 *Responsoria* for its remarkable chromaticism—and not Gesualdo’s.\(^{228}\)

Likewise, no modern analyst of Gesualdo’s music has drawn such particular attention to this moment in the *Tenebrae* as d’Avella. Watkins, in his “Last Words” discussion of the *Responsoria*, aptly describes this moment as “the ultimate Christian cry of distress;” yet, without d’Avella’s cue, inadvertently understates the passage’s chromatic text-setting: “It is interesting that in setting this powerful text, in the response ‘Tenebrae factae sunt,’ Gesualdo chose not to lead us into the chromatic labyrinth but called instead upon a chain of suspension dissonances.” In his analysis, Watkins only points out the “series of descending figures at the lowering of the head, “et inclinato capite,” reaching a low E-flat in the bass” (seen in Example Eleven).\(^ {229}\) Much remains to be said about this moment.

What follows in d’Avella’s *Regole* is the only citation and analysis of a notated example of Gesualdo’s “late” chromaticism in a contemporaneous Neapolitan treatise. The citation of the ensweetened modern tritone in the *Tenebrae* is reprinted in Example One (A). It is only a melodic snippet, which suggests that the horizontal unfolding of the interval was noteworthy; or perhaps d’Avella is simply preserving this moment in brief, leaving his readers to place the ensweetened modern tritone in its complete polyphonic context (although that is something we have seen d’Avella himself was unable to do).\(^ {230}\) At first glance, one might be amazed that this brief passing tone was cause for such admiration. However, this is in fact the first time Gesualdo

\(^{228}\) Ibid., 922.
\(^{229}\) Watkins, *The Gesualdo Hex*, 89.
\(^{230}\) D’Avella’s description of this melodic motif contradicts his previously encountered Chapter 45 theory that an A-flat tuned as G-sharp is not so noticeably false when neighbored by B-flat, as opposed to C (and E-flat).
used the pitch A-flat in his *Responsoria* and, in all likelihood a unique occurrence among Neapolitan sacred polyphonic works.\(^{231}\) The ensweetened modern tritone, by way of contrast, does not appear in Nenna’s *Responsoria*.\(^{232}\) Therefore, this moment was likely the first time the general Neapolitan public would have heard this chromatic sonority. I do not believe that d’Avella merely “saw it” [*vedutolo*], as he literally wrote; he heard it. Therefore he selected this particular ensweetened modern tritone for his treatise—and not any of the more audacious ones readily found in Gesualdo’s last books of madrigals (had d’Avella access to these books, that is). D’Avella could have additionally cited two more instances of ensweetened modern tritones that subsequently occur with comparable text-setting applications in Gesualdo’s *Responsoria*: One appears in the ninth responsory of Good Friday, *Caligaverunt oculi mei*, and expresses the tears and discomfort caused by the death of Christ. The other appears in the second responsory of Holy Saturday, *Jerusalem surge*, expressing the slaying [*occisus*] of Christ.

Curiously, the notation in d’Avella’s printed example does not precisely match the 1611 print of Gesualdo’s *Responsoria*. As seen in Example One (A and B), the two versions’ pitches

\(^{231}\) I must stress that this was likely the first time d’Avella heard this sonority—whence his unique appellation “modern” tritone. It is not clear if Gesualdo and his circle of musicians also considered this interval “new.” As d’Avella evidently had a limited musical and theoretical collection at his disposal, he could not possibly know that the ensweetened modern tritone was, in fact, rather old. My own investigation traces this interval’s practical and affective application at least as far back as Josquin’s notorious *Absalon, fili mi* ending, as recently re-edited by Peter Urquhart in his “Another Impolitic Observation on *Absalon, fili mi*,” *Journal of Musicology* 21/3 (Summer 2004): 348. Vis a vis the perennial question whether or not Gesualdo is “ancient” or “modern,” most recently posed by Catherine Deutsch, one historically informed answer is his fundamental chromatic interval, E-flat A-flat, sounded “modern” to the general Neapolitan public, but ostensibly dates back to the “ancient” Josquin generation. See Deutsch’s “*Antico or Moderno?* Reception of Gesualdo’s Madrigals in the Early Seventeenth Century,” *Journal of Musicology* 30/1 (Winter 2013): 28-48.

\(^{232}\) Or Victoria’s celebrated *Responsoria*, for that matter. It does, however, appear throughout Aretino’s and once in Ingegneri’s settings. So there are some precedents for Gesualdo, outside of Naples. I have not yet seen the Responsories of Lambardi, Dentice, Montella, and Giovanni Domenico Viola. Stella’s 1610 printed motet *Aurea Luce et Decore Roseo* is problematic in this regard as the ensweetened modern tritone seems erroneously placed on “*decorans caelos.*” This raises the question: Are all E-flat A-flat intervals ensweetened modern tritones or are some ensweetened ancient tritones? My corpus study suggests the former and that this Stella example is a rare exception.
are identical; however, their rhythms differ. The first pitch, E-flat, is notated as a semi-breve in d’Avella and a breve in the print. The following B-flat is also notated as a semi-breve in d’Avella and a dotted semi-breve in the print. The A-flat is correctly notated as a minim. The four-fold repetition of G, however, appears as two minims followed by a semi-breve and a minim in d’Avella; the print has two semibreves followed by a minim rest and a semi-breve and minim. D’Avella has a generic long rest placed at the beginning and the print has a double long and minim rests. As will be seen presently, d’Avella later in this chapter refers his readers to another discussion of this passage in his third treatise (Chapter 68), in which the citation appears to be taken directly from the print, Example One (C), albeit, still without text-underlay. Note how this example oddly seems to have a canto fermo pitch A notated after the clef (with the stem misprinted), a potential misprint in the third treatise (predominantly devoted to the harmony of the spheres and modes of canto fermo). Or, d’Avella has actualized the A E-flat modern tritone that must be ensweetened. Finally, the print as a whole does not include a practical indication (either for contemporary performance or for sake of posterity) that the A-flat has the “sonorous proportions” of G-sharp. Although these discrepancies are subtle, they are significant: D’Avella did not copy (or meticulously copy) his Chapter 39 citation from the print. Perhaps (and most provocatively) he heard this moment twice and then jotted it down afterwards from memory. Or, he quickly and errantly jotted it down from the print after the performance. Or, perhaps d’Avella heard and copied a prior manuscript version of the Responsoria. Ultimately, he did not revise his citation to match the print. The discrepancy between Chapters 39 and 68 may not be conclusively resolved. If the reader might have found these notational analyses unnecessarily tedious, suspecting that d’Avella was simply careless in writing down A from C taken from B, his one other musical citation from Gesualdo’s Responsoria, encountered presently, will
persuade otherwise. What we must establish is whether or not d’Avella transcribed his examples of Gesualdo’s Responsoria by ear and if he was able to consult the print or performing manuscripts after the performance. If d’Avella did not have access to either those exemplars for even a brief moment of time (as one could suspect from the dearth of citations of the Responsoria in the treatise), then this presumably “public” performance of Gesualdo’s sacred music was still, in some regards, musica reservata.

Example One (A-C): D’Avella’s Citations of Gesualdo’s Tenebrae Compared to the 1611 Print

D’Avella’s own description of the Et inclinato capite passage—both in terms of its spiritual significance and musical techniques—is minimal. Certainly, his perception of the ensweetened modern tritone as “chimerical and fantastic” generically applies to all ensweetened modern tritones and is not specific to this particular moment in the Responsoria. D’Avella merely writes “that worthy passage unfolds with three flats.” Yet he was not entirely adverse to subjective commentary. One readily contrasts this pithy description to his only other recollection of a listening experience given in the entire Regole. Elsewhere, in the treatise on counterpoint (Chapter 91), d’Avella vividly recalls hearing an unnamed work by the Roman Francesco Soriano, in which continuous chains of dissonances juxtaposed with those of

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233 d’Avella, 58. Dove con tre b spiega quel degno passo.
consonances “seemed an infernal fury followed by an angel in the sonority of the counterpoint” (was it coincidentally Soriano’s 1619 Passio?)\textsuperscript{234} The extreme reticence about Gesualdo’s Et inclinato capite setting is therefore most unexpected and certainly odd considering that d’Avella belonged to the Oratorio della Passione, a monastery devoted to the commemoration and contemplation of the crucifixion of Christ. Indeed, d’Avella is known to have authored at least one book (now lost) on the Passion, perhaps written contemporaneously with (or just before) his music treatise: Contemplationi devote di quindici spine principali, che punsero il cuore della Beatissma Vergine Maria nella passione, e morte del sue Figlio Giesu Cristo, published in 1637 in Naples by Ottavio Beltrano (an occasional printer of the madrigals of Crescenzio Salzilli, Scipione Dentice, and Alfonso Montesano).\textsuperscript{235} One may only suppose that this book might have been more elaborate in its discourse.

Considering that d’Avella was a preacher in the Kingdom of Naples and surely delivered sermons during Holy Week, we may provisionally compare and contrast d’Avella’s description of Gesualdo’s Et inclinato capite passage to Giambattista Marino’s sermon-style Le dicerie sacre, which were published three years after Gesualdo’s Responsoria in 1614. These dicerie ostensibly infused many sermons throughout Italy over the course of d’Avella’s lifetime.\textsuperscript{236} Le

\textsuperscript{234} Ibid., 144. Sarà segno che posseda bene l’arte, come a’ tempi nostril faceva un valent’ huomo Romano, degno di lode chiamato il Soriano, questo era talmente eccellente, che sopra ogni nota faceva sempre dissonanze continue, senza interponer’ il contraponto, pareva una furia infernale, & un’ Angelo poi nel contraponto sonoro, & era tanto pronto nelle dissonanze, che in ciò fu singolare.

\textsuperscript{235} D’Andrea, 58. The book was dedicated to Domenico Giordano, Bishop of Isernia. One might consider the possibility that the Regole di Musica was mostly written after this book; and, most provocatively, that it was d’Avella’s “final testament” to preserve Gesualdo’s chromatic practice. Both Niccolò Toppi’s 1678 catalog of Neapolitan authors’ writings (print and manuscript), Biblioteca napoletana et apparato a gli huomini illustri in lettere di Napoli, e del regno, delle famiglie, terre, città e religioni, che sono nello stesso regno, and Lionardo Nicodemo’s 1683 Addizioni copiose to it include d’Avella and his Regole—but not the Contemplationi. Therefore, I would suggest that this book had a modest circulation and theological impact; it may have been lost within fifty years after its printing.

\textsuperscript{236} A corpus study of these sermons is wanting, as is the Franciscan Order’s particular reception of Marinist sacred oratory.
dicerie sacre consists of three sections of orations on Holy Week, based on metaphors taken from painting, music, and astrology. In *La Musica: sopra le sette Parole dette da Christo in Croce*, the line *Et inclinato capite* is the final climax, occurring at the end of the four orations. Marino first describes this moment as the “last beat.” He then correlates Christ’s descent from and return to heaven with the octave, the musical interval which reaches the same pitch from which it began. Indeed, for Marino, Christ sang each of the seven pitches which make up the octave after each of the seven words *A Deo exivi, & ad Deum redeo*. To this, he reiterates in apposition *Inclinato capite emisit spiritum*. Marino then temporarily deviates from the musical metaphors and compares the fall of Christ’s head to a plant lowering its branch so that we might grasp its fruit. He puns the noun *capite* as a verb (i.e. you gain understanding through recounting the Crucifixion). But even this non-musical conceit in *La Musica, Et inclinato capite capite*, is potentially musical: It appears as the basis for a spiritual madrigal by the Roman madrigalist Antonio Cifra (himself a Gesualdo imitator). Marino also equates the rainbow that is formed with the fall of Christ’s head to the arch of a musical bow: “He bows his head to make a bow for the lyre and to fulfill the music.”

If d’Avella’s affective and exegetical writing on Gesualdo’s *Et inclinato capite* seems comparatively wanting, all the more wanting is his next sentence, in which he reports indirectly how the performers of Gesualdo’s *Responsoria* understood these three flats. Evidently, d’Avella

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239 Ibid., 213v.
241 Marino, *Le dicerie sacre*, 214r. *L’arco celeste è segno di pace, & quando inchina l’un de capi nel mare è segno di pioggia... Tutto bene, ma io v’aggiungo di più, ch’egli china il capo per fare un’archetto alla lira, & dar compimento alla Musica.*
approached the musicians after the performance and they willingly shared their thoughts about this passage with him (this again controverts the notion of Gesualdo’s *Responsoria* and his chromaticism, for that matter, as *musica reservata*). For these Neapolitan musicians, this passage did not just unfold with three flats: “They,” d’Avella reports, “considered these [three flats] tritones, ensweetenings, and affections.”

This sentence is the only time the Neapolitan musicians themselves speak (however indirectly) in d’Avella’s treatise and, brief though the quotation may be, it offers us a tantalizing glimpse into their discourse about Gesualdo’s chromaticism and text-setting. I do not believe d’Avella is inserting words into the Neapolitan musicians’ mouths, but reporting (although this must remain open to debate, for now). Of course, this sentence begs the question: Who exactly are these Neapolitan musicians? How can we be sure they are Gesualdo’s Neapolitan musicians and that they correctly performed this moment and faithfully transmitted the composer’s musical intents?

Before proceeding to correlate the Neapolitan musicians’ discourse with the *Et inclinato capite* excerpt, let us firstly observe that d’Avella has here invoked the past-historic tense, *considerorno*, which indicates that he is recalling and writing about this event late in his life in the 1630’s. The past-historic tense also places this performance of Gesualdo’s *Responsoria* in the environs of its printing in 1611 (or perhaps even before that). D’Avella’s quotation of the

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242 D’Avella, 58. *Mà considerorno questi tritoni, indolcimenti, & affetti*. The past-historic conjugation of *considerare* is slightly deviant from the Crusca’s “*considerarono*.”

243 So far as I am aware, this is one of only two instances that have come down to us in which Gesualdo’s musicians (or, at least, performers) speak about chromatic tuning. The other is Stella’s annotations on Colonna, discussed below. I can think of only one other comparable instance in which the composer himself indirectly speaks on out of tune mean-tone sonorities, which is wholly different from the Neapolitans: J.S. Bach on the Silbermann mean-tone temperament, as reported in Georg Andreas Sorge, *Gespräch Zwischen einem Musico Theoretico und einem Studioso* (Lobenstein: Im Verlag des Autoris, 1748): 28. In denen 4 schlimmen Triadibus aber ist ein rauhes, wildes, oder, wie herr Capellmeister Bach in Leipzig redet, ein barbarisches Wesen enthalten, welches einem guten Gehör unerträglich fällt.

244 As we shall discover presently that d’Avella was most likely transcribing his citations of Gesualdo’s *Responsoria* by ear (without recourse to the musical prints or manuscripts) and, moreover, never saw the prints in his lifetime, the question quickly becomes: Who outside of Gesualdo’s circle could have acquired the music to perform?
Neapolitan musicians is therefore recalled from memory and is likely abridged (the reader can only imagine the complete conversation). D’Avella previously used the past-historic tense in this chapter for the ancients’ knowledge of the accidentals and ensweetenings [conobbero]. It seems that this modern tritone and d’Avella’s discussion of it with the Neapolitan musicians are things of the distant (yet not ancient) past.

According to the Neapolitan musicians, the *Et inclinato capite* motif features multiple tritones [tritoni] and their ensweetenings [indolcimenti]. There is not just one tritone in this motif; rather, multiple tritones, both ancient and modern, intertwined. Although the musicians surely differentiated between these tritone’s sonorities, they may not have had different appellations for them in the way of “ancient” and “modern.” Again, as was seen in *Non mi toglie*, these tritones are not literally present in the music. Of course, ancient and modern tritones intertwined could in principle depict the crucifixion. In Chapter 38, d’Avella includes examples taken from plainchant of the affectiveness of placing tritones on the word *morte.* Moreover, in the final chapter of treatise, d’Avella cites several E-flat A modern tritone leaps that “are optimal for the sense of death” on the words “Viva la morte” (albeit a mis-

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245 On the subject of d’Avella’s memory, I hear note that further research could place d’Avella’s citation and remembrance of Gesualdo’s *Tenebrae* within the context of discourses on spiritual memory and contemplation of the Passion. Did this one-time listening experience resonate in d’Avella’s mind during each subsequent Holy Week over the next thirty years of his life? Was it Gesualdo’s compositional intent to instill such a memory in his listeners’ minds? The contemporaneous Neapolitan text, albeit with an *ars moriendi* bent, is the anonymous *Memoria Perpetua della Passione, e Piaghe di N.S. Gesu Christo* (Napoli: Roncagliolo, 1645). The principal task will be to find such a text (or a music treatise) that directly explains music’s role in spiritual memory.

246 Contrast this to d’Avella’s strategic use of the proximate past tense to describe Francesco Orso’s 1567 print (as discussed in Chapter One of this study), which, of course, greatly precedes Gesualdo’s *Responsoria.*

247 D’Avella, 55. *Senza indolcimento di alcuni degli estremi...ò con qualche affetto, che il permetta, come nell’Anna della Settuagesima, Dixit Dominus ad Adam: parola, Morte morieris. Qual’affetto crudele di morte, è quella sillaba, mo, che viene sopra mi, fa bell’effetto.*
understanding of the overt eroticism in Palazzotto’s madrigal *Mori mi dici*). In Gesualdo’s *Et inclinato capite* setting, however, there are only ensweetened tritones. The first tritone, seen in Example Two (A), is E B-flat. This tritone was then ensweetened by substituting E-flat for E, Example Two (B). In turn, this ensweetened E-flat created another tritone with the A. This A was then ensweetened by substituting A-flat for A, Example Two (C). The Neapolitan musicians presumably lacked the theoretical adeptness to further explain that the A-flat actually had, in d’Avella’s terms, the “sonorous proportions” of G-sharp, and that the musical notation was incorrect, acoustically speaking, Example Two (D). Through their discourse, however, we have been able to extrapolate to the diatonic origins of this motif and, in conjunction with d’Avella’s enumeration of the ensweetened modern tritone, recount its chromaticization. Certainly, one would not arrive at this analysis of the *Et inclinato Capite* motif without d’Avella’s inside report.

Following the Neapolitan musicians’ indirect quotation, d’Avella then prescribes how to solfege the *Et inclinato capite* motif. This prescription should follow from his Guidonian pedagogical solutions to Neapolitan chromaticism (Chapter Three of this study). However, for the precise solfeging of this motif, d’Avella oddly refers his readers all the way to Chapter 68 in the third (and mostly speculative harmony of the spheres related) treatise in the *Regole*. One reason for this unwieldy reference and deliberate deferral of the solfeging from Chapter 39, I suspect, is that d’Avella places the syllable fa on the A-flat, fully knowing that this stands in contradiction to his rhetorical explanation of the A-flat’s sonorous proportions of G-sharp mi (again: “Who would deny that fa may not be on A?”) As seen in Example Two (E), the three

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248 D’Avella, 75. *Fà risonare quelle quinte false, e stanno ottimamente per il senso di morte*. These are modern tritones, but he did not name them as such. D’Avella missed the obviously erotic meaning of the poem, which establishes his understanding (or lack thereof) of madrigal poetry. The text is as follows: *Mori, mi dici e mentre/ Con quel guardo crudel morir mi fai,/ Con quel dolce parlar vita mi dai../ Ah!, che vita omicida,/ Che mi tien vivo sol, perchè m’ancida!/ Lasso! Ben veggio omai come negli occhi/ E nella bocca porti,/ Bella donna crudel, viva la morte!*

249 Ibid. *Pero si devono cantare, come nel capo 68.*
consecutive flats should be solfeged fa fa fa, which, in keeping with the prohibition of fa on A, evidently led people to believe that Gesualdo’s notation was “false.” This is an explicit indication that Neapolitan singers recognized the difference between Example Two, C and D.

D’Avella does not, however, alter the third fa. Instead, he mutates the second fa into sol, so that the mutation of the fifth, E-flat A-flat, is made “most happily.” Fa remains on A.

Example Two (A-E): Ensweetening and Solfeging the “Et inclinato capite” Motif’s Tritones

We have learned from the Neapolitan musicians that these “ensweetened tritones” were a most “affective” means by which Gesualdo could move his listeners to aurally sense the death of Christ. Of course, “affetti” is a term rife with meaning. Andrew Dell’Antonio, in his *Listening as Spiritual Practice in Early Modern Italy*, uncovered so many various applications of the term affetto--to which we must now add the Neapolitan musicians in d’Avella’s treatise--that he could not find any consensus beyond the most generic observation that “claiming the existence of affetto in one’s musical practice seems to have been an over-riding concern in early

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250 Ibid., 103. Perche vi fa tre b molli, e il cantano fa, fa, con altre note appresso, senza proposito: dicono, che la scrittura è falsa, non sapendo che si devono regolare dall’ultimo b siche essendo fa, quel fa, in b fa, sarà sol, e vi è la distanza d’un tuono perfetto, & il primo fa, e secondo fa, si dirà fa, sol, fa: talche dal primo al terzo b si fà felicissimamente la mutazione di quinta. The “perfect whole-tone” is, of course, false.

251 And the affections, used every so sparingly, indeed concern the death of Christ—not Gesualdo’s own *ars moriendi* from his obsessiveness and persistent melancholy, or, in the words of Fontanelli, his ‘affetto napoletanissimo.’
seventeenth-century discourse on music.” He then traced these many affetti to the “discourse of post-Tridentine reform” and its “neo-Ciceronian theories of rhetoric and oratory.” Given the brevity of d’Avella’s statement and, as we shall see, his abstinence from invoking the Council of Trent and its subsequent reforms, I would presently refrain from making such a connection to the Neapolitan musicians’ discourse explicit. Moreover, I do not sense any polemics in the manner of the seconda prattica manifesto to employ new intervals such as diminished fourths and major sevenths (and ensweetened modern tritones?) as affetti behind the Neapolitan musicians’ discourse. Note that d’Avella did not use the ensweetened modern tritone’s affectiveness to counter the continuing theoretical contention that modern music had lost the effects found in readings about ancient music. He did not provide a theory of the Neapolitan musicians’ affects by, say, correlating the sonorous proportions to the stirring of the passions. Certainly, one can not remotely reconstruct a complete Neapolitan “doctrine of the affects” for Gesualdo’s chromaticism from such a brief indirect statement; nor might the practitioners have postulated such a doctrine. The term “affetti,” properly speaking, may even

252 Andrew Dell’Antonio, Listening as Spiritual Practice in Early Modern Italy (Berkeley: University of California Press, 2011): 16.
253 Ibid.
254 Spurred, in part, by Artusi’s (1603) arguments against Monteverdi and l’Ottuso that no new affections were possible: Ma se non può fare nuovo concerto, come ho provato à V.S. come potrà fare novi affetti? (10)
255 Among Neapolitan theorists, see Cerone, Book II, Chapters 24-25 (235), as derived from Zarlino’s Institutioni, Book II, Chapter 7.
256 As, for instance, appears in Zarlino’s Institutioni (II, 8) and its derivatives like Kircher (VII, 7).
257 Nevertheless, one might apply the Neapolitans’ term “affective” to the manifold uses of the ensweetened modern tritone in Gesualdo’s madrigals and contrast prior and subsequent theorists’ identifications of “affects.” Consider, for example, Kircher’s selection of Dolcissimo sospiro (III, 19) as a “Paradigma Affectus dolorosi” (602) and not, following d’Avella and the Neapolitans, the Tenebræ. If Kircher had read d’Avella’s treatise, he might have even included the Tenebræ as a “Paradigmata Affectus plangentium” (612). We shall revisit Kircher’s selections of Gesualdo’s madrigals shortly. Among recent investigations, Timothy McKinney has sought out Adrian Willaert’s un-written “theory of interval affect,” looking for reflections of it in the treatises of Zarlino and Vicentino. McKinney rightly singles out the exceedingly rare A-flats found in i vidi in terra angelici costume and L’aura mia sacra and, in his remarks, cites a vast line of predecessors dating back to Theodor Kroyer who have also remarked on the rarity of A-flat. However, following Zarlino and Vicentino, McKinney does not postulate that the A-flat is tuned as G-sharp and
be incorrectly applied, were Gesualdo depicting the suffering of Christ through the ensweetened modern tritone (in which case, the proper term would be “passioni”). At base, there is only one discernible component to the Neapolitans’ term affetti to describe Gesualdo’s Et inclinato capite motif: The expression of affects by means of unequal musical tuning and temperament.\(^{258}\)

Although d’Avella and the Neapolitan musicians did not next correlate Gesualdo’s Et inclinato capite motif to secular music, one presumes that it originated in madrigals. Text-painting at this moment in the Responsoria was, expectedly, a common practice; such descents depicting the fall of Christ’s head may be readily observable in the settings of Aretino, Nenna, and others. However, Gesualdo’s descending ensweetened modern tritone was without peer.\(^{259}\) For the madrigalian origins of Gesualdo’s Et inclinato capite motif, one first turns to Sparge la morte (IV, 11), whose final line coincides with the Tenebrae (it also happens to be the most chromatic of the first four books of madrigals).\(^{260}\) The anonymous text, which may be interpreted spiritually, is extraordinarily morbid:

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\(^{259}\) It is striking that d’Avella did not point out (and, perhaps, even recognize) the overt text-painting here or have a theoretical outlook on mimesis—so powerfully affective was Gesualdo’s ensweetened modern tritone. This prioritizing of the affective tuning over the mimic melody corroborates Watkin’s apt remark that “Gesualdo, while still relying upon a graphic vocabulary of Renaissance madrigalisms that promoted the idea of music as an imitative art and its resemblance to nature, had now unleashed the power of music to “affect the listener” in such dramatic terms that music’s superficial role of mimicking a text had been consigned to a footnote.” See Watkins, The Gesualdo Hex, 55.

\(^{260}\) One also thinks of the large corpus of spiritual poetry devoted to contemplating and describing Christ’s physical appearances during the crucifixion. So far as I have yet found, no musical settings of this poetry incorporate ensweetened modern tritones into text-painting, whence again Gesualdo’s apparent uniqueness. Quintessential of this repertoire is the contemporaneously printed settings on Grillo: Canoro pianto di Maria Vergine sopra la faccia di Christo estinto, ed. Arcangelo Patto (Venezia: Magni, 1613). Most pertinent to Gesualdo analysis and history is Vicentino’s surviving setting of Sannazaro’s Inudita pietà, which introduces E-flats on “le chiome lacerate,” but abstains from continuing to A-flats on the following “e’l capo bassa” (68).
Sparge la morte al mio Signor nel viso tra squallidi pallori
pietosissimi orrori,
poi lo rimira e ne divien pietosa:
geme, sospira e più ferir non osa.
Ei, che temer la mira,
inchina il capo, asconde il viso e spira.

Death spreads most piteous horrors amidst dingy pallor over my lord’s face, only to look once more and feel pity: he groans, sighs, and does not dare to strike again. My lord, seeing Death himself afraid, bows his head, covers his face and dies.

Gesualdo indeed mimics *inchina il capo*, but he does not employ the A-flat E-flat ensweetened modern tritone on this semi-verse or in this madrigal. However, others abound:

<table>
<thead>
<tr>
<th>The D-sharp G-sharp ensweetened modern tritone stands in a cross-relation between the B and E major triads that end and begin the first two verses. Perhaps the most jarring chromatic progression occurs on <em>geme</em>, where Gesualdo syllabically sets a B-flat major triad followed by a minor semitone shift up to a B major triad. The cross-related pitches B-flat and D-sharp, do not form an ensweetened modern tritone when D-sharp has the sonorous proportion of E-flat; however, if the D-sharp is sung justly with the sonorous proportion of D-sharp, an ensweetened modern tritone will sound. Another potential ensweetened modern tritone in just intonation demarcates the final couplet’s dénouement, Example Three. As our Lord sees Death afraid, Gesualdo forays to the sharpest triad in his madrigals yet: A half-cadential F-sharp major triad on <em>mira</em>. But our Lord does not recover from Death’s abdication; following a silent groan, a wretched open perfect fifth D A sounds on <em>inchina</em> as his head falls in a mixture of Dorian-turned-Phrygian triads. The preceding A-sharp presumably has the sonorous proportion of B-flat; but if it is sung justly with the sonorous proportion of A-sharp, an ensweetened modern tritone groans across the rest with the deleted/delayed F-naturals. Gesualdo notably concludes</th>
</tr>
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Trans. Peter Lockwood.

Although just intonation creates this ensweetened modern tritone, it also annuls the D-sharp G-sharp one just cited.
the next semi-verse, *asconde il viso*, with an un-ensweetened modern tritone D G-sharp. This madrigal provides a crucial example with which to contrast the extremities of Gesualdo’s sacred and secular chromatic idioms.

**Example Three: J.I. Ensweetened Modern Tritone on Gesualdo’s *Inchina il capo* Motif**

Only one parallel use of the *Et inclinato capite* motif may be found in Gesualdo’s madrigals (albeit in rhythmic augmentation with a slightly different harmonization) and it is tempting to hear a textual association between the madrigal and the *Tenebrae*. The motif appears in *Io Tacerò* (IV/3). The poem is likewise extraordinarily morbid: The poet falls silent, leaving his tears and sighs to tell of his tortures. As the poet dies, death himself shatters the silence and cries out for him once again. As seen in Example Four, Gesualdo sets the very same ensweetened modern tritone motif in the bass on *la morte ancora*. Perhaps this ensweetened modern tritone resonated in his mind as he set the crucifixion. Certainly such a connection between secular and sacred text-setting would have escaped d’Avella and the Neapolitan public who heard only Gesualdo’s *Tenebrae*. 
Example Four: Gesualdo’s *Et inclinato capite* Motif on *la morta ancora*

Ensweetened Modern Modal Chaos of Confusion in the *Tenebrae*?

D’Avella did not, as one would hope, proceed to relate Gesualdo’s *Et inclinato capite* motif to the *Tenebrae’s* chant or the chant’s mode; nor did he analyze the motif within a modal polyphonic setting of the chant. Certainly, one reason for this striking omission is that the Neapolitan musicians themselves, as practitioners, did not additionally tell d’Avella that these “tritones, ensweetenings, and affections” might have been “exited,” “mixed,” or “commixed” the chant’s mode. 263 It was up to d’Avella the theorist to incorporate such a novel interval species as the ensweetened modern tritone into the various species of fourths and fifths that make up *ficta* modes and thereby arrive at the *Tenebrae’s* “Ensweetened Modern Modality.” This task is left to his speculative readers. We may sketch such a tone-system in Example Five (A-B) by modernizing the twelve modes in a twofold manner: First, a “Modern Flat Modality” with the E-flat A modern tritone and its ensweetening; second, a “Modern Sharp Modality” with the D G-sharp modern tritone and its ensweetening. One may easily continue this process, ensweetening the modern tritones in the Ensweetened Modern Modalities.

263 Chapter 54 of d’Avella’s third treatise, not on Neapolitan chromaticism, concerns “*Delli tuoni Irregolari, Misti, e Commisti, & à che fine si diano*” (84).
Example Five (A): Modern Flat Modality (above); Ensweetened Modern Flat Modality (below)

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<tbody>
<tr>
<td>1.</td>
<td>Dorian C D Eb F G A Bb C</td>
<td>2.</td>
<td>Hypodorian G A Bb C D Eb F G</td>
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<td></td>
<td>F G Ab Bb C D Eb F</td>
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<td>C D Eb F G Ab Bb C</td>
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<td>3.</td>
<td>Phrygian D Eb F G A Bb C D</td>
<td>4.</td>
<td>Hypophrygian A Bb C D Eb F G A</td>
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<tr>
<td></td>
<td>G Ab Bb C D Eb F G</td>
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<td>D Eb F G Ab Bb C D</td>
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<td>5.</td>
<td>Lydian Eb F G A Bb C D Eb</td>
<td>6.</td>
<td>Hypolydian Bb C D Eb F G A Bb</td>
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<td></td>
<td>Ab Bb C D Eb F G Ab</td>
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<td>Eb F G Ab Bb C D Eb</td>
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<td>Bb C D Eb F G Ab Bb</td>
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<td>F G Ab Bb C D Eb F</td>
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<td></td>
<td>C D Eb F G Ab Bb C</td>
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<td>G Ab Bb C D Eb F G</td>
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<td>Eb F G Ab Bb C D Eb</td>
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Example Five (B): Modern Sharp Modality; Ensweetened Modern Sharp Modality

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<tbody>
<tr>
<td>1.</td>
<td>Dorian B C# D E F# G# A B</td>
<td>2.</td>
<td>Hypodorian F# G# A B C# D E F#</td>
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<td></td>
<td>F# G# A B C# D# E F#</td>
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<td>C# D# E F# G# A B C#</td>
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<tr>
<td>3.</td>
<td>Phrygian C# D E F# G# A B C#</td>
<td>4.</td>
<td>Hypophrygian G# A B C# D E F# G#</td>
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<td></td>
<td>G# A B C# D# E F# G#</td>
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<td>D# E F# G# A B C# D#</td>
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<tr>
<td>5.</td>
<td>Lydian D E F# G# A B C# D</td>
<td>6.</td>
<td>Hypolydian A B C# D E F# G# A</td>
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<td>A B C# D# E F# G# A</td>
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<td>E F# G# A B C# D# E</td>
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<td>7.</td>
<td>Mixolydian E F# G# A B C# D E</td>
<td>8.</td>
<td>Hypomixolydian A B C# D E F# G# A</td>
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<td>B C# D# E F# G# A B</td>
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<td>F# G# A B C# D# E F#</td>
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<tr>
<td>9.</td>
<td>Aeolian F# G# A B C# D E F#</td>
<td>10.</td>
<td>Hypoaeolian C# D E F# G# A B C#</td>
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<td></td>
<td>C# D# E F# G# A B C#</td>
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<td>G# A B C# D# E F# G#</td>
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<td>11.</td>
<td>Ionian A B C# D E F# G# A</td>
<td>12.</td>
<td>Hypoionian E F# G# A B C# D E</td>
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<td>E F# G# A B C# D# E</td>
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<td>B C# D# E F# G# A B</td>
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So far as I have found, there are no concordances to this “Ensweetened Modern Modality” in the contemporaneous Neapolitan-Ferrarese musical theoretical literature. Trabaci only outlined the eight and twelve mode systems in his 1615 book of recercares. Picerli saturated the twelve modes with one and two flats. The former he termed “modes of the quasi natural chromatic species;” the latter he termed “modes of the soft accidental chromatic species,” which, save for the maintenance of the 4th and 8th plagal modes a fourth below their authentic modes’ finals, corresponds to the “Modern Flat Modality.” He did not “ensweeten” these modes. Oddly, however, Picerli did not likewise saturate the 12 modes with up to three sharps, stopping instead at two, which he analogously termed “modes of the hard accidental chromatic species.” Therefore, he did not arrive at the “Modern Sharp Modality.” Cerreto outlined eight ficta modes with sharps on both F and C and flats on both B and E, the latter of which corresponds to “Modern Flat Modality.” Cerone, as he, like d’Avella, endorsed the

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264 One readily contrasts this system to Vicentino’s eight chromatic and eight enharmonic modes (190-206). Had d’Avella read his contemporary Franciscan theoretical colleagues’ “rules,” he would have found that Camillo Angleria detailed the modes in-tune within mean-tone temperament in his La Regola del contraponto, e della musical compositione (Milano: Rolla, 1622), as influenced by the practitioner Paolo Cima, who detailed the transposition of the organ to accommodate the voice.

265 Jackson 1964, 349.

266 Picerli, Specchio Secondo, 156. Dodici toni perfetti incomplessi del genere cromatico quasi naturale.

267 Ibid., 157. Dodici toni perfetti incomplessi del genere cromatico accidentale molle.

268 Ibid. Dodici toni incomplessi del genere cromatico accidentale duro. It may be noted here that Kircher copied this system directly out of Picerli, thus exhibiting both a knowledge of and indebtedness to d’Avella’s Neapolitan theoretical contemporaries (232-233). This is significant, for as I will reveal in Chapter 4 of this study, Kircher was familiar with and theorized the affective mean-tonal substitutions of sharps and flats; but, like d’Avella, did not (and perhaps could not) develop a matching modal system. On a more subtle point, note that Kircher (and/or his printer) grossly misread the placement of accidentals (and less so clefs) in Picerli’s sharp modes.

269 Cerreto, 116. Della Formatione della Ottode Modi, fitti, ò vero finti. Cap. VII. Remarkable in this chapter is that Cerreto here prescribes that composers ought to indicate the sharps’ (but not necessarily flats’) number of commas. The reason for this is unclear, as, for Cerreto, sharps are fixed as large semitones (as he himself writes in this passage). Why, then, should composers have indicated each sharp with four or five slashes? He writes: Con due maniere di segni, alcuni con tre b molli, & alcun’ altri con tre h quadri [where B-flat and C-sharp are signed twice on the staff’s signature], ò vero in luogo dellri tre h quadri i Musici Compositori, sogliono segnare tre Semitoni, ò di cinque commati, ò di quattro; ma per vera consideratione detti Semitoni si devono segnare ciascun duo loro co[n] cinque commati, per essere quello la quantità di uno Apothomen, cioè di uno Semitono maggiore. Cerreto continues with various
common keyboard gamut, arrived at both the “Modern Flat and Sharp Modalities” in his inter-
related chapters on “Extraordinary Accidentals” and the “12 Accidental Modes” by saturating the
modes with up to two flats and three sharps. As he rejected the substitution of flats for sharps
and vice versa, he did not arrive at the “Ensweetened Modern Modality.” In fact, in his chapter
on mutating one mode into another, Cerone even directly equated those (un-named) chromatic
composers who excessively engaged in this mode mutating practice with those who “say that the
confusion of the Chaos was more beautiful than the [C]reation of the world.”

Cerone first introduces this provocative analogy with a general aesthetic warning that the
variety that makes nature beautiful has its limits and it is no justification for those artists who
seem to transgress the limits. In music’s case, this variety occurs in the use of diverse modes,
species of fourths and fifths, and intervals in and of themselves, which exist only to enlarge and
enrich music. Cerone then turns to those composers who unabatedly vary these aspects and
say that chromatic music is more beautiful. By varying music with “a thousand nonsenses and

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270 Cerone, 922-926.
271 Ibid., 915. Verdad es que algunos, se escusan diciendo, Per tanto variar natura è bella; es à saver que naturaleza es muy Hermosa por las tantas variedades; y no piensan, que tanto es dezir esto, segun sus intenciones, quanto es dezir que era mas Hermosa la confusion del Chaos, que la creacion del mundo. Cerone’s invocation of the Chaos at this (and only this) point on mutated modes in his treatise might additionally be symptomatic of post-Tridentine rhetoric against chaos. As Cerone was also a preacher, it would be worthwhile to here compare the writing of Cornelio Musso. For Musso, who delivered the inaugural sermon at the Council, the current “chaos” in the world was to be “reconciled” by the Council into a “united chorus, a well-composed music:” Col concilio si conciliaranno, col Tridente si liberaranno l’anime perdute, che stanno nel fosso di mille errori, & non ponno (misere) aiutarsi, & liberarsi. Hora vi pare di vedere un Chaos nel mondo: allhora vedrete un choro unito, una musica ben composta. Ciascuno s’accorderà con l’altro, sarà una fede, un senso un’intelligenzia in tutti i Christiani. See his Terzo libro delle prediche (Vinegia: Gabriel giolito, 1571): 523. Another one: When the harmony of the spheres ceases, “ritornarà a quel Chaos antico.” See his Prediche Quadragesimali, Prima Parte (Vinetia: Giunti, 1596): 551.
272 Ibid. Pues aviendo el Arte usado mucha diligencia, y mucha especulacion, para ballar diversidades de Tonos, diferencias de Generos, y diversas maneras de proceder con los intervalos harmonicos...solo para ensanchar y enriquecser la Musica.
different mixtures, they make a confusion and a chaos, without order…a beautiful monster.”

Cerone then admonishes *Los Chromatistas* to study the third part of Zarlino’s *Istitutioni*. He ultimately reiterates a “maxim” for the mutation of modes: If you place in song a soft-b in place of a hard-B, that soft-b will always mutate the mode, and vice versa.

Cerone only demonstrated this chromatic modal mutation for G mixolydian, substituting B-flat fa for B-natural mi and thereby mutating into G Dorian. That is a long way from “chaos.” To actually create and contemplate the chromatic “chaos” of which he hints, one must substitute sharps for flats and flats for sharps at beyond “natural” limits of two flats and three sharps. Again, this is nothing other than ensweetening the “Modern Modalities.” However, this time, when an A-flat fa tuned as G-sharp mi ensweetens the modern tritone, E-flat A, the Modern Flat Modes must mutate around that G-sharp mi (and not A-flat fa). When a D-sharp mi tuned as E-flat fa ensweetens the modern tritone, D G#, the Modern Sharp Modes must mutate around that E-flat fa (and not D-sharp mi). This process is carried out in Example Six (A-B), in which the Ensweetened Modern Modalities outlined above mutate into Cerone’s dreaded Chaos. Applying this process to all of the modern flat mode’s ensweetenings, the resultant “Sharp Confusion of Chaos” is actually Ensweetened Modern Sharp Modality and, likewise, for the

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273 Ibid. Dizen ellos ser muy Hermosa por ser Chromatica, y variada con mil desapropositos y diversas mezclas, hacen una confusion y un Chaos, sin orden; y quando no piensan, se hallan aver formado aquel hermoso monstruo, que tocamos en el pr. Cap.

274 Ibid. Los Chromatistas amigos de sus parescerces, lean al Zarl. en el Cap. postyro de la ter. par. de sus Inst. Har. y quedaran satisfechos, si no en todo en parte.

275 Ibid. Y con esto tenremos por maxima, que todas veces, que poremos en un Canto la cuerda de b mol en lugar de be quadrado, que la tal cuerda harà variar siempre el Tono: y por el contrario, poniendo el be quadrado en lugar del be mol.

276 Ibid., 914.

277 In light of Cerone’s constant willingness to spell out every possible hexachordal deduction in notation in his tome, it is interesting to observe here that he did not similarly spell out this chaos. Perhaps he did not want to give potential *Chromatistas* any ideas! However, it is also possible that Cerone was not speaking of such an extreme chaos as that which I have here extrapolated from his writing; rather, a chaos confined to the overly variegated use of modes only consisting of the two flats and three sharps.
modern sharp mode’s ensweetenings, the resultant “Flat Confusion of Chaos” is actually
Ensweetened Modern Flat Modality (save for substituting Locrian for Phrygian, that is).

Example Six (A): Ensweetened Modern Flat Modality Mutated Into Sharp Confusion of Chaos

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<thead>
<tr>
<th>1. Dorian C D Eb F G A Bb C</th>
<th>2. Hypodorian G A Bb C D Eb F G</th>
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<tbody>
<tr>
<td>F G Ab Bb C D Eb F</td>
<td>C D Eb F G Ab Bb C</td>
</tr>
<tr>
<td>Ionian</td>
<td>Hypoionian</td>
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<tr>
<td>E F# G# A B C# D# E</td>
<td>B C# D# E F# G# A B</td>
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<thead>
<tr>
<th>3. Phrygian D Eb F G A Bb C D</th>
<th>4. Hypophrygian A Bb C D Eb F G A</th>
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<tbody>
<tr>
<td>G Ab Bb C D Eb F G</td>
<td>D Eb F G Ab Bb C D</td>
</tr>
<tr>
<td>Dorian</td>
<td>Hypodorian</td>
</tr>
<tr>
<td>F# G# A B C# D# E F#</td>
<td>C# D# E F# G# A B C#</td>
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</tbody>
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<thead>
<tr>
<th>5. Lydian Eb F G A Bb C D Eb</th>
<th>6. Hypolydian Bb C D Eb F G A Bb</th>
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</thead>
<tbody>
<tr>
<td>Ab Bb C D Eb F G Ab</td>
<td>Eb F G Ab Bb C D Eb</td>
</tr>
<tr>
<td>Aeolian</td>
<td>Hypoaeolian</td>
</tr>
<tr>
<td>G# A B C# D# E F# G#</td>
<td>D# E F# G# A B C# D#</td>
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<td>Bb C D Eb F G Ab Bb</td>
<td>F G Ab Bb C D Eb F</td>
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<td>Lydian</td>
<td>Hypolydian</td>
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<td>A B C# D# E F# G# A</td>
<td>E F# G# A B C# D# E</td>
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<tr>
<td>C D Eb F G Ab Bb C</td>
<td>G Ab Bb C D Eb F G</td>
</tr>
<tr>
<td>Mixolydian</td>
<td>Hypomixolydian</td>
</tr>
<tr>
<td>B C# D# E F# G# A B</td>
<td>F# G# A B C# D# E F#</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eb F G Ab Bb C D Eb</td>
<td>Bb C D Eb F G Ab Bb</td>
</tr>
<tr>
<td>Locrian</td>
<td>Hypolocrian</td>
</tr>
<tr>
<td>D# E F# G# A B C# D#</td>
<td>A B C# D# E F# G# A</td>
</tr>
</tbody>
</table>

Example Six (B): Ensweetened Modern Sharp Modality Mutated into Flat Confusion of Chaos

<table>
<thead>
<tr>
<th>1. Dorian B C# D E F# G# A B</th>
<th>2. Hypodorian F# G# A B C# D E F#</th>
</tr>
</thead>
<tbody>
<tr>
<td>F# G# A B C# D# E F#</td>
<td>C# D# E F# G# A B C#</td>
</tr>
<tr>
<td>Phrygian</td>
<td>Hypophrygian</td>
</tr>
<tr>
<td>G Ab Bb C D Eb F G</td>
<td>D Eb F G Ab Bb C D</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Phrygian C# D E F# G# A B C#</th>
<th>4. Hypophrygian G# A B C# D E F# G#</th>
</tr>
</thead>
<tbody>
<tr>
<td>G# A B C# D# E F# G#</td>
<td>D# E F# G# A B C# D#</td>
</tr>
<tr>
<td>Lydian</td>
<td>Hypolydian</td>
</tr>
<tr>
<td>Ab Bb C D Eb F G Ab</td>
<td>Eb F G Ab Bb C D Eb</td>
</tr>
</tbody>
</table>
No contemporary Neapolitan theory treatise will account for the modality of Gesualdo’s *Tenebrae* and *Responsoria.* However, one very brief anecdotal remark of Cerone’s on modal cleffing *might* actually have profound ramifications for analyzing Gesualdo’s *Responsoria* and may be pointed out at this point. In his chapter on the second mode, as for all of the modes, Cerone exhibits the appropriate clefs for each part: In this case, C2 or C3 for the *tiple,* C4 for the *alto,* F3 or F4 for the *tenor,* and—“most extraordinarily”—F5 for the *baxo.* As representative of this “most extraordinary” cleffing, Cerone cites the Holy Week Responsories composed by “Pedro Aretino el Musico.” Aretino’s Holy Week Responsories do indeed employ this clef for the bass parts, as may be seen in the very first responsory, “*In monte olivieti.*” Cerone’s

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278 It would be another study to test Gesualdi’s chromatic madrigals against “*(Ensweetened) Modern Modality*” and “Chaos of Confusion” tone-systems and, in turn, to develop them accordingly, incorporating such features as “ensweetened commixtures,” “ensweetened repercussions,” and the like.

279 Cerone, 885. *El Baxo tiene la misma Clave de F fa ut, mas extraordinaria, es asaber, en quinta regal y este es su propio lugar, como se vee en los Responsorias de la Semana Santa de Pedro Aretino el Musico.* As previously mentioned, Cerone elsewhere (and rightly) cites the Holy Week Responsories by Paolo Aretino as representative of extraordinary accidentals. He, of course, is here referring to the same work and composer, but has had a slip of mind and confused Paolo Aretino, the musician’s name, with that of the more famous Pietro Aretino, the author.

280 As fascinating as Cerone’s anecdote is, it must be observed that the other parts in Aretino’s first responsory and those that follow do not, in fact, accord with Cerone’s second mode cleffing theory.
implicit identification of this responsory as mode two, however, is doubtful, as Aretino begins by opening a low to high D octave with A tenor. Perhaps coincidentally, Gesualdo selected the second mode for his setting of this responsory; but, unlike Aretino, he did not employ the F5 clef, selecting the F4 clef. The clefs never change in any of the parts in his Responsoria; they are fixed, irrespective of mode. Not so for his madrigals, however, as the parts routinely alternate and are grouped together according to cleffing (the bass part alternating between F4 and F3 clefs). I certainly do not suspect that Gesualdo was familiar with modal cleffing theories such as Cerone’s and, equally likely, probably was unfamiliar with Aretino’s “extraordinary” Responsories. If the clefs are deliberately fixed in Gesualdo’s Responsoria, that might be another indication that the music was intended for public performance by large choral forces (F4 clef is, of course, readily more accessible than F3 and, if Cerone’s treatise is any indication F5).

Turning to the Tenebrae’s modality, the chant is set in G Mixolydian. Its Et inclinato capite motif, Example Seven, is firmly grounded on the final.

Example Seven: The Et inclinato capite Motif and Mode in Plainchant

By way of contrast, Gesualdo’s Et inclinato capite at most mimics the contour of the chant at a-to (although this may be only coincidental) and, considering it in its complete context, the mode is not so readily ascertained; see Example Eight. Gesualdo has maintained the same final as the chant (G), but the octave species is transformed: The second, third, and sixth degrees

281 At present, I am undecided if Gesualdo’s cleffing in the madrigals is necessarily associated with mode and modal range, so much as printing his music on the staff without ledger lines.
282 These cleffing issues reinforce the necessity of a critical edition of Aretino’s Responsoria, as well as a comparative study of it alongside Gesualdo’s Responsoria.
are flattened, with the second raised at the final cadence. These transformations would have surely grated against the ears of listeners expecting the chant’s G Mixolydian sonorities. In the only complete modal analysis of Gesualdo’s *Responsoria* to date, Maria Manuela Toscano analyzes this section as D Hypodorian transposed to G. She therefore likely takes the alto as the mode-bearing part. In terms of modern flat modality, this is simply G Aeolian. This plausible reading accounts for the flats on B and E, but overlooks the all-important ensweetened A-flat. One might alternatively consider this ever fleeting A-flat an ensweetened commixture of G Phrygian with the said transposed Hypodorian; or, as this A-flat is a real imitation of the alto’s C, one might consider it within the mode and analyze the entire section as simply G Phrygian. Either of these readings preserves the ensweetened modern tritone’s E-flat as the *repercussa*; Hypodorian transposed to G assumes the un-ensweetened B-flat is the *repercussa*. Finally, the authentic and plagal registrations of the mode are mixed together, so that the bass line extends to the ensweetened E-flat low-point.

Example Eight: Gesualdo’s *Et inclinato capite* Motif in its Polyphonic Modern Modal Context

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Post-Tridentine Sins in Gesualdo’s Responsoria?

Inevitably, Gesualdo’s placement of an ensweetened modern tritone in the Tenebrae raises post-Tridentine concerns, especially as the relationship between Gesualdo’s sacred music and Tridentine ideals and practices has remained open to speculation. Watkins has posed two basic questions on this matter: 1. “What restrictions of musical language were implicit in the composition of sacred works, particularly in light of the Council of Trent?” and 2. “What precedents existed for an appropriate style for Holy Week?” One suspects that Gesualdo knew the answers to these questions, considering that his uncle was Carlo Borromeo, Archbishop of Milan. Borromeo, as is well-known, called “to reform singing so that the words may be as intelligible as possible, as... ordered by the Council,” and, perhaps surprisingly, commissioned a mass by Vicentino alongside one by Ruffo. Watkins aptly remarks that chromaticism need not interfere with clear pronunciation, since it is often set in homophony. Therefore, chromatic music could accord with Tridentine prescriptions. Watkins argues that “if [Gesualdo’s Responsoria is] not a pure product of the Counter-Reformation spirit [it] is more than marginally indebted to it.” By way of contrast, Bianconi finds Gesualdo’s Responsoria “in disturbing contravention of all rules of post-Tridentine liturgical practice, in a free style enriched with the molles flexiones of the madrigals.” With d’Avella’s Regole in hand, we may now ask with yet greater urgency: Did the Neapolitan clergy consider the Neapolitan musicians’ “[modern] tritones, ensweetenings, affections,” “molles flexiones?”

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285 Ibid., 263-4.
286 Ibid., 265.
287 Ibid., 266.
D’Avella is unfortunately (and, again, surprisingly) mute on post-Tridentine matters; he does not explicitly write in his Regole that Gesualdo’s Tenebrae was censured by the church or the listeners in the congregation. Throughout d’Avella’s treatise, however, the Neapolitan madrigalists’ chromaticism is repeatedly censured [biasmata] by the ignoranti—and, as will be seen presently, Chapter 39 is the culmination of this censorship.289 I would therefore include Gesualdo’s Tenebrae among the many examples of censured chromaticism, if not the example which instigated d’Avella to write his treatise. Yet d’Avella’s citation of the Tenebrae in and of itself does offer some clues to Watkins’ questions. Although d’Avella did not underlay the text in his example, one observes in Example Eight how carefully and deliberately Gesualdo placed the ensweetened modern tritone according to the scansion of the text.290 “Et inclinato capite” is carefully enunciated in each part according to the quantity of the text’s syllables. The passing tone A-flat is set ever so sparingly on the short anti-penultimate syllable of inclinato—and not on inclinato or inclinato. The vertical ensweetened modern tritone between the canto, quinto, and basso therefore only lasts the duration of one minim. The only other cause for post-Tridentine concern would be the polyphonic mixture of the vowels i, a, and o, which slightly distorts the comprehension of the text on which the ensweetened modern tritone is set. Indeed, Gesualdo here employed the ensweetened modern tritone with extreme reservation, at once following an evidently restricted sacred musical style, yet transgressing over it ever so slightly. The depiction of the death of Christ truly pales in comparison to the Neapolitan madrigalists’ settings of the deaths incurred from kisses, tortures, and, as will be seen presently, departures, among so many

289 One readily contrasts d’Avella’s writing style on the censorship of Neapolitan chromaticism to the chapters in Cerone’s Melopeo devoted to judging and censoring musical works, Book I, Chapters 49-51. These chapters, which are exquisite in their biblical imagery (“censors” are named “murmurers” [murmuratores]) unfortunately do not recount actual events of musical censorship. Cerone only recalls a Roman dispute over whether or not Diego Ortiz was one of the great composers of his time (144).

290 D’Avella did not write on matters of scansion, although one presumes the foundational tenets found in Cerone’s Book V, Chapter XIX (419) were known to him.
other causes. In my reading, the *Et inclinato capite* motif certainly does not depict Gesualdo’s own suffering; he did not stage himself on the cross.\(^{291}\) It seems as though Gesualdo faced a compositional conundrum at this point in the *Tenebrae*: To at once move general listeners among the Neapolitan public by means of chromaticism to aurally sense the death of Christ, yet avoid a controversy in (and with the) church.\(^{292}\) If d’Avella’s treatise is any indication, even this reserved and fleeting A-flat could not easily go unnoticed.

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\(^{291}\) Einstein, for one, equated “the sufferings of the dying Christ (and) those of the composer himself.” Qtd. in Watkins, *Gesualdo: The Man and his Music*, 268.

\(^{292}\) I maintain that this compositional conundrum is indisputably inferable from d’Avella’s citation of Gesualdo’s *Tenebrae* and contextual musical analysis of it. However, the recently published correspondence of Gesualdo with his cousin Federico Borromeo, Archbishop of Milan, makes me question the extent to which this moment actually provoked a controversy with the church. Gesualdo occasionally corresponded with F. Borromeo in brief on non-musical matters from March 1611 to May 1612 without mention of his most recently published (and performed?) *Responsoria*. If indeed Gesualdo provoked a controversy with the Neapolitan clergy, news of it does not seem to have arrived in Milan. Marco Bizzarini’s extensive study of F. Borromeo’s musical thought and the inventories of the Biblioteca Ambrosiana found no mention of Gesualdo, his *Responsoria*, or *Sacræ Cantiones*. One of Bizzarini’s other findings, however, merits repeating here in light of d’Avella’s indicated Pythagorean tunings, the question of the Pythagorean comma’s sensibility, generating abilities, and artistic validity; and it is that F. Borromeo, in his *De Musica Ecclesiastica*, marveled at a keyboard built by one Parisone with the whole-tones divided into nine parts. According to F. Borromeo: “Il Parisone ha eva trovato il minimo sensibile nella musica, e dice d’haver diviso il tuono in nuove parti, oltre alle quali non si sente, e con questa divisione si fa un nuovo genere di musica chiamata da lui enacomico, forte melius, diacomatico vel encomatico, col quale promette mirabilia, perché si fa padrone di tutte le voci sensibili, e moverà gl’ animi, perché sè la voce semplice muove, suole più con l’accompagnare l’istumento, il quale haverà queste nuove divisioni trovate da lui e potrà accompagnarsi con ogni voce humana. Et a questo effetto fabrica un istumento di tasti con ducento e sedeci voci, che tanto fano vinti quattro multiplicati per nove, e varia le tastature coi colori.” This statement most explicitly reaffirms Watkins’ afore-mentioned position that chromaticism (and microtonality, for that matter) were not necessarily censured by the Council of Trent.

Further research in Naples must look into polemics about instrumentation in church. On the basis of two recent archival studies, I am optimistic that further sources on the role of instruments in Gesualdo’s (and the Neapolitans’) Holy Week Responsories may be uncovered. See Rodolfo Baroncini, “L’ufficio delle Tenebre: Pratiche onore della Settimana Santa nell’Italia Settentrionale tra Cinque e Seicento,” *Recercare* 17 (2005): 71-134. Giuliana Montanari, “Chromatic and Transposing Quilled Keyboard Instruments at the Florentine Grand Ducal Court in the Seventeenth Century,” *Recercare* 20/1/2 (2008): 143-179. Montanari notably found that chromatic organs were particularly used in the Holy Week services at the Florentine court in the early seventeenth-century (in contradistinction to Naples?) Ironically, Beccatelli’s annotation on Chapter 44 detours into debates in his “corrupt century” [*il nostro corrotto secolo*] over the use of instruments in church, as well as the blurring of sacred, secular, and theatrical genres in church (72-75). However, he passed over these vary same issues that are implicit in Chapter 39 of d’Avella’s treatise.
We may develop our hypothesis that the ensweetened modern tritone was a censorable sonority in the church and that Gesualdo deliberately sought to avoid a controversy by placing the out-of-tune pitch on a short unstressed syllable. To do so, let us scan the complete *Responsoria* for any stressed out-of-tune chromatic sonorities. In my reading, Gesualdo scanned the *Responsoria* impeccably with his chosen rhythms, yet did not always restrict out-of-tune accidentals to short unstressed syllables. The analysis is summarized in Example Nine. Every appearance of an out-of-tune accidental is listed in the third column and its placement on the scanned text emboldened in the second column. If the accidental is placed on a short unstressed syllable, the text-setting is (provisionally) called Tridentine with a Y designation, and vice versa with an N designation. If, however, the accidental is placed on a short unstressed syllable given a long stressed rhythm by Gesualdo, the text-setting is not Tridentine. There are no occurrences in which an accidental is placed on a long stressed syllable given a short unstressed rhythm by Gesualdo. Any exceptionally careful or transgressing chromatic scansions within the *Responsoria* (predominantly filled with oft fleeting B major triads) are marked for attention by plus signs in the Tridentine column. At a glance it is seen that the *Et inclinato capite* ensweetened modern tritone was the most carefully placed; yet, there are some egregious instances (identified with N++ in the Tridentine column) that could and should have also captured d’Avella’s attention and raised the Neapolitan clergy’s ire; these require closer analysis.

**Example Nine: Summary of Tridentine Chromatic Text-Setting in Gesualdo’s *Responsoria***

<table>
<thead>
<tr>
<th>Responsory/Verse</th>
<th>Text (accidental placement in bold)</th>
<th>Pitch, Chord</th>
<th>Tridentine?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tristis est anima mea</td>
<td>Sus-ti-NE-te hic</td>
<td>D#, B</td>
<td>N</td>
</tr>
<tr>
<td>***</td>
<td>Im-mo-LA-ri pro Vo-bis</td>
<td>D#, B</td>
<td>N+</td>
</tr>
<tr>
<td>Latin Text</td>
<td>Greek Equivalent</td>
<td>Mode</td>
<td>Octave</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>------------------</td>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>Ecce appropinquat hora</td>
<td>Et FI-li-us HO-min-is Tra-DE-tur</td>
<td>E#, C#</td>
<td>Y+</td>
</tr>
<tr>
<td>Ecce vidimus</td>
<td>A-spe-ctus e-jus in E-o non est</td>
<td>D#, B</td>
<td>Y</td>
</tr>
<tr>
<td>“” Hic pec-CA-ta NO-strra por-TA-vit</td>
<td></td>
<td>D#, B; A#, F#</td>
<td>Y</td>
</tr>
<tr>
<td>“” CU-jus li-VO-re sa-NA-ti SU-mus</td>
<td></td>
<td>D#, B</td>
<td>N+</td>
</tr>
<tr>
<td>Vere languores nostros</td>
<td>Et do-LO-res NO-stros</td>
<td>D#, B</td>
<td>Y</td>
</tr>
<tr>
<td>Animicus meus osculi</td>
<td>LA-que-o se sus-PEN-dit</td>
<td>D#, B</td>
<td>Y</td>
</tr>
<tr>
<td>Judas Mercator</td>
<td>JU-das mer-CA-tor PES-si-mus</td>
<td>D#, B</td>
<td>N++</td>
</tr>
<tr>
<td></td>
<td>OS-cu-lo PE-ti-it DO-mi-num</td>
<td>D#, B</td>
<td>N</td>
</tr>
<tr>
<td>Quid dormitis?</td>
<td>Ne in-TRE-tis in ten-ta-ti-O-nem</td>
<td>D#, B</td>
<td>Y</td>
</tr>
<tr>
<td>Seniores populi</td>
<td>Ex-i-E-runt TAN-quam ad la-TRO-nem</td>
<td>D#, B</td>
<td>N+</td>
</tr>
<tr>
<td>Omnes amici mei</td>
<td>In-si-di-AN-tes MI-hi,</td>
<td>D#, B</td>
<td>N+</td>
</tr>
<tr>
<td></td>
<td>In-si-di-AN-tes MI-hi</td>
<td>D#, B</td>
<td>Y+</td>
</tr>
<tr>
<td>Vinea mea electa</td>
<td>QUO-mo-do con-VER-sa es</td>
<td>D#, B</td>
<td>N+</td>
</tr>
<tr>
<td></td>
<td>In a-ma-ri-TU-di-nem</td>
<td>D#, B</td>
<td>Y+</td>
</tr>
<tr>
<td>Tenebrae factae sunt</td>
<td>Et in-cili-NA-to CA-pi-te</td>
<td>Ab, Ab/f</td>
<td>Y++</td>
</tr>
<tr>
<td>Insurrexerunt in me</td>
<td>ABS-que mi-se-ri-COR-di-a</td>
<td>D#, B</td>
<td>N+</td>
</tr>
<tr>
<td>Jesum tradidit</td>
<td>JE-sum TRA-di-dit IM-pi-us</td>
<td>D#, B</td>
<td>N+</td>
</tr>
<tr>
<td>Caligaverunt oculi</td>
<td>Qui con-so-la-BA-tur me</td>
<td>Ab, f/AB</td>
<td>N++</td>
</tr>
<tr>
<td>“” Si est DO-lor SI-mi-lis (Si/DO overlap)</td>
<td></td>
<td>Ab, f</td>
<td>N</td>
</tr>
<tr>
<td>Sicut ovis occisionem</td>
<td>TRA-di-tus est ad MOR-tem</td>
<td>D#, B</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>TRA-di-tus est ad MOR-tem</td>
<td>A#, o</td>
<td>N</td>
</tr>
<tr>
<td>Tradidit in mortem</td>
<td>TRA-di-dit in MOR-tem</td>
<td>A#, F#</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>A-ni-mam SU-am</td>
<td>A#, F#</td>
<td>N</td>
</tr>
<tr>
<td>Line</td>
<td>Text</td>
<td>Pronunciation</td>
<td>Scansion</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>---------------</td>
<td>----------</td>
</tr>
<tr>
<td>&quot;&quot;&quot;&quot;</td>
<td>In-I-quo re-pu-TA-tus est</td>
<td>D#, B</td>
<td>N</td>
</tr>
<tr>
<td>Jerusalem, surge,</td>
<td>IN-du-e-re te CI-ne-re</td>
<td>D#, B</td>
<td>Y</td>
</tr>
<tr>
<td>&quot;&quot;&quot;&quot;</td>
<td>QUI-a in te oc-CI-sus est Sal-VA-tor</td>
<td>D#, g#; D#, o</td>
<td>Y+</td>
</tr>
<tr>
<td>Dedue quasi torrentem</td>
<td>LA-cris-mas per DI-em</td>
<td>E#, C#</td>
<td>Y</td>
</tr>
<tr>
<td>Plange quasi virgo</td>
<td>PLAN-ge qua-si VIR-go</td>
<td>D#, B</td>
<td>N</td>
</tr>
<tr>
<td>&quot;&quot;&quot;&quot;</td>
<td>in-CI-ne-re et ci-LI-ci-o</td>
<td>D#, B</td>
<td>N</td>
</tr>
<tr>
<td>&quot;&quot;&quot;&quot;</td>
<td>Et a-MA-ra VAL-de</td>
<td>D#, B</td>
<td>Y</td>
</tr>
<tr>
<td>Accingite vos</td>
<td>A-SPER-gi-te vos CI-ne-re</td>
<td>D#, B</td>
<td>N</td>
</tr>
<tr>
<td>Recessit pastor noster</td>
<td>HO-di-e POR-tas MOR-tis</td>
<td>D#, B</td>
<td>N</td>
</tr>
<tr>
<td>Dextruxit quidem</td>
<td>Sub-VER-tit po-TEN-ti-as di-A-bo-li</td>
<td>D#, B; E#, C#</td>
<td>N</td>
</tr>
<tr>
<td>O vos omnes</td>
<td>O vos OM-nes</td>
<td>D#, B</td>
<td>N</td>
</tr>
<tr>
<td>&quot;&quot;&quot;&quot;</td>
<td>Si est DO-lor SI-mi-lis</td>
<td>A#, F#</td>
<td>N</td>
</tr>
<tr>
<td>SI-cut DO-lor ME-us</td>
<td>D#, B</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Attendite, universi</td>
<td>Et vi-DE-te do-LO-rem ME-um</td>
<td>D#, B</td>
<td>N</td>
</tr>
<tr>
<td>Ecce quomodo moritur</td>
<td>In PA-ce me-MO-ri-a E-jus</td>
<td>D#, B</td>
<td>N</td>
</tr>
<tr>
<td>Tamquam agnus</td>
<td>Ju-DI-ci-o sub-LA-tus est de an-gu-STI-a</td>
<td>D#, B</td>
<td>N</td>
</tr>
<tr>
<td>Astiterunt reges</td>
<td>Con-ve-NE-runt in U-num</td>
<td>D#, B</td>
<td>Y</td>
</tr>
<tr>
<td>Posuerunt me</td>
<td>Et UM-bra MOR-tis</td>
<td>D#, B</td>
<td>N</td>
</tr>
<tr>
<td>Miserere</td>
<td>Et MA-lum CO-ram te FE-ci</td>
<td>D#, B</td>
<td>N</td>
</tr>
</tbody>
</table>

Tridentine Pronunciation and Scansion of “Judas Mercator”

The first egregious chromatic violation of Tridentine precepts (N++) is, perhaps predictably, *Judas mercator*. The reader may already anticipate how Judas sinned in Gesualdo’s chromatic conception; but, from the following evidence, who shall be prosecuted: Gesualdo or
Judas? As Judas mercator is, perhaps equally predictably, the second of d’Avella’s two musical citations from Gesualdo’s Responsoria, let us examine it in detail, first hypothesizing the Tridentine sins Judas committed, and then we may turn to d’Avella’s citation.293 The beginning of the responsory appears in Example Ten. Gesualdo first vilifies Judas’ name with an A immediately suspended into B-flat.294 From the g minor triad resolution, Gesualdo quickly works his way to an out-of-tune B major triad on which the words “mercator” and “pessimus” overlap (I do not think Gesualdo is here directly responding to the responsory’s second mode chant, so much as having Judas “exit” mode in general). This B major triad does not sin by placing the out-of-tune accidental on a long stressed syllable (that is, mer-CA-tor PES-si-mus); the offense is far worse. Gesualdo places the D-sharp on a disproportionately elongated short unstressed syllable: mer-CA-tor PES-si-mus (we shall further address the problematic scansion of “mercator” with d’Avella’s analysis). This D-sharp is further accentuated by Gesualdo through the false relation it sounds following the similarly elongated D-natural in the sextus, in which the long stressed syllable is doubly wrongly placed after the consonant cluster (that is, mer-CA-TOR). Moreover, the elongated D-sharp sins by sustaining the final syllable of “mercator” into a now excessively accelerated “pessimus,” scanned correctly as PES-si-mus.295 The effect is that one hears not two three syllable words scanned incorrectly in the cantus (that is, MER-ca-TOR PES-si-mus); rather, an incomprehensible conglomeration: MER-ca-tor-PES-si-

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293 Curiously, Gesualdo’s “Judas mercator” has been entirely overlooked in the musicological literature—witness, first and foremost, Watkins’ historical and analytical selections in his “Tridentine Ideals and Post-Council Practice” discussion of the Responsoria (Gesualdo: The Man and his Music, 263-284). Much of the following Tridentine analysis can be done without d’Avella’s guide.

294 As we shall rapidly discover, Gesualdo will continue vilifying Judas’ name and character. The question is whether or not this was permissible according to Tridentine musical (and artistic) precepts, according to which, as Cerone alone cites in Naples, “the name of God must be praised reverently in a distinct and devote way.” Y el Concilio de Trento en la Session xxiii. dize...ad que in Choro ad psallendum instituto, hymnis & canticis, Dei nomen reverenter, distincte, devoteq[ue] laudare (196).

295 In fact, the following section of Cerone’s Tridentine discussion censures such fleeting rhythmic text-settings and the vulgar words they incur: Las quales llenas estan de Numeros ligeros y veloces, y de movimientos vanos y luxioros; ayuntados avezas à palabras vanas, feas y llenas de lascivia...(230).
mus sung as MER-ca TOR-pes-si-mus. The first of these neologisms is now scanned correctly; but the second, incorrectly. But what should the correct version of that be? The four-syllable word might properly sound “tor-pes-SI-mus.” If Gesualdo had improperly stressed “pes-SI-mus” according to classical Latin, he could have “validated” the lengthening of “tor” by placing a secondary stress correctly on the first syllable, that is, “TOR-pes-SI-mus.” But the “TOR,” as composed, clearly has primary stress, rendering the secondary stressed anti-penultimate syllable “PES” incorrect. Such sinful scansion and pronunciation, as we shall see presently, was censored as a “vice” by one of d’Avella’s Neapolitan successors and we may continue to develop this conglomeration following d’Avella’s citation.

But first let us return to d’Avella’s precise words on how D-sharp tuned as E-flat (here on “TOR”) was sung: “If a song [with D-sharp mi’s] should be put forward according to the keys of the keyboard, how ought it be sung? And how might it be sung harmonically, without twisting the mouth?”

D’Avella’s key phrase here, among many possibilities, for Judas mercator is “twisting the mouth,” for the vowel on “tor,” whether of mer-CA-tor or TOR-pes-si-mus, ought to be sung as a low vowel. Indeed, Gesualdo’s melodic path in the cantus on “mercator” (F# G D#) and “torpessimus” (D# E E E) mostly aligns with the correct vocalization (save for the repeated E’s on “pessimus”). We therefore should hear “mer-ca-TÒR” and/or “TÒR-pes-si-mus.” But the doubly ensweetened D G# tritone on “mercator” surely caused some problems, as the singers had to raise the D# to Eb; whence, we could hear the wrong vocalizations “mer-ca-TÒR” and/or “TÒR-pes-si-mus.” As singers “twist” their mouths to do this incorrect vocalization, some of them would likely tune their voices to the organ accompaniment’s E-flat.

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296 D’Avella, 70. E che sia così, se fosse preposto un canto à questo modo già ch’è secondo li tasti del Monacordo, come non dovrebbe cantarsi? E come si potrebbe cantare armonicamente, e senza storcer bocca, ò forsi dire che sia cosa immaginaria; se non s’ha l’occhio al modo de’ due # in c & d? The “mode of the two #’s” is unveiled in d’Avella’s extension of the Guidonian Gamut (Chapter 4 of this study).
while others would valiantly try to justly tune their voices as a D# to the alto’s B; or, they might waver back and forth, lower then higher then lower, between D# and Eb. This twisting to turn “TÒR” into “TÓR” would be more properly represented as a circumflex. We could therefore hear the even worse vocalizations “mer-ca-TÓR” and/or “TÔR-pes-si-mus.”

As “mus” is also disproportionately elongated (although I would wager the long stressed syllable is nevertheless on “PES,” not “MUS”), one may further continue the elision process into the next word “osculo.” Even if properly scanned as OS-cu-lo, the “mus” runs into it, thus: MER-ca TÔR-pes-si-mus-OS cu-lo. Now, the “OS” is “OS” on account of the D-sharp. Again, this accidental’s sonorous proportion must raise the Latin “OS-cu-lo” into the Spanish ÓS-cu-lo (recall that Gesualdo’s Naples is under Spanish dominion at this time—although, without further historical evidence, one hesitates to immediately turn Judas into the Spanish Viceroy that would be ousted from Naples thirty years after this performance). But, again, on account of the altus’ B-natural and the possible mix of Italian, Spanish, and Beyond the Mountainers singers performing Gesualdo’s Responsoria (especially if this performance was at the Annunziata of Stella, Cerone, and Macque), surely it was “ÕS-cu-lo.” But the “ÕS” became attached to the end of the preceding neologism (TÔR-pes-si-mus-ÕS), leaving cu-lo, sung as cú-ló or cũ-lõ. Of course, taken by itself, cu-lo would require the stressed accentuation of CU-lo. Gesualdo has again deliberately sinned on top of the sin by neutralizing this stress in the cantus (cu-lo) and reversing it in the sextus (cu-LO, from which we may again connect into the next word, forming the nonsense cu-LO-PE). But unlike all of the neologisms we have attributed Gesualdo thus far (Merca, torpessimus, and torpessimusos), culo exists in the dictionary.

I will strategically leave the attribution of the placement of this word in Judas mercator to Gesualdo open to Tridentine debate. The “-cu-lo” of “OS-cu-lo” is, of course, the dative or
ablative singular of the diminutive suffix “lus” that, when better fitted with an infix “cu,” makes “os” (mouth) into “little mouth” or, figuratively, “kiss.” When divorced from “os,” however, “culo” is the same case and person for the noun “culus” (from which both Italian and Spanish take the cognate “culo”), which, by definition, moves down the body from the mouth and its kisses to the anus. Now, let us not immediately get carried away with this reading; rather, look very carefully and objectively at how Gesualdo might have worked with these two words. The first iteration of “OS-cu-lo” appears in the sextus and, with a Tridentine N obfuscation of the text’s comprehensibility, mixes the “OS” with the cantus’ “mus.” Right after this, the second iteration of “OS” begins in the cantus, such that we might hear “mus/OS ŐS.” Thereafter, the sextus continues the rest of the word, such that, when taken with the cantus, we might indeed hear the word “Ős-cu-lo” (nothing lower in the body yet). Next, the cantus’ long “ŐS” attached to the end of the preceding word indeed becomes separated from the following “cu-lo,” on account of the glottal stop the hard “c” (or k sound) requires. Thus, we might clearly hear the cantus declaim in two short syllables the word “culo,” right after a reasonably comprehensible “Ős-cu-lo.” The short syllables are crucial, for if Gesualdo’s intent was indeed to insert this word here, it would have to have been done very slyly (in keeping with a restricted sacred musical style). Now, from this objective perspective, we have convincingly established the possibility that the word “kiss” is followed by “anus:” “osculo culo.” Accordingly, we may now interchange Judas’ top and bottom bodily functions. However, we might also hear the sextus’ final syllable of “osculo” be continued by the cantus’ “culo;” that is, “loculo.” Like “culo,” this resultant new word exists in both the Latin and Italian lexicon. Its meaning is potentially possible for “Judas mercator;” “Loculus” (Italian: “loculo”) means “coffin” (among others) in Latin and “burial plot” in Italian (for which English retains “loculus”). It should be scanned “lo-
CU-lo,” for which Gesualdo has substituted “lo-cu-lo.” Thus, we have the three-word conglomerate “osculo,” “loculo,” and “culo” expressing Judas’ kiss of death. Although Gesualdo’s next scansion of OS-cu-lo (in the altus) overlaps a correct PE-ti-it (contrast PE-TI-it) in the cantus and sextus, this is comparatively less offending. But it certainly obscures the Tridentine comprehension, fusing the individual words’ vowels into diphthongs and consonants into clusters: PŒS-ctui-loit (one can repeat this mixture for the words “Judas mercator pessimus,” although not in such a one-to-one way). This deliberately assigns the indirect object “osculo” to the action “petiit.” Thus far, we have something like “JU-das MER-ca TÒR-pes-si-mous-ÔS ôs-cû-lô lo-cû-lô cû-lô PŒS-ctui-loit DO-mi-nus” (we will continue to tweak and slur Judas’ name when we read d’Avella’s citation).

As egregious as Gesualdo’s Judas Mercator is according to Tridentine precepts, I suspect that it is still supportive of my claim that Gesualdo was deliberately restricting his chromaticism in the Responsoria for both ecclesiastical and general congregational listeners. This B major triad and its meters and rhythms are the worst faults in the Responsoria. Like the Et inclinato capite motif, they pale in comparison to the lustful chromatic and rhythmic transgressions in the late madrigals. This point will be reinforced when we uncover D-sharp’s role in the secular kissing madrigals.

Example Ten: Tridentine Sins in Gesualdo’s Judas mercator (QTB here tacit)
D’Avella’s analysis of *Judas mercator* seems to be greatly different from ours. His discussion of it is placed neither within his neo-Boethian interval theory nor a greatly wanting chapter on correcting singers’ scansion. Instead, it is placed in Chapter 68 of the third treatise, right before his second citation of the *Tenebrae*. As such we must once again foray into his most speculative writings on the modal harmony of the spheres. His citation appears in Example Eleven. There is a problem with it: As printed, d’Avella’s notation does not even remotely concord with any moment of Gesualdo’s *Judas mercator*, as it has come down to us. One searches the 1611 printed parts in vain for this motif. To now return to our concerns about his notations of the *Et inclinato capite* motif, we must ask, with much greater urgency: What exactly was d’Avella listening to and writing down?

**Example Eleven:** D’Avella’s Citation of Gesualdo’s *Judas mercator*

![Example Eleven: D’Avella’s Citation of Gesualdo’s *Judas mercator*](image)

To understand d’Avella’s explanation of this unidentified *Judas mercator* passage, we must back-track to the beginning of Chapter 68, which is most provocatively entitled “On the Eclipses through the syllables la, fa, le, mi, and others.” We must here briefly work through his theory of the harmony of the spheres to incorporate the magnanimous astronomical eclipses that occurred around the time of the eruption of Vesuvius. D’Avella begins by observing that the letters, like the sun, “have the power and virtue to eclipse one order [of solfege syllables] and mutate it into another, as well as the mode of song, both canto fermo and figurato. A syllable

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297 D’Avella, 102. *Degli Ecclissi per le sillabe la, fa, le, mi, & altre.*

298 As I cautioned before, this particular musical theoretical development must not be outright rejected as esoteric (even if we have left it mostly untouched for now), but seen as a rather a fascinating coincidence of early seventeenth-century Neapolitan monasticism, sacred music, and reinvigorated natural philosophy in the age of modern astronomical empiricism.
will [thereby] have greater force.” D’Avella refers us to the preceding chapter (on *canto fermo* examples); here we will encounter *figurato* examples, in which we may readily see the eclipses without wandering further into the third treatise. The first example is taken from Gioseppe Pilonio’s first book, *Debbon venir le fascie*, which, for d’Avella, is “truly worth notating;” see Example Twelve. This is, in fact, Gesualdo’s *Se da si nobil mano* (I/8) under a penname. Unlike before, d’Avella has here underlaid the text, so as to make the eclipses visible. “Without notice on the syllable ‘le,’ a # is placed above on c [the text underlay is skewed forward: the “le” should appear beneath C#]) and this gives the force of “mi” [to the syllable/article “le”]. Likewise, the fa on D above the following “fa” “gives force” to the first syllable of “fascie” and the F# la “gives force” to the next “le.” This accidental was erroneously supplied by d’Avella out of cause of necessity to avoid a C# F doubly ensweetened tritone. It cannot stand within the score context. Conveniently enough, however, this supplied accidental formed an eclipse in d’Avella’s mind and, as such, supported his theory (might we have to deal with this potential disingenuity again to decipher his *Judas mercator* notations?) When so performed, the notes “might resound to life.” The meaning of d’Avella’s eclipses is now clear, if rather unremarkable: When the solfege syllables’ sounds coincide with the sounds of the sung text, they reinforce one another, lending greater expression of the text. Or, in

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299 *Ibid.* *E se le sole lettere, come s’è discorso, e mostrato nel precedente capo, hanno forza, e virtù di fare ecclissare un’ordine, e mutarlo in un’altr’ordine, e modo di canto, così nel canto fermo, come nel figurato; maggior forza havrà una sillaba.*

300 *Ibid.* *E per il canto figurato è osservato da Gioseppe Pilonio nel primo libro de’ sooi Madrigali, nella parte del Contr’alto, Madrigale, Debbon venir le fascie alle mie piaghe, amor, che non m’impiagh, degno veramente da notare.*

301 *Ibid.* *E senza avvertimento delle sillabe le, posta col # sopra c che dà forza di mi, & il fa, di fascie, sopra d e di alle, sopra f acuta col #, che dà forza di la.*

302 *Ibid.* *Dunque tutto quel periodo è necessario per formarsi dette note, che risonino al vivo.*
d’Avella’s typically succinct words, “these oscuramenti are made for the syllables and the affections.”

**Example Twelve: Giosseppe Pilonio’s Eclipses**

D’Avella next cites the eclipse that “the Prince of Venosa placed in the Holy Week Responsory, *Judas mercator,*” all the while not knowing that these first two examples were in fact both from the same composer. Here is d’Avella’s commentary to Example Eleven: “To explicate the betrayal,” Gesualdo “placed [the responsory] in a hard-B mode and, to give force to that ‘*das*’ in ‘*Judas,*’ he made a major sixth in the said hard-B mode, saying ut on A and la on F#.” D’Avella then refers us to the Guidonian Hand designed for hard-B accidentals because of the apparent difficulty that both this and other of Gesualdo’s passages incurred for singers:

“They say,” d’Avella reports, again adopting indirect discourse, “that these songs of his can not be sung without viols and violins, as they are capriciously made.” To this, d’Avella retorts that it is “necessary to know the virtue of the accidentals,” which he has here explained to us through the theory and practice of eclipses. Here ends his analysis of *Judas mercator.* To be sure,

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303 Ibid., 103. D’Avella continues on with the second bar (which skips several rests in the original) and again supplies un-notated sharps, “which the good singer places there for the affect of the text” [che’il buon cantante ce lo facci per l’affetto della parole]. In d’Avella’s monophonic reading, the F-sharp is maintained in measure four and nullified in measure five to apparently express the “*mie piaghe*” “*non m’impiaghiti*” dichotomy: and *se non si cantara questo modo, si sentiranno le piaghe, poiche questi oscuramenti sono fatti per le sillabe, e per li affetti.*

304 Ibid. *Come anco si deve osservare la positura, che il Prencipe di Venosa in quel Resp della Settimana Santa, Judas mercator pessimus,* che per esplicare il tradimento, lo messe sotto il modo di B giacente, e per dar forza à quel, das,* *di ludas,* fà la sesta maggiore per detto giacente,* dicendo ut in A e la in F#, *vedi la sua mano al*
that did not provide us that much help to decipher his notated citation. Returning to Example Eleven, we simply place an Ut on the first A, underlay the text “Iu,” and then place a La on the F#, underlying “das.” The coincidence of the solfege and scriptural syllables forms two eclipses; yet, these eclipses’ “affective” powers are far removed from Tridentine perceptions of musical affection. But where did d’Avella get this citation from?

On the basis of the clef and registration, one presumes it came from the bass part of Gesualdo’s Responsoria, seen in Example Thirteen. But it is not there and, indeed, the motif does not appear in any of the parts. At best, d’Avella might be citing the F# octave leap on “Iudas” in the final verse. Certainly this leap is an “affection;” yet its solfeging (mi mi or, less likely, la la and then fa) is not very ecliptical. Then Gesualdo continues to cadence on C, wholly different in pitch from d’Avella’s possible cadence on F#. At this point, we have several options: 1. D’Avella heard, transcribed, and (in keeping with our analysis of the Chapter 68 citation of the Et inclinato capite motif) jotted it down from the performed part, albeit a completely different version of Gesualdo’s Judas mercator (and the “affective” F# leap might well be enough to correlate the 1611 and hypothetically lost versions); 2. D’Avella disingenuously recomposed this “affective” moment to fit his ecliptical theory (a scholarly sin on par with Judas’); 3. He dictated this affective leap by ear from memory and, after that, his memory failed him completely. Surely one of these must answer our question.

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capo 22. molti dicono, che questi suoi canti non si possono cantare senza viole, e violini, perche sono fatti à capricci. Dico, che bisogna sapere la virtù degli accidenti.

Following this, D’Avella’s third example of the eclipses is the Et inclinato capite motif, the proposed solfeging of which, fa sol fa mi/fa mi, makes no eclipse at all (one would have to place a disjunctive fa on the G mi on “na,” which d’Avella did not do). This particular lack of an eclipse is ironic, given the eclipse of the sun at the crucifixion. His next example thereafter provides a fascinating recomposition of the Ubi est Abel plainchant responsory (to dramatize the difference between Cain and Abel). Although peripheral to Gesualdo’s Responsoria, this will figure prominently in a study of d’Avella’s plainchant and accidental modal transition writings. Again, no eclipse appears to be present, evincing a variously compiled chapter.
Example Thirteen: The 1611 Print’s Bass Part of Gesualdo’s *Judas mercator*

In fact, the answer is none of the above and, the correct answer will bring us back down to Earth from d’Avella’s above speculations and let us hear Gesualdo’s chromatic Tridentine scansion of *Judas mercator* from his seat in the congregation. What we are witnessing in d’Avella’s notated citation of this responsory is, analogically put, the equivalent of a turn of the twentieth-century Viennese theorist versed in Wagnerian chromatic harmony hearing the atonal music of Webern for the first time and, in absolute awe, doing his best to aurally dictate on two hearings alone the chromatic twelve-tone rows dispersed among many parts in complex rhythms, knowing that he may well never have access to Webern’s minimally printed and extremely expensive scores. Then the Viennese theorist used his dictation, full well knowing that it might not be entirely accurate, to buttress his applications of the most recent natural discoveries to Webern’s music.

Taking Example Eleven and Ten together, d’Avella’s first pitch, the low A semibreve, is actually the sextus’ A above middle C semibreve (a two octave discrepancy). How could this be if there is not anything remotely like a dotted semibreve F# thereafter until the cantus’ “mer” still some ways off? The precise stimulus that d’Avella heard after the sextus’ A was the A’s
suspension into the cantus’ B-flat. This “sharp” suspension sonority (to select a most leading adjective) had to be caused, according to d’Avella’s ears, by a sharp mi. Perhaps the D beneath in the alto led d’Avella to gauge a wider sharp interval above A, than actually present. Now, through this “sharp” suspension, Gesualdo deliberately accented the next syllable after the “Ju” on A, which is another “Ju” in the cantus and a “das” in the altus. That is to say, in terms of accentuation (but not length), the “sharp” suspension sounded like the incorrectly spoken “Ju-DAS” (or “Ju-JU/DAS”)—which, in terms of our Tridentine measurements, is precisely how d’Avella transcribed it, confusing the accent alone for both accent and length. He dictated the accented “DAS” as a long with respect to the short “Ju,” selecting a dotted semibreve. Now, to continue our Tridentine analysis of d’Avella’s hearing, was it “Ju-DAS” (an out-of-tune chromatic sharp on “das”) or only “Ju-DAS” (an in-tune chromatic sharp on “das”). It was the latter; d’Avella heard F# or, equally likely, inferred F# from the suspicion that a harsh major sixth was the cause of this “sharp.” In principle, he could have also heard or inferred a G-sharp instead. Whether an A F# major sixth or an A G# major seventh, d’Avella has, moreover, mistaken Gesualdo’s deliberate melodic contradictions of the vocalization of “Judas.” Whereas the vowels ascend from low “u” to a higher “a,” Gesualdo’s melodic contours descend on these vowels. For what should be heard as “Jūdās,” Gesualdo melodically set “Jūdās.” But d’Avella has indicated the former, if not “Judās.” Thus far, we have traced on the score from the sextus A to the cantus B-flat and altus “das,” mis-transcribing a flat for a sharp. Where to next in our notational odyssey in 1611 Naples? D’Avella’s next indications are in the altus: From the C# to B, d’Avella has correctly dictated the altus on “mercato pessi-” in a 1:1 transcription—except for a miss on the D’s length and placing the pitches an octave too low. The D should be a semibreve, correctly uttering “mer-CA-tor.” However, as Gesualdo has elided the alto’s “mer-
CA-tor” with the cantus’ and sextus’ sounding “Ju-DAS,” as well as the sextus’ “mer-CA-TOR” and the cantus’ utterly false “MER-ca-TOR), we may here sympathize with and pardon d’Avella’s Tridentine (Y/N) confusion. Indeed, Gesualdo is here playing with the ambiguity between ecclesiastical and classical Latin: The “a” in “mercator” is long by nature in classical Latin and stressed in ecclesiastical Latin; but the “e” might be thought long by position in classical Latin, on account of the “rc” cluster that follows. Now, backtracking from d’Avella’s transcription of this “mercator” mess: If d’Avella heard “JU-DAS” or “Ju-DAS,” with an accentuated long on the end, it too could elide into the first syllable of “mercator” (as was seen for TOR-pes-si-mus) and make the scansion even more messier. Indeed, following d’Avella’s transcription, one could hear the conglomeration “Judasmer cator pessimus” in the inner parts and “Judasmer catorpessimus” in the cantus. Surely this was also Gesualdo’s intent; how did he scan these? In the sextus, we find the incorrect “JU/Ju-DAS-mer CA-TOR PES-si-mus. In the altus, we find the less incorrect “JU/Ju-DAS-mer CA-tor PES-si-mus.” Last (and certainly least), we find in the cantus “JU/Ju-DAS-MER ca-TOR-pes-si-mus-OS cu-lo.” The first of Gesualdo’s neologisms should of course have been uttered “Ju-DAS-mer.” The second five syllable neologism is still unsuccessfully trying to be the wrongly secondarily stressed four syllable neologism “TOR-pes-SI-mus,” which could become “ca-TOR-pes-SI-mus.” With the primary stress on “PES-si-mus,” however, it should have been uttered “CA-tor-PES-si-mus,” secondary stress on “ca.” Having heard all these possibilities, yet incapable of transcribing them on the spot, D’Avella’s citation then concludes with a leap to F#; from altus to sextus we trace, leaving out the F#’s “PES-si-mus” rhythmic pronunciation under “TÔR.” D’Avella seems to have completely missed the out-of-tune chromaticism, although the mi on D# does not eclipse with “tor” and, as such, would not be of highest consideration in Chapter 68.
We have thus extracted an incredible amount of insight into the contemporaneous post-Tridentine hearing of Gesualdo’s most N++ music, now arriving at something like “Ju-DÂS-MER ca-TÔR-pes-si-mous-ŌS ōs-cū-lō lo-cū-lō cū-lō PŒS-ctui-loit DO-mi-nus”—and even this has completely understated the incomprehensibility of the inner parts’ under “judasmer cator.”

Perhaps, then, it should be: Ju-JuDÂS-cmær-CMTÆGER-ptœr ca-si-PTÔUR...”

The reader, now invited to sing or enunciate this complete sentence, may notice again how the hard “c” sound truly does interrupt the connection from “mer” to “ca,” “os” to “cu,” and so on by means of a glottal stop; not so for, say, “dasmer.” Then, he or she may be invited to translate it (if, like me, you might be tempted to supply a “cum” in the ablative, be here forewarned not to google “cum culo” to check this ablative construction’s textual existence in the classical sources; it is not—and surely never was—Tridentine). Gesualdo’s own translation was surely kept musica reservata.

This Counter Reformation era word play between “ōsculum,” “cūlum,” and their vernacularizations was by no means limited to Gesualdo; he seems to have been one of many (and d’Avella and the Neapolitan clergy may well have known it too). To buttress the likelihood that this was (or, at least close to) Gesualdo’s compositional thought process and intent, let us consider a passage from the Protestant scholar Claude Saumaise (for want of a Neapolitan source, a temporary place holder) against those who thought papal primacy ensured the unity of the Church. Mocking the custom in which nobles and political leaders kissed the pope’s feet, Saumaise asked which part of the body his holiness would offer for a commoner such as himself

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306 A thoroughly systematic analysis of this passage, which would detail all possible word and nonsense combinations may be developed. For now, I have extracted the key “words” and their basic significance.

307 After this study in scansion, one looks in absolute amazement at Leone Santi’s 1630’s manuscript Comparatione della moderna con l’antica musica, which evaluates Gesualdo’s and others among his followers’ madrigals according to the classical Latin meters in Horace. This Neapolitan news certainly did not make its way to the Pontifical College of Rome.
(i.e.: Saumaise) to kiss: “Quam partem corporis offeret ad osculum?” Answering his own question, Saumaise proposed that “the echo of the Vatican Hill, for a response, repeats the last two syllables of osculum, lengthening the first one:” “Vaticani montis echo pro response syllabas duas ultimas resonans iterat, priorem etiam producendo.” Now, even the Vatican scanned the expletive correctly; not so for Gesualdo, who charged Judas with incorrectly scanning the subtly inserted “cūlo.” Returning to Example Ten, the reader can really see how the cantus and sextus’ fused “osculo” has an “echo” thereafter of “culo.” That said, the one catch (if it is a catch) for this reading of Gesualdo’s “Judas mercator” is that the 1611 print (which he surely oversaw) divides the syllables “o-scu-lo” (and not, as in the current critical edition, “os-cu-lo”); see Example Thirteen, line two, for the subsequent “o-scu-lum.” Nevertheless, the musical analysis, the vocal pronunciation of grouping “s” with the lengthened and accented “o” followed by a disjunctive hard “c,” and the Counter Reformation context all seem to firmly suggest the extreme vulgarity. “Sculo” would seem to negate that context.

Contrast all that vulgar verbiage to the Tridentine Y++ setting of “Judas mercator” in Tomás Luis de Victoria’s celebrated 1585 Holy Week Responsories, seen in Example Fourteen. Not only are there no out-of-tune accidentals, the scansion is entirely correct and the words are comprehensible and clean. If one can not find “culo” here, it probably ought not to have been readable (nor audible) in Gesualdo’s setting.

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309 Of course, one can not authoritatively reclaim the pronunciation of Gesualdo’s Naples; however, the various present-day Spanish and Italian pronunciations of “osculo,” “osculum,” etc. on www.forvo.com (“All the words in the world. Pronounced.”) do indeed accent the “o” and group the “s” retrospectively with it. Otherwise, the “sk” sound would move the accent forward to the second syllable (as the reader may verify by trying the various possibilities). The Hilliard Ensemble’s recording has this, “o-SCU-lo.”
Example Fourteen: Victoria’s *Judas mercator*

Although we have likely uncovered a profanity in Gesualdo’s “*Judas mercator,*” this discovery may not encourage that every “*culum*” automatically be divorced from every long “*os*”—especially if the last syllable of the preceding word does not incorrectly elide into said “*os.*” For example, contrast the scansion of “*osculum*” in the previous responsory, “*Amicus meus osculi me tradidit,*” Example Fifteen (A). In measure 17, the altus and quintus seem to echo “*culum*” after “*osculum;*” but note how this is ever concealed in the inner parts in a full texture. Also, there is not any textual confusion between the words “*per*” and “*osculum.*” In “*Judas mercator,*” the cantus’ echo is on the top of a two-voice texture and readily audible. For another example, take the analogous Holy Saturday responsory “*Omnes amici mei,*” in which the betrayers have struck Jesus with “terrible glances” [*terribilibus oculis*], Example Fifteen (B). As we shall realize presently, this moment could have called for the ensweetened modern tritone, as this interval also expressed “incinerating glares” in the secular erotic madrigal repertoire on *lume* topics. However, Gesualdo here restricted all chromaticism and properly scanned “ter-ri-BI-li-bus” and “O-cu-lis,” no matter how elongated the “O” happens to be. Objectively, there is no need to see anything else here but these glares. Taken together, Example Fifteen (A and B) constitute Tridentine Y+() settings and must not be confused with *Judas mercator.* Again, they evince a composer very carefully choosing where to break Tridentine rules.
Example Fifteen (A): Gesualdo’s *Amicus meus osculi*

Example Fifteen (B): Gesualdo’s *Omnes amici mei*

Prohibited Counterpoints in “*Judas Mercator*”

Although d’Avella’s transcription of Gesualdo’s “*Judas mercator*” was not entirely correct, he valiantly gave us enough information to find it in the score and develop his analysis, a luxury which he most certainly did not have.\(^{310}\) To think of what could have been lost if d’Avella did not write this hearing down circa 1611 and, however strange it may seem to us now, rationalize it after the astronomical events of the early 1630’s. But we are not done; there is even

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\(^{310}\) Yet the Chapter 68 juxtaposition of such an incorrect transcription (*Judas mercator*) against a most correct transcription (*Et inclinato capite*) remains baffling. Could d’Avella really have seen the latter (to confirm his pitches and slightly revise his rhythmic transcription) and not the former?
more post-Tridentine insight into Gesualdo’s “Judas mercator” to be extracted from d’Avella’s Regole. For this, however, we must place the complete “Judas mercator” and the complete Regole together without a citation from d’Avella to have as a guide. Towards the end of d’Avella’s treatise on counterpoint, seemingly the least remarkable of his work, a “prohibition” is put into effect: “In counterpoint, one must be extremely carefully not to make canti circolari.”

It will be readily recalled that the circle was d’Avella’s logical device to defend LaCocia’s chromaticism, placing all solfege syllables on all points on the circle of fifths. Moreover, this circular hexachordal pitch-space was one manifestation of God’s divine love. But circles in counterpoint are another story entirely. “A circle in counterpoint, as one knows,” d’Avella continues, “begins on one point and, circulating with equal parts, finishes on the same point.” Then giving some examples of a “circular song” to round out his circular description, d’Avella names descending and ascending “at least” three notes such as la sol fa and fa sol la (although “there are many much worse”) and four to eight-plus quick notes “of the same value on the same pitch.”

However, if one should pass beyond “with one single note” or not fill-in all of the notes, then a circle is not formed. D’Avella warns that circles are “prohibited in counterpoint, are displeasing in other compositions, except for sinfonie or certain imitations.”

He then provides several notated examples for clarification. As seen in Example Sixteen, lines one and two exhibit prohibited circles. Lines three and four are not circles and are permissible.

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311 D’Avella, 160. Nel contraponto si deve star molto ben attento di non far canti circolari.
312 Ibid. Il circolo (si sà) che principia in un punto, e nell’istesso, con parti eguali circondendosi, finisce: hor dunque il circolo, nel canto, sarà ogni volta, che il cantore, cantando, scende per esempio tre note almeno (e queste fanno il circolo, mà se sono più, tanto peggio) dicendo per esempio, con tre bianche la, sol, fa, e poi con le medeme ascende all’istessa corda, a là si ferma: òvero con quattro negre, ò quattro crome, ò otto, ò più note dell’istesso valore, scende, e sale all’istessa corda.
313 Ibid. Mà se passasse avanti, con una sola nota non sarebbe circolo, e così scendendo se passasse, à non giungesse, non sarebbe circolo.
314 Ibid. Intendi esser proibiti nel contraponto, e nelle altre compositioni non son grate, eccetto nelle sinfonie, à certe imitazioni.
315 Ibid. 161.
as the ascents all exceed the point of departure (although the final example on F, G, and A looks rather circular). Lines five and six are not circles, as the rhythmic alterations along the pitches’ hemispheres “spread out” out the circle. I suspect these conditions for circularity were more malleable than d’Avella tells us. Certainly, for example, the proper accentuation of text would bring about rhythmic alterations over the course of a circle and a circle might be truncated or elongated in order to form a cadence. As such, in the following analyses, I leave the definition of a contrapuntal circle more open than d’Avella would permit in the abstract.

**Example Sixteen: D’Avella’s Prohibition of Circles in Counterpoint**

As one might expect, contrapuntal circles were not prohibited by all Neapolitan theorists. Contrast Cerone, whose demonstration of contrapuntal circles [*rodeos*], conveniently enough for the present discussion, takes the second responsory of Maundy Thursday, “*Tristis est anima mea,*” on the verse “*nunc videbitis turbam, quae circumdabit me*” (“now you shall see that crowd that shall surround me”). Cerone expects a literal text-setting, presumably consummate with his Tridentine stance; he instructs his readers, who ought to “desire” circles at this moment, to
proceed with as many as may be made, so as to imitate the text. Perhaps Example Seventeen is taken from his own (previously mentioned and lost) Holy Week Responsories. Cerone does not continue to exemplify circles in “Judas mercator,” which might not be so desired. However, this simple example will raise the questions: Why the theoretical discrepancy in Naples? Would Gesualdo at once respond to both the theoretical expectation for circles in “Tristis est anima me” and later the theoretical prohibition of circles? If so, could he expect his Neapolitan public to recognize the violation in “Judas mercator,” when, in fact, some of their music teachers may have permitted these contrapuntal sins?

Example Seventeen: Cerone’s Recommendation of Circles in Holy Week Counterpoint

Gesualdo indeed follows Cerone’s prescription of circles in “Tristis est anima me.” Then, having opened “Judas mercator” with Tridentine N++ sins, Gesualdo next introduces prohibited contrapuntal circles when Judas and Jesus kiss, Example Eighteen. As seen in measure twelve, the cantus initiates a long sequence of contrapuntal circles on the text “Judae osculum.” To be sure, this circle is not the “worst” in d’Avella’s terms, as it only includes three pitches (GFE) and has both rhythmic and accidental inflections on the ascent. But the circle then rolls on in the sextus (EDCDE) counterpointed to the altus (CBABC) and the quintus (AGFGA). Curiously, in these triplet circles, Gesualdo has wiped the prohibited parallel fifths off Judas’ lips.

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316 Cerone, 668. Y quando quiere rodeos, como dezir; Nunc videbitis turbam, quæ turbam, quæ circumdabit me, andamientos semejantes à estos se pueden hazer, para imitarlos en algo. Cerone continues with two more examples of circles in registrally compact four-part counterpoint (on “Esto circa nos”) and in diffuse counterpoint (on “Viam longissimam”).
by means of slight rhythmic displacements. Notice, moreover, that the circles are not limited to
the text “Judae osculum,” but also appear on the text “non negavit,” which is often elided with
and counterpointed to “Judae osculum.” Gesualdo has here employed a remarkable text-setting
to depict Jesus’ reception of Judas’ kiss. The responsory’s text reads: “[Jesus], like an innocent
lamb did not refuse Judas’ kiss” [ille ut agnus innocens non negavit Judae osculum]; Gesualdo
has transplanted Judas’ kiss into Jesus’ innocent mouth by means of counterpoint. As the text
“Judae osculum” enters in the cantus, the sextus and quintus immediately become
counterpointed to it on “non negavit.” The circles expand from three note circumferences to five
note ones in measures 14-16 (see the canto from A to D to A), but now with gaping holes on
“non negavit” alone. These would not be considered “circles” by d’Avella; however, one could
easily turn that around and interpret the holes and uneven rhythms as representative of the falsity
of Judas’ kiss taking effect. The text “non negavit” then elides back into “judae osculum” with
the circles in the bassus and sextus in measures 17-19 (EEEDCDEDC). Three note circles then
permeate the remaining counterpoint in the verse. Finally, Gesualdo has here corrected the
Tridentine N++ scansion and chromaticism into a Y+, clearly substituting in its stead
contrapuntal N+ circles. To be sure, we are not “seeing circles” where they are not; d’Avella’s
criteria simply did not encompass Tridentine scanned circles (whether Y or N).

Example Eighteen: Contrapuntal Circles in Gesualdo’s Judas mercator
To be sure, these are prohibited contrapuntal circles convincingly employed, even if not quite fitting d'Avella’s definitions. Of course, d'Avella did not expressly observe this in writing. As the circles are indeed small, we may wonder if he heard them at all (distracted by trying to memorize the first “Judas”). Yet Gesualdo is clearly exhibiting knowledge of contemporary contrapuntal rules and, drawing upon such a simple commonplace, was expecting his general Neapolitan musical public to recognize the violation of those rules in such a marked responsory. This is easily enough confirmed: There are no other contrapuntal circles in the entire Responsoria. Although the violation of contrapuntal rules is easily enough equated with sinning, how do we, better yet, connect prohibited circles with sinning kisses? There are several possible solutions: First, and least likely (although fitting while we are on the subject of speculative theorists correlating Gesualdo’s Responsoria to astronomical eclipses), we might ask if Gesualdo’s noble education included (beyond astronomic revolutions, of course) some advanced geometry, in particular the tangent circles called “kissing” [circulus osculans]. Such a series of tangent circles are seen, for example, in the graphs of musical intervals in the finely printed treatises of Zarlino (and not in poorly printed treatises such as d’Avella’s). With their rhythmic displacements and empty holes, Judas’ contrapuntal series of kissing circles were

317 Cf. Zarlino, Sopplementi, 164 (et passim) versus d’Avella, 144. The precise circulus osculans terminology was introduced almost a century after Gesualdo, but its origins may be open.
clearly not drawn with God’s compass. Second, and more likely, we might inquire if contrapuntal circles were associated with amorous kisses in Gesualdo’s madrigals. Then the secular musical realm would have infiltrated the sacred realm, rendering this passage Tridentine N+ (we will confirm this possibility in another way shortly).

Although circles are very limited in Gesualdo’s madrigals (again, evincing a knowledge of and application of rules), this inquiry quickly proves fruitful. Indeed, circles appear in Baci soavi e cari, a madrigal centered on the erotic life-death oxymoron and, as such, a fitting point of comparison for Judas mercator.318 Again, the circles are overt; yet they require a more general definition than d’Avella’s, allowing for rhythmic elaborations (lengthening the kiss) and chromatic inflections (ensweetening the kiss). If d’Avella were more acquainted with the secular madrigal, I suspect he would have recognized the discrepancies between his theory and Gesualdo’s practice that we are ever encountering. As excerpted in Example Nineteen (A and B), Gesualdo predominantly introduces the circles in the second part of Baci soavi e cari. In the first verse of the first couplet (A), the circular kisses anticipate the word “kiss” [baci] in the second verse. The kissing has begun, even while the poet describes the sweetness implanted by Love on his lady’s lips. The accentuation of the penultimate syllables dictates that these circles must not be sung as blandly as d’Avella’s criteria state. Notice how the alto and tenor, after their first counterpointed circles (DCBbCD and BBAGABb), then completing each other’s second circle (BbAGABb), embracing in Amore (in a like manner as Judas and Jesus). The second verse at first does not qualify as circular. Although it opened with a stepwise descent in the canto from D to G (with an allowable A F skip), the return is not filled in (so too for the other voices). But the second iteration of the verse fills in the circle’s hole. In the canto (measures 6-8), Gesualdo

318 A corpus study of the settings of this renowned Guarini poem (and other bacio poems) may reinforce a common-practice of using circles to depict amorous kisses and convey their sensations (or deny it).
first descends stepwise from F to C (with a neighbor B-flat) and lingers for a long C bacio.

Whereas a repetition of the first iteration would leap from C upwards without steps in between, this iteration fills in the steps D E-flat E-natural to F, rounding out and ensweetening the kiss, as well as eliding it into the next verse, “O dolcissime rose.” To this circular line, the other voices are counterpointed. As the kisses begin to bring about the poet’s desired “death,” Gesualdo again returns to the circular counterpoint, Example Nineteen (B). From this, we see that the expression of amorous kisses’ erotic “deaths” was certainly transplanted by Gesualdo into the spiritual kiss that led to Christ’s “La mia vita finire.” Tridentine N++.\(^\text{319}\)

Example Nineteen (A): Circles in Gesualdo’s Baci soavi e cari

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\(^{319}\) Among many possible citations here, contrast this censorable offense to the more acceptable applications of circles to signify spiritual love, for example, in Bach’s oeuvre. See Isabella Van, Mystical Love in the German Baroque: Theology, Poetry, Music (Lanham: Scarecrow Press, 2009): 227.
Example Nineteen (B): Circles in Gesualdo’s *Baci soavi e cari* Continued

To further probe the post-Tridentine response to these kissing circles, it may be noted that Kircher, in his most often cited discussion of a Gesualdo madrigal, placed secular and sacred amorous contrapuntal circles next to one another, without so much as mentioning the circles, nevertheless censuring the practice. He was certainly aware of contrapuntal circles, having shown them in an unidentified motet on the words “*surgam et circuibo civitatem,*” a successful example of “*contrapunctus coloratus.*” At the risk of seeing too many circles, let us revisit Kircher’s citation of Gesualdo for the “*Affectus amoris,*” for, in light of the above examples, which were censurable in the Neapolitan music theory if not archdiocese, it will certainly now read differently. Indeed, Kircher was essentially speechless about musical amorosity. Kircher’s first example was Palestrina’s setting of the words “*Quia amore langueo*” in a motet *Introduxit.* Turning to Gesualdo, he then (coincidentally) also selected *Baci soavi, e cari*; he places without much commentary an excerpt from its first part (which will reinforce the examples I selected from the second part): “The example’s nature here expresses the produced amorous affect such that nothing more magnificent could be desired.” As seen in Example Twenty (A), Kircher selects the final semi-verse, “Even though it is dying,” (the poet’s “[soul] does not feel the pain

320 Kircher, 243-245.
321 ibid., 599. *Hic in madrigali quodam suo, quod incipit, Baci soavi, e cari. hunc productum amorosum affectum, ita ad naturæ exemplar expressit, ut nihil amplius desiderari possit.*
of death”). Having just outlined contrapuntal circles and semicircles on the first semiverse, Gesualdo here again sets a circle in the bass. Begun on B-flat, he twice accentuates and embellishes the “mo” of “more” and, perhaps as a hint of the literal expression of “more,” breaks the circle to cadence on C. Kircher does not associate the circle with the affect and only cites “how the intervals languish” [intervalla quomodò langueant] and “how the voices beautifully syncopate themselves” [quam pulchrè voces se syncopent] at this moment of consummation. Kircher’s next and final example is a strophe from an Antonio Abbatini motet, in which the overlapping contrapuntal circles express the overlapping of the texts “Iesu duclis memoria” and “eius duclis clementia,” Example Twenty (B). Not acknowledging these circles in words, Kircher’s only notable observation concerns the music’s “remarkable energy” [energia insigni].

For Kircher, the amorous love of Guarini’s pastoral poetry was successfully transplanted to the spiritual love of Roman sacred motets—a crucial glimpse into the post-Palestrina Roman reception of Gesualdo. One can only imagine how differently this renowned discussion of the “Affectus amoris” would have developed, had Kircher had Gesualdo’s Judas mercator and the prohibitions put forth in d’Avella’s Regole in hand. The “Affectus amoris” cannot be left as unspoken as Kircher would leave us to believe.

Example Twenty (A): Kircher’s Citation of Gesualdo’s Baci soavi e cari

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322 Non sente il duol di morte, e pur si more.
323 Kircher, 660.
There may be one other contrapuntal sin in Gesualdo’s *Judas mercator*, which, perhaps more so than the properly scanned amorous circles, would warrant censuring. For this possibility, we need to temporarily lay d’Avella’s brief treatise on counterpoint aside and pick up the admittedly removed 1595 *Dialogo del R.M. Don Pietro Pontio Parmigiano*, whose connection to Gesualdo might only be peripherally made through Pontio’s Ferrarese mentor Rore. In his dialogue on counterpoint, Pontio turns to a prohibited practice that he calls “bringing about the death of the composition, that is, the lack of movement” [*fatta morta la compositione, cioè, senza movimento*]. Of course, the student asks Pontio what he means by this and the answer is made explicit: “*Morta la Compositione* is understood when the parts commonly continue with the measure of breves or semibreves for some space of time; nor will there be another part with the three or four parts singing together, which might make another movement. This way brings little delight.” Pontio exhibits this “*morta*” in Example Twenty-Four, in which the first breves and semibreves are utterly stagnant, making the composition “sad, without beauty, and any delight;” then, they begin to move, as one may find in the motets of Willaert, Gombert, Finotto, and others. However, he restricts the musical genres to which this prohibition applies. According to Pontio, this “*morta*” may not appear in masses, motets,
psalms, magnificats, ricercares, and others—with the exceptions of the Incarnatus, the Gloria Patri, the readings of Holy Week, and—above all, for present purposes—anything thing else pertaining to this said week. Thus, on account of the solemnity, this contrapuntal “morta” may appear in the responsories of Holy Week (and indeed a glance of Aretino’s Responsoria shows this to be true).

Example Twenty-One: Morta la Compositione According to Pontio

Although permitted during Holy Week, these repeated breves and semibreves with minimal contrapuntal motion are conspicuously absent from Gesualdo’s Responsoria to such an extent that one might suspect that, for him (and his Naples), they were entirely prohibited. Here, of course, we may but wish that d’Avella, Cerreto, and Cerone might have discussed this practice to confirm or deny our suspicion. The one possible exception in Gesualdo’s Responsoria that

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324 Pietro Pontio, Dialogo (Parma: Erasmo Viothi, 1595): 54-55. “Morta la Compositione (parlando di Messe, Motetti, Salmi, Magnificat, Ricercarij, & altre varie Compositioni, eccettuato però l’Incarnatus de spiritu sancto della Messa, il Gloria patri delli Salmi, le lettioni della settimana santa, & altre cose pertinenti à detta settimana) s’intende, quando le parti vanno comunemente con misura di Breve, overo con misura di Semibreve, per alquanto spatio di tempo: ne vi serà parte alcuna d’esse, cantando tre, overo quattro parti insieme, che faccino movimento alcuno, il qual modo, (come già hò detto) rende poco diletto, come da questo essempio il tutto potrassi vedere.

Hora veggono, come quelle parti vanno egualmente in misura per ispatio assai di tempo, il qual modo, e stile fà la compositione mesta, e senza vaghezza, e diletto alcuno. Si permette però alle volte ne’ Motetti, & altre compositioni per un tempo di Semibreve, ocer di Breve al più, che le parti si possino fermar’ insieme; mà, fatta questo, le Parti poi cominciano à far movimento, servando l’ordine, e lo stile delle Compositioni de’ periti Musici, come ciò ben scoprono i Motetti di Adriano, Gomberto, Finotto, & altri simili...
might constitute “Morta la Compositione” appears in Judas mercator; it can hardly be coincidental. Returning once more to Example Ten, we see that the counterpoint, initially rather florid in its suspensions at the semibreve, becomes very stagnant on the B major triad. Not only are the words mis-scanned and smeared, they stand still contrapuntally on an out-of-tune sonority (might that make it piú morta) for four breves; only the cantus has a neighbor tone E (much like the altus in Pontio’s example only has a neighbor tone). But unlike Pontio’s example, Gesualdo’s contrapuntally stuck pitches often fill in the breves with rhythmic subdivisions. This could not constitute “morta” in Pontio’s strict definition; yet, much like our broadening of d’Avella’s strict definitions of circles, I believe we may safely still read this B major triad as “morta.” If not “morta” in and of itself with the rhythmic subdivisions, it might be a mockery of the accepted Holy Week “morta.” That is to say, Judas’ treachery could, in keeping with Pontio’s rules, be declaimed in a Tridentine “morta” style to represent the gravity of his sin; here, his increasingly diminished rhythmic subdivisions instead make light of that underlying gravity. Certainly, this “morta la compositione” and its rhythmic mockery of the serious style both aptly express Judas’ kiss of death and further defame his character.

Nenna’s “Judas Mercator” Settings in Comparison

We may develop our suspicion that Gesualdo was deliberately yet carefully transgressing Tridentine regulations by placing his Judas mercator alongside those by Nenna. It will be recalled that these two madrigalists’ relationship was particularly close, at times emulative, at others competitive, yet a relationship always hard for musicologists to pin down precisely. But, given what we have encountered thus far, one could easily envision Judas mercator as a

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325 For the association between Gesualdo and Nenna, see Watkins, Gesualdo: The Man and His Music, 213. Watkins there focuses exclusively on the concordant madrigals. Building upon this, my intent here is to wade into their sacred music, beginning with Tridentine violations.
“proving grounds” for these two composers to “do their absolute worst” while having to be “on their absolute best behavior.” Like the dispute over the precedence for Gesualdo’s fifth and sixth books of madrigals, we may but wager whose Holy Week Responsories came first: Gesualdo’s (1611) or Nenna’s (à4 in 1607, reprinted in Naples in 1622, and à5 posthumously in Rome in 1622). At a glance, the basic paradigm for Gesualdo’s Judas mercator appears in Nenna’s à4, Example Twenty-Two. Nenna also selected B major as Judas’ chromatic sin. With this D-sharp advanced to the very beginning, he also accented “Ju-DAS” in a manner redolent of d’Avella’s hearing of Gesualdo’s setting. However, Nenna’s subsequent scansions are by and large correct. “Ju-DAS” and “mer-CA-tor” are distinctly pronounced (the high neighbor tone on “ca” lending it some accentuation. “PES-si-mus” is perhaps pardonable; but the B major is sustained throughout, just like Gesualdo’s setting. There is a hint of “pessimusos” in the cantus and, next, an echo of “culo” in the inner parts and bassus. Thereafter, everything is most Tridentine Y++. There is no need to see amorous circles where they are not. Certainly, Nenna was also slightly transgressing a restricted sacred musical style here; but Gesualdo’s worst was far better than this.

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326 Each of Nenna’s Responsories additionally has an editorially added basso continuo part (which Gesualdo’s lacks). This reinforces the organ’s role in the chromaticism (indeed Nenna, like Gesualdo, rarely ventures beyond D-sharp and A-flat in his sacred music). There is no performance indication, however, for the substitution of flats and sharps.
If there was any post-Tridentine challenge between the two composers, Nenna seems to have not made too much of an advance in his à5 Responsories, Example Twenty-Three. The F-sharp major triad in a third relation on “Ju-DAS” is slightly more sinful, as is the blurring of the words “Judas,” “mercator,” and pessimus (but not to such an extreme as Gesualdo). A very Tridentine rest undoes Judas’ “pessimusos,” while reversing the third relation around D major. Here, however, I suspect that Nenna was inviting his singers to sin where it superficially seems
no sin is present. The F-sharps in the altus abruptly come to a stop with the B-flat major triad. The part does not supply a cautionary accidental for the F-natural after the rest. Without rehearsal and forewarning, this runs the risk of having the altos continue with F-sharps and create a B-flat augmented triad. An F-sharp false relation with an unsigned F-natural is moreover found in between the altus and tenor, evincing that Nenna had this sin in mind. If the singers past this test, however, the rest of the setting is clear sailing. Fleeting figurations depict Christ’s innocence and, even if we might be tempted to see a little circularity, it does not remotely approach Gesualdo’s prolonged embraces. Again, Nenna was also slightly transgressing a restricted sacred musical style here and, again, Gesualdo’s worst was far better than this. While the B major (and F-sharp major) triads assuredly exhibit a common underlying Tridentine N practice for these two composers, there is not an equally persuasive exhibition of emulation or competition.

**Example Twenty-Three: Nenna’s *Judas mercator* (à5)**
A Tridentine Note on *Caligaverunt oculi mei*

We will continue prosecuting Judas in Naples later, after we glean more post-Tridentine insight from d’Avella’s successors. Now the second egregious chromatic violation of Tridentine precepts (N++) in Gesualdo’s *Responsoria* must be briefly considered; it occurs in *Caligaverunt oculi mei* and the offending passage is less obvious in meaning than *Judas mercator*. The responsory centers upon the tears we shed in the absence of Christ’s comforting. Here, as an expression of the lack of consolation, Gesualdo chose to set the ensweetened modern tritone on “Qui con-so-la-BA-tur me,” Example Twenty-Four. The E-flat A-flat sonority is accented and sustained substantially more than the one on *Et inclinato capite*. As this is the final responsory of Good Friday and, ostensibly, not as climactic as the final hour in the *Tenebrae*, it is equally as perplexing why Gesualdo marked this moment and d’Avella did not. This curiously chosen moment of Gesualdo’s *Responsoria* must be kept in mind, for we shall later encounter a similar setting of the topic of tears shed during the Passion in Domenico Mazzocchi’s *Lagrime amare.*
Assessing the Ensweetened Modern Tritone in Post-Tridentine Musical Thought: Santoro

If d’Avella’s post-Tridentine discourse and analyses are severely lacking and, perhaps, he even strategically withheld ecclesiastical dissent from his treatise in favor of praising Gesualdo, there are nonetheless three ways I have found to assess the ensweetened modern tritone’s place in post-Tridentine musical thought, from which we may draw contradictory conclusions. The first way is to cast a wider historical theoretical net on the treatises and push into the eighteenth-century. Although d’Avella’s treatise is the only sixteenth- or seventeenth-century treatise yet known that reports that a wolf and related intervals were employed in Neapolitan (if not Italian) sacred and secular music, one of his early eighteenth-century Neapolitan successors reports the practice again and, in contradistinction to d’Avella, severely censures it: Fabio Santoro’s 1715 *Scola di Canto Fermo*.327 Santoro was a clergyman, choir director at the Chiesa di Santa Sofia, and treasurer at the parish of Sant Nicolò, all in the Neapolitan *Terra di Giugliano*. His *Scola*—a treatise as equally unknown today as d’Avella’s—notably bears the stamp (and approval) of Novello de Bonis, “Stampatore Arcivescovale.” Santoro was familiar with d’Avella’s *Regole* and occasionally cites it (but neither Gesualdo nor

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ensweetened modern tritone material); yet he did not recognize the discrepancies and relevance of his predecessor’s observations on out-of-tune intervals in sacred music. The most pertinent passage in Santoro’s treatise occurs in Book II, Dialogue I, in which the student asks the teacher “What are the vices and corruptions in song, and how may they be avoided?”

To answer this question, Santoro details seven “vices and abuses” that the “inexpert” singers “introduced into canto fermo.” Six of the seven are eminently predicable, yet must be worked through for sake of encountering Santoro’s scathing rhetoric, which will only intensify on matters of out-of-tune intervals. First, the singers did not distinguish between long and short syllables, which formed “a new kind of prosody, very displeasing and unpleasant to the ear of the learned.” That is to say, they were still singing like Judas. Second, they sang melismas on vowels I and U when they should generally be on A E O. When a chorus mixed vowels, the canto fermo suffered “un bruttissimo, e disgratiato effetto.” (The reader may note that Gesualdo subsequently set this melismatic effect on “Denariorum numero” in “Judas mercator”). Third, they prolonged the last syllables in words over punctuation marks such that, for example, the “nes” in “adorant Dominationes, tremunt,” created “Dominationes stremunt.” To this we might add they also simply prolonged last syllables in words period, punctuation or not, unless the composer, say, like Nenna, put a Tridentine rest in to prohibit “pessimusos.” The fourth abuse repeats the first, with the specific example that in “lux æterna luceat,” the e of luceat is wrongly sung long. The fifth abuse is that sections of the chorus would begin the next strofe before the previous one was finished, which could have changed “the harmony of the chorus into

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328 Ibid., 115. *Quali sono i vizii, e coruttele nel canto, e come si devono schivare?*
330 Ibid. *Giammai si può sentire se siano lunghe, ò brevi; quindi è, che formano una nuova Prosodia molto dispiacevole, & ingrata all’ orecchio dell’ Intendenti.*
331 Ibid., 116.
332 Ibid.
the discord of a Hebrew Synagogue.” This, not even Gesualdo put into the Church during “Judas mercator.” The sixth vice concerns out-of-tune intervals and is deferred until after the seventh, which is they held some notes too long or too short, which “rendered affective song tedious.”

The sixth vice requires close scrutiny: “No less ought one flee from singing harshly, that is, with that forced impetus that [occurs] many times [when] from diatonicism one passes to chromaticism.” To quell this harsh manner of singing, Santoro warns that “God knows how many times minor thirds become major.” Following this, he gives a specific example that “One ought to emend tepid, sluggish, and inaffective song, as uniquely happens in chanting the first and sixth mode; for the major third, F A, is never heard perfectly.” This major third, according to Santoro, is often sung out-of-tune by accompanied singers, on account of the lack of the “proper union with the organ.” In what follows, Santoro betrays an ignorance of organ temperament and we must untangle his confusion and discern the proper content. Literally, Santoro writes that “the proper union [of the singers] with the organ is sometimes not heard because the major third [F A] is not complete, on account of the lack of the comma [lost] through the weakness of the wind [passing through the A organ pipe], which is disproportionate to the

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333 Ibid. Nel Coro s’osservi l’ordine, & il regolamento dovuto, cioè, che il fine di una strofa non entri nel principio dell’ altra...poiche un simil abuso mutarebbe l’armonia del Coro nello sconcerto della Sinagoga degli’ Ebrei.
334 Ibid., 117. Si vitupera la soverchia fretta, ne s’approva la soverchia lungezza, o stirachiatura con tenere colla voce lungo tempo le note; onde si rende tedioso quel canto cosi [sic] affettato, e stirato con questi due estremi, cum omne extremum sit vitiosum.
335 Ibid., 116. Non meno deve sfuggirsi il cantare aspramente, cioè con quell’ impeto forzato, che molte volte dal Diatonico si passa al Cromatico, e Dio sà quante volte le terze minori divengono maggiori.
336 Ibid., 116-117. Si emendi ancora il canto tepido nella Chiesa, & acciòlso, e senza affetto, come suole accadere nel salmeggiare il primo, e sesto tono, che giarrmai si sente prefettamente la terza maggiore dall’ F in a, quale deve proferirsi potenter, come si dirà al Dial. 3. Resp. 3. Santoro’s reference here sends the reader to his discussion of intervals in the abstract, in which major thirds must be sung strongly. He notably includes in that section the “terza minima” F# G Ab, but, as will be seen here presently, can not provide the correct keyboard rationale for it.
This is confused, indeed. Of course, the major third F A is justly intoned in the common mean-tone temperament (or at least closely so in a turn of the seventeenth-century well-temperament). The pitch A loses a portion of a comma, but not through the quantity of wind pressure through the pipe, rather the pipe’s measurement—and, more importantly, does not lose any noticeable commatic value with respect to F. What then is Santoro trying to say? Why does the F A major third gradually turn minor, and why was that so offensive? Moreover, why is this vice specifically associated with the first and sixth modes? The last of these questions, I can not pretend to venture an answer to, for D authentic Dorian and F plagal Lydian have never, so far as I am aware, been charged with going out-of-tune (nevertheless their fifth and third scale degrees, respectively). Unfortunately, Santoro did not provide specific examples of this problematic major third F A in practice beyond his brief modal references. For the first questions, my position is that Santoro was hearing the mean-tonal major third F A turn into the minor third F A-flat, where A-flat lacks (what has been called) a comma and is tuned as G-sharp. Note, however, that this fails to explain why Santoro thought A was more proximate to A-flat and could therefore easily become minor above F.338 Like d’Avella, Santoro was no empiricist.

This A F major third ensweetened into an A-flat F minor third, according to d’Avella, made Gesualdo’s Tenebrae “admirable” and the Neapolitan performers characterized it as “affective.” Santoro would certainly beg to differ. His affective description of the transition from F A to F A-flat is morbid and unforgiving of the singers; he even accompanies his

337 Ibid. Quindi è, che alcune volte non si sente la dovuta unione coll’ organo, perche la terza maggiore non è integra per mancanza di qualche Comma per la debolezza del fiato, che non è proporzionato alla formazione di essa terza maggiore, e pian piano nel cantare diviene minore. Note the syntactical incongruence of “qualche Comma,” in which “qualche” should project “Comme.”

338 Although one might make a diagram showing what Santoro wrote versus what I think he heard, an aural example would be more effective here.
metaphorical description with a moral tale from history: “The venom of a viper gives death, yet does not bring pain; hence, as Galen testifies, the Alexandrians used such pity upon that king, who, for a lesser crime was granted a lesser punishment by giving him death through the bite of a viper, which succeeded almost imperceptibly.” For Santoro, the F A major thirds likewise almost “imperceptibly” became F A-flat minor thirds at times; this was the “venom that had entered into song, which suffered a wretched effect.”

How curious that not one of the two-dozen theorists in Gesualdo’s Naples wrote a similar criticism of mean-tonal f minor.

Santoro’s venomous metaphor for F major and f minor is, in fact, taken directly out of the writings of the renowned preacher Paolo Segneri (1624-1694)—without acknowledgement. This is precisely the musical theoretical borrowing of sacred rhetoric and oratory that has thus far been found to be lacking in d’Avella’s Regole. So far as I have found in a preliminary survey, this is the only place in his treatise that Santoro borrows from another preacher; as such, it marks this particular vice above all others. More specifically, Santoro has taken this passage from Segneri’s 1672 Il Confessore Istruito. Segneri originally used the viper venom metaphor for one particular instruction: Sins that are not necessarily felt but are still no less harmful than any others must not be omitted from confession.

Although Segneri draws upon Galen’s history of

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339 Ibid. Il veleno dell’ aspide dà morte, e pure non reca dolore; onde gl’ Alessandrini usavano tal pietà à quel reo, che per minor delitto meritavasi minor pena di darli la morte col morso d’un aspide, quale riusciva quasi insensibile, come attesta Galeno; Cossi ancora insensibilmente tal volta le terze maggiori divengono minori, & ecco il veleno internato nel Canto, che parturisce disgratiato effetto. Santoro of course keeps this musical venom at a distance in his treatise from his praise of music’s well-known power to cure the venom of tarantulas (198).

340 Paolo Segneri, Il Confessore Istruito (In Venezia, ed. in Bassano: Remondini, 1672), 78. A complete reading of this text and the role of venom in Segneri’s works is beyond the scope of this study. For now, it must suffice to make the connection and establish the interface between musical theoretical discourse and sacred rhetoric. Here, for sake of comparison to Santoro, is the passage in its original context (Santoro merely paraphrased it by moving Galen to the end of the sentence): Quello contuttociò, che vi riuscirà di gran lunga più malagevole, sarà si il conoscere, si il curare, un’ altro letargo universalissimo, ed è sopra que’ peccati, che diconsi di Ommissione. Il veleno dell’ Aspide è un veleno: che dà morte, e pur non reca dolore: onde per testimonianza di Galeno, gli Alessandrini à quel Reo, che per minor delitto meritavasi minor
the Alexandrians, other preachers, such as Raffaello delle Colombe, would use a similar historical account by Saint Bernard about Queen Cleopatra’s viper to warn congregations against over self-confidence. For Colombe, Cleopatra over-confidently kept a viper in her bosom to bite enemies and she too actively experimented to find the least painful way to die—whence her apparent suicide. 341 To be sure, Santoro’s contemporary readers and listeners would have been very familiar with the concept that viper poison slowly kills without causing pain and recognized his musical invocation of it.

I suspect that the church’s polemics against venom and its musical manifestations were known to both d’Avella and Gesualdo, and that it is only happenstance that Santoro did not explicitly trace the influx of out-of-tune instrumental venom into plainchant beyond organs into secular musical genres. But the secular Neapolitan madrigal repertoire, although of a distant past with respect to Santoro’s times, is filled with venom and its influx into Gesualdo’s Responsoria is analytically demonstrable, if as yet historically unattested to. 342 Ardita zanzaretta (VI, 13) is certainly the most poisonous. As a pestering mosquito is squashed by the beloved, the poet identifies with it and tries to bite her too, so that he might also die squashed with the taste of the “sweet venom” of her breasts in his mouth:

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342 So far as I have found in a preliminary survey, the only theorist in the sixteenth and seventeenth centuries who cited a venomous madrigal was Kircher (taken from Kaspberger). This, however, was for parallel fifths and the example did not make use of out-of-tune chromatic intervals (642). As we shall see in Chapter Four of this study that Kircher was familiar with the out-of-tune madrigal practice, he of all theorists could have, in principle, made the connection between secular chromatic venom and ecclesiastical literature. However, he only wrote about the tarantulas’ venom.
Repeating “dolce veleno” four times and staggering the parts’ entrances, Gesualdo prolongs the lethal dose of chromatic venom, Example Twenty-Five. The first two iterations (mm. 46-49) are all in tune triads, at first waywardly passing through d, D, E-flat, and G triads, yet with an unspoken agenda of setting up a C major dominant seventh chord (m. 49). From there, it is only a matter of time until f minor will seep in. Gesualdo delays it with a 4-3 suspension in the tenor (m. 50) and then limits the first dose to a mere passing note. This brief comma deficient A-flat might even, in keeping with Santoro’s description, be insensible. But how quickly after that the venom turns fatal, as Gesualdo injects a multiply comma deficient G-flat major triad, sustaining the alto’s C into it. From here, it is only a matter of maintaining the ensweetened venom’s potency with out-of-tune b-flat and D-flat major triads. One could hardly imagine a better secular complement to Santoro’s plainchant vice.\footnote{Santoro notably did not proceed beyond F major and f minor to include the B-flat major and b-flat minor related sonorities found in this Gesualdo excerpt (and even more remote out-of-tune triads, for that matter) in his description of this venomous vice. One reason for this is that he is writing about plainchant, which would not necessarily require a discussion of the transposed and ficta modes that, like the vera F Lydian, might run the risk of going out-of-tune. However, I maintain that one may extrapolate from his discussion to include all substitutions of out-of-tune mean-tone thirds for in-tune thirds under the rubric of “venomous.”}
Although d’Avella himself did not make the diagnosis, he and the Neapolitan public got a little taste of the venom of Gesualdo’s secular madrigals. Of course, one could, following Santoro, call the *Et inclinato capite*’s A ensweetened into A-flat venom, as it is supported by F below (see Example Eight); this does not seem to match the text, however. Perhaps a better example is the Maundy Thursday Responsory, *Ecce vidimus*. As seen below, the Latin text, perhaps coincidentally (if not conveniently for the discussion at hand), includes the word “*livor,*”
meaning “wound” or “bruise.” Yet “livor” also became a loanword in Italian, “livore,” which came to acquire the meaning of the “malice,” “acrimony,” and “venom” that cause wounds.

| Ecce vidimus eum non habentem speciem, neque decorem: aspectus ejus in eo non est: hic peccata nostra portavit, et pro nobis dolet: ipse autem vulneratus est propter iniquitates nostras: Cuius livore sanati sumus. | Behold we shall see him having neither form nor comeliness: There is no beauty in him. This is he who has borne our sins and suffered for us. He was bruised for our iniquities, and with his stripes we are healed. Truly he has borne our griefs and carried our sorrows. And with his stripes we are healed. |

This etymological link may well not have crossed Gesualdo’s mind when he set this passage, seen in Example Twenty-Six, but the musical connection is certainly there. To affectively express the wounds of Christ, Gesualdo, in fact, here introduces the first ensweetened modern tritone of the Responsoria. The last of the repeated D-naturals in the quinto (mm. 43-44) formed a modern tritone with the ever fleeting G-sharp in the alto’s melismatic embellishment of “livore.” Gesualdo ensweetened the quinto’s D in the second way with a D-sharp. Sung with the organ’s tuned E-flat, this ensweetened D-sharp also gradually turned the D-natural F-sharp major third between the quinto and alto into comma deficient minor third, E-flat F-sharp. Again, Gesualdo’s Neapolitan musicians may have considered these “tritones, ensweetenings, and affections.” But, for Santoro, these are the very definition of musical “venom,” no matter how much this passage truly pales in comparison to Gesualdo’s secular injections. As the text subsequently juxtaposes “livore” with “sanati,” Gesualdo expectedly withholds the tuning “affections” and imitates our healthy livelihood with quotidian diatonicism and figurations.

344 Witness here the glaring discrepancy between the apparently universally applied term “ensweetening” and the various texts the “ensweetened” modern tritone expresses. The discrepancy is all the more glaring if, as one might suspect, the term is taken from commonplace ecclesiastical musical theoretical discourse on tritones. Surely, this is a “poisonous” modern tritone that may well still have been called “ensweetened.”
Although this is the most literal injection of chromatic venom and its diatonic treatment in Gesualdo’s *Responsoria*, another notable infusion of the secular venom into it occurs in *Judas mercator* (see Example Ten).  

Here, in addition to all of the other Tridentine and contrapuntal sins we uncovered, Judas kisses [*osculo*] Christ with a D-sharp filled with the very same venom found in Marinist *bacio* madrigals such as Gesualdo’s *Quel “no” crudel* (VI/16), in which the poet’s “thousand kisses from his avengeful mouth” leave his reluctant lady “lying like a wounded snake amongst a field of flowers.” Perhaps the most remarkable venomous *bacio* example is LaCordia’s *Misero me* (III/6), in which the poet dies from the kiss of his lover’s “poisoned arrow-tongue,” Example Twenty-Seven. Here, the venom does not slowly seep in; rather, the tip of the arrowhead stings immediately. The lover’s tongue literally bites on the first kiss with a D-sharp G-sharp ensweetened modern tritone placed by LaCordia on the “c” of *bacio* (m. 20). Curiously, Gesualdo deliberately withheld this potent brand of venom from *Judas mercator* and the preceding responsory, *Amicus meus osculi me tradidit* (“My friend betrayed me

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345 References to the venom and “finta” in Judas’ kiss are innumerable; but finding a contemporary reference that equates this kiss with *musica ficta* and chromatic venom in madrigals is a long shot.

346 The score for this madrigal is not provided here; the B major venom (rather tame for Book VI) occurs in m. 19.

347 Kotok, 82. *Misero me son morto,/ Perchê mentr’io ti bacio,/ M’è la tua lingua stral,/ veleno il bacio.*
by a kiss...[by which] he accomplished murder”). This again indicates a restricted sacred musical style—even where sacred and secular poetic topics overlap the most.  

Example Twenty-Seven: LaCorcia’s Misero me

Beyond venom, further interfaces among music treatises, madrigals, ecclesiastical discourses, and sacred music will no doubt be found. But to be sure, these venomous kisses and their reptilian origins in particular could have been the Church’s primary targets in Gesualdo’s sacred and secular chromatic music. Indeed, the renowned proclamation of the Council of Trent’s twenty-second session (of 1562), as cited by Cerone but two years after Gesualdo’s Responsoria, now seems to have completely failed in Naples: “Bishops ought to ward off from churches those kinds of music, whether instrumental or vocal, that are mixed with

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348 I do not reprint the score here, but the musical blandness of Gesualdo’s setting of “homicide” (mm. 27-29) is, in particular, as far removed from the madrigals as can be.

349 Another overlap, albeit with contrasting chromaticism, would be the “earthquake:” Compare Luzzaschi’s (et al.’s) setting of “Quivi sospiri” (and Newcomb’s reading of it in light of the 1570 earthquake in Ferrara) and the second responsory of Good Friday (Et omnis terra tremuit), which Gesualdo text-paints with obvious neighbor-tone figures and no out-of-tune sonorities. See Anthony Newcomb, “Luzzaschi’s Setting of Dante: ‘Quivi Sospiri, Pianti, ed Alti Guai,” Early Music History 28 (2009): 97-138.

350 I am especially looking for a motet or sermon by a preacher-composer on Psalm 139:4 (“They have sharpened their tongues like a serpent: the venom of saps [venenum aspidum] is under their lips”). Cerone notably invokes this verse in his chapter on musical judgment and censorship (140). Unfortunately, Cerone censured the mean-tonal practice and does not appear to have been versed in venomous madrigals to have made the connection.
anything lascivious or impure, as well as all secular behaviors, vain and extremely profane
conversing, in order that the house of God might be truly seen and called a house of prayer.”351
Likewise, Cerone’s treatise now seems wholly anachronistic and d’Avella’s, institutionally
underdeveloped (and dismayingly so).

Assessing the Ensweetened Modern Tritone in Post-Tridentine Musical Thought: Palestrina

The second way to assess the ensweetened modern tritone’s place in Counter
Reformation musical thought is to look for A-flats and their text-setting applications in the works
of Vincenzo Ruffo and Palestrina—a Milanese and Roman repertoire that may have been
entirely foreign to d’Avella (if his citations are any indication). In my survey, I found that, as
one might expect, Ruffo never notated a single A-flat (or any accidental beyond E-flat and G-
sharp) in his masses or secular madrigals—an implication that the ensweetened modern tritone
was prohibited in post-Tridentine music, even if not directly stated in ecclesiastical discourse.352
One would expect the same results from a survey of the notated accidentals in Palestrina’s
oeuvre; however, this expectation ultimately proves false. One sole notated A-flat may in fact be
found in Palestrina’s music. Surprisingly, it appears in his first book of spiritual madrigals
(1581), which, on account of its overt modal ordering, has long been recognized as
representative of Tridentine ideals.353 Beginning the book with eight stanzas from Petrarch’s
canzone “Vergine bella,” Palestrina ascends through the eight church mode system, untransposed

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351 Cerone, 196. Episcopi ab ecclesiis vero musicas eas, ubi sive organo, sive cantu lascivum aut impurum aliquid
miscetur, item saeculares omnes actiones, vana atque adeo profana colloquia, arceant ut domus Dei verè
domus orationis esse videatur ac dici possit.

352 For Ruffo’s prominent musical role in the Council of Trent, see Lewis Lockwood’s The Counter-Reformation and
survives from Ruffo’s Li soavissimi responsorii della Settimana Santa (Milan, 1586).

353 The Nanino brothers’ treatise, previously discussed for its confusion on tuning and omission of the
ensweetened modern tritone, notably has a twelve mode system with transpositions up to two flats and
two sharps, again stopping short of the modern modality (44v-56r).
from D to G. Palestrina’s subsequent maintenance of the final G on each of Leonardo
Giustiniani’s ten stanza “Spirito Santo, Amore” has, perhaps understandably, not received
comparable discussion. However, in the seventh stanza, “Amor, senza il tuo dono” (the fifteenth
madrigal in the book), Palestrina introduces the E-flat A-flat ensweetened modern tritone into the
church modal framework. Here, the poet implores the Holy Spirit for the gift of His love, for,
without it, the soul of man succumbs to the pangs of original sin:

<table>
<thead>
<tr>
<th>Amor, senza il tuo dono</th>
<th>Love, without your gift</th>
</tr>
</thead>
<tbody>
<tr>
<td>indarno m’affatico!</td>
<td>in vain do I struggle on!</td>
</tr>
<tr>
<td>Tu sai, che infermo sono</td>
<td>You know that I am infirm</td>
</tr>
<tr>
<td>per lo peccato antico;</td>
<td>from original sin;</td>
</tr>
<tr>
<td>famelico e mendico</td>
<td>ravenous and mendicant</td>
</tr>
<tr>
<td>pien di miseria e male;</td>
<td>full of misery and evil;</td>
</tr>
<tr>
<td>e l’anima carnale</td>
<td>and the body’s soul</td>
</tr>
<tr>
<td>senza l’aiuto tuo vivendo, more.</td>
<td>without your living help, dies.</td>
</tr>
</tbody>
</table>

In keeping with the eight church mode framework, Palestrina’s setting is in D Dorian
transposed (as most common) to G, with E-flat enweetenings and C-sharp inflections of the
dominant. The cadences are, at first, regular, yet certainly expressive of the text: Palestrina
places a Phrygian cadence on D on “gift,” using extra-modal E-flats perhaps to highlight the
hypothetical absence of the gift of love. Palestrina then repeats the second line, first cadencing
on the final G and, in an indication of vainly continuing on, then cadences on the dominant D.
The infirmity of the third line is expressed by the conflict of E-flats and E-naturals en route to a
cadence on the final G. One might expect a “sinning” cadence on a wrong degree in the next
line; however, Palestrina chose to remain on the final G. Only when the poet turns to the
attributes of “original sin,” does Palestrina introduce sinning chromatic sonorities and false

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cadences. What a terrific opportunity to compare Gesualdo’s and Judas’ “worst” sins with Palestrina’s and mankind’s “original” sins! As seen in Example Twenty-Eight, Palestrina first sins by transgressing the poem’s punctuation, “filling” the fifth line, “ravenous and mendicant,” with “misery and evil.” The quint and bass part begin the sixth line prematurely, distorting the word “mendico” with “pien” and halting the fifth line’s syllabic and comprehensible (and Tridentine) declamation. Incidentally, recall that this disobedience of punctuation marks, such that, in this instance, the listener hears “menpien,” “mendipien,” and so forth was one of Santoro’s “vices.” The singers’ pronunciation at first remains sinful in the sixth line, as the tenor is one syllable behind the other voices on “pien di miseria.” However, Palestrina strategically corrects him so that the extraordinarily sinful chromaticism on “male” would be exclaimed without distortion. Arriving on an E-flat major triad on “miseria,” Palestrina next transgresses onto “male” with an A-flat major triad on the accented syllable “ma.” This accentuation is significant, for it was postulated above that Gesualdo deliberately placed A-flat on a unaccented syllable to minimize his transgression of Tridentine ideals. Palestrina sustains the A-flat for a full breve, yet dares not cadence on it to conclude the couplet. That would be too great of a musical sin; instead, he cadences on a less sinful E-flat major triad on the “le” of “male.” One can not say with absolute certainty that Palestrina, like the Neapolitans, considered his compositional process to be “ensweetening” the tritone between an E-flat major triad and an A diminished triad. No Roman treatise currently known, notably those of Danckerts and the Nanino brothers, details or censors this sonority. Nevertheless, the ensweetened modern tritone is an obvious choice to represent “evil” and mankind’s original sin; yet, precisely why Palestrina made the choice to employ this interval at this moment—and only this moment—in his entire and vast sacred music oeuvre, is not as readily understood as Gesualdo’s choice to employ it on
the *Et inclinato capite* climax of the *Tenebrae*. As the ensweetened modern tritone will be found to express the final “*morte*” (literally and figuratively) at the conclusions of Gesualdo’s chromatic madrigals, one might also expect Palestrina to here employ it on the final couplet. However, he does not repeat the A-flat, instead juxtaposing lively figurations against sustained chords in a most generic madrigalistic manner. Following the sinful cadence on E-flat major, Palestrina then repents, save for one not all too transgressing cadence on A on the first of two iterations of the final couplet. The madrigal concludes on the final G. From this analysis of *Amor, senza il tuo dono*, one may conclude that Gesualdo’s *Et inclinato capite* ensweetened modern tritone not only has a precedent in Palestrina’s music (albeit in a less public work than music for Holy Week), but also in a book of spiritual madrigals deliberately conceived according to the “dogma” of the church modes. It seems that in Palestrina’s post-Tridentine Rome, the use of the ensweetened modern tritone was extremely restricted, but not necessarily censored. This is of extraordinary importance, for d’Avella (and the “public defender” we shall meet presently) could have invoked Palestrina’s authority to sanction Gesualdo’s ensweetened modern tritone; but, apparently, even Palestrina’s spiritual madrigals were out of d’Avella’s reach.\footnote{Among countless renaissance texts, I will here cite only Cerone for the authoritative position of Palestrina, Naples included (90). Among the many modern studies of Palestrina’s modal technique, I will here only cite the Lasso scholar James Erb’s copy of Siegfried Hermelink’s extraordinarily influential *Dispositiones Modorum: Die Tonarten in der Musik Palestrinas und seiner Zeitgenossen* (Tutzing: Hans Schneider, 1960). About Hermelink’s list of triads in the Dorian mode, Erb writes: “Another possibility, which H. seems to have ignored: the triads noted at * [d, D, e, E, F, g, G, a, A, B, C] contain only tones of the mean-tone tuning system, suggesting organ accompaniment was at least possible” (112).}
Example Twenty-Eight: Palestrina’s Amor, senza il tuo dono

Assessing the Ensweetened Modern Tritone in Post-Tridentine Musical Thought: Cerone

The third way to assess the ensweetened modern tritone’s place in post-Tridentine musical thought is to focus less on the ensweetened tritone’s specific sonority and instead focus on the role of musical modernisms. Now we are not so concerned with the ensweetened modern tritone’s sonorous proportions in sacred music—only its modernity. D’Avella’s sheer selection of the term “modern” to describe this interval could find post-Tridentine adversaries (just as, say, Artusi’s vehement rejection of the mere possibility of modernisms could find post-Tridentine supporters—a provocative, but as yet unconfirmed, thought). First and foremost among d’Avella’s Neapolitan musical theoretical and ordained peers would be Cerone, who, in the fifth chapter of first book of his Melopeo, “How and in what way one may compose new works,” railed against those “idiots” who did not know Ecclesiastes 1:9—“Nothing under the sun is new, neither is any man able to say: Behold this is new: for it hath already gone before in the ages that were before us”—and who “each day wrote and composed nothing; for it had already been

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356 Cerone, 12. Como y de que manera se pueden componer obras nuevas.
written and said by the ancients."\(^\text{357}\) Recognizing then that he had to rehearse and speak to practically all of the biblical verses on praising God with new music, Cerone next takes a roundabout aesthetic turn: We may indeed compose new music, as we read about the ancients (and the Israelites in particular), but it is through the same material parts as theirs, united in however a new manner:\(^\text{358}\) "In the same manner that the children of Israel composed new songs and works never before sung, we too may compose new music, invent new things, and write new books; and this is with respect to the union or composition of all the parts contained in the book recently joined and formed, which are most ancient, and not with respect to the unusual disjunction of the parts.\(^\text{359}\) Reiterating the antiquity of the parts and their capability to unite into new works, Cerone then stubbornly maintained that musicians, like the orators who write millions of orations with twenty-two letters, can compose all the new music desirable with the seven intervals and the six solfege syllables.\(^\text{360}\) Later in Book One, following his citations of the Council of Trent, Cerone reiterates that there are not so many new things in the music of his time that did not already exist in the preceding generation.\(^\text{361}\) From this perspective, the ensweetened

\(^{357}\) Ibid. *Una Arte nueva de Musica; y es que siempre sale con aquel dicho del Ecclesiaste*, Nihil sub Sole novum, nec valet quicquam dicere; Ecce hoc recens est: iam enim præcessit in sæculis, quæ fuerunt ante nos...Con esta authoridad tan verdadera, quieren dar à entender à los idiotas, que todo lo que giromanmente se escrive y compone, es nada: pues ya ha sido escrito y dicho de los antiguos.

\(^{358}\) Ibid., 14. I cite, for point of demonstration, only Cerone’s last biblical invocation of new music in this chapter: *Finalmente mirad todo el discurso de la sagrada Escriptura, y vereys que todas las vezes que los hijos de Irrael recebian algunas particulares mercedes de Dios, componian nuevas canciones, y alabanzas nunca cantadas.*

\(^{359}\) Ibid. *De la misma manera pues, que los hijos de Irrael componian cantares y obras nuevas y nunca cantadas, nosotros tambien podemos componer Musica nueva, inventar cosas nuevas, y formar libros nuevos: y esto respeto a la union ó composicion de todas las partes contenidas en el libro rezienjuntaado y formado (como dixe) y no respecto à la disjuncion de las partes en singularidad, que son antiguissimas.*

\(^{360}\) Ibid. *Assi como para componer y formar mil y millares de Oraciones por largas que sean, son suficientes y bastantes el numero de 22 letras, y siempre vemos que queda la mesma cantidad para poder formar y componer otras: assi tambien con 6 notas, y con 7 intervalos musicales, se pueden formar quantas musicas se quisieren...*

\(^{361}\) Ibid., 198. *Por cierto grandes son los primores que se usan oynenda en la Musica, en lo que es arte: pero no son tantos in tan nuevas que no ayan sido usados de los Musicos nuestros predecessores. Los que oyeron y vieron la Musica de ahora diez à doze anos; dizen que nunca estuvo tan subida la Musica, como en nuestro*
modern tritone would have to be justified by d’Avella through the antiquity of the tritone, the fourth, the newly arranged syllables, and their applications by Willaert and others.

The Neapolitan Gesualdo Controversy: The Publica Forma

Although d’Avella was mute in on any controversy between Gesualdo and the post-Tridentine Church, the Neapolitan Gesualdo controversy then erupts in the Regole as he next cites the ensweetened modern tritone in the secular repertoire.\textsuperscript{362} He does not give a lengthy list of examples taken from Neapolitan madrigals, as he did in Chapter 38 for the ensweetened ancient tritones. Instead, he first mentions in brief that Giovanni Domenico Montella, “among other knowledgeable musicians, used [the ensweetened modern tritone] in his villanellas with much grace.”\textsuperscript{363} D’Avella then quickly moves on to another time he heard the ensweetened modern tritone in performance (perhaps his second and only other hearing). At this event, the “secret” of Gesualdo’s chromatic art, the ensweetened modern tritone, went public.\textsuperscript{364} D’Avella’s recounting of this event, which fills out the remainder of Chapter 39, is staggering, yet again tantalizingly brief. He reports that “Simon Crescentio, called Simoncino, a great performer of the arch-lute, composed in his second book of villanellas that sweet harmony, Tù...
parti ohimè, in order to give a publica forma to everybody concerning the possible use of said b on A, D, E (and wherever is necessary), so that in the future they might not fear that which is not consonant.”

We now meet a Neapolitan musician destined to rank among the most mysterious figures in the history of music: Who was Simon Crescentio? Of all the musicians affiliated with Gesualdo—was he indeed affiliated with Gesualdo?—why did he give this publica forma (and not, say, the theoretically adept Stella, Trabaci, and Maione)? Unfortunately, d’Avella’s Regole contains the only information on Crescentio that has yet come down to us. The other Neapolitan theorists and madrigalists do not mention Crescentio and his publica forma. Most conspicuously, Giovanni Battista Olifante—who published his Porta Aurea just five years after Gesualdo’s Responsoria in 1616 by the same printer (Carlino), who also composed villanellas (Carlino and Vitale, 1607), and who even contributed to Rodio’s 1609 Regole—made no mention of Gesualdo’s Tenebrae nor Crescentio’s publica forma villanella. Crescentio’s name does not appear listed in Cerreto’s register of Neapolitan musicians, nor has he surfaced in Dinko Fabris’ archival studies of seventeenth-century Neapolitan lutenists. What’s worse, Crescentio’s books of villanellas are (like many others in its genre) lost. Without these books, their prefaces, and dedications (who might the patron of the second book have been?), many historical details of this publica forma must, for now, remain speculative.

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365 Ibid. Però Simon Crescentio, detto il Simoncino gran Sonatore d’Arcileuto, per dare una publica forma à tutti di potere usare detto b & in a & in D & in E e dove sia bisogno, acciò non temino per l’avvenire, che non consoni; fece nel 2 lib. delle sue Villanelle quell’armonica, e soave, Tu parti ohimè &c.

366 I have not yet seen the 1641 third (and enlarged) edition of Olifante’s Porta Aurea. So far as I am aware, no copies of the second edition survive.

367 Cerreto, Della Pratica, 154.

368 If one were to hazard a guess, perhaps Simon was related to Orazio Crescenti (d. 1617), a Neapolitan singer employed in the Sistine Chapel. See Dinko Fabris, Mecenati e Musici: Documenti sul Patronato Artistico dei Bentivoglio di Ferrara nell’Epoca di Monteverdi (1585-1645) (Lucca: Libreria Musicale Italiana, 1999): 214.
Crescentio’s *publica forma* is one among very few secular works written by the Neapolitan madrigalists specifically for public performance (and ostensibly the only work with an argumentative intent). The precise meaning behind *publica forma*, however, is not clear from d’Avella’s treatise (and therefore the term is best left untranslated). It is furthermore not clear from d’Avella’s prose if a) Crescentio called his villanella a *publica forma*, or b) d’Avella applied this term to Crescentio’s villanella, or c) the Neapolitan public solicited the *publica forma*. Some speculations as to what this term means, however, may be in order. *Publica forma* most commonly referred to an official notarized document. But if this is the case, then who required such officiality for chromatic music and who notarized the villanella? Was Crescentio’s villanella notarized by Gesualdo himself, one on behalf of the collective of Neapolitan chromatic madrigalists, or an outside official? Less provocatively, *publica forma* could simply refer to a public demonstration in which Crescentio’s villanella represented the ensweetened modern tritone in practice. *Publica forma* could additionally entail a published didactic document; but, at present, there is no record of Crescentio’s second book of villanellas being published or owned.

Who, then, was the public audience for Crescentio’s *publica forma*? According to d’Avella, it was simply “tutti.” As the *publica forma* has a secular text, one presumes that the public was not made up primarily of church officials. If the public consisted primarily of lay listeners and musicians, then the other Neapolitan theorists either did not attend the *publica* form. 

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369 Larson 540. Additionally, the dedication of Montella’s third book of 1602 observes that the principal object of all the sciences is “*la comune, e publica utilità*” (this idea also appears in Francesco Sorrentino’s preface to Cerreto’s treatise—however, that treatise makes no claim to publicize Gesualdo’s techniques). Romano Micheli wrote a text, *Virtuoso, et publico invito, che si fà alli ... musici di questa città di Napoli* (Naples, 1636), a copy of which I have not yet located.

370 A precedent for the notarization of chromatic and enharmonic music is found in Ghiselin Danckert’s *Trattato sopra una differentia musicale*, Rome, Biblioteca Vallicelliana, MS R.56, f. 352r.
forma or, most likely, they did not approve of the practice and did not discuss it in their treatises. As will be seen presently, d’Avella reports that the publica forma was censured by the “ignoranti.” He maintained a scholarly etiquette by not naming anyone in particular among the dissenting public.

Where and when in Naples did this publica forma take place, if indeed it was performed in public? How was this publica forma publicized? Only the recovery of Crescentio’s second book of villanellas and any documents pertaining to its performance and reception could answer these questions.

What provoked this publica forma? According to d’Avella, Crescentio gave a publica forma of the ensweetened modern tritone and the chromatic accidentals so that everyone “might not fear in the future that which is not consonant.” There are two possible causes for the publica forma: First, Crescentio composed this villanella in response to another (unknown) public performance of the Neapolitan madrigalists’ music, which led the public to “fear” and disapprove of these dissonant sonorities. Second—and most provocatively—the cited performance of Gesualdo’s Tenebrae led the public to “fear” and disapprove of these dissonant sonorities. The public’s fear would be assuaged by the publica forma (and, in turn, d’Avella’s treatise). In the order of musical citations in d’Avella’s chapter, Crescentio’s villanellas appear after Gesualdo’s Responsoria. However, the chapter’s musical citations are not necessarily in chronological order, as the Montella villanellas printed in 1602–1606 predate the

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371 Clearly, Crescentio’s second book of villanellas was most probably not printed for wide distribution, preservation purposes, and library collections as Molinaro’s 1613 Partitura and, ostensibly, d’Avella’s Regole. Witness, for instance, that Crescentio was not included on the lengthy list of Neapolitan musicians and music prints on a 1632 letter of Heinrich Schutz (not in Schutz’s own hand, however), which remains the most detailed indication of the transmission of Neapolitan madrigals (Larson 912).

372 Note that the ensweetened modern tritone was perceived, in d’Avella’s literal wording, as “non-consonant.” However, his theory of consonance and dissonance, it will be recalled, found the interval consonant.
1611 printing of Gesualdo’s *Responsoria*. D’Avella’s use of the past historic tense [fece], at the very least, places the *publica forma* in the same time period. A direct line of causality between Gesualdo’s *Tenebrae* and Crescentio’s *publica forma*, no matter how plausible, must remain tentatively proposed. If indeed they were linked, the question arises: Why demonstrate a Holy Week *Responsoria* with a comparatively meager villanella? This would be incredibly problematic in post-Tridentine terms, for, as Cerone writes at the outset of his chapter on the Council of Trent: “The apostle does not send a message to the Christians to sing Vilancicos.”

D’Avella’s identification of Crescentio as a “great performer of the arch-lute” is most significant, for Gesualdo, as is well-known, is also reputed to have been a highly skilled lutenist. On the basis of this biographical information, some might seek an organological explanation for Gesualdo’s chromaticism and propose his late madrigals were conceived in twelve-tone equal-temperament, since, according to Vicentino, Zarlino, Galilei, and many others, this temperament was commonly fretted on the lute in the sixteenth- and seventeenth-centuries. Such a theory now stands in conflict with the Neapolitan sources, as do theories based on chromatic and enharmonic keyboards. As the reader gathers from d’Avella, Crescentio demonstrated the ensweetened modern tritone and likely accompanied his villanella on the arch-lute, the A-flat fretted as G-sharp. He did not wheel-out an *arcicembalo* at the *publica forma*.

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373 Cerone, 196. *No envía el Apostol à los Christianos à cantar Vilancicos*. Neapolitan villanellas and Spanish vilancicos are not entirely equivalent genres; but the general point stands. Cerone continues with a heated (but unfortunately too commonplace for the issue at hand) discussion on the castigation that one should incur for mixing these genres (198-199).

374 Vicentino, 443.

375 Sieman Terpstra, “The Extended Meantone Style of Gesualdo” (unpublished paper).
A Theoretical Concordance to the Lute Used in the *Publica Forma*

An extraordinarily significant (yet hitherto under-appreciated) concordance to this instrumental portion of d’Avella’s treatise exists in one other contemporary Neapolitan source: Fabio Colonna’s 1618-1622 *La sambuca lincea*, as annotated by Scipione Stella. This singular document, as is commonly rehearsed in the Gesualdo literature, contains a most polemical debate between a musician in Gesualdo’s employment (and the editor of Gesualdo’s first two books of madrigals), Stella, and a Neapolitan natural scientist outside the Gesualdo circle, Colonna, over the original recreation of a neo-Vicentinian keyboard. The “Stella-Colonna Controversy” does not figure in Crescentio’s *publica forma*, as it presumably post-dates it by several years and d’Avella evidently did not subsequently read Colonna’s treatise. Curiously, the *publica forma* does not figure in the Stella-Colonna Controversy, whose publication was certainly more widely disseminated. Stella’s annotations have been edited and analyzed by Barbieri. The concordance to d’Avella and Crescentio occurs at the outset of Book I of *La sambuca lincea*. Here, as seen below, Colonna asserts that lutes are fretted in equal-temperament. He claims, in particular, that the lute has the major thirds above F-sharp and B-natural (A-sharp and D-sharp), which are not found on the common keyboard. Stella, however, denies this assertion and reports that lutenists actually use B-flat and E-flat to form these major thirds, which are “inexact.” Colonna does not go on to say that the lute has the major third below C (A-flat), to which Stella would have likewise responded that lutenists use G-sharp, which is inexact. As Barbieri rightly glosses in the brackets at the end of Stella’s annotation, this indicates that the Neapolitan lutenists commonly fretted their instruments in a (non-extended) mean-tone temperament (Pythagorean tuning, as enumerated by d’Avella, is doubtful). Stella, being theoretically

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376 Barbieri, *La Sambuca Lincea*, LII. This passage alone should have flagged that Gesualdo’s A-sharps might be B-flats, and so forth.
inclined, recognized the inexactness of these mean-tone intervals and, by extension, that their pitch letter names (and staff notations) were acoustically false. He did not say why the Neapolitan lutenists fretted their instruments in this temperament (presumably for the justly intoned thirds); nor did he say that they prized these “inexact” intervals (especially the most “inexact” fourth, E-flat A-flat) for moving the affections. One can only wonder if such practitioners as Crescentio, Gesualdo, and other Neapolitan lutenists and madrigalists also knew these theoretical details in some fashion, beyond considering the “inexact” pitches “tritones,” “ensweetenings,” and “affections.”

To be sure, this annotation alone should have raised doubts about the equal, extended just-intonation, or extended mean-tone temperament of Gesualdo’s arch-lute and madrigals (if instrumentally conceived). Taken together, the writings of Stella and d’Avella firmly answer Martin Kirnbauer’s apt question, based upon the (now specious) theories of Doni: “How might Gesualdo’s chromatic madrigals be sounded [on string instruments]?”

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Among Neapolitan-Sicilian practitioners, only d’India in his Strana Armonia d’Amore notates G-sharp against E-flat. This response to Marino’s poetry is noteworthy in light of the present correlations of Gesualdo’s Tenebrae with Marino’s La musica. On this madrigal, see G. Watkins: “Sigismondo D’India and Marino: ‘Strano armonia d’amore’,” The Sense of Marino: Literature, Fine Arts and Music of the Italian Baroque, ed. F. Guardiani (Ottawa, 1994): 487–504. Although d’India here reveals a theoretical understanding of musical notation, I suspect his introduction to his first book of Musiche is representative of his (and the practitioners’ at large) discourse on these intervals. This noted statement bears quoting again in comparison to the discourse of Stella and the Neapolitan performers of Gesualdo’s Tenebrae: “I began diligently to search for particular methods of singing well in solo style. I found that one could compose in the true manner with unusual intervals and pass with utmost novelty from one consonance to another, following the changing sense of the words. By this means the songs could have greater intensity and greater force in moving the passions of the soul than if they had been composed all in the same way with ordinary movement.” Trans. and qtd. in John Joyce, The Monodies of Sigismondo d’India (Ann Arbor: UMI Research Press, 1981): 2.

Martin Kirnbauer, “‘Si possono suonare i Madrigali del Principe’ - Die Gamben G. B. Donis und chromatisch-enharmonische Musik in Rom im 17. Jahrhundert,” Schweizer Jahrbuch für Musikwissenschaft 22 (2003): 229–248. D’Avella was certainly not a lutenist and he did not include a chapter on fingerboards and intabulations like Cerreto, whose frettings are in equal temperament (313). Doni’s Compendio explicitly mentions bending the common mean-tone tempered lute’s G-sharp fret “a little above, towards the grave” [#G servirà anco al bA, ritirandolo un tantino in sù, verso il grave] to also serve as A-flat for Gesualdo’s madrigals (45). If I am reading Doni correctly, this would have to implicate that the viol is in a
Colonna’s *La Sambuca Lincea*

[p. 3] It is true that on the Lute there are major thirds above semitoned F flat made by the semitones of Alamire, that are not found on the Harpsichord or Harp; the Lute also has major thirds above B flat natural, made by the semitones of D solre which are not on the Harpsichord either [...]  

Stella’s Manuscript Annotations

The lute does not have the major third of F flat with the semitone: instead of the true alamire with semitone, lute-players make use of B flat, which is inexact. The same can be said for the major third of B minor which should be desolre with the semitone; instead they use E flat with B flat.

[a rectification that corresponds to a lute tuned in mean-tone temperament].

Literary Concordances to the Lute Used in the *Publica Forma*

Literary concordances to d’Avella and Stella on the unequal temperament practiced by the Neapolitan lutenists and madrigalists may notably be found in contemporaneous prose and poetry (both spiritual and secular), in which out-of-tune lutes, lyres, and other instruments occasionally figure as metaphors. Gesualdo and his followers were surely familiar with these musical metaphors, as they were employed by both Tasso and Marino. I doubt these poets cello position and the G sharp is a little higher towards the ground. If G sharp moves a little towards the grave register, it approaches Gx, not A flat. The key idea, nevertheless, is that one fret would serve both of these pitches. Doni concludes the *Compendio* with an intabulation of *Tu m’uccidi crudele* (V,15) (151). Lacking d’Avella’s cue, Doni missed the en sweetened modern tritones that Gesualdo set to express the poem’s eroticism on “homicida” and “morir non gridì?” Doni’s *Annotazioni* describes the E flat G sharp mean-tone wolf alongside E flat C sharp, A natural G flat, and F G sharp, among “altri intervalli insoliti, e stravaganti.” For Doni, the interval was not generated an en sweetened modern tritone, rather a “major third increased by a minor semitone, a bit distant from the fourth” [*terze maggiori accresciute d’un semitono minore, & poco distanti dalla quarta*]. Moreover, he described these intervals as “very harsh, difficult to utter, and hardly have a place in any composition, unless there is a rest placed in between” [*molto duri, e difficili da proferire; & appena possono haver luogo in alcuna compositione; benche vi s’interponga una pausa in mezzo*] (172). The *Annotazioni* further detail a “panharmonic” viol in 19-tone meantone that matches the split-keyed keyboard (321) and a viol in 31-tone meantone that matches the *arcicembalo* (326) that may provide visual contrasts to the common mean-tone fretted lutes reported by d’Avella and Stella. A preliminary study of Gesualdo in Doni’s treatises, emphasizing Doni’s observations on real transposition of the chromaticism, has been provided by Peter Niedermüller, “Toward the Reception of Carlo Gesualdo’s Music in the Writings by Giovanni Battista Doni,” in Curinga (2008).
derived their lute metaphors explicitly from the sounds of mean-tonal madrigals, as that
presumes a certain level of musical theoretical proficiency (although Marino seems to have had a
base knowledge in this regard). But musicians could have responded to such writings with out-
of-tune mean-tonal sonorities. Several representative examples from these poets’ works will
here suffice. First, Marino, like Gesualdo, strikingly set out-of-tune sonorities to the crucifixion
in La musica. One could only wish, therefore, that, for want of a greater Neapolitan
intertextuality, Marino had cited Gesualdo’s Tenebrae and d’Avella had cited Marino’s La
Musica too. As excerpted below, Marino represents the cross by a cetera, which is the musical
instrument he identifies with Satan; our will is represented by the lira. Marino’s conceit here
bears an acoustical precision befitting of Vincenzo Galilean empiricism: These two instruments
can never be “well-tuned together,” as a lute strung with both (divine) lamb and (satanic) wolf
guts readily demonstrates.379

| *Cetera sia la Croce di Christo, Lira sia la volontà tua; O che dolce suono faranno alle
divine orrecchie questi due stromenti concordi.* | *Let the zither be the cross of Christ, the lyre your will. Oh, what a sweet sound it would be for divine ears if these two instruments should concord. But the instruments of God and Satan can not be well-tuned together. This is proved through observation: If a string made of Lamb’s gut is strung alongside a string made of Wolf’s gut on the same lute, they will not make a good consonance, since they have among themselves dissonant bases.* |
| Non si possono ben’accordare insieme lo stromento di Dio con quello di Satanasso. La corda dell’Agnello con quella del Lupo in un medesimo liuto unite si è per prova osservato, che non fanno buona consonanza, perciòche hanno trà sè dissonanti i primi fondamenti. |

379 Marino, *Le dicerie sacre*, 150r.
Marino’s physico-theological experiment with the cross, of course, has as its precedent the Mei-Galilei correspondence.\textsuperscript{380} To ascertain which ancient tuning was sung in modern music, Mei advised Galilei:

\begin{quote}
Perche distendasi sopra un liuto, (il quale quanto sarà maggiore tanto farà meglio comparire al orecchio quanto si cerca) due corde...di pari lunghezza o grossezza eguali quanto piu si puo le quali faccian insieme unisono e segninsi lor sotto giustamente i tasti secondo le distribuzioni de gli intervalli di ciascuna di due generi sintono e ditonieo, et poi si vada per mezzo de tasti di ciascuno osservando à corda à corda del tetracordo qual de le due veramente risponda à le corde che si cantan oggi.
\end{quote}

\begin{quote}
Stretch out over a lute (the larger it is the more obvious will what we wish to prove be to the ear) two strings...of equal length and width and measure out the frets under them accurately according to the distribution of the intervals in each of the two species of tuning—syntonic and diatonic—and then, taking the notes of the tetrachord one by one by means of the frets of each string, observe which of the two strings gives the notes that corresponds to what is sung today.
\end{quote}

Elsewhere in \textit{La musica}, Marino unites the Boethian tripartite division of music into mundane, humane, and instrumental components together to form the “super-human” Music of Christ. Marino incorporates the lowliest of the three, instrumental music, into Christ’s Music because human musicians’ voices are always “well-tuned” to their instruments. But what, then, are the musical instruments to which Christ well-tunes His voice? The cross and the nails. According to Marino, Christ \textit{ensweetens} His music through the bitterest suffering.\textsuperscript{381} The parallel to this passage in Gesualdo’s human and instrumental musical representation of Christ’s Music are unmistakable:

\begin{footnotes}
\textsuperscript{381} Marino, \textit{Le Dicerie Sacre}, 163r.
\end{footnotes}
Certainly one may suspect that Neapolitan composers who wrote spiritual madrigals on Marino’s poetry approached their texts with La musica in mind and, moreover, they matched Marino’s conceits with mean-tonal sonorities. One prime example is Scipione Dentice’s 1629 printed spiritual madrigals, written a couple decades after the last of his five books of secular madrigals (1607) and during his retirement at the Oratory of St. Philip Neri. Indeed, he subtitled his print “by a priest of the congregation of the Oratory in Naples.”

Let us consider Dentice’s setting of Marino’s O piaga impiagatrice (madrigal 150 of Marino’s 1602 Rime, one of two madrigals on the wounds of Christ’s chest: Alla piaga del costato, to which Dentice added di Cristo. As seen below, Marino contemplates the wounds of Christ and His sorrowful soul. While thinking of transfiguring the drops of blood into stars equal in number to the kisses we

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383 Giambattista Marino, Lallira; Rime (Venetia: G.P. Brigonci, 1664): 370.
wish we could give Him, we become happier and happier. Expectedly, Dentice, as seen in Example Twenty-Nine, sets the ensweetened modern tritone on “alma dolente,” the unensweetened modern tritone on “piaga,” and then its ensweetening in the second way to form a chromatic third relation (c minor to A major). He then removes the out-of-tune intervals on the repetition of this couplet, in an expression of the hypothetical turn towards happiness. Of course, there is no chromatic venom in these spiritual kisses.

<table>
<thead>
<tr>
<th>O piaga impiagatrice</th>
<th>O wounder of wounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Di quest’alma dolente</td>
<td>Of this sorrowful soul</td>
</tr>
<tr>
<td>Felice sei, felice,</td>
<td>Happy, happy, you are</td>
</tr>
<tr>
<td>Se’l numero di quelle</td>
<td>if the number of those</td>
</tr>
<tr>
<td>Stille non già, ma Stelle</td>
<td>drops not still, but stars</td>
</tr>
<tr>
<td>Sanguinose, e vivaci</td>
<td>Sanguine and lively</td>
</tr>
<tr>
<td>Può pareggiar co ‘baci.</td>
<td>could be matched with kisses.</td>
</tr>
</tbody>
</table>

Example Twenty-Nine: Dentice’s *O piaga impiagatrice*
Continuing our search for literary lute tuning concordances, let us consider a love poem by Tasso for Lucrezia, in which he attributes the “imperfection” of his poetry to the fire that Lucrezia kindles in him. Incapable of writing in this condition, Tasso first compares his “imperfect” poetry to the “low and feeble” chirps of a “listless” bird. He then compares himself to a “discordant” lyre, whose sounds waver whether strummed by a “trained” or “clumsy” hand. Only by speaking Lucrezia’s name and writing with her eyes in sight might Tasso compose true birdsong, re-tune his lyre, dictate the words spoken to him by Love, and thereby perfect his poetry. Although I have not yet found a Ferrarese or Neapolitan musical setting of a love poem that features such a discordant lute, lyre, or harp, it stands to reason that the madrigalists would express and accompany their love songs with the out of tune intervals found on a mean-tone tempered lute.

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<table>
<thead>
<tr>
<th>Attribuisce a la tepidezza de l’amare l’imperfezione de la poesia ed assomiglia se medesimo a la cetra ed Amore al musico.</th>
<th>Attributes the imperfection of poetry to lukewarmness of love, and compares himself to a harp, and Love to a musician.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allor che ne’ miei spirti intepidissi quel ch’accendete voi soave foco, piegro divenni augel di valle e roco e vile e grave a me medesmo io vissi: nulla poscia d’amor cantai né scrissi, e s’alcun detto i’ ne formai da gioco n’ebbi scorso tal volta, e basso e fioco garrir non chiaro e nobil carme udissi.</td>
<td>When in my spirits there grew lukewarm the soft, sweet fire you kindle ceaselessly, I became a listless, raucous valley bird, and vile and grievous to myself I lived: no word of love then did I sing or write, and if, just playing, I composed some verse, I often was ashamed of it—a low and feeble chirp was heard, no bright and noble song.</td>
</tr>
</tbody>
</table>

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385 Cf., however, Gesualdo’s *Dalle odorate spoglie* and *E quella arpa felice* (II, 16-17), in which a Petrarchan poet fixates upon his beloved’s concealed hand and, as her hand is uncovered, watches her strum her harp; of course, the harp is entirely in tune.
If such a madrigal is currently wanting in the Neapolitan-Ferrarese repertoire, it is all too readily found in the Italian-fashioned English madrigals, which must here suffice to make this point. In particular, it appears in William Byrd’s *Psalms, Songs and Sonnets*—coincidentally published the very same year as Gesualdo’s *Responsoria* (1611). In this book, we find—at all odds with all humanist inquiries into ancient music—that no less than Orpheus himself tuned his lyre in non-extended mean-tone temperament and adopted an acoustically false practical notation! Even if one were to perform this song in a historically appropriate non-extended Pythagorean tuning, as indicated by d’Avella, the ensweetened modern tritone still proves to be truly ancient! The text, *Come woeful Orpheus*, as seen in Example Thirty, is straightforward: A lamenting poet implores Orpheus to come with his lyre so that he might re-tune his sharps and flats in mourning. Byrd’s accompanying harmonic progressions, summarized alongside the text, predictably culminate upon the ensweetened modern tritone. Admittedly, the sourest sharps, being G D A and E triads, could have been en-soured more by continuing onto B major and beyond. But the uncouth flats, and the prolonged A-flat major in particular, could not be any more uncouth. The final verse is all in-tune, in the sense that the poet must re-tune his in-tune voice to the out-of-tune sharps and flats. The poet’s word-choice substitution for “attune my voice” is here convenient, given that Gesualdo’s *Tenebrae* is under consideration:

| Come cetra son io discorde o come lira cui dotta mano o rozza or tocchi e dia noia o diletto in vario suono; e dolce il canto è sol nel vostro nome, e poetando sol di sì begli occhi mi detta Amor quanto io di lui ragiono. | Like a harp out of tune am I, or like a lyre played by a trained or clumsy hand, that wearies or delights in varying sound; for the song is sweet only in your name, and only versifying on such fair eyes does Love dictate to me what I find to say of him. |
“Compassionate my voice”—and that is precisely what Marino, Gesualdo, and countless others (but, again, not d’Avella, as written) instruct us to do during Holy Week. As we shall see, d’Avella elsewhere praised the Neapolitan madrigalists as “new Orpheuses.” Not averse to retelling history and myth-making, surely he would have delighted in this contemporaneous English concordance. Likewise, as I shall cite presently, Byrd’s theoretical devotee, Morley, would have delighted in the *publica forma* in d’Avella’s matching treatise.

**Example Thirty: Summary of Byrd’s “Come Woeful Orpheus”**

<table>
<thead>
<tr>
<th>Text (A-flats’ words in bold)</th>
<th>Harmonic Progressions (A-flats in bold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Come woeful Orpheus with thy charming Lyre,</td>
<td>g minor to D major (all in-tune)</td>
</tr>
<tr>
<td>And tune my voice unto thy skilful wire.</td>
<td>d minor to G major (all in-tune)</td>
</tr>
<tr>
<td>Some strange Chromatic Notes do you devise,</td>
<td>C E A d A d a E D g D G c f♯ G c G</td>
</tr>
<tr>
<td>That best with <em>mournful accents</em> do sympathize,</td>
<td>c G c g c f g Ab f C f c F d</td>
</tr>
<tr>
<td>Of sourest Sharps, and <em>uncouth Flats</em> make choice,</td>
<td>D G E A Bb f Ab Eb F Bb F Bb</td>
</tr>
<tr>
<td>And I’ll thereto compassionate my voice.</td>
<td>Bb to G major (all in-tune)</td>
</tr>
</tbody>
</table>

But the hunt for more concordances must continue in the Italian and Neapolitan-Ferrarese repertoire around Gesualdo. Marino’s sacred musical prose about Christ tuning his cries to the nails and ensweetening our existence is simply too irresistible not to be musically realized and theoretically prescribed; yet we are looking for a rare person indeed: A Marinist preacher-musician (or, at least, a musical preacher whose exegeses were on the same biblical verses) who

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not only composed madrigals and motets with out-of-tune mean-tonal intervals, but also theorized what he was doing for subsequent preacher-musicians. D’Avella, Cerone, and Stella, for example, were preacher-musician-theorists in Naples, but each of them currently lacks one or more of these qualities, on account of the poor survival rate of their works. Scipione Dentice was a Marinist preacher-musician, who apparently lacked the theoretical interest of his distant relative Luigi Dentice, who, in turn, was not a preacher (his music is overwhelmingly lost). Equally disappointing, the right motets may be found, but their authors’ theological discourses may not. Take for example, the nowadays little known Bolognese preacher-musician Domenico Micheli (1540-1590)—a figure whose work was perhaps not foreign to the more famous Bolognese canon-music theorist, Artusi (also born 1540, d. 1613). Author of five books of predominantly secular madrigals, Micheli includes in his fifth book a sacred motet whose text opens with Job 30:31: “My lyre is tuned to mourning, and my pipes to the sound of wailing.” This motet and the fifth book as a whole would be overlookable, if not for Micheli’s setting of Dante’s “Quivi Sospiri”—a rarely set text that goes out-of-tune according to all of its madrigalists.\footnote{Newcomb op cit.} The motet is of modest artistic accomplishment—but that is precisely what we are looking for: A priest’s commonplace use of the organ’s E-flat A-flat ensweetened modern tritone on such a biblical verse as this, Example Thirty-One. I suspect Micheli speaks for nearly all of his contemporaries, Gesualdo included, when he told and performed for his congregation “My [organ] pipes are tuned to the sound of [f minor and A-flat major triads] wailing.” However, recovering his musical sermons, likely also of similar accomplishment, is the problem.\footnote{Cerone invokes Job 30:31 in a different context—namely, for the bittersweet tears that good memories in bad times bring about (201).}
Example Thirty-One: Micheli’s setting of Job 30:31

Unfortunately, yet tellingly, the text of the publica forma did not feature such sacred, amorous, or lamenting poetic invocations of musical instruments and tuning, which might have most readily conveyed the text-setting significance of the musicians’ out of tune and dissonant chromaticism to the Neapolitan public. To be sure, it would be hard for any clergy and public to argue against Micheli’s motet! Nor was the text of such extremity as Gesualdian morbidity or Marinist eroticism. Instead, the text was a rather generic poem on the departure [partenza] topic, routinely encountered in early seventeenth-century Neapolitan villanella prints. In Tù parti ohimè, the beloved departs and leaves the poet behind in a hellish world (first couplet). The poet then struggles to live on without his beloved (second couplet), hoping in vain that the stream on which she sailed, however cruel it may be, might bring back her heart (final couplet). The poet ultimately dies from the separation (implied). Apparently, there was not a matching

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389 This textual discrepancy is critical, as one of the major problems (as I will discuss presently) is establishing what provoked this publica forma, if not a sacred musical performance, such as Gesualdo’s Tenebræ.

390 Tù part’ ohimè dolente,/ io viv’ in fiamm’ ardente/ senza di tè ben mio/ come viver poss’ io/ se ‘l fier’ e rio dolore/ non mi di vor’ il core.
villanella on the return [ritorno] topic in the publica forma. If one were to speculatively relate the topic of the publica forma villanella to Gesualdo’s Tenebrae, one might point out that the departure topic also appeared in sermons and spiritual madrigals about the crucifixion. Although I have not yet found any Neapolitan examples of such a spiritual madrigal, a representative example would be Marenzio’s contribution to Giovenale Ancina’s 1599 Tempio Armonico: “Pietosa querela della madre santissima nell’imminente partita del figliuolo da lei, per girsene alla Passione, & morte della croce.” Among Neapolitan sacred literature, Ilario Nicuesa’s Idea della Croce del Signore, printed contemporaneously with Gesualdo’s Responsoria in 1613, begins his “Affection Concerning the Bowed Head of Our Lord on the Cross” with a departure narrative (conveniently enough for the present discussion). For Nicuesa, Christ could not “depart from us” through such a “cruel and sorrowful death” until He “saved us.” Although Nicuesa’s “Affection” is not expressly musical, the reader nevertheless next hears Nicuesa depict fall of Christ’s head as He departs in an ever so different way from Gesualdo’s Tenebrae: “And with a tacit leave of us [congedo], He left us the ultimate gift, bowing deeply His sacred head for us.” Thus, the sacred and secular musical idioms for expressing affections of “departure” could overlap.

The choice of the lighter villanella over the serious madrigal for the publica forma is important, although the boundary between these two genres was by this time blurred. As one
would expect from the Neapolitan practitioners, the *publica forma* is a demonstrative piece of music, not a theoretical discourse on the ensweetened modern tritone (that is, of course, where d’Avella came in and joined their cause). An equivalent (or lesser, for that matter) didactic piece of music on ensweetened A-flat chromaticism does not appear within the sixteenth- through seventeenth-century Neapolitan repertory. The A-flat E-flat ensweetened modern tritone does regularly appear in the villanellas of Crescentio Salzilli, Andrea Falconieri, among other Neapolitan successors to Gesualdo (although in much greater moderation than Crescentio’s *publica forma*, of course). Crescentio evidently only composed villanellas; Gesualdo both genres. Perhaps the villanella genre was a strategic choice for the public demonstration, since it originated in countryside Naples in the early sixteenth-century; the ensweetened modern tritone would simply be incorporated into the local polyphonic folksong. Although villanellas typically featured rustic, comic, pastoral, and romantic topics, rudimentary music theory did occasionally figure in their texts and music. In his history of the “Neapolitan School,” Charles Burney cited, with great amusement, a couple villanellas by Perissone Cambio in which a music teacher explains the Guidonian hand in but an hour. (In this light, it is ironic that Burney skipped over the Neapolitan villanella that teaches Gesualdian chromaticism in a similar time-frame!) The villanella was also surely chosen for the *publica forma* on account of its usual three-part texture, which could more readily forefront the two-note ensweetened modern tritone interval than the denser five-part madrigal (or six-part sacred motet, for that matter). The rudimentary

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contrapuntal formulas and rhythmic declamations of septenary verse used in villanellas would feature the ensweetened modern tritone in a series of musical commonplaces not so readily found in the madrigal. Above all, the villanella, as Zacconi writes in Chapter 73 of his *Prattica di Musica*, was “not subjected to the rules of music” and could even "contradict" the rules. As villanellas routinely imitated the consecutive fifths and octaves naturally found in "più voce senza cognizione di Musica," Crescentio could, in principle, compose consecutive ensweetened modern tritones in his *publica forma* without overly distorting the genre and without reprobation.

As d’Avella witnessed the repeated censorship of the Neapolitan madrigalists’ chromaticism, recognized the superlative historical importance of Crescentio’s *publica forma*, and foresaw its disappearance, he reprinted, “as a worthy thing,” the complete parts of the villanella, *Tù parti ohimè*, at the end of Chapter 39 (and not just a snippet). For this, music history is of course forever indebted. One can not overstate the importance of d’Avella’s foresight (and the foresight of his brethren to publish his treatise); after all, Gesualdo’s *Responsoria* was, for a time, lost. The Neapolitan prints of his first two books of madrigals remain lost and only the canto part of his posthumous seventh book remains. For d’Avella, Crescentio’s *publica forma* would preserve and represent the endangered Neapolitan chromatic practice. However, as the reader scores the reprinted parts to the *publica forma*, however, several oversights, misprints, and ambiguities arise. Notably, the basso part lacks the single

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399 Ibid.

400 D’Avella, 58. *Ed io, come cosa degna l’hò voluta porre qui con tutte le parti.*

401 Some smaller editorial remarks: The canto part is missing a note at the very beginning that must be supplied from Chapter 40. The poetic text is misprinted in the basso, second couplet, and canto second verse. It is convenient here to point out that d’Avella’s *Regole* was indeed proofread (by à Caieta?) and contains an
flat found in the signatures of the canto and alto parts. The misprinting and apparent choice of
the signature (Crescentio’s or d’Avella’s choice?) are important, for the villanella could have
been given a signature with two and up to three flats. Such a remarkable signature would, in
fact, have precedents in the Neapolitan madrigal repertoire and it is remarkable that it is not used
here and, moreover, it is carelessly printed.\footnote{These precedents, with two flat signatures, were pointed out by Larson and appear in the earliest Neapolitan
madrigals by Giovanni Domenico da Nola (1545), among others (163). In contrast to the generic one flat
signature in the \textit{publica forma}, I may mention in particular Eliseo Ghibel (1554), who used two-flat
signatures consisting of E-flat and A-flat, leaving B-flat implied.} It is possible that Crescentio, in contrast to his
predecessors, here strategically chose a simpler key signature as part of his strategy to convince
the lay Neapolitan public. Next: In Chapter 39 the parts have cut-C mensuration; but in Chapter
40 (in which the villanella is further discussed), the parts have C mensuration. Which was it in
the original? What tempo was used in the public performance? Also, the \textit{alfabeto} notation
commonly found in villanella part-books is not present in d’Avella’s reprint (although it is
uncertain if Crescentio’s original part-books included this practical aid).\footnote{See Alexander Dean, “The Five-
Course Guitar and Seventeenth-Century Harmony: Alfabeto and Italian Song,”
PhD Diss. (University of Rochester: 2007); Cory Michael Gavito, “The alfabeto song in print, 1610--ca.1665:
Neapolitan roots, Roman codification, and ‘il gusto popolare,’” PhD Diss. (University of Texas: 2006);
Dinko Fabris, \textit{Andrea Falconieri Napoletano: Un Liutista-Compositore del Seicento} (Roma: Torre d’Orfeo,
1987): 76-77, 89.} In this notation, the
letters of the alphabet stood for common practice lute and guitar fingerings for each chord and
were placed above the poem’s text. If one applies the \textit{alfabeto} notation found in Salzilli’s and
Falconieri’s villanellas to Crescentio’s, one could tentatively reconstruct the performance
practice, among more involved theoretical endeavors.\footnote{Future analytical research might correlate \textit{alfabeto} fingerings with chromatic voice-leading, musical gesture,
perceptual schemas, among other possibilities. In light of d’Avella’s invocation of a Guidonian Hand to
explain Gesualdo’s chromaticism, one might examine which of Gesualdo’s chromatic triads are “on” the
hand according to common alfabeto practice and those that are “off” the hand.} Above all else, d’Avella did not include
Crescentio’s practical instructions for tuning and tempering the lute (if Crescentio gave any at

\textit{Errata} with musically literate corrections. However, the errors in the villanella and the Guidonian hands
and gamuts went unnoticed.
all). These issues of transcription acknowledged, Crescentio’s *publica forma* appears in Example Thirty-Two.

**Example Thirty-Two: Crescentio’s *Publica Forma***

![Musical notation](image)

**Ensweetened Modern Modality and Functional Tonality in the Publica Forma Villanella**

D’Avella wrote nothing in detail about the contents of Crescentio’s villanella. Indeed, one doubts if he tried to perform the villanella himself; had he done so with the ensweetened modern tritone in Pythagorean tuning, he might have found a discrepancy between his mathematical theory and the practical temperament he had heard in Crescentio’s villanella (and Gesualdo’s *Tenebrae*). By only reprinting the parts, he left his readers to recreate and study the *publica forma* for themselves. Crescentio’s strategies to persuade the public are unmistakable. As he airs the poet’s plaints to the Neapolitan public, he rapidly ensweetens the villanella to the point of bitterness. Strategically set in an ensweetened modern F Aeolian modality (or more precisely, it is an ensweetened ensweetened modern modality, in which the A-flat D tritone in
ensweetened modern F Dorian was ensweetened in the first way into the A-flat D-flat fourth in F Aeolian), the ensweetened modern tritone, E-flat A-flat, veritably assumes the role of a repercussio; the ensweetening A-flat takes over the role of repercussa from the un-ensweetened pitch C. 

Crescentio strategically begins the publica forma by striking an f minor triad; the canto’s F then immediately ensweetens an A-flat D modern tritone with the alto, leading to a c minor triad. The vocalists’ intonations on “Tù parti” are tinged by the departure of the poet’s beloved and waver in their sonorous proportions. The ensweetened third of the f minor triad, which has the sonorous proportion of G-sharp, differs from the un-ensweetened third of the c minor triad, which has the sonorous proportion of E-flat. As is typical of a villanella, the upper parts then proceed interlocked in thirds and sixths and begin an irreversible octave descent over a proto-functional harmonic bass line. Along the way, the poet sighs a series of ensweetened tritones on “ohimè dolente,” as the beloved recedes further into the distance. The basso reiterates the A-flat D modern tritone in measure two, this time ensweetening it with a D-flat in the other direction. But does this D-flat form an ensweetened modern tritone with the A-flat? That is to say, does the D-flat actually have the sonorous proportion of D-flat while the A-flat has the sonorous proportion of G-sharp? D’Avella did not say. If one accepts the circle of fifths generation of the E-flat A-flat ensweetened modern tritone and envisions Crescentio’s arch-lute fretted with G-sharp, then this D-flat likely has the sonorous proportion of C-sharp. Therefore, the A-flat D-flat would be an ensweetened ancient tritone, sounding G-sharp C-sharp. Crescentio purposefully contrasts the sonorous proportions of this chromatically remote ensweetened ancient tritone to those of the ensweetened E-flat A-flat modern tritones that

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405 Notably, Crescentio does not demonstrate the other ensweetened modern tritone, D-sharp G-sharp, thus suggesting that its use was of secondary importance. It is odd, however, to observe that sharp chromatic sonorities went entirely unpublicized. This observation might strengthen the connection between Gesualdo’s Tenebrae and the publica forma.
surround it. He then builds *consonanze stravaganti* and *durezze e ligature* upon the basso’s consecutive ensweetened ancient and modern tritones. That is to say, the A-flat, D-flat, and E-flat major triads are consonant in themselves and closely related to one another; yet the A-flat major triad abruptly breaks away from the g minor triad and the circle of fifths progression, f, c, g, before it. The fifth degree of the D-flat major triad, the A-flat in the alto, then suspends an ensweetened modern tritone into the root of the E-flat major triad in the basso. These *consonanze stravaganti* and *durezze e ligature* in turn form a slightly embellished progression of subdominant (D-flat), dominant (E-flat), and tonic (A-flat) major triads, a modulation to the relative major of the villanella’s opening f minor. Beneath the poet’s intense sorrow, Crescentio seems to be subliminally sensitizing the Neapolitan public to an “ensweetened modern functional tonality”—that, a remarkable tone-system in which chromatic triads have determinate harmonic functions irrespective of their accidentals’ varying sonorous proportions. His rhetorical strategy will be to repeat these harmonic functions over and over on each couplet of the villanella.

Having first witnessed in d’Avella’s *Regole* the Neapolitans’ mutation of the eight church mode system bestowed upon us by God Himself at the time of His creation into an ensweetened modern twelve modality that burst into a new chaos of confusion, we are now witnessing the immediate evolution of the ensweetened modern modality out of that chaos into an ensweetened modern tonality ordered by harmonic functions. Whereas Cerone feared that this ensweetened modern flat F Aeolian (F re G mi A-flat fa ut B-flat re C mi D-flat fa E-flat sol F la) would mutate into the sharp chaos of confusion E Mixolydian (E ut F-sharp re G-sharp mi A fa ut B re C-sharp mi D fa E sol), Crescentio countered that the F Aeolian’s sonorous proportions make no such mutation. Instead, the A-flat fa ut stays fixed in place. Assigning a dominant function to E-

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406 Alternatively, the A-flat triad might be an inverted f minor triad. Without the alfabeto, one cannot firmly know. In either case, the reading of *consonanze stravaganti* holds.
flat (and its major triad), as well as a tonic function to a confinalis A-flat (but not its triads)
Crescentio found that the ensweetened modern tritone’s augmented third and diminished sixth
also worked as a perfect fourth and perfect fifth. From there it was only a matter of assigning a
subdominant function to D-flat. Coupled with an option to sharp the E-flat into a leading tone, F
Aeolian was stabilized. I doubt that Crescentio or any of Gesualdo’s affiliates went through all
the ensweetened modern modalities and assigned all three basic harmonic functions to each pitch
to stabilize their varying sonorous proportions and prevent the mutations into chaos. However, if
d’Avella could place all six solfege syllables on all seven pitches, surely an equally ambitious
theorist could place all three basic harmonic functions thereafter and test Gesualdo’s madrigals
against the nascent ensweetened modern functional tonality.

How all too soon this ensweetened modern tonality would shed its varying sonorous
proportions and become merely modern functional tonality. Although I previously discouraged
approaching the Neapolitan madrigalists with anachronistic evolutionary perspectives from, say,
Bach’s well-tempered times, let us now revel in this uniquely documented moment in chromatic
music’s evolution. Of course, many have sought out the origins and development of functional
tonality and questioned its dependence upon the presumably contemporaneous unequal tunings
and temperaments—the core contents of Dahlhaus’ influential Studies on the Origin [or
Development] of Harmonic Tonality. Indeed, as is well-known, most, following the
nineteenth-century discovery of G dominant seventh Ferrarese fossils in Artusi’s criticisms of
Monteverdi’s Cruda Amarilli, have sought out the origin of functional tonality in the turn of the

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University Press, 1990). In addition to Dahlhaus, see Berger, Theories, 100. The proto-functional out-of-
tune villanella will certainly be a stepping stone to reconsidering nineteenth-century tonal studies of the
chromatic madrigal repertoire: Winterfeld, Ambros, and—above all—Ferdinand Keiner’s Die Madrigale
seventeenth-century madrigal.408 But the present discovery of E-flat dominant seventh and A-flat tonic Neapolitan fossils (assuming that Crescentio would not have abstained from sustaining the sub-dominant root D-flat into the dominant triad in four-par writing) from the very same time-period evinces a far more functional chromatic species than hitherto known. Here we find evidence that the Gesualdo circle recognized that functional harmony and the shades of non-extended mean-temperament are independent from one another, no matter how interdependent they might be in the musical expression of text. Dahlhaus argued for this independence throughout his Studies and, as he mostly did so in the philosophical abstract without much historical evidence, it would be worth reinforcing his argument with Crescentio’s publica forma in hand. For Dahlhaus, the decisive cut of functional tonality’s presumed umbilical cord to tuning was the leading-tone; he cited (conveniently for our case at hand) the mean-tonal pitches G-sharp and A-flat: “Nowhere does the fact that the tuning is irrelevant [for tonal function] show itself more clearly than in the habit of emphasizing leading tones, thus in the phrase c’—g#—a raising the g# as though it were ab, and in the phrase c—ab—g lowering the ab as though it were g#. Notwithstanding the fact that the intonation interchanges g# and ab, the musical meaning [i.e.: the pitch’s function, not the “expressive” meaning], the conception of g# as the third above e and of ab as the third below c’, is never at risk.”409

Returning to the publica forma, we see countless instances of this C, A-flat, and G complex, never compromising the tonal functions with the A-flat tuned as G-sharp. The opening A-flats tuned as G-sharps in the second voice, for example, continually pull down to the leading-tone G throughout the contrapuntal octave descent and express the poet’s sigh with a constricted semitone. But their tonal function is never in dispute within the context of the pitch C (and F);

408 Ibid., 13.
409 Ibid., 189.
there is no indication that the G-sharp tuning should lead the phrase to A-natural, as, according to Dahlhaus, such would require an E-natural. A more subtle example would be the rising leading tone sigh in the first voice, C D-flat (measure two, beat one). It is tuned as a constricted semitone C C-sharp and, what is more, harmonized with an A-flat tuned as G-sharp. The open D-flat triad on the second quarter note, in which the D-flat is a resolution from the leading-tone C and the A-flat is a leading-tone directed towards G, maintains a subdominant function, without risk of implicating an anachronistic double-leading tone cadence from the *Ars Nova*, a dominant C-sharp triad resolving to a D tonic (instead of an E-flat dominant).\(^{410}\)

Dahlhaus’ studies of mean-tonal leading-tone harmonic functions have been taken up by McClary in her analysis of *Moro, lasso*. Observing that the opening C-sharp major triad would have “wolf tones howling insconsolably” on the non-extended keyboard, she asks if this keyboard would have influenced the tonal functions for the singers: “Even though a vocal ensemble can tune without reference to keyboards, the very pitches would have signified in particular ways to the singers’ eyes: C# could only be a leading tone to D, G# only a leading tone to A, and E#...? If sung as though it were F (a function far on the flat side), it would produce an interval with the other voices absolutely intolerable to the ear. But a leading tone to F#?\(^{411}\) McClary stops here and leaves the question open-ended. Unfortunately, Crescentio did not demonstrate the sharp side in his *publica forma*. But two of the concordances to Crescentio who did demonstrate the sharp triads will answer the question presently, exhibiting in the manner of Dahlhaus, that the sharps tuned sharper as flats maintain sharp functions.

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\(^{410}\) This observation certainly holds for the *publica forma*. Let us acknowledge the possibility, however, that functional reinterpretations of mean-tonal leading-tones and dieses might appear within the Gesualdo (and Neapolitan) madrigals under the rubric of *consonanze stravaganti* (of which the first phrase of the *publica forma* provides a very modest showing). At present, there is no historical evidence for this.

As the ensweetened modern modality gained its functional footings in Crescentio’s *publica forma*, his poem’s landscape meanwhile took a drastic turn for the worse: The beloved completely disappears from view at the end of the first line and the poet is left on a barren unison A-flat mediant. Yet, curiously, this ensweetened cadence is not necessarily on a wrong scale degree for the mode. We must see in the subsequent phrases if Crescentio cadences on ensweetened degrees outside of the prevailing mode (on, say, G-flat) to depict departure. Similar observations on the chromatic text-setting to those above may be made for these remaining phrases of the villanella. The second line of the villanella offers the poet no reprieve. Yet more ensweetened modern tritones flare up, their harmonic rhythm at once accelerated, as the poet is surrounded by flames. Although the text tells of departure, Crescentio’s harmonies here ironically return to the opening f minor triad, with another functional cadence at the end of the second line. Indeed, it was not Crescentio’s intent to foray even further into more distant tonalities (say, f-flat minor) over the course of this villanella (might one encounter this nineteenth-century tonal strategy elsewhere in the chromatic madrigal?) Rather, Crescentio remains in the locality of the E-flat A-flat ensweetened modern tritone’s triads, A-flat major, c and f minor. The poet's agitation then increases in the second couplet, in which Crescentio jarringly juxtaposes C and A-flat major triads on a repeated percussive rhythm. The poet tries to live on without his beloved on C major, but then abruptly begins to die on A-flat major as he paradoxically utters the words “I will live on as best I can.” In the third couplet, the rushing of the cruel stream is depicted, most predictably, by a rapid ensweetened modern tritone scalar descent leading to the final cadence. In the span of one villanella, the Neapolitan public has heard over a dozen ensweetened modern tritones express the sorrow and impending death of the poet. D’Avella follows this villanella with another one composed by Crescentio in the same
style (albeit more moderately ensweetened) and on the same topic, *Quando farò dal mio bel sol partita*, which he reprinted “*per gli Studiosi.*”\(^412\)

**Transposition and the *Publica Forma* Villanella**

Crescentio’s *publica forma* may have ended after just one performance of the villanella.\(^413\) Or, more likely, he may have repeated the villanella—but, for sake of comparison, without the ensweetened modern tritone. In Chapter 40, d’Avella continues his discussion of the villanella and reprints it in its entirety at a transposed pitch level, along with instructions for “The Way to Sing this Subject.”\(^414\) Here, the ensweetened modern tritones have been removed by means of transposing the villanella up a step to g minor. The A-flats become B-flats and the E-flats become F’s, which have the proper sonorous proportions of a perfect fourth or fifth. According to d’Avella, the villanella may now be sung “happily” in its proper *corde*.\(^415\) Crescentio may have intentionally composed the villanella in such a way that it could be so transposed. By so doing, the public could have readily heard the villanella back to back with ensweetened modern tritones and then ensweetened ancient tritones. They would have moreover heard that the harmonic functions remained the same as the tunings changed. Apparently, this transposition was also practiced in other villanelles that featured A-flats and D-flats, for d’Avella insinuates that the *giovani* do not know how to make this transposition and that only the *galante* have the “honor” of singing the villanella “happily.”\(^416\) Boasting of his status in this Neapolitan

\(^{412}\) D’Avella, 59.

\(^{413}\) D’Avella did not reprint any additional stanzas.

\(^{414}\) D’Avella, 60. _Del modo di cantare questo soggetto._

\(^{415}\) Ibid. _Potrei dire con una parola, che cantandosi un tuono sopra si cantarebbono felicemente nelle corde proprie, così la prima, come la seconda Villanella._

\(^{416}\) Ibid. _Però mi par bene, che i giovani, che non le sanno, sappiano qualche dichiaratione, acciò non havendo tempo di partire l’opra; trà galant’huomini si possa far’honore, e cantarle felicemente._ D’Avella is saying here that the brief explanation that follows ought to provide sufficient knowledge for those commoners who do not have time to take off from work to learn this galant practice. Of course, further research must
musical class divide, d’Avella then begins to spell out the transposition of the basso part note by note and ultimately reprints the entire villanella transposed “to satisfy the simpletons.” He claims that it may now be sung dolcissamente and armonicamente— and it “does not happen to be sung otherwise.” This suggests that the ensweetened modern tritone can not be sung and that the villanella has to be transposed. Curiously, d’Avella does not address the impact of the transposition upon the expression of the text’s affect. He does not likewise demonstrate whether or not the complete Tenebrae could be transposed up a step to remove the ensweetened modern tritone from Et inclinato capite without elsewhere going out of tune (it can not).

There is not an equivalent exercise or practice in chromatic transposition in the Neapolitan theoretical literature. Upon close scrutiny, however, Cerone briefly and vaguely tries to describe the practice in words in a rather miscellaneous chapter (Book XII, Chapter

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417 Ibid. E per sodisfare à i semplici hò volute dare il modello d’alzare la prima Villanella un tono. By way of contrast, I refer my readers to Example Thirty-Two, which, far removed from D’Avella times (and surely this was a novelty and a difficulty), may now be transposed to g minor at a glance.

418 Ibid. E così guidato dagli accidenti per tutta la Villanella si potrà cantare dolcissimamente, & armonicamente, nè occorre cantarsi altramente.

419 The systematic investigation of transpositional variance and invariance of Gesualdo’s fourth through sixth books of madrigals will require an individual study in its own right.

420 However, Thomas Morley’s slightly earlier 1597 A Plaine and Easie Introduction to Practicall Musicke contains the very same transpositional practice as d’Avella, albeit on an un-texted student composition that is corrected by the master. The only difference is that Morley’s student composition has a signature of two flats, which is altered to one in the transposition; both Crescentio’s publica forma and d’Avella’s transposition of it have a signature of one flat. Morley’s passage surely acquires new significance when placed alongside a public demonstration of Gesualdian chromaticism. Notably, he does not call the practice “galant.” See Thomas Morley, A Plaine and Easie Introduction to Practicall Musicke (London: Peter Short, 1597): 155-156. Additionally, Alfonso della Viola’s Ferrarese tuning method (attributed) shows how to transpose out flats up a step on viols. See Kathleen Spencer and Howard Mayer Brown, “How Alfonso della Viola Tuned His Viols, and How He Transposed,” Early Music 14/4 (Nov. 1986): 520-533. Elsewhere, Giovanni Paolo Cima’s Partite de Ricercari & Canzoni alla Francese of 1606, edited by Clare Rayner (Rome: American Institute of Musicology, 1969) includes a method for transposing in 12-tone mean-tone temperament that preserves the acoustically correct notation.
In a section on *ficta* with flats, Cerone cites a handful of notable examples from memory: First, Mouton’s *Peccata mea*; then Piéton’s *O admirabile comertium*, which “even” has flats on A and D (“two or three times,” Cerone remarks); next Willaert’s *la Peccorina* and *Aspice domine*; finally Rore’s *Pommi ove il Sol*, among others by Monte and Merulo. This discussion would be otherwise unremarkable, if not for Cerone’s following sentence, which now finds an important concordance in Crescentio’s *publica forma*: “This kind of [fictive] music,” Cerone emphasizes, “may be reduced to verity by writing it either a step higher (through B-natural), or a fifth higher, or a fourth lower ([through] b-flat).” Transposing by one whole-tone up indeed does the trick; but, as Crescentio did not demonstrate, transposing D-flat up a fifth or down a fourth will still result in an out-of-tune A-flat. I suspect Cerone did not actively perform this repertoire and learned of this transpositional practice secondhand. Unlike Crescentio, Cerone continues onto *ficta* sharps, citing only the ricercares of Anibal de Padua. “This [kind of fictive music],” Cerone emphasizes, “may be reduced to its verity by writing it a third higher and removing the sharps.” Cerone additionally posits a less specific transpositional practice in his chapter on “extraordinary accidentals” (with a sub-heading “extraordinary transpositions”) instructing that the “extraordinary modes” made up of these accidentals must be “changed into naturals that may be sounded on the organ, just like ordinary accidentals.”

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421 Cerone, 677. *De otros avisos, no menos necessarios, que los passados.*
422 Cerone, 679. *La qual suerte de Musica se puede reduzir à la verdadera, e scrivie[n]dola ó un punto mas alto, sendo por be quadrado; ó una Quinta alta, ó una Quarta baxa, querendola por b mol.* The word choice “querendo,” implying an affection for the flats is intriguing, if correct.
423 Cerone, 680. *Se reduce à su verdadera escritura subiendola una Tercera, y quitandole los Sostenidos.* Cerone continues that this is more appropriate for keyboardists than composers and singers. But why should the sharps be any different than the flats? *Esta Musica mas pertenece à los Tañedores de tecla, que à los Compositores y Cantores.* Note, also, that Chapter 24 of Book XVI of the *Melopeo* details how to transpose “extraordinary accidentals” to the keyboard gamut, but does not address the E-flat A-flat interval in particular.
424 Cerone, 922. *La manera que se ha de tener para componer estos Tonos extraordinarios, es mudar los mismos naturales, por todas las partes por donde se puedan componer y tañer en el Organo, de mas de los*
Rodio’s *Regole* includes an example of transposing out the very A-flat and D-flat *ficta* featured in the *publica forma* by means of clef changes. Rodio’s demonstrative composition, seen in Example Thirty-Three, unfolds in f minor in the same general manner as Crescentio’s villanella. Whereas Crescentio emphasized the ensweetened modern tritone, E-flat A-flat, Rodio emphasized the diminished third D-flat B-natural. To remove these *ficta* pitches (he did not explicitly mention that the A-flats and D-flats have the sonorous proportions of G-sharps and C-sharps), Rodio transposes the composition from f to d minor. If still sung at f minor, the accidentals should be sung “as if” they were in d minor. This is different from the *publica forma* and tantamount to performing the f minor villanella “as if” the accidentals were in g minor. Unlike d’Avella’s stepwise transposition of Crescentio’s *publica forma* up a step in notation, Rodio’s transposition maintains the same notation. Instead, one simply repeats the composition at the notated pitch level, but with the different clefs indicated in the final measure. Rodio did not term this practice “galant.”

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*accidentales ordinarios*. Cerone reiterates this emphasized rule in the next chapter, notably adding this time that accidentals are the “same” as naturals: *Porque en sustancia (como queda dicho) la misma cosa son los accidentales que los naturales: que el accidental no difiere del natural, si no en que el natural va por unos Signos, y el accidental por otros diversos* (925). Surely, however, Cerone encountered the problem that not all “extraordinary” works could be transposed to fit the organ in one move and knew, moreover, that many of them were not intended to be transposed, lest the affect be lost. I suspect his thinking, vehemently against the chromaticists, did not accurately represent their practice that these “extraordinary” accidentals were substantively different from the “ordinary” naturals. For example, I certainly do not believe these thoughts hold for Aretino’s *Responsoria*, as here cited.

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425 Rodio, 87. The next example repeats the transpositional exercise, this time transposing an e minor composition featuring B and F-sharp major triads to g minor (88). Recall that the first edition of Rodio’s *Regole* is lost. The 1609 printing is roughly contemporary with the printing of Gesualdo’s *Responsoria* and, ostensibly, Crescentio’s *publica forma*. As Rodio’s madrigals at most extend from E-flat to B major triads, my position is that these *ficta* transposition exercises also exchange in-tune for out-of-tune pitches.
Another way to compare and contrast the *publica forma* with and without the ensweetened modern tritones—evidently unknown to Crescentio and d’Avella—would be to sing the villanella at the given pitch level alternating instrumental accompaniment with unaccompanied song (and without instrumental reference) in just intonation.  This alternating practice, incidentally, was one of G.B. Doni’s inquiries into the ancient *citaredi* in his *Lyra Barberina*. Following the classicist Achille Stazio (1524-1581), Doni reports that the citaredi employed three (if not four) ways of performing: 1. playing the song on the cithara and then singing it unaccompanied, 2. singing and playing at the same time, 3. singing and playing at the same time and then singing alone, and 4. singing alone and then singing and playing at the same time.  Although there is no historical evidence of this practice in Naples, I would not rule it out among the Gesualdian madrigalists, who, in the manner of *citaredi nuovi*, might have sung their

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426 For an engaging discussion of singing mean-tonal A-flats tuned as G-sharps in just intonation, see Duffin, “Just Intonation in Renaissance Theory and Practice.”

chromatic madrigals in such a manner, “galantly” reveling in the subtle changes in intonation between repetitions and sections of madrigals.

Of course, as the *publica forma* took place in Naples, Artusi was not present; but if it had taken place in Bologna or Ferrara, he would have surely condemned this *galanteria* an imperfection of modern music. Although there are no traces of musical examples employing this transpositional process in his *Imperfettioni*, Luca and Vario discuss the topic at some length as they (incorrectly) argued for the equal temperament of modern music. Vario first described the *publica forma* perfectly, albeit in reverse order: “If someone will want to tell me that the tones are unequal and the semitones similarly unequal on the harpsichord or organ, will want to perform a song on its natural *corde* on these instruments and then will say that it may be transposed a whole-tone lower, this will not be possible in any way, because of the many inconveniences that would arise from it.”

Following a rehearsal of the various temperaments of the instruments and tuning of the voice (in which Artusi, unlike Crescentio, equally tempers the lute, Luca subsequently returned to the subject and asked more generally (beyond whole-tone transpositions on the keyboard): “Do you believe that these imperfections in the diatonic you have revealed to me might also arise in the transpositions of chromatic songs?” Vario replies: “You will find many imperfections (nor could they by their nature be otherwise), because when the intervals are divided into smaller parts, all the greater are the imperfections. They are further from their starting point and, therefore, they lack the intended intellect and sense they possessed.” In fact, Artusi is deriding the very intellect and sensations the galant Neapolitans

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428 Artusi 1600, 32v. *Se alcuno mi vorà dire, che nel Clavacembalo, ò nell’Organo li Tuoni siano ineguali, ò li Semituoni similmente ineguali, ò che nel detto Instrumento vorà Sonare una Cantilena nelle corde sua naturali; ò che dipoi dirà, che si puote trasportare per un Tuono, nel grave, questo non potrà essere à modo alcuno, per gli molti inconvenienti, che ne nascerebbono.*

429 ibid., 34r. *Ma ditemi, credete voi che nelli trasportatione delle Cantilene Cromatiche; vi naschino di quelle imperfettioni, che nelle Diatoniche, mi havete scoperto?*
possessed as they sang and played back and forth. Moreover, Artusi is working backwards from
the order of the *publica forma*, as he only would ascribe “intellect” and “sense” to the villanella
on G alone. Vario continues to dwell on these transpositional imperfections, for “they are
worthy of much consideration.”

Always persuaded by Vario and now leading him along, Luca
observes that these imperfections that arise with unequal semitones could be “stopped” or
“prohibited” [*vietare*] (but not necessarily “perfected”—a key point) by means of adopting the
Aristoxenean syntonic temperament in song and instruments alike; then any song could be
transposed to wherever is convenient for the composer. To this Vario only adds that “all
would come about very well and then the good practitioner could place the # and b accidentals
wherever he should want.” But, in fact, as long as the intervals are unequal, one will “always
have to think about these imperfections.”

Following his attempt to correct these transpositions, Artusi even personifies himself as Aristoxenus, valiantly trying (but not always successfully) to right things. According to the Proverb “Whoever does not try, does not fail” [*Chi non fà non falla*]. Thus, Artusi would reduce Neapolitans’ imperfections by performing both the original villanella and its transposition in equal temperament (not just the former). We
see here a great clash between his theories and modern practices that one would not have

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430 Ibid.  *E pensandovi ritrovarete delle imperfettioni assai, nè possono essere per natura sua altrimenti, perché me[n]tre che gl’intervalli si vanno dividendo in parti più minute, tanto maggiori sono le imperfettioni, sono più lontane dal suo principio, et perciò mancano dall’intelletto intese, e dal senso possedute; et pur sono imperfettioni degne di molta co[n]sideratione.*

431 Ibid. Note they are discussing Ptolemaic just intonation here, in which the unequal whole-tones add even more imperfections to the unequal semitones of mean-tone temperament: * Là dove li Tuoni sono ineguali e che li Semitoni loro ancora si ritrovano ineguali, è necessario che vi naschino delle imperfettioni assai; & à vietarli sarebbe bene come molte volte havete detto voi, à credere che la Syntona d’Aristosseno, fosse quella, che si Cantasse, e Sonasse ne gl’Instromenti; che all’hora si potrebbe trasportare ogni Cantilena verso dove più al Compositore fosse di comodo.*

432 Ibid., 34r-34v. *Ritornabbe il tutto benissimo fatto; et all’hora potrebbe il buon pratico ponere ovunque volesse, e’l # diesis e’l b rotondo...me[n]tre che si andrà dice[n]do, che la Co[n]sttuzione di Tolomeo sia quella, che noi adoperiamo, no[n] è dubio, che se[m]pre ci sarà che pensare intorno à queste imperfettioni.*
necessarily considered, going on his musical citations of Monteverdi, Rore, and Willaert. Why
didn’t l’Ottuso counter “It’s the galant thing to do?”

Publicizing the Acoustically Correct Notation: Falcone

Although Crescentio’s *publica forma* exhibited the transposition from out-of-tune to in-
tune intervals, it did not unveil the acoustically false notation versus the correct notation. I do
not believe the missing villanella part books also re-wrote the *publica forma* with notated G-
sharps and C-sharps in place of the A-flats and D-flats. In fact, this important missing
component may be found in one other public debate on musical composition and theory in the
vicinity: The 1600 musical competition between two Sicilian madrigalists, Achille Falcone and
Sebastian Raval, who were not all too distantly related to the Neapolitan madrigalists.433 Both
claimed Gesualdo as a model. Falcone cites Gesualdo as an exemplar in his “Musical
Conclusions” outline of theory and practice and Raval’s 1595 book notably features two
madrigals dedicated to Gesualdo that, as he hoped, “might reach the summit” of the prince’s
level of perfection.434 Yet, with the exception of Palazzotto e Tagliavia, the Sicilian school of
madrigalists—Vinci, Il Verso, Pari, Marotta, d’India—was entirely foreign to d’Avella.435
Therefore, the Falcone-Raval controversy must be revisited in light of d’Avella’s treatise.

This competition, the music and details of which are encapsulated in the posthumous
1603 Venetian publication of Falcone’s only book of madrigals by his father, consisted primarily

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433 On the subject of controversies and composition competitions, I should remind readers at this point that the
much heralded Ferrarese competition between Gesualdo and Luzzaschi never took the musical theoretical
turn in the manner of Raval and Falcone. I do not see any evidence that Gesualdo himself had any
theoretical impetus to reveal the chromatic notations.

434 Sebastian Raval, *Madrigali a tre voci* (Roma: N. Muti, 1595). *Due Madrigali à cinque Voci all’Illustriss. et
Eccellentiss. S. Don Carlo Gesualdo Principe di Venosa con alcun studio, non già certo, che arrivino dig ran
lunga alla compositione di si gran Principe al colmo d’ ogni perfettione.*

435 Note, however, d’Avella, 75. In this final chapter of the treatise, d’Avella’s praise for Palazzotto exceeded that
for Gesualdo in Chapters 21 and 39.
of improvisations, fugues, canons, diatonic and chromatic recercares, and mensural signs and proportions. Along with the music, Falcone’s father provided a substantial twenty-page account of the competition, a Cesare Monteverdian declaration addressed to the “musicians of Rome” to defend his son from Raval’s slander.436 The judgment was at first in Falcone’s favor. Bitter at the defeat, Raval re-challenged Falcone to submit further motets and madrigals, which he intercepted and falsified en route to the judges; he then printed these forgeries under Falcone’s name in an *Apologia*. To counter Raval’s forgeries, Falcone’s 1603 print included some madrigals in addition to the competition works that reinforced his true compositional and theoretical prowess. One of these additional madrigals, *Dolce ha Madonna il viso*, publicizes the acoustically correct notation of non-extended mean-tone temperament in an apparent act of theoretical cognizance. This madrigal also provides the missing sharp chromatic compliment to Crescentio’s *publica forma*. As seen in Example Thirty-Four, this madrigal begins with e minor, B major, C-sharp major, and F-sharp major triads that, as Privitera remarks, could be taken for a product of “the best” Gesualdo.437 But the major thirds of these sharp triads are notated as flats and naturals: E-flat, F-natural, and B-flat (Falcone does not explain in words why). We see the “flat” F-natural serving as the “sharp” leading-tone E-sharp to F-sharp. The text-setting significance of these triads is admittedly not readily apparent. The poem, taken from Ansaldo Cebà’s 1596 *Rime* is straight-forward enough: His lady’s face is sweet, but her heart is bitter; love lives between these two extremes and is tempered with each sweetness and bitterness; love sweetly hardens and soothes the poet.438 Perhaps, then, the mean-tonal sharpness of the flats

437 Ibid., xxviii. Privitera then argues that this madrigal must be in equal-temperament.
438 Ibid., 36.
adds a certain brightness to her face. Curiously, Falcone does not employ the ensweetened modern tritone D-sharp G-sharp in this madrigal to express the bitter side of love.

**Example Thirty-Four: Falcone’s *Dolce ha Madonna il viso***

Later in the book, however, Falcone sets a variant of the same poem, *Aspro cor dolce viso*, that does employ the A-flat E-flat ensweetened modern tritone (here in Neapolitan notation) to express the bittersweetness of the lady’s face, A-flat with the sonorous proportion of G-sharp for “*aspro*” and E-flat for “*dolce*.” Taken together, these two of Falcone’s madrigals exhibit both a practical and theoretical understanding of mean-tonal chromaticism.439

**Example Thirty-Five: Falcone’s *Aspro cor dolce viso***

Surprisingly, Falcone did not mention mean-tonal theory and practice in his “Nine Challenges sent to Sebastian Raval” and the “Musical Conclusions” that are included in his father’s declaration.440 Of these two writings, only the latter includes tuning at all. These “Musical Conclusions” may just be the recollections of his father, who claimed he “diligently” encouraged his son in the study of practical and speculative music theory and musical

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439 Ibid., 34-35. *Sfidi tu forsi a baci* is a third and final mean-tonal madrigal in this book.
440 For the nine challenges, none of which have concern tuning, see ibid., XII.
instruments so that he might become a “perfect musician.” According to Falcone’s father, the “Musical Conclusions” were “given to memorialize his excellence, which was expressly denied by Raval and his judges.” The conclusions are divided into sections on theory and practice that include a list of a dozen things to know. The section on theory includes the major and minor whole-tones of just intonation and the major and minor semitones of Pythagorean tuning—but, oddly, nothing mean-tonal. The section on practice includes the mensuration system, diatonic, chromatic, and enharmonic music, canons, counterpoint, fughe, reddita (?), the twelve modes, and—lastly—“the four fughe d’accordo as they are understood and observed by the illustrious and excellent Prince of Venosa and other distinguished men.” The precise meaning of fughe d’accordo is uncertain, as is the quantity of four of them. Again, the ensweetened modern tritone is left off the list. This suggests that Falcone’s father (and perhaps Falcone himself) could not detail the interval in theory. The lack of theoretical precision aside, the Falcone-Raval Controversy, when coupled with the Stella-Colonna Controversy, provides sufficient historical evidence to acoustically re-notate Gesualdo’s sharpest chromatic progressions, as found in Moro, lasso and Beltà, poi che t’assenti. It is not the strongest evidence; it is reinforcing.

Publicizing the Acoustically Correct Notation: Marenzio and the Beccatelli-Chiti Debate

Another madrigal that reveals the acoustically false chromatic notation, albeit in an extremely ambiguous manner (and without demonstrative or pedagogical intent), is Marenzio’s renowned O voi che sospirate a miglior note. Marenzio’s long perplexing vertical juxtapositions

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441 Ibid., 127. Onde io che sempre con ogni studio, e diligenza attesa far crescere questo mio figliuolo da suoi teneri anni nel timor del Signore Dio, e nelle scienze della lingua Latina Poesia, e particolarmente della Musica speculativa, e prattica, con cognizione d’ogni sorte di strumento, conforme si ricerca à perfetto Musico.

442 Ibid., 133. Conclusioni Musicali d’Achille Falcone dati per memoria à sua Eccellenza quali furono espressamente negate dal Raval, e da suoi giudici.

of sharps against a circle of fifths progression into the flattest regions (conveniently enough for
the present discussion, the opposite direction of Falcone’s *Dolce ha Madonna il viso*) are
recalled in Example Thirty-Six. Here, as Petrarch laments Laura’s death, he implores Death to
pray for him that Love might “once change his normal ways” and make him happy again.
Marenzio’s setting, rife with ensweetened modern tritones set against Love’s “*antico stile,*” must
now be reconsidered, in light of a hitherto unknown source. In a debate on ancient and modern
music, D’Avella’s sole commentator, Beccatelli, quarreled with the Roman Girolamo Chiti over
this passage’s precise chromatic tuning (and the chromatic madrigal repertoire at large).
Predictably, Beccatelli, who skipped Crescentio’s *publica forma,* here again vehemently rejects
the mean-tonal practice, as understood by Chiti.\(^{444}\)

**Example Thirty-Six:** Marenzio’s *O voi che sospirate a miglior note*

The debate unfolds in three published letters and is carried out entirely in the abstract: On
account of the non-musical venue, *Supplementi al Giornale de’ Letterati d’ Italia,* no musical
texts are printed. (Again, like d’Avella’s examples, this may have superficially obscured the

\(^{444}\) One could only wish that these two authors also had access to Romano Micheli’s adventurous, if not overly
theoretical (stretching into double-flats) 1621 setting (Mabbett, vol. 2, 180). So far as I have yet found,
Micheli, having served Gesualdo in the 1590’s, never wrote about this mean-tonal madrigal practice in his
many surviving theoretical writings, otherwise devoted to arcane contrapuntal devices (canons) and
polemics.
significance of this debate). The first letter introduces two “difficulties” and purported “novelties” used by the “modern composer” [Autor moderno]: 1. The use of the sign x for the enharmonic diesis, and 2. The contradictory practice of using flats in one part and sharps in another and taking the latter for the former and the former for the latter as, for a hypothetical example, C-sharp and D-flat in the same octave, or other examples, as if sharps and flats are one and the same thing. It is the second difficulty. Having already encountered the “Holy Cross of Music Theory” according to Beccatelli, it comes as little surprise that his position here is that the “use of flats for sharps (and sharps for flats) is as far from the proper order of things by as much as the truth is from the false.” He then names mean-tonal practice in particular, in which sharps are lower than flats and (flats higher than sharps): “On this matter, I feel that practicing one string’s sharp by the flat close above it (and another [string’s] flat by the sharp close below it) makes me most doubtful.” For Beccatelli, the practical interchange of the sharps and flats—whether justified on account of the ordinary keyboard instrument that “lacks the proper intervals” or the Aristoxenean equal-tempered division of the whole-tone—is “outside

\[445\] So far as I am aware, only Barbieri cites it, without discussion.


\[447\] Beccatelli, “Lettera Critico-Musica,” 3. *Prima. L’uso di questo segno x per doppio Diesi*. This issue, as raised by Domenico Mazzocchi, is addressed in Chapter Four of this study.

\[448\] Ibid. Seconda. Il praticare contrariamente l’una parte i Bmolli, e l’altra i Diesi; e prendere questi per quelli, e quelli per questi, come per esempio, pretendere, che siano in Ottawa Cfaut col Diesis, e Dlasolre col Bmolle, ovvero altre consonanze, come se fossero una cosa medesima i Diesis co’ B molli, ec.

\[449\] Ibid., 28-29. L’usare i Bmolli per i Diesis, e questi per quelli, io direi, che fosse una cosa tanto dal buon’ ordine lontana, quanto è il vero dal falso.

\[450\] Ibid., 29. *E per dirne quel, ch’io ne sento: il praticare il Diesis di una Corda per il Bmolle della prossima sopra; e il Bmolle di un’ altra per il Diesis della prossima sotto, di più cose mi fa dubitare.*
of all reason.” Beccatelli does not acknowledge the text-setting practice; rather, this
“approximation only belongs in music when one does not have the proper sounds;” it is “just like
geometry, when one does not have the exact measurements.” He then acknowledges the
acoustical imprecision of the notation in a verbally round-about way: “But when one key is taken
for another, its name then is that for which it is taken—and never for that which it really is.”
That is to say, for example, when the G-sharp is taken for A-flat, the A-flat is named in musical
notation and not the G-sharp. In turn, the sense of hearing is “slightly offended by the defect of
the instruments and not the reason of the intervals, in which consists all of the art of this
profession and the beauty of Armonia.” But not only does the sense of hearing suffer from
this practice; the “noble whole of music is ruined and confused.”
Beccatelli then provides
several examples we have already encountered in the writings of d’Avella and Stella: Instead of
the minor sixth C A-flat, the augmented fifth C G-sharp; the diminished fourth B E-flat instead
of the major third B D-sharp. The “perfect singer” should not be “defeated by the Armonia of
the instrument” and should “intone the pitches that are written.”

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451 Ibid. Primo; o che Egli opera così perchè negli Strumenti ordinari di Tasti, per mancanza de’ propri intervalli, così si pratica; ovvero perchè Egli è del numero di quelli, che tengono per vera, intorno alla divisione del Tuono, la Dottrina d’ Aristosseno, Capo di quei Settatori, che il Tuono, come ho ditto nel principio dell’altra Difficultà, in due uguali semitunioni dividono. Lo che, e nell’ una, e nell’ altra maniera a me pare, che fuori d’ ogni ragione sia praticato.
452 Ibid., 30. E questo dicesi operare per approssimazione, il quale nella Musica ha solamente luogo, quando aver non si possono i propri suoni; siccome nella Geometria, quando non si possono avere le certe misure.
453 Ibid. Ma quando un Tasto per un altro si prende, il nome suo allora è quello, per lo quale è preso, e non giammai per quello che è.
454 Ibid. E così operando solo il senso dell’ udito ne viene qualche poco offeso, per lo difetto degli strumenti, e non la ragione degli intervalli, ne’ quali, tutta l’ Arte di questa professione, e tutta la vaghezza dell’ Armonia consiste.
455 Ibid. Dove che, altrimenti facendo, non solo patisce il senso dell’ Udito, ma tutto il nobile composto della Musica si rovina, e confonde.
456 Ibid., 30-31.
457 Beccatelli continues to say that discords remain with octave changes; the precise significance of stating this rather obvious claim is as yet unclear to me. Ibid., 31. Onde se si perfetto Cantore si potesse dare, che dall’ Armonia dello strumento vincere non si lasciasse; ma le dette corde per quello, che sono scritte, giustamente intonasse, molto discorderebbe, e specialmente più allora, quando detti baratti e per Ottava, e per Unisoni si ponessero.
worse when the ordinary keyboard is omitted and the chromatic keyboard is substituted in its place, the accompaniment remains out of tune; for this, the manner of notation is “all the more blame worthy.”

Although it is “outside of reason,” as he has already shown, to notate the improper sharp and flat keys on an ordinary keyboard, it is “all the more outside of reason” to notate those improper keys on the chromatic keyboard when the proper keys are available. That is to say, notating D-flat for C-sharp and D-sharp for E-flat when C-sharp and E-flat are available. Here, Beccatelli invokes Dante: “If that is a learned and prudent practice,” then, as Dante writes in canto 26 of Paradiso, “It is better to remain quiet than reason honestly.”

This last practice is not observable in the Neapolitan chromatic keyboard repertoire. Unfortunately, Beccatelli, true to form, wrote in the abstract about these practices and did not supply any musical examples taken from the (by then) ancient madrigal repertoire. Beccatelli’s likewise lengthy rebuttal of the equal-tempered Aristoxenean justification of substituting sharps for flats (and vice versa)—a worthy study in its own right, in light of Artusi’s Aristoxenean advocacies—is here deferred, as I see no indication that Crescentio and the Neapolitan madrigalists considered their music in equal-temperament, argued for it, or demonstrated it in the publica forma.

Chiti’s response to Beccatelli is primarily a historicization of these “difficulties” and “novelties.” He points out that both “difficulties” are not “novelties:” The x diesis notation was already employed in Domenico Mazzocchi’s 1638 Dialoghi. For the substitution of flats for

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458 Ibid., 32. *Di più, se noi, tralasciato l’ ordinario strumento, prenderemo un Cimbalo di quelli, che Cromatici son chiamati; oh quanto scorderanno le parti tra loro nelle sole accomopagnature del medesimo Cimbalo! E per ciò oh quanto stimo biasimevole lo scrivere in sì fatta maniera!*

459 Ibid. *Quanto più sarà fuor di ragione lo scriver quelli, che non vi son propri, cioè scrivere il Bmole di dlasolre per il Diesis di csolfaut, e il Diesis del medesimo dlasolre per il Bmole di elami, mentrechè, e il bmolle di elami, e il Diesis di csolfaut vi è proprio?*

460 Ibid. *Se questa sia dotta, e prudente operazione, Più è tacer, che ragionare onesto.*

461 Ibid., 33-53. Again, there are no musical examples in this abstract discussion of equal-temperament.

462 Chiti, “Parere,” 56-57. Given the brevity of Chiti’s response (as we shall see now), one must ask if he was entirely engaged in this practical vs. theoretical debate Beccatelli was seemingly more actively involved in.
sharps and sharps for flats, Chiti cites Marenzio’s *O voi, che sospirate*, the works of Felice Anerio in general, a “Spaniard in Pietro Cerone’s *Melopeo*,” and, more recent in time, Angelo Berardi’s 1690 *Arcani Musicali*. He defends this common keyboard practice on account of the impracticality of split-keyed instruments, yet admits that “one may not so metaphysically criticize [Beccatelli’s] exceptionally speculative mind,” which exposed the practice.

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464 Ibid., 62-3. *Per maggior difesa dell’ Autor moderno criticato veniamo adesso all’ uso de’ nostri Cimbali, praticato in oggi senza spezzature di tasti, e ciò per la poca utilità, che se n’è cavata quando si suonavano colli spezzati: il chè essendo così, come di fatto lo è, non si può tanto metafisicamente criticare il bell’ ingegno speculative, che ha inteso di mostrare l’ Autor moderno col meschiare un tasto per Bmolle, e l’altra di corrispondenza per Diesis.*
concedes that this practice’s “correspondence of the consonances is not totally perfect, as it is not in its proper proportion; such correspondence is most difficult [to achieve].”

He recounts how great minds “sweated” over and were “consumed” by the division of the whole-tone. Even after having written and demonstrated their proofs on the division of the whole-tone, they still had not reached a conclusion or reduced the great diversity of opinions on this matter.

Following Book Three of Boethius, Chiti takes as “most probable” that the whole-tone is greater than eight commas but less than nine; to this measurement of the whole-tone, he equates the moon which takes more than twenty-nine but less than thirty days to complete one orbit. These numbers are “rough,” but therein lies the rest of the “high difficulty” of the subject (another concordance to the confusion over the Pythagorean enumeration of mean-tonal intervals).

Returning to the common keyboard in light of these unresolved speculations, it seems to Chiti most excusable for the modern composer to use and practice on a daily basis these “bizarre modulation[s that] deceive the eye”—without regard to theory. Clearly, Chiti was able to recognize and weigh both the positions of the modern practitioner and theorist: The “modern composer may be saved, or better yet, approved of on account of the mentioned verities and exceptions, as well as praised for his spirit of virtuosity and fair intelligence.” Likewise, Beccatelli may be “highly praised and approved of for his apt reflections on these two [difficulties or novelties].”

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465 Ibid., 63. E ben vero, che voglio concedere non aver la sua total perfezione la corrispondenza delle consonanze in tal caso, per non esservi la sua real proporzione, essendo difficilissima tal corrispondenza.

466 Ibid. Poiché se la divisione del tono ha fatto sudare, e intisichire tanti bell’ ingegni, che poi dopo avere scritto, e dimostrato con prove, o non hanno concluso, o lasciate da parte tante diverse opinioni.

467 Ibid. Ed appigliandosi alla più probabile assegnano al tono più di otto parti, ma meno di nove, come alla Luna più di ventinove giorni, ma meno di trenta; questo stesso numero rotto è quello, che a formarsi giusto resta difficilissimo.

468 Ibid. Aggiungiamo poi, il Cimbalo senza spezzature, e però privo della sua richiesta misura in simili toni, e semitoni. Pare dunque molto scusabile, che conformandosi il moderno Autore all’ uso, e pratica d’ oggi giorno, vada facendo questa bizzarra modulazione con inganno dell’ occhio.

469 Ibid., 64-65.
To Chiti, Beccatelli responds that he has not seen Mazzocchi’s *Dialoghi* or even many works of their ancestors; but he had seen the interchangeability of flats and sharps in the works of Marenzio, Monteverdi, Gesualdo, Berardi, and other composers he encountered in his youth.\(^{470}\) He confesses that even he himself had practiced this manner of notation in one of his first cantatas, which he composed when he began to put his “weak and foolish ideas” on paper.\(^{471}\) That is to say that Beccatelli had notated sounding G-sharps as A-flats early in his musical studies and recognized Chiti’s hypothesis that the madrigalists composed in this practical manner. However, Beccatelli then asks: Does that mean the accidentals are “well made or that they may be defended?”\(^{472}\) “Absolutely not.” For Beccatelli, “reason condemns [the practice] as vain with absolute clarity and produces examples for proof.”\(^{473}\) Moreover, he had “never found such a similarly deceitful manner” of writing among the few works he saw among the “true and learned composers of our century.”\(^{474}\) He did not grasp the text-setting significance of this chromatic practice.

More than twenty years after his correspondence with Beccatelli, Chiti would acquire a copy of d’Avella’s *Regole* in 1747. He does not seem to have been able to decipher it.

**From the Publica Forma to Gesualdo’s Madrigals**

Crescentio’s *publica forma* did not continue with further musical examples. How, then, does the *publica forma* relate to Gesualdo’s music? Might one discern the same chromatic text-

\(^{470}\) Beccatelli, “*Risposta,*” 68, 76.

\(^{471}\) Ibid., 76. *Ma io medesimo una volta le praticai in una delle mie prime Cantate, che feci quando cominciai a distendere in carta i miei deboli, e insulsi concetti.*

\(^{472}\) Ibid. *Ma per questo, che altri l’abbiano usate, ne viene la conseguenza, che sieno ben fatte, o che si possano salvare?*

\(^{473}\) Ibid. *Io dico assolutamente di no, perché di quello che la ragione con ogni chiarezza condanna è vano addurne per prova gli esempi.*

\(^{474}\) Ibid., 76-77. *Benché per quel poco, che ho veduto ne’ veri, e dotti Autori del nostro Secolo, simili ingannevoli maniere non ho mai ritrovate.*
settings, contrapuntal formulas, and ensweetened modern functional tonality in Gesualdo’s chromaticism, albeit in less overt guises? Could Gesualdo’s chromaticism be likewise transposed to remove the ensweetened modern tritone and be sung “happily?” D’Avella did not (and could not) address these questions in any detail, as he did not have access to many prints or the study score edition of Gesualdo’s madrigals. Let us firstly note that Crescentio demonstrates, perhaps only coincidentally, the very same ensweetened modern tritone suspension that Gesualdo used in the *Tenebrae*. In the second line of the villanella, Crescentio sets an ensweetened modern 7-6 suspension on “fiamme ard-” in the canto and basso parts. As the basso part most properly prepares the canto’s B-flat suspension with a D-flat to C step, the alto descends stepwise with it, F to E-flat. This, in turn, prepares an ensweetened modern tritone resolution, as the canto descends, B-flat to A-flat. Crescentio continues the suspensions, most cleverly, with a suspended cadential six-four progression. In a similar manner, Gesualdo uses this ensweetened modern 7-6 suspension in measure 45 of Example Eight, between the canto and alto parts on “inclina-.” It is worth noting that Gesualdo, unlike Crescentio, did not prepare this suspension with a D-flat in the alto (perhaps to avoid implicating the E-flat major triad as a dominant seventh chord). This, again, is a small indication that Gesualdo practiced chromatic moderation in his *Tenebrae*. To be sure, the suffering of Christ is chromatically understated compared to that of the commonest of Neapolitan poets who has lost his lady.

Gesualdo set several poems on the departure topic in his fourth through seventh books of madrigals, including *Asciugate i begli’ occhi* (V, 14), *Beltà, poi che t’assenti* (VI, 2), and “Io parto” (VI, 6), which provide close comparisons to Crescentio’s *publica forma*: In these madrigals, the A-flat E-flat ensweetened modern tritone also expresses feelings of sorrow and
Although a select few ensweetened modern tritones will be found in books one through three, they notably do not appear in *Sento che nel partire* (II, 12), which, as will be recalled, was remarkable to d’Avella for its ensweetened ancient tritones; nor do ensweetened modern tritones appear in Rore’s original *Ancor che col partire*, for that matter. In *Asciugate i begli’ occhi*, an anonymous rehashing of Guarini’s *Cor mio, deh non languire*, the poet instructs his beloved to “dry her beautiful eyes” and “weep not” should she see him travel far away (lines one through three); should he depart from her, it is he who should “weep miserable and alone.” The sorrow felt upon leaving her would be the death of him.\(^\text{476}\) Gesualdo’s setting employs *villanesche* homophony, rhythms, and counterpoints in lines one and two, switches to *fugati* and *fuggire* motifs in line three, and mixes both textures together in the final couplet. Two ensweetened modern tritones appear in this madrigal, the first of which expresses the beloved’s weeping in line two. The second, as seen in Example Thirty-Seven, appears in a *villanesche* texture on the word *partendo* in the final line and, as such, is at once comparable to Crescentio’s *publica forma*. Gesualdo here dwells on the departure by exaggerating the accentuation of the text. He sustains an E-flat major triad built upon the modern tritone’s E-flat for *parten*—and then ever so rapidly repercusses the ensweetened modern tritone on –*do* and *da*. The basso’s leap is now familiar from the *publica forma*—as is the fifths progression of B-flat, E-flat, and A-flat triads, which sets up a subdominant to dominant half-cadence on B-flat major. The poet has been twice struck by the sonorous proportions of sorrow and, fatally wounded, embarks on an unremitting journey through innumerable points of imitation towards his death. Crescentio could not have introduced and demonstrated this text-setting practice any better. If the *publica forma* continued onto

\(^{475}\) One could broaden the topical inquiry by including ensweetened settings of related *fuggire* texts, which are of greater quantity in Gesualdo’s last books of madrigals. However, my present purpose is to simply establish a connection between Crescentio’s villanella and Gesualdo late madrigals.

\(^{476}\) *Asciugate i begli’ occhi;* *deh, cor mio, non piangete* // *se lontano da voi gir mi vedete,*// *Ahi che pianger debb’io misero e solo,* // *ché, partendo da voi,* *m’uccide il duolo.*
Gesualdo’s chromatic madrigals, *Asciugate i begli’ occhi* would have been a not too distant next step for the Neapolitan publics’ ears. The sonorous proportions of this would have sounded eminently familiar, yet jarringly different from the unpublicized sharp chromaticism (b minor, B, and F-sharp major triads) which Gesualdo set in the preceding line.

Example Thirty-Seven: *Villanesche Ensweetened Modern Tritone in Asciugate i begli’ occhi*

*Beltà, poi che t’assenti* could have appeared next on the Neapolitan public’s program. It of course ranks among the best known of Gesualdo’s extremely chromatic madrigals, due, in part, to Burney’s criticisms and Stravinsky’s arrangement of it in his *Monumentum pro Gesualdo*. Given its distinguished reception history and prominence in performance, *Beltà, poi che t’assenti* certainly warrants reconsideration in light of Crescentio’s *publica forma*. Here, the departing beloved agrees to take along with her the poet’s heart and its torments. The poet, although his heart can “feel the pain of death,” is relieved that his soul, now heartless, cannot feel such pain. Gesualdo, as has often been remarked, sets the first line and a half with one of his most radical and brashest progressions from flat to sharp chromatic sonorities: g minor to C-

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477 “Io parto” exhibits a similar villanesche texture with an ensweetened modern tritone. I defer this discussion until Example Forty-One.

478 *Beltà, poi che t’assenti/ Come ne porti il cor, porta i tormenti./ Chè tormentato cor può ben sentire/ La doglia del morire./ E un alma senza core/ Non può sentir dolore.* Peter Lockwood translates “assentire” (“to agree”) as “to depart.” His apt reading of this poem as a departure text (and not merely an unreciprocated exchange of hearts) follows from line two’s “portare” (“to take”), which implies departure.
sharp major. Neither D’Avella nor Crescentio venture an explanation of such a progression.\textsuperscript{479}

My intent, following the \textit{publica forma}, is simply to point out the common-place chromatic text-setting which follows thereafter. As the beloved takes the poet’s heart, Gesualdo, by now most predictably, turns towards flat chromatic sonorities; ensweetened modern tritones increasingly pervade throughout the imitative counterpoint. As seen in Example Thirty-Eight, the ensweetened modern tritones climax in measures 15-17 on three-fold ensweetened modern \textit{durezze e ligature}, which exacerbate the pains of death in the poet’s heart. Although Crescentio demonstrated these ensweetened modern tritone suspensions, he did not demonstrate such prolonged vertical clashes of the sonorous proportions of the suspension, A-flat, and its resolution, G. These, of course, were Gesualdo’s elaborations upon a basic contrapuntal idiom (and, again, one contrasts the extremity of this passage to the reserved \textit{Tenebrae}). As this climax recedes and the phrase turns towards its end, a half-cadence in d minor, Gesualdo first unsweetens the modern tritone back to E-flat A in the quinto and alto parts in measure 17; then, most “chimerically” as D’Avella would say, he ensweetens the modern tritone into E A in the alto and tenor to prepare the d minor dominant. Although the continued repetition of the text maintains the pain in the poet’s heart, these modern tritones are certainly less painful. To be sure, \textit{Beltà, poi che t’assenti} is in part reflective of a common practice among the Neapolitan chromatic madrigalists, which should not be overlooked on account of even the most extravagant of Gesualdo’s harmonies.\textsuperscript{480}

\textsuperscript{479} For one possible explanation of this progression, see Watkins, \textit{Gesualdo: The Man and His Music}, 206-7.\textsuperscript{480} Supplemental Gesualdian examples of the ensweetened modern tritone expressing death at departure, albeit without \textit{villanesche} textures, may be found in M. Rossi’s \textit{Ah dolente partita, Amor, io parto, and Tu parti a pena giunto}. Note Bononcini’s afore cited \textit{Amor, io parto}. Among Neapolitans transcribed in Larson (vol. 2, appendix), note in particular de Bellis’ \textit{Ah dolente partita} (54) and Effrem’s \textit{Chi dice che ‘l partire} (64).
Neapolitan madrigals and villanellas on the departure topic composed by musicians who also theorized, built, played, and composed for the nineteen-tone chromatic keyboard are especially important in light of Crescentio’s *publica forma*. They may reinforce that the chromatic text-setting was not conceived according to this chromatic instrument; they may show that there were indeed two different chromatic gamuts in Naples: One with twelve pitches (and acoustically false notations between those twelve) used in madrigals; the other with nineteen pitches (and acoustically correct notation) used in chromatic keyboard works. The

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481 See Christopher Stembridge, "Music for the Cimbalo Cromatico and the Split-Keyed Instruments in Seventeenth-Century Italy," *Performance Practice Review* 5/1 (1992). Stembridge notably acknowledges that the madrigalists may have had the intent to go out of tune to express the text, but not so far as the wolf. He cites Rocco Rodio’s *Madonna il vostro pett’ e tutto ghiaocio*. The performance of Gesualdian madrigals both alongside and accompanied by 19-tone keyboards can be heard in the Gesualdo Consort’s most recent (and premier) recording of LaCerca’s third book: *Musica Vulcanica* (Halle: Sony BMG, 2006).
significance of this very select group of Neapolitan musicians’ works may not be over-stated; for
the 20-tone chromatic gamut notated in Gesualdo’s fifth and sixth books of madrigals (B-sharp
to C-flat) most closely resembles this chromatic keyboard that flourished in Naples at the turn of
the seventeenth-century. Neapolitan madrigalists who certainly fall under this rubric include
Stella, Trabaci, and Maione. Of these, d’Avella cited Stella only, but, as mentioned above, he
misread Stella’s dedication to the printing of Gesualdo’s second book and he was unaware of the
Stella-Colonna Controversy. As the reader glean from d’Avella’s treatise, he only vaguely
knew of these chromatic keyboards, but not their theory, repertoire, or composers. Therefore, he
did not make a distinction between Neapolitan chromatic madrigals, villanellas, and responsories
on the one hand, versus Neapolitan chromatic keyboard works on the other hand. Unfortunately
Stella’s madrigals are lost, but Trabaci’s and Mayone’s have been preserved. Of Trabaci’s two
books of madrigals (1606 and 1611), Ahi tu parti ben mio (II, 1) uses the E-Flat A-flat
ensweetened modern tritone in great moderation to express the death of the poet’s “unhappy
body,” Example Thirty-Nine (A). Indeed, Trabaci rather conservatively never ventured beyond
the pitches A-flat or G-sharp in his madrigals or sacred music (including a setting of the
Passion), thereby implicating that the A-flat is tuned G-sharp. His one published toccata and
recercare for the chromatic keyboard in his Secondo Libro de Ricercate & Altri Varij Capricci
(1615) only ventures into the extreme sharp side (all the way to D##) and never uses the notes E-
flat, A-flat, and beyond into the flats.482 Trabaci’s detailed preface to this print mentions only
one relationship between vocal and keyboard music (motets, madrigals, and ricercares must
observe the authentic-plagal distinction in the modes and galliards, partitas, and toccata do not);
there is no mention of the difference between the acoustically false madrigal chromatic notation

482 Roland Jackson, “The Keyboard Music of Giovanni Maria Trabaci,” PhD Diss., vol. 2 (University of California,
and acoustically correct chromatic keyboard notation.\textsuperscript{483} Ascanio Mayone’s madrigals and toccatas for the chromatic keyboard provide a better comparison, as his chromatic toccatas do include A-flats and D-flats. These toccatas, which appear in his \textit{Secondo Libro di Diversi Capricci} (1609) are the earliest known works that specifically call for a chromatic harpsichord. An excerpt comparable in notated chromatic accidentals to Crescentio’s \textit{publica forma} appears in Example Thirty-Nine (B), in which the A-flats and D-flats could, hypothetically, have the sonorous proportions of G-sharps and C-sharps in an abstract instrumental imitation of madrigal text-setting. That is to say, one could read this as a text-less intabulation of a madrigal on the departure topic. Like Crescentio’s \textit{publica forma}, Maione could be outlining the ensweetened modern tritone A-flat E-flat melodically (mm. 31-32), followed by \textit{durezze e ligature} on b-flat and f-minor triads (mm. 33-35). However, as Maione informs us, these are in fact split key A-flats and D-flats (with their proper sonorous proportions) and, therefore, differ affectively from the accidentals in the \textit{publica forma} and Example Thirty-Nine (A). Although there are not any madrigals on the departure topic in Mayone’s lone book of madrigals (1604), there are, by way of contrast to the chromatic toccata, E-flat A-flat ensweetened modern tritones used erotically in \textit{Io moro ò me felice} (1) and \textit{Son morto, e godo} (8).\textsuperscript{484} Like Trabaci, Mayone did not venture beyond the pitches A-flat or G-sharp in his madrigals.\textsuperscript{485}

\textsuperscript{483} Ibid., vol.1, 351-354.
\textsuperscript{484} Water damage to this print preserved in the Murhardsche Bibliothek unfortunately prohibits transcription.
\textsuperscript{485} Additionally, Colonna’s \textit{Sambuca Lincea} also contains compositions by Ascanio Mayone in the ancient Greek enharmonic and chromatic genera, in two species each, ‘tense’ and ‘soft’ (92). Mayone also composed a “circulation” through all the chromatic and enharmonic “grades” on the \textit{sambuca} (103); the circulation may be further contrasted with the proto-functional uses of these triads’ \textit{publica forma}. 
Let us take Crescentio’s *publica forma* another step and debate whether or not Gesualdo left his common non-extended mean-tone tempered lute and turned to the Neapolitan chromatic keyboard (or a lute fretted to it) for his last books of madrigals. Did he perhaps employ ensweetened modern and post-modern tritones side by side? As his fifth and sixth books do not have notated F-flats or double-sharps and double-flats, there are only three possible 19-tone chromatic keyboard ensweetened post-modern tritones in them: 1. B-sharp E-sharp with the sonorous proportions of C-natural and E-sharp, when E sharp and C flat are tuned; 2. E-sharp A-sharp with the sonorous proportions of F-natural A-sharp when C-flat and F-flat tuned; and 3. G-flat C-flat with the sonorous proportions of G-flat B when B-sharp and E-sharp are tuned. Let us identify each of these kinds of ensweetenings and, where possible, E-flat A-flat and D-sharp G-sharp ensweetenings in their immediate presence.

The post-modern tritone B E-sharp ensweetened into B-sharp E-sharp, in which the B-sharp has the sonorous proportion of C-natural when E-sharp and C-flat are tuned: The pitch B-sharp is only notated twice in Gesualdo’s fifth and sixth books: *Mercé grido piangendo* (V, 11) and *Deh, come in van sospiro* (VI, 9). In *Mercé grido piangendo*, Example Forty, B-sharp occurs
as the major third of a G-sharp major triad. This triad, a shocking hexatonic pole following e minor, set on the syllables *mo-ra*, brings the poet’s exclaims to the “treasure of his heart:” “Might I say to you before I die: ‘I die!’” There are two possible readings of this triad. First, the G-sharp major triad is an ensweetened modern G-sharp D tritone, in which the D-sharp has the sonorous proportion of E-flat. The major third, B-sharp, according to the circle of fifths generation of the ensweetened modern tritone has the sonorous proportion of C. This vertical sonority is even more jarring than the A-flat major triad introduced by Crescentio in the second section of his villanella. The ensweetened modern tritone sonority is then lost in the repetition transposed a fifth down to a C-sharp major triad. Second, the G-sharp major triad’s B-sharp is an ensweetened post-modern tritone B E-sharp, in which the B-sharp has the sonorous proportion of C. The verticality G-sharp D-sharp now sounds properly proportioned. For it to be an ensweetened post-modern triad, the preceding E-natural in the alto and/or the following E-natural in the bass must have been ensweetened from E-sharp. That is to say, the alto’s E-natural must be ensweetened in the first way from an E-sharp B post-modern tritone formed with the quinto. The soprano’s B-sharp must then be ensweetened in the second way from a B-natural E-sharp post-modern tritone formed with the alto. This kind of sequence of ensweetenings, it will be recalled, was seen and described by the Neapolitan musicians themselves in the *Et inclinato capite* motif, as well as the double-ensweetening seen in Nenna’s *Coridon*. Likewise, the basso’s E must have been doubly ensweetened from a B-natural E-sharp post-modern tritone with the soprano. This, in turn, would imply a diminished third origin with the alto’s G above the bass. As *Mercé grido piangendo* has a notated chromatic gamut from E-flat to E-sharp, this B-sharp could theoretically be a C-natural on a 19-tone keyboard with C-flat and E-sharp tuned. However, the ensweetened post-modern tritone sonority is then again lost in the repetition.

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486 *dolce del cor Tesoro, potessi dirti, pira ch’io mora:* “Io moro!” trans. Peter Lockwood
transposed a fifth down to a C-sharp major triad, for the alto’s E-sharp is tuned with the sonorous proportion of E-sharp (and not of F, which would form a doubly ensweetened post-modern tritone with the quinto’s A. This analysis may be repeated for *Deh, come invan sospiro*, in which the beloved brings others joy, but the poet only death on an E major to G-major progression.

**Example Forty: Gesualdo’s *Mercé grido piangendo*, Modern or Post-Modern?**

The post-modern tritone E A-sharp ensweetened into E-sharp A-sharp, in which the E-sharp has the sonorous proportion of F when C-flat and F-flat are tuned: These are the most numerous in the fifth and sixth books, as Gesualdo used the pitch E-sharp the most of all 19-tone split-keys. Let us therefore select one on the departure topic to exhibit both ensweetened modern tritones and potential ensweetened post-modern tritones that express the same affect. Such a madrigal is “*Io parto,*” which exhibits the ensweetened modern tritone D-sharp G-sharp in a villanesche texture to express Chloris’ languishing, Example Forty-One (A). This madrigal also features a potential ensweetened post-modern tritone E-sharp A-sharp at a crucial junction in the poem’s dialogue: The poet says no more than “I go,” for the pain of so doing deprived his heart of life. Chloris then breaks into tears and interrupted sobs. As she begins to reply, “So I remain
alone with my woe,“ Gesualdo sets C-sharp major and F-sharp major triads, whose thirds could form an ensweetened post-modern tritone, E-sharp A-sharp, Example Forty-One (B). As this madrigal’s total chromatic gamut ranges from E-sharp to A-flat, the split-keys C-flat and F-flat could be tuned (but not used). The alto’s E-sharp would be an ensweetening of an E-natural A-sharp post-modern tritone formed between the alto and soprano; but, lacking the pitch E-sharp, the sonorous proportion of F-natural would be substituted in its stead. This reading would compromise the ensweetened modern tritone D-sharp G-sharp cited above, as the D-sharp would have the sonorous proportion of D-sharp on this 19-tone chromatic keyboard. If the ensweetened modern tritone is maintained, then the ensweetened post-modern tritone under consideration would be compromised; the E-sharp would have the sonorous proportion of F and the A-sharp that of B-flat.

Example Forty-One (A): Villanesche Ensweetened Modern Tritone in Io parto

487 “Io parto” e non più dissi, che il dolore/ Privó di vita il core./ Allor proruppe in pianto e disse Clori/ Con interrotti omèi: “Dunque a i dolori/ lo resto. trans. Peter Lockwood.
Example Forty-One (B): *Io parto*, Modern or Post-Modern?

*Dolcissima mia vita* (V, 4) provides another example of a potential ensweetened post-modern tritone E-sharp A-sharp. As this madrigal’s total chromatic gamut also ranges from E-sharp to A-flat, the split-keys C-flat and F-flat could be tuned (but not used). The poet inquires of his beloved: “Why do you delay my yearned for relief [aita]?” As seen in Example Forty-Two, Gesualdo repeats “aita” over a fifths progression from b minor, F-sharp major, and c-sharp minor triads. The last two of these triads are related by the A-sharp E post-modern tritone, here seen between the alto and canto parts. Gesualdo finishes raising the question by ensweetening this post-modern tritone with an E-sharp cross-relation in the quinto. The poet’s yearning for relief intensifies on the second aita by uttering the sonorous proportion of F after the A-sharp sonorous proportion on the first aita. The poet’s torment then increases as the beloved turns her glance away from him, trying in vain to extinguish his burning desires; for the poet must either love her or perish. Here, however, as the poet dies, Gesualdo returns to the ensweetened modern tritone, E-flat A-flat, and the related f- and b-flat minor sonorities in the manner of

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488 *Dolcissima mia vita;/ a che tardate la bramata aita?*

489 *Credete forse che'l bel foco ond' ardo,/ sia per finir perché torcete il guardo?/ Ahi, non fia mai che brama il mio desire/ o d'amarti o morire.*
Crescentio’s *publica forma*. Again, it seems that there are both ensweetened modern tritones and ensweetened post-modern tritones in this madrigal, each with overt text-settings.

**Example Forty-Two: Dolcissima mia vita, Modern or Post-Modern?**

The post-modern tritone G-flat C ensweetened into G-flat C-flat, in which C-flat has the sonorous proportion of B-natural when B-sharp and E-sharp are tuned: C-flat only appears in *Tu piangi* (VI, 3), Example Forty-Three (A). As *Tu piangi* has a notated chromatic gamut from C-flat to A-sharp, the C-flat could theoretically be a B-natural on a 19-tone keyboard with E-sharp and B-sharp tuned (but not used). This C-flat with the sonorous proportion of B-natural is likely the minor-third of the vertical ensweetened modern tritone E-flat A-flat—an expression of weeping. Alternatively, it could be a doubly ensweetened post-modern tritone G-flat C. In this case, the alto’s G-flat was ensweetened in the second way with a C in the soprano. This G-natural ensweetened an e-flat minor triad into an E-flat major triad. In turn, the soprano’s C-natural was ensweetened into a C-flat with the sonorous proportion of B-natural. The vertical ensweetened modern tritone E-flat A-flat is sacrificed in favor of the cross related ensweetened post-modern tritone. Another potential G-flat C post-modern tritone appears at the repetition of this verse transposed up a fifth between the soprano and alto, Example Forty-Three (B). If, however, one reads this G-flat C as a post-modern tritone, then the E-flat A-flat in the tenor and bass is compromised as an ensweetened modern tritone; if the G-flat has the sonorous proportion
of G-flat, so too does the A-flat have the sonorous proportion of A-flat. If one reads the A-flat as having the sonorous proportions of G-sharp, then the G-flat also has the sonorous proportions of F-sharp. The G-flat C post-modern tritone must then be read as an ancient F-sharp C tritone.

Example Forty-Three: *Tu piangi*, Modern or Post-Modern?

Examples Thirty-Seven through Thirty-Nine have preliminarily exhibited that the ensweetened modern tritones depicting feelings of departure in the *publica forma* remained as such in Gesualdo’s fifth and sixth books of madrigals. Yet Examples Forty through Forty-Three have also preliminarily exhibited that the ensweetened post-modern tritones found on the 19-tone Neapolitan chromatic keyboard might also be found in select madrigals of these two books, even on the departure topic. If so, these post-modern tritones compromised the sonorous proportions of the ensweetened modern tritones. If the ensweetened modern tritones remained in effect throughout these madrigals, then the post-modern tritones were compromised. Now, adding another layer to the 19-tone Neapolitan chromatic keyboard, how, then, does Crescentio’s *publica forma* relate to the demonstrative chromatic and enharmonic madrigals that Vicentino published in his *L’antica musica ridotta alla moderna practica*? And, in light of Crescentio’s *publica forma*, how do Gesualdo’s madrigals relate to Vicentino’ demonstrative madrigals?
Neither Crescentio nor d’Avella could have tackled these questions; Stella could have.

Vicentino, of course, did not discuss the mean-tone tempered wolf or its affective qualities, nevertheless explicitly use it as a text-setting device (this omission is most curious, considering that mean-tonal madrigals already appear in the 1550s Ferrarese works of Rore and the Viola brothers). There are no notational conceits in Vicentino’s system: The A-flat is tuned as A-flat, D-sharp as D-sharp, and so forth, without exception. Of his three demonstrative enharmonic madrigals, only one, *Dolce mio ben, son quest’i lumi*, exhibits the enharmonic “leap larger than a fourth” which, as will be recalled, most closely resembles d’Avella’s Pythagorean enumerated ensweetened modern tritone (unfortunately, Vicentino did not compose a demonstrative madrigal on the departure topic in his treatise or a practical one in his fifth book to make a direct comparison to Crescentio’s *publica forma* or Gesualdo’s examples cited above). As found in Chapter 52 of Book Three on Musical Practice, this madrigal was designed so that it could be sung diatonically, chromatically, and enharmonically, for sake of comparison. As one proceeds from a diatonic performance, which, according to Vicentino, is “without much harmonic sweetness,” and adds in flats, naturals, and sharps, the madrigal becomes “sweetly chromatic.”

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490 For the earliest Ferrarese application of the E-flat A-flat ensweetened modern tritone I have found, see Alfonso della Viola’s *Quando per dar al mio languir conforto*, which features an exceptional two-flat signature, in his 1540 *Il Secondo Libro di Madrigali*, ed. Jessie Ann Owens (New York: Garland, 1990): 32. Also recall della Viola’s afore cited tuning and transposition instructions.

491 Vicentino’s fifth book seems to exhibit the non-extended mean-tonal practice in several of the madrigals. Perhaps the clearest example of this would be *Quando per mio destin*, in which the poet, deprived of his beloved “anguishes” and “sighs” on A-flat major triads (Kaufmann 1963, 91). Such a provocative theory—that Vicentino composed his fifth book of madrigals in the same Ferrarese (turned Neapolitan) chromatic practice as Gesualdo and did not detail it at all in his monumental treatise on chromatic and enharmonic music—shall only be hinted at here. Unfortunately, Vicentino’s second through fourth books remain lost. The same question can be posed for the Vicentinian theorist and composer Francesco Nigetti, who studied with Marco Gagliano (who, in my reading, followed the chromatic text-setting practice) and taught Beccatelli (who rejected the practice). Nigetti’s compositions are unfortunately lost, save for a few in Bologna Q49. His theory was described by Benedetto Bresciani in his *Trattato del sistema armonico, nel quale si spiega il cembalo onnicordo inventato da Francesco Nigetti* (I-Fn, Pal. 802). Again, there is no mention of the madrigalists’ chromatic practice in this Vicentinian treatise. Another case in point for this Vicentian theory vs. madrigal practice issue is the Roman Galeazzo Sabbatini, discussed in Chapter Four of this study.
In turn, as one adds in the enharmonic dots, the resultant mixed chromatic and enharmonic madrigal becomes “both sweet and gentle.” Thus, in Vicentinian discourse, madrigals were also “ensweetened” with accidentals, but not those that “temper” tritones (or any other interval in particular). *Dolce mio ben, son quest’i lumi* is an incomplete madrigal set on a poetic fragment consisting of a four-line stanza on the ‘light’ [*lume*] topic. The text, ever so straightforward and redundant in its content, tells of the “sweet lights” radiating from the beloved that “sweetly consume” the poet. Vicentino uses multiple “leaps larger than a fourth” in various places in the enharmonic gamut to express both the beloved’s “sweet lights” and the poet’s “sweet consummation.” As seen in Example Forty-Four, the “leap larger than a fourth” appears on the final iteration of “sweet lights” in measure 11 (also on a prior iteration in measure 7). Following a mixture of F major and f minor, Vicentino suspends the canto’s F into a half-cadential C major triad. He then quickly turns around to conclude the second line with a cadence on F major, likewise mixing ċ minor and Ĉ major dominant triads. The alto leaps a “leap larger than a fourth” from G to Ĉ as the tenor inversely leaps a “leap smaller than a fourth” from C to Ġ. Thus, in keeping with Vicentinian discourse, the chromatic “sweet lights” have been enharmonically ensweetened. In the next line, the chromatic “sweet consummation” is likewise enharmonically ensweetened with the E-flat Ā-flat “leap larger than a fourth” found in the tenor part in measure 14. Vicentino here raises an A-flat major triad by one half of a minor diesis into an Ā-flat major triad. There is no indication that the A-flat triads sound G-sharp contra E-flat or that the E-flat to Ā-flat (close to a Pythagorean G-sharp) “leap larger than a fourth” is any more significant in the enharmonic gamut than any other such leap. Indeed, Vicentino continues his setting of the second through fourth lines with yet more “leaps smaller than a fourth” from Ā-flat

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492 Vicentino, 211.
493 *Dolce mio ben, son quest’i dolci lumi,/ Che tanto dolcemente mi consume,/ Che tanto dolcemente/Fanno che dolcemente mi consume./Hayme*
to D-flat, B-flat to E-flat, G to D, D to A, “leaps larger than a fourth” from F to B-flat, among various other enharmonic ensweetenings. Clearly, Vicentino exhibits more ensweetenings than Crescentio and d’Avella—and in different terms.

Example Forty-Four: Vicentino’s *Dolce mio ben, son quest’i lumi*

For sake of comparison to Vicentino, Gesualdo set numerous *lume* poems, including

*Mentre, mia stella, miri* (I, 14), the above cited *All’apparir di quelle luci ardenti* (II, 19), *Meraviglia d’Amore!*, *Ed ardo e vivo* (III, 12-13), *Luci serene e chiare* (IV, 1), *Il sol, qualor più splende* and *Volgi, mia luce* (IV, 20-21), *Chiaro risplender suole* (VI, 5), *O dolce mio tesoro* (VI, 8), *Volan quasi farfalle* (VI, 18), and *Ancor che per amarti io mi consumi* (VI, 21). To be sure, none of these madrigals emulate Vicentino’s *Dolce mio ben, son quest’i lumi*; no “leaps larger than the fourth” enharmonically ensweeten the chromatic lights in Gesualdo’s madrigals.

Perhaps, then, the same ensweetened modern tritone idioms which set affects of departure in Crescentio’s *publica forma* and Gesualdo’s madrigals also set those of luminous consummation and, alternatively, the darkness of unconsummated love. If so, this would be another indication

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494 Vicentino, 212-213.
that Gesualdo’s madrigals were conceived with a practical lute and not the arcicembalo.\footnote{At most, Gesualdo’s practice and Vicentino’s theory overlap in using mean-tonal instruments to learn how to sing the mean-tonal diesis unaccompanied (if indeed Gesualdo’s madrigals were sung without lute accompaniment). In his chapter on the diesis division of the whole-tone, Vicentino makes this explicit: “It should not come as a surprise that I enlist the help of instruments for learning the method of singing such minute divisions...It is probable that the first person to discover the way to sing the distance of the steps of the whole-tone and semitone (which were and are natural) could not have done so without the expedient of an instrument. How much more, then should one work with instruments when learning those steps which are not natural, as are the diatonic steps everyone instinctively knows how to sing?” (55). One could easily imagine Stella writing a treatise with these same words for both Vicentinian and Gesualdian madrigals. But it did not happen.} Ensweetened modern tritones are by and large curiously absent from Gesualdo’s \textit{lume} madrigals, except for \textit{Al l’apparir di quelle luci ardenti}, \textit{Luci serene e chiare}, in which the A-flat consummation is notably delayed until the final cadence, and \textit{Ancor che per amarti}, in which the hexatonic pole c minor E major obscures the sun’s rays. In fact, the Florentine Luca Bati’s 1602 printed \textit{Luce, soave e chiara} (Carlo Galetti’s imitation of Ridolfo Arlotti’s \textit{Luci serene e chiare}) may best represent this common text-setting practice, albeit somewhat off the Ferrarese-Neapolitan path; see Example Forty-Five. To the sweet rays of light coming from the beloved’s clear eyes that “incinerate” [\textit{incenerisci}] the poet’s heart, Bati sets the D-sharp G-sharp ensweetened modern tritone.\footnote{In Marco da Gagliano, \textit{Madrigals, Part 1, Il Primo Libro de Madrigali a Cinque Voci} (Venci, 1602), edited by Edmond Strainchamps (Middleton: A-R Editions, 2003): 38. For the full text, see xx.} The chromatic dissonance is carefully coordinated with the ashen “sh” sounds of \textit{incenerisci}.\footnote{Among Neapolitan \textit{lume} madrigals, Salzilli’s \textit{ Occhi soli d’amore} (Larson, vol. 2, appendix, 78) provides an excellent supplemental example.}
Example Forty-Five: Bati’s *Luce, soave e chiara*

Public Opinion of the *Publica Forma*

We have provisionally correlated the chromatic text-settings of Gesualdo (and the chromatic madrigalists at large) with Crescentio’s villanella *Tù parti ohimè* and the chromatic and enharmonic keyboard repertoire, a step Crescentio evidently did not take in the *publica forma* (nor, unfortunately, d’Avella in his treatise). Stepping back from the repertoire, the question now arises: Did Crescentio succeed in convincing the Neapolitan public of this chromatic text-setting practice and assuage the public’s “fears” of its dissonant sonorities? What was the public opinion of the *publica forma*? D’Avella’s report of the outcome is succinct; he writes most apologetically that “[the *publica forma*’s villanella] was censured by the ignorant people, who did not know the effects of the tritones; that is, if each fourth above [fa] may create [a tritone], then the ensweetening may likewise be created. For this [reason], then, there are many flats, and with order.”  

This account offers the reader a tantalizing glimpse of the argument at the *publica forma*—ever so brief in comparison to the Vicentino verdict and the

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498 D’Avella, 58. *Biasmata dagl’ignoranti, che non sanno li effetti delli tritoni, che se ogni quarta sopra si può generare, vi si può generare parimente l’indolcimento, per questo dunque sono tanti b, e con ordine.*
Falcone and Monteverdi declarations. One can only envision Crescentio demonstrating various ancient tritones and their ensweetenings (in the manner of Chapter 38) and then the modern tritone, pleading with the public, to no avail, that it also has ensweetenings.\footnote{D’Avella reiterates the rationale of the modern tritone in his description of transposing the second villanella at the end of Chapter 40, but adds: “If the [ensweetened modern and ancient tritones] are not of the same nature, it suffices that art finds them.” Ibid., 61. Perche, se in ogni Quattro note sopra il fà [sic], si può fare il triton; vi è anco l’indolcimento, e se non sono dell’i stessa natura; basta che l’arte lo ritrova.}

D’Avella cites Crescentio’s \textit{publica forma} only one other time elsewhere in his treatise, from which one might glean further insight into the public debate. In Chapter 45, the wide-ranging chapter on the “Utility of Knowing the Diatonic, Chromatic, Enharmonic, and Harmonic Species of Song,” which we previously forayed into for the two-fold placement of fa on A and the singing of E-flat for D-sharp, d’Avella claims that Crescentio taught that the flats should be notated instead of the sounding sharps and vice versa. This attribution comes right after d’Avella’s example of singing E-flat for D-sharp. In this section, D’Avella first reiterates his Chapter 32 implicit circle of fifths rationale for the derivation of A-flat and D-flat: As the fifths B, A, and D may be placed above and below E, so too may their flats \textit{ad infinitum}.\footnote{Ibid., 71. Dunque se in e bianco, e fa, per far quinta sopra, sarà in B bianco, e per far quinta sotto e sarà al tasto di a bianco, e sotto a quinta sotta sarà D e sonarà fan el bianco, & sic ad infinitum.} D’Avella then writes, in a terse sentence rife with confusion: “To distinguish the modes [of soft-b and hard-B accidentals], one ought not sign the soft-b accidental on E and D, for such would be an error. Nor ought one write them [according to] the mode, in which sharps suffice.”\footnote{Ibid. Per distinguere i modi non si deve segnar con b sarebbe errore in e & in D. neanco si deve scrivere essendo tale la natura del modo, che bastano li #.} I believe d’Avella is criticizing the acoustically false notation, or in his mind, the lack of distinction maintained between flat and sharp modes. He errs, however, by including the pitch E with D, for E-flat has the sonorous proportion of E-flat and therefore ought to be signed by the soft-b. D-flat, however, has the sonorous proportion of C-sharp. Thus, to properly distinguish its mode,
one ought not, in d’Avella’s words, sign the flat; yet one ought not write the C-sharp (he does not provide a reason why). D’Avella then refers back to the publica forma (albeit erroneously to Chapter 40 instead of 39), and claims that Crescentio either “wrote it down” [lo segna] and/or “taught it” [lo segna (sic)] “the little ones who do not know many things.”

Although d’Avella may simply be reiterating that Crescentio demonstrated this practice in his publica forma that may be rationalized through the circle of fifths, it is possible that Crescentio also wrote and/or taught the acoustically false notation. With that, d’Avella’s writings about the ensweetened modern tritones, Gesualdo’s Tenebrae, and Crescentio’s publica forma have come (all too quickly for his present-day readers) to an end. However, his defense of the Neapolitan madrigalists’ chromaticism has just begun.

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502 Ibid. E se pur Simon Crescentio nel cap. 40 lo segna per i giovani, che non sanno molto.
503 D’Avella then continues with a less profound (and un-related?) observation that Salomone Rossi did not sign accidentals in a neighbor-tone figure. These F-sharps and C-sharps have the proper sounding notation. Why then do they follow a discussion of D-sharps, E-flats sounding D-sharps, A-flats, and D-flats? Was d’Avella careless in writing; or did he not live to proof-read and mend the treatise’s seams?
Chapter Three:

The Hand of Boethius: Defender of Gesualdo?

Through a close reading of Chapter 39, we have thus far encountered one of d’Avella’s prime tactics to defend Gesualdo against the Neapolitan public: Bring a Boethian rationality and authority to Gesualdian chromaticism that— with the exception of Stella, Trabaci, and Maione— was far beyond the scope of the practitioners’ capabilities. We also encountered d’Avella’s anxiety that, despite his defense, the Neapolitan madrigalists’ chromatic practice would, on account of its censorship, be lost; his “worthy” endeavor to preserve this practice for future generations enabled us to decipher the madrigalists’ acoustically false chromatic notation and tune into the original sounds of their music. D’Avella additionally deploys three other defense tactics throughout his treatise, to which we must now turn: 1. A new Guidonian hand capable of accommodating the madrigalists’ extreme chromatic gamut, 2. Practical solfege exercises for the hexachordal mutations and disjunctions that occur throughout the chromatic madrigals (which we briefly encountered in his teaching of Gesualdo’s Et inclinato capite motif, and 3. The contextualization of Neapolitan chromaticism within the history of diatonic, chromatic, and enharmonic music. Let us now address each of these interrelated tactics in turn, beginning with the Guidonian Hand and the extension of its diatonic gamut.

Greeting and Dismissing the Hand

Although d’Avella’s treatise was (arguably) inspired by the events that took place in Chapter 39, he begins the treatise with a chapter on the “insufficiency” of the “common”
D’Avella, 34. *Come la Mano Comune nel Cap. dell’Inventione non sia sufficiente per imparare il Canto Figurato.* D’Avella references the first chapter of the first treatise of his _Regole_, in which the Guidonian hand is introduced.

On the persistence or non-persistence of the Guidonian Hand in particular orders (such as the Franciscans to which d’Avella belonged), see Stefano Mengozzi, “‘Si quis manus non habeat:’ Charting Non-Hexachordal Musical Practices in the Age of Solmisation,” _Early Music History_ 26 (2007): 181-218. Within the contemporary Neapolitan scientific academy, mnemonic hands notably appear in the work of Giambattista Porta. However, I do not suspect d’Avella was indebted to Porta.

D’Avella, 34. *Atteso non dimostra detta mano i doi accidenti di B. ò # diesis, ò di b. molle, bene spesso usati dal comune de’ Musici (particolarmente da’ Musici Napolitani) in tanti, e diversi luoghi, che rendono le cantilene (difficili si à chi non sà i modi) così vaghe, sonore, & adorne, che danno stupore, e meraviglia à chi le sente.*
imitate the sense of their texts in “the most beautiful way” by using accidentals to “embitter, ensweeeten, and embellish their harmonies” and they “captivate the hearts of their listeners.”

Significantly, d’Avella reports that “these accidentals, their quality, origin, and meaning, are taught by the masters to their disciples;” yet he, as an outsider, has “judged in every way to thoroughly accommodate [the accidentals] in this book with examples and a doctrine to explicate their origin, meanings, and quality.” He then identifies three particular reasons why a new Guidonian hand was devised: First, to provide novices with an “exemplar, through which they may know the causes [of the accidentals], why and where they must be affixed, and in what occasions.” The second reason is the most important, in light of Chapter 39; it foreshadows the impending censorship of the accidentals: “So that inexperienced practitioners may not easily censure the good composers, who regularly serve themselves of those [accidentals] in their works.” Finally: “So that the performers of keyboards may extract from it the fruit (as is necessary) to sound [the composers’] works at their ease, whether a second or third lower or higher, guided by the instructions of the two accidentals.”

D’Avella informs us that this new Guidonian hand additionally contains the b and # accidentals “in an orderly way.” Yet he is at

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507 Ibid. Vedasi un Pomponio Nenna. Gio. Domenico Montella, Simon Crescentio detto il Simoncino, un Scipion Dentice, il Stella, e quel gran Prencipe di Venosa, e Prencipe de’ Musici, e cent’altri lor coetanei, e discepoli loro imitatori, che con i sudetti accidenti con bellissimo ordine, & imitatione de’ sensi fanno aspiri, raddolciscono, & abbelliscono i loro concerti, che à guisa di tanti Orfei, & Anfioni rapiscono i cuori degli uditori. This is mostly name-dropping; but it is significant that d’Avella leaves out, say, Manilo Caputi, a conservative Neapolitan madrigalist who set the poetry of Bembo.

508 Ibid. Quali accidenti, se pure da’ Maestri dotti sono insegnati a’ lor discepoli, e le loro qualità, origine, e valore; ad ogni modo, hò giudicato per bene accomodare in questo Libro con gli esempi, e con dottrina esplicare l’origine, e lor valori, e qualità. Note, however, that d’Avella never actually provided the “origins” of these accidentals in Neapolitan practice. See, however, his presently-discussed history of diatonic, chromatic, and enharmonic music.

509 Ibid. Acciò i principianti possino havere un’esemplare, per il quale, possano sapere le cause, perche si debbano fare li luoghi, dove si devono apporre, & in che occasioni. Et accioche i poco pratici non facilmente biasmino i buoni Compositori, che di quelli ordinatamente nelle loro Opere si servono, e che i Sonatori de’ tasti possano cavarne frutto (ne’ bisogni) per sonare le loro Opere, per seconda, terza, sotto, o sopra a lor bell’agio guidati dall’insegne dellì dui accidenti: Et à questo fine s’e formata la seguente mano.

510 Ibid. Si deve sapere, e che contiene non solo le voci della Comune Mano, mà la voci, ordinatamente; de’ secondi accidenti di b. molle, à rotondo, e del # diesis, ò B duro, ò giacente, à accidentale (tutto è una cosa).
once defensive about his hand, as if it had already been rejected by students, singers, and theorists, long before it was published. Therefore, d’Avella warns: “Be attentive in reading and understanding the doctrine, and the way in which it is explained; for understanding will not be without fruit for the curious scholar. Sophistries are left to the fruitless opinionated ones. Read the discourse first, and then pass a judgment.”

Although d’Avella has clearly stated his agenda to this point in Chapter 21, the Guidonian hand and its description which follow rank high among the inexplicable oddities of historical theoretical literature; see Example One. As will be seen presently, this Guidonian hand single handedly (and most unfortunately) distracted d’Avella’s few readers from his prose about Gesualdian chromaticism. Along with the “sonorous proportions” encountered in Chapter 39 and the posthumous publication of the treatise, Example One spurred d’Avella’s unfortunate reception history.

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511 Ibid. *Stiino dunque attenti nel leggere, & intendere la dottrina, & il modo, col quale s’esplica, che intesa, non sarà senza frutto de’ curiosi Scolari, lasciando le sofisticarie à gli opinanti infruttuosi. Legghino prima il Discorso, e poi si facci il giudizio.* The seemingly odd grammatical construction of this final clause requires comment: As written, “giudizio” is the subject, “si facci” might be the second person singular imperative of fare with the direct pronoun object ci attached, yet with a passive si. This, however, contradicts the preceding use of the third person plural imperative. Alternatively “si facci” might be the third person singular passive with the direct pronoun object attached (as found on page 103 of the *Regole*). I have freely translated it actively as an imperative, as the meaning of d’Avella’s prose is clear. The continued use of the imperative even strengthens his discourse beyond “and then the judgment may be passed for us.” Such constructions would have to be explored within the context of Neapolitan writing at the time to be critically translated.
Example One: The Hand of Boethius (shortly: The Left-Hand of Boethius)\textsuperscript{512}

“This is the Hand of Boethius,” d’Avella inscribes in Boethius’ palm.\textsuperscript{513} “It contains the entire compendium of Music,” he proudly continues.\textsuperscript{514} A most formidable music theoretical

\textsuperscript{512}D’Avella, 35.

\textsuperscript{513}I have not been able to reproduce the Hand of Boethius at size, but one can easily suspect that the microscopic printing interfered with the reading of this example. As will be seen presently, d’Avella’s few readers did not take out their magnifying glasses. However, for this and all of the hands that follow, readers will want to zoom in on their computers.
diagram, the so-named Hand of Boethius is, of course, an expansion upon the Hand of Guido, whose name happens to appear acknowledged in miniscule print at the Gamma Ut tip of Boethius’ thumb. To the Guidonian Hand d’Avella has, at a glance, plainly conjoined many additional hexachords. Some of these conjunctions, as may be further gleaned from the other Gamma Ut joints of Boethius’ thumb, are named after Plato; others after Aristotle and the Latins. Taken together these conjunctions allocate all six solfege syllables to nearly all of the joints of Boethius’ fingers—a formidable musical gamut and compendium, indeed! Yet d’Avella immediately promises in Boethius’ palm that his hand “will be demonstrated step by step, so that the reader might not be confused.”515 He primarily does this by “dissecting” the Hand of Boethius into its Guidonian, Platonic, Aristotelian, and Latin constituents in the following chapter, in which it is revealed that the Hand of Boethius is actually four hands combined into one (the reader may wonder why d’Avella did not alternatively present the various hands in isolation to begin with and then their assimilation into the Hand of Boethius). In advance of Chapter 22, however, D’Avella does provide some brief preliminary (and rather unorderly) explanations in Boethius’ palm. He first notes that the pitches begin on grave F, which is the Latins’ Gamma Ut on the left-side of Boethius’ thumb. For the Platonic and Aristotelian gamuts, he refers his readers to his chapter on the invention of music in the first treatise, in which the origins of these gamuts are recounted (the summary of these origins given in Chapter 22 may suffice for readers who may want to proceed directly to the music theory).516 He then confirms

514 While on the topic of making overarching diagrams, one may contrast d’Avella’s “entire compendium of music” to Cerone’s perhaps equally ambitious “Tabla Universal de la Mano,” which, although it does not extend into ficta, contains all of the practical, theoretical, and esoteric aspects of the Guidonian diatonic gamut combined into one (274).

515 Ibid., 35. *Questa è la Mano di Boetio, contiene tutto ‘l compendio della Musica, come à pass à passo si dimostrerà, non si confonda il Lettore.*

516 So too will Beccatelli’s first annotation that this chapter was “completely false” and that it is “vain to pretend to speak certainly about who were the inventors of music” suffice: *Rispondo che tutto questo è falso; e benche sia vanità il pretendere di certamente parlare chi siano stati gl’inventori, e agumentatori della*
that the Hand of Boethius features all six solfege syllables on each place or *corda* of the hand.

Next, d’Avella sporadically and problematically refers his readers to the distant chapters 32, 45, 29 B, and others—but, curiously, not Chapter 22.\(^{517}\) He finally reiterates, perhaps unnecessarily at this point, that the grave *canto* here begins from F and that positioned an octave above it is the lower-case f, where the acute *canto* begins.\(^{518}\) Indeed, the palm sets the description of the Hand of Boethius off to a rather inauspicious start. Yet, d’Avella, again adopting a defensive tone, instructs: “Read what follows with attention and everything will be of taste and satisfactory.”\(^{519}\)

But d’Avella’s promise to demonstrate the Hand of Boethius step-by-step was to no avail. His hands and their ahistorical attributions confused his earliest and present-day readers. Most notably, Charles Burney, in his *A General History of Music*, remarked: “[D’Avella] exhibits a great number of harmonic hands, in which the notes of the scale are differently disposed; one of the hands, I know not why, he calls Boethian, another he gives to Plato, and a third to

\[^{517}\] The reasons for d’Avella’s references to these chapters are not immediately obvious. Chapter 32 considers “Other effects that the accidentals perform. Yet we have not yet read or been referred to Chapter 31, “On the Meaning and Effects of the Accidentals.” Finding Chapter 45 at this point in one’s reading is an odyssey in itself. In the book, the printer skipped chapter 44 and printed the table of contents’ Chapter 44, “On the Invention of Diatonic, Chromatic, Enharmonic, and Harmonic [Kinds of Singing],” as “Cap. XLV.” D’Avella’s reference seems to be pointing us to the following chapter, printed as “Cap. LXV,” “What Utility it is to know the Diatonic, Chromatic, Enharmonic, and Harmonic [Kinds of Singing].” Although these two references superficially appear far removed from the Hand of Boethius, they will ultimately become clear below. They are referenced because they also discuss the positioning of the six syllables on each *corda*. After these chapters, readers must backtrack to a particular passage in Chapter 29 that is bullet-pointed as “B.” However, no such B appears there. This chapter is an empirical argument that the “major semitone is found in song, as it is found in instruments.” Perhaps d’Avella meant to add that major semitones are also found on the Hand of Boethius?

\[^{518}\] I suspect d’Avella emphasizes this rather minute seeming point in the palm to clarify that the added grave F on the thumb renders the F on the knuckle of the thumb acute and, therefore, it must now be in lower case (a potential source of confusion for readers who knew the Guidonian Hand’s registral distinctions according to capital, lower-case, and double lower-case letters).

\[^{519}\] *Ibid.*. Le lettere principiano in F perche s’include il principio de’ Latini, e li altri, detti nell’Invenzione della Musica, e però in ogni luogo, à corda della mano si descrivono le sei note, vedi il cap. 32, 45, & 29 B con altri. Il canto grave qui comincia da F e però s’è posta nell’ottava sopra l’ F piccolo, che di là comincia l’acuto. Leggasi quel che siegue [sic] con attention, che il tutto sarà di gusto, e sodisfattione.
Burney’s bafflement continues to this day. In his brief *Oxford Music Online* entry for Giovanni d’Avella, Josef-Horst Lederer merely repeats d’Avella’s historically incorrect Guidonian attributions, and, following Beccatelli’s annotations, adds that d’Avella even misplaced Guido d’Arezzo as a contemporary of Pope Gregory I. To be sure, the ahistorical attributions of these hands distracted Burney, Beccatelli, Lederer, and others from their purpose, which was clearly stated by d’Avella on the facing page: To teach, facilitate, and defend Gesualdian chromaticism. Again, Burney merely underlined the Neapolitan musicians’ names in Chapter 21 and shows no sign of comprehending d’Avella’s prose. Moreover, looking closely at the bottom of Boethius’ palm, one finds a little check mark. This mark appears throughout the Library of Congress copy of d’Avella’s *Regole* and points out difficult diagrams, grammatical and factual errors, and misprints. It is likely the hand of a (here) perplexed monastic reader. Readers may have expected the theoretical diagram used in the sole defense of Gesualdo’s chromaticism to take another form than that of the Guidonian Hand (say, a fretted lute, a chromatic or enharmonic keyboard, or contrapuntal diagrams). Perhaps if d’Avella had named his invention the “Hand of Gesualdo” (even if Gesualdo did not use a Guidonian Hand in his

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520 Burney, vol. 2, 91. He continues in a footnote description of d’Avella’s *Regole*: “A book full of prejudices in favour of old rules, and many peculiar to the author; which render what was before dark and difficult, still more unintelligible. From his ignorance of history and the little that is known concerning the music of the ancients, he advances innumerable absurdities; one of which is, that, “St. Gregory ordered that no other Gamma should be used in the church, than that of Guido,” who lived five hundred years after him.

521 Beccatelli’s rebuttal of the historical attributions in the Hand of Boethius follows from Gaffurius and bluntly retorts that neither Plato nor Boethius signed soft-b and hard-B accidentals. Notably, Beccatelli concludes this annotation with the observation that Josquin was the first composer he saw to use the diesis sign (41-42).


523 I have not done a systematic study of this mark; it may also be a checkmark meaning “read it.”
teaching and composition) or so much as mentioned the censorship of the Neapolitan musicians in Boethius’ palm the fate of his treatise would have been decidedly different.\textsuperscript{524}

Historical Origins of the Hand

Before proceeding to Chapter 22, let us follow the palm of Boethius’ directions and return to d’Avella’s chapter on the invention of music in his first treatise and see if we, unlike those before us, might be able to unravel his odd historical attributions. After all, Boethius, Plato, Aristotle, and Guido are here to impart historical precedence and authority to the Neapolitan chromatic gamut; it would be worthwhile knowing where they came from and how they got here.\textsuperscript{525} In fact, the basic plot in d’Avella’s history of the invention of music will prove to be eminently familiar; only some of the characters have changed.\textsuperscript{526} Jubal still invented music, as told by the Old Testament; Pythagoras still heard the musical consonances at the blacksmith and measured them out on a monochord. To make a long philological story short, d’Avella is quick to say the seven pitches on this monochord were translated from Greek letters into the Latin alphabet from A to G. Instructing that these seven letters are sung without hexachordal mutation (A ut B re C mi D fa E sol F la G fa), d’Avella then advises us to linger on and ponder this sequence of pitches even more: “Observe all this with attention; for one sang in this manner for a long time”—until Aristotle came along, that is.\textsuperscript{527} Now the story takes a twist,

\begin{footnotesize}
\begin{itemize}
\item The “Hand of Gesualdo” was more likely a practical left-hand fingering system for the lute, as found in alfabeto charts. One could readily experiment with fingerings, both historically informed and modern, to try to gain a feeling of how his harmonies lie on the fingerboard.
\item Here I must point out that Artusi (1603) notably attacked this very “novelty” in formulating new “rules” (i.e.: “promising great things [such as] new rules defended with the authority of Aristoxenus, Ptolemy, Zarlino, and Galilei”) that actually “dirty” the subject instead of “embellishing” it. Of course, this was en route to restoring “le buone Regole osservate de nostri passati” through demonstration and observation (4-5). How widespread a practice this “novelty” was in Naples and Franciscan thought remains to be seen.
\item D’Avella, 2. Dell’Inventione, & Aumento della Musica.
\item Ibid., 2-3. (notisi il tutto con attenzione); se cantò gran tempo à questo modo, e sino al tempo d’Aristotele non hebbe contradizione.
\end{itemize}
\end{footnotesize}
as it was evidently in need of some character development. So then, d’Avella continues, Aristotle, who was made a master philosopher by Plato, came along and how did he ever “try to contradict everything of Plato’s.” Indeed, Aristotle “tried and invented another way of singing, to make it seem like he did not take after Plato.” 528 Aristotle’s new way of singing, d’Avella continues (having forgotten to remind us that Plato’s way of singing was that of Pythagoras), began not on A, but on B. It too had seven letters, but in the order B ut C re D mi E fa F sol G la A fa. 529 The two philosophers’ irreconcilably different musical gamuts, along with their discrepancies in other fields of knowledge, of course, led to the founding of Athens’ famous Platonic and Peripatetic academies. 530 Not long thereafter, d’Avella continues, Ptolemy was crowned king of Egypt and he, being a disciple and student of Plato, ordered that everybody should sing in a Platonic manner—“under penalty of death.” 531 Perhaps d’Avella assumes this king was also the Ptolemy who wrote the *Harmonics*? Then Ptolemy died (d’Avella does not reveal if he had accidentally sung the Aristotelian gamut) and, freed from musical oppression, everybody returned to their original academies within the philosophical divide. 532 There and then, both sides joined an acute octave to the original octave, now grave, differentiating the two by means of lower-case and upper-case letters. The total fourteen pitches formed a closed musical system sufficient for all the Greek’s songs. 533 At this point in d’Avella’s story, we encounter a diagram comparing the two philosopher’s gamuts; see Example Two.

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528 Ibid., 3. *Venne Aristotele, fatto Maestro da Platone, e sì come cercò di contradir à tutte le cose di Platone, cercò parimente, & inventò altro modo di cantare, per non parer, che seguitasse Platone.*

529 Ibid. *E questo Aristotele cominciava l’ut dal B e le loro lettere erano pur sette, mà così ordinate BCDEFGA...*

530 Ibid. *Sì che per cotal diversità, e perché anco discrepavano dalle altre scienze, si publicorno le due celebri accademie in Atene, de’ Platonici, e de’ Paripateticì.*

531 Ibid. *Fù fatto Rè di Egitto Tolomeo (uno de’ sette Rè) & questo essendo discepolo, & allievo di Platone, ordinò sotto pena della vita, che tutti cantassero alla Platonica.*

532 Ibid. *Morto Tolomeo: ciascheduno tornò al suo istituto, e li allievi dell’una, e l’altra accademia:*

533 Ibid. *Agionsero rispettivamente alle sette corde, sett’altre, le medeme di nome, mà diverse di voce, e le prime chiamavano grave, e le seconde sette corde acute, e per farle differir di forma, che ciascuna si sapesse, & il
Example Two: The Platonic and Aristotelian Gamuts

Barring the historical attributions, do these two gamuts not look vaguely familiar when taken together? “Of course! It is but the ancient Greek Greater Perfect Tone-System vulgarized,” Burney should have exclaimed.\(^{534}\) The ancient standard by which Artusi measured Rore and Monteverdi’s chromaticism is now here to authorize Gesualdo’s chromaticism. As recalled in the first column of Example Three, the Greater Perfect Tone-System also stretched the span of two octaves from what we might name the pitch A at the bottom, rising to aa at the top. This tone-system, as seen in column two, was formed by four tetrachords with the intervallic sequence of semitone-tone-tone. Starting in the low register, the first tetrachord was from B to E. The second tetrachord was conjunct with the first one and overlapped at the pitch E. The third tetrachord was disjunct from the second one and formed a disjunctive whole-tone a b. From here, the third and fourth tetrachords simply repeat the overlapping process of the first two tetrachords, forming b e and e a perfect fourths. The resultant gamut so far extends from low B to high aa. One could, alternatively, repeat the process, beginning on high aa and working down to low B and “acquiring” A. This gamut, as seen in the third column, is the Aristotelian Academy, according to d’Avella. It lacks the low A to complete the two octaves. Therefore, we

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\(^{534}\) Beccatelli of course took d’Avella to task for this and rehearsed the Greater Perfect System (23).
must “acquire” this low A by repeating the disjunctive whole-tone b a an octave lower (B A). By so doing, we have switched academic allegiances and joined Plato. But, as seen in column three, we have, by so doing, forsaken the high pitch aa. Superficially, d’Avella seems to have gotten the process backwards, beginning instead on A with tetrachords in the intervallic sequence tone-semi-tone-tone. This places the disjunctive whole-tone one step lower on G a and require the “acquisition” of the high aa. Notice how we have carried out this discussion of this tone-system without using the Greek pitch names—d’Avella’s chosen discourse as well.

Example Three: The Greater Perfect System and its Academic Affiliations

<table>
<thead>
<tr>
<th>Pitch</th>
<th>Tetrachord</th>
<th>“Academy”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nete aa</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>Paranete g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trite f</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nete e</td>
<td>Hyperbolaion Tetrachord (conjunct)</td>
<td></td>
</tr>
<tr>
<td>Paranete d</td>
<td></td>
<td>Platonian addition</td>
</tr>
<tr>
<td>Trite c</td>
<td>ARISTOTELIAN ADDITION</td>
<td></td>
</tr>
<tr>
<td>Paramese b</td>
<td>Diezeugmenon Tetrachord (disjunct)</td>
<td></td>
</tr>
<tr>
<td>Mese a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lichanos G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parhypate F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypate E</td>
<td>Meson Tetrachord (conjunct)</td>
<td></td>
</tr>
<tr>
<td>Lichanos D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parhypate C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypate B</td>
<td>Hypaton Tetrachord</td>
<td></td>
</tr>
<tr>
<td>Proslambanomenos A</td>
<td>“Acquired” (disjunct)</td>
<td>NA</td>
</tr>
</tbody>
</table>

The question is where d’Avella, a theorist of modest reading, got not only this gamut but its process of division from, if not Boethius (of which I see no indication to believe he read Book I Chapter 20 on the formation of this system), the Micrologus, or his other theoretical source, introduced shortly, de Brugis’ Graduale and Antiphonarium.
If these two gamuts were sung in different Athenian schools, certainly they were both sung together in the early Christian church. Indeed, as d’Avella tells it: “These two ways were sung for a long time in the Church.” But Saint Gregory, as he “divinely composed the Gradual and Antiphonarium” recognized that one unified way of singing was necessary; for this, he turned, according to Eusebius and Guido d’Arezzo, to the said Guido, who was charged with “turning these two difficult ways into one easy one.” To do so, Guido (as the reader may foresee), formed the “common hand” from the Platonic-Aristotelian gamut, and added to it (in great specificity, d’Avella provides) the high b fa B mi, c sol fa, d la sol, and e la. Moreover, to “honor the Greek inventors of song,” he added G Gamma Ut with the original letter Γ. The subsequent Latins’ role in the invention of music is comparatively meager: They simply conjoined the grave F, so that grave B-flat “might have its ut.” Although d’Avella had an implicit recognition of the Greater Perfect System, he clearly did not here have such a recognition of the Lesser Perfect System and its Latin continuation in (B-flat) synemenon theory.

His history is now drawing to a close: With Guido’s hand, the two Greek modes became “extinct.” However, Boethius came along and “reassembled” the Greeks with Guido and the Latins. “Disposing them in a seemingly confusing way that is actually admirable, he formed

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536 Ibid. & à questi due modi si cantò gran tempo nella Chiesa, & havendo il P. San Gregorio composto divinamente il Graduale, e l’Antifonario, per introdur nella Chiesa un modo di canto (come dice Eusebio nelle sue Croniche, e l Padre Guido Aretino nel 3 libro della sua musica) ordinò à detto Padre Guido, che tolti quei doi modi difficili, ne facesse uno facile. The reader who seeks out the third book of the Micrologus is bound to be disappointed, nevertheless find in Eusebius that Gregory personally commanded Guido d’Arezzo.

537 D’Avella, 3. & esso Padre Guido compose la mano comune (Gammaut Are &c.) & alle 14 corde de’ Filosofi ne giunse quatro altre b fa B mi; c sol fa; d la sol & e la; e per dar l’honore à’ Greci inventori del canto, propose à quelle lettere una lettera greca detta gamma Γ da noi detta G che però si dice Gamma ut.

538 Ibid. Altri latini Musici, vedendo che al primo Alfabeto mancava il detto b rotondo, ò molle, lo gionsero, e perché havesse il suo ut, proportionato gionsero un’altra corda sotto il G e vi posero l’F. D’Avella continues with an obscure remark that this formed “perfect instruments:” & à questo modo si formano li stromenti perfetti.
another hand.” D’Avella then refers us to Chapter 21; our history lesson is complete.539 The Platonic and Aristotelian gamuts detailed here will notably (and conveniently enough for d’Avella) change in the dissection of the Hand of Boethius, acquiring accidentals not found in this stated “origin” of music. Thus, this history will be contradicted by d’Avella himself. Beyond d’Avella’s own accounts of the invention of music, I will propose additional reasons for these historical attributions, once the Hand of Boethius is contextualized within the history of Guidonian hands.540

Of course, the more standard account of this history of the musical gamut from the ancient Greek Greater Perfect system to Guido d’Arezzo is found in the second part of Zarlino’s *Istitutioni*, Chapter 30, “In what way the said sixteen strings [of the Greeks] had been named by the Latins.”541 It would be worth exhibiting his diagram of this history in contrast to d’Avella’s diagram and my elucidation of it above.542 Zarlino’s diagram appears in Example Four. Gone are Plato and Aristotle; yet the “Aristotelian” gamut is readily apparent from the tetrachordal brackets on the left (the “Platonic” gamut is more concealed). Guido’s additions, whether told by d’Avella or Zarlino, appear above the tetrachordal brackets from bb fa mi to ee la, as well as the Gamma G ut at the bottom of the diagram. Back comes Pythagoras and the Pythagorean diatonic diatonic tuning in the first column. The synemenon tetrachord bracketed on the right, d’Avella left out.

540 Certainly, future research will have to look into mythologizing history in Neapolitan and monastic thought in d’Avella’s age.
541 Zarlino, *Istitutioni* (1589), 126-7. It is not as yet certain if d’Avella knew Zarlino’s first treatise and this diagram.
542 Neapolitan diagrams and discussions of the Greater Perfect System (without the historical mythologizing) may be found in Cerone (284) and Cerreto (160).
Essential and Accidental Modes and their Dissection from the Hand

Having exposed d’Avella’s mythologizing of the Greater Perfect System, let us return to the Hand of Boethius. Chapter 22’s dissections must now be worked through in detail—irrespective of these odd historical attributions’ distractive powers. D’Avella begins dissecting the Hand of Boethius in Chapter 22 by subdividing the principles of singing into those which are
“essential” and those which are “accidental;” there are two of each kind.\footnote{Ibid., 36. Delli quattro Principij del canto secondo essenziali, e due accidentalì. Beccatelli notably skipped this terse, difficult, and scholastic (or would he say pseudo-scholastic?) chapter in his Annotazioni.} These four principles are contained within the Hand of Boethius and must be known so that, in d’Avella’s words, “you do not confuse yourself at the sight of this necessary Hand, and that you have a distinct and real knowledge of it, which you need for singing and composing well.”\footnote{Ibid. Acciò, Lettor mio non ti confondi in veder questa necessaria Mano, e che n’habbi cognizione distinta, e reale per saper quel, che ti bisogna per ben cantare, e comporre: Sappi, che questa Mano contiene quei Quattro principij, de’ qual dicevo nell’Inventione della Musica B.} For the origins of these principles, d’Avella again refers his readers to his chapter on the invention of music in the first treatise. However, his brief summary of this invention in this chapter suffices. D’Avella claims, however erroneously, that some of these principles were invented by the Platonic and Peripatetic Greek philosophers; the others were invented by Guido and the Latins.\footnote{Ibid. Che altri furono inventati da Greci Platonici, e Peripatetici, & altri da Guido, e Latini.} Two of the four principles (now also interchangeably called “modes”) are termed “essential” because one ordinarily sings one of these two. The other two principles or modes are termed “accidental” because one sings these only occasionally and according to necessity.\footnote{Ibid. De quali quattro modi, dui si dicono essenziali, che per ordinario si canta per un di quelli nelle cantilena, e doi accidentali, percche poche volte, e secondo i bisogni, come si dirà, si canta per quelli.} The two essential principles or modes consist of hard-B and soft-b \textit{voce} and are respectively contained on the common Hand of Guido, which begins on G \textit{ut}, and the Hand of the Latins, which begins on F \textit{ut} (it will be seen presently that d’Avella excised the hexachord on F from the Guidonian Hand). The two accidental modes are those of Plato, which, according to d’Avella, began on A \textit{ut}, and Aristotle, which began on B-flat \textit{ut}.\footnote{Ibid. Li doi modi essenziali sono il cantar per B quadro, e per b molle, ò rotondo...qual contiene la Mano commune di guido, che comincia G \textit{ut} &c con la giunta, però de’ Latini. E li duei modi Accidentali saranno quei modi di Platone, & Aristotile.} D’Avella is at pains to say that all of these four modes are “orderly” but not “intricate,” although their various pitches “make them a bit intricate to whoever does not know them.” “For clarity’s sake,” d’Avella has “dismembered and separated” (i.e.:}
dissected) the four modes and plotted them on four different hands. Before unveiling these hands and their gamuts, d’Avella explains how these two kinds of modes complement one another in greater detail.

According to d’Avella, the accidental modes and their various accidentals are applied to the essential modes in order to remove the tritones which occur “naturally and necessarily” in each essential mode by itself. The musicians, of course, do not sing these tritones; rather they “ensweeten” them: “To reduce [tritones] to sonority and sweetness, they serve themselves proportionately now of one and now of another accidental, according to the nature of the essential modes of singing.”

This premise is familiar from Chapters 37-38. But which accidental modes ensweeten the tritones of which essential modes? To answer this question, d’Avella first employs a simple metaphor consisting of a stone and a tree. The two essential modes consisting of hard-B, beginning on G, and soft-b, beginning on F, are different, as the essence of a stone differs from that of a tree. To ensweeten a B F tritone and a B-flat E tritone, one must select the proper accidental mode. Yet, to continue the metaphor, the
“accidental of a tree is of no help for the stone, as that of the tree would not be good for the needs of the stone, on account of its different nature and principles.” Likewise, the accidental of the hard-B mode may not help reduce the harshnesses of the soft-b mode tritone to sweetness, nor the accidental of soft-b mode the harshnesses of the hard-B mode tritone.\footnote{Ibid.} For “according to nature, there is no proportion between the one mode and the other; nor is a transition made [between them].”\footnote{Ibid.} This assertion is problematic in light of Gesualdo’s ensweetened modern tritone, in which the G-sharp accidental of the hard-B mode “helped” ensweeten the soft-b mode E-flat A tritone to “sweetness.”

En route to assigning the accidental Platonic and Aristotelian modes to their proper essential modes, d’Avella continues with a prolonged scholastic exposition of the distinctions between essences and accidents, which, although integral to his reasoned defense of Neapolitan chromaticism, need not here detain us too much from the dissection of the Hand of Boethius and its practical applications. In short: For each of the two essential modes, there ought to be a different accidental mode. These two accidental modes ought to have a different principle from each other, as their principles, in turn, ought to differ from those of their essential modes. Otherwise, accidents and essences could be one and the same.\footnote{Ibid.} D’Avella then assigns the

\begin{itemize}
\item\textit{necessario un’ altr’ accidente conforme la natura di b altremente si come alla pietra per dar gli aiuto non valerebbe l’accidente dell’ Arbore, ne quel dell’ Arbore giovarebbe a’ bisogni della pietra per la diversa natura, e principij, così l’accidente di B (non può dar’ aiuto ne bisogni per ridurre le durezze di b à soavita, nell’ accidente di b alle durezze di B.}\footnote{Ibid.}
\item\textit{Altremente si come alla pietra per dar gli aiuto non valerebbe l’accidente dell’ Arbore, nè quel dell’ Arbore giovarebbe a’ bisogni della pietra per la diversa natura, e principij, così l’accidente di B (non può dar’ aiuto ne bisogni per ridurre le durezze di b à soavita, nell’ accidente di b alle durezze di B. Contrast Cerone’s stronger discourse on this: The hard-B and soft-b are not only “unhelpful” to each other; they are “repugnant amongst themselves” [son repugnantes entre si] (406).}\footnote{Ibid.}
\item\textit{(intendi secondo la natura, che fra l’uno, e l’altro modo non vi è proportione, nè si fà transitò, e come si faccia...)}\footnote{Ibid.}
\item\textit{Dunque se sono doi modi di cantar’ essenti per B e per b differenti come s’è detto; dovranno esser d’altri modi accidentali: l’un per B e l’altro per b e frà di essi accidenti diversi, e ciascheduno dalla sua essenza, ò modo essenziale, e devono haver principio diverso: altrimente se li doi accidenti havesseru un principio}\footnote{Ibid.}
\end{itemize}
accidental modes to their essentials, without concern that the accidentals preceded their essentials chronologically: Plato to Guido and Aristotle to the Latins.\footnote{Ibid. Il modo di Platone se dirà accidente del B...& il modo di Aristotile sarà l’accidente di b.} He then explains how these two couples may be found on the Hand of Boethius: Returning to Example One above, one finds that Guido and Plato are in print type and Aristotle and the Latins are in italics.\footnote{Ibid. Quali modi, acciò li possi distinguere nella mano grande, quelli del modo di B e del suo accidente sono descritti, e segnati di lettera ronda, e quelli del modo di b e del suo accidente di lettera corsiva.} Although d’Avella has yet to define in detail the gamuts of the accidental modes, he here prematurely observes that the accidental pitches of the mode of Plato are a major semitone above the naturals of the mode of Guido. As will be seen presently, the mode of Plato consists of an F-sharp which is a major semitone above F (recall that d’Avella is anachronistically writing in Pythagorean tuning). This F-sharp ensweetens the F B tritone on the Guidonian hand into F-sharp B, the second kind of ensweetening. Additionally, d’Avella observes that the accidentals of the mode of Aristotle are a whole-tone below the F and B-flat of the mode of the Latins. As will be seen presently, the mode of Aristotle consists of an E-flat that ensweetens the B-flat E tritone on the Latins’ hand into B-flat E-flat, the first kind of ensweetening.\footnote{Ibid., 36-37. Mà avertì, che li accidenti delli doi modi, ciascuno per dimostrare ossequio, & fare officio alla sua essenza, quel di B si trovarà un semitono maggiore più su dell’essenziale, per dargli aiuto nelle corde dell F & nominandosi mi, ôla: & accomodarle, e perché conoscasi, che l’accidente non stà nella sede dell’essenza, mà è fondato nell’essenza; e l’accidente di b stà di sotto il fa naturale di b un tuono sotto il b ô F. vedasi il capo 29 B. This reference seems spurious.} Before proceeding to the individual hands and their gamuts, d’Avella attributes the conjunction of the accidental modes to their essentials to Boethius himself: “Know too, my reader, that these accidental modes, because Boethius conjoined them with the modes of Guido in such an
admirable way, with good and beautiful effects, they are called the ‘conjunctions of Boethius.’” That, of course, Boethius never wrote.

Following his scholastic preamble on accidents and essences, d’Avella at long last dissects the Hand of Boethius into its constituent hands. He first presents the coupled hands of the Latins and Aristotle, then Guido and Plato. As seen in Example Five (A), the Hand of the Latins is, according to the Latins’ palm, “the hand of the essential or natural soft-b mode; it has only the voce of this mode.” The total gamut consists of the Guidonian diatonic—minus B-natural, of course. The hand’s mutations occur on the fourth (ie: C-f) and fifth (ie: F-C). Moreover, d’Avella points out that this hand is, in fact, contained on the common Guidonian Hand (on which the hexachord on F is mollis and the hexachord on C is naturalis). The Hand of the Latins is therefore somewhat redundant, save for the grave F conjunction.559 Or, d’Avella has dissected the Guidonian Hand into two hands conjoined on the C naturalis hexachord. Note, however, that d’Avella does not adopt the tripartite system of mollis, naturalis, and durus hexachords in name or in principle in the formulation of this (and all of his hands); nor, therefore, does he assign them any affective value.560 The hexachord on F is not identified as naturalis; that on C, durus. There is not a mollis hexachord built upon B-flat and b-flat. This omission is significant; for it will be seen that d’Avella did not create an individual hand with only two flats, B-flat and E-flat, on which the modern tritone, E-flat A, must be ensweetened.

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558 Ibid., 37. Sappi anco Lettor mio, che questi modi accidental, perche Boetio li congiunse con li modi di Guido con si ammirando modo, e che fan si buoni, e belli effetti, si dicono congiunti di Boetio.

559 Beccatelli of course rejected the attribution of this grave F conjunction to the ancients, Latin or otherwise, as first mentioned by d’Avella in Chapter 5: Sopra questo rispondo, che gli’ Antichi non anno mai praticaro ditto B molle grave (30).

560 These designations were certainly maintained by some of his contemporaries, such as Olifante (1616, 3). D’Avella did not provide any reasons why he disregarded them.
Beneath the Hand of the Latins, d’Avella writes that instrumentalists may use this hand to transpose down a whole-tone works in the hard-B mode that are too high to sing conveniently.\textsuperscript{561}

The Latins’ accidental hand, named after Aristotle and the Peripatetic philosophers, appears in Example Five (B). It is a “conjunction of Boethius.” It does not overlap at all with the Latins’ hexachords. Aristotle’s index finger is riddled with misprints: The tip should read e fa ut (not E fa sol); the joint below it should read f sol re (and not f fa ut). These misprints, as they occur throughout Chapters 21 and 22, reveal that the book’s printer was not musically literate. The total gamut consists of the pitches B-flat, C, D, E-flat, F, G, and A-flat (contrast these to the original Aristotelian academy). The Aristotelian hand’s mutations occur on the fourth (ie: B-flat E-flat) and fifth (ie: E-flat b-flat). Again, there is not a mollis hexachord built upon A-flat and a-flat. Beneath the Hand of Aristotle, d’Avella again provides transpositional equivalents for instrumentalists.\textsuperscript{562} The introduction of A-flat is, upon closer inspection, superfluous, for one only needs an E-flat to ensweeten the Latins’ B-flat E tritone. In other words, something has gone wrong with d’Avella’s dissection of the Hand of Boethius. D’Avella does not acknowledge this excess flat; nor does he here have any reservations about placing the syllable fa on A (as was the case in Chapter 39). With this A-flat, the Hand of Aristotle is, in fact, accidental to a missing accidental hand consisting of the modern tritone, E-flat A, as formed by the F naturalis and B-flat mollis hexachords. It is this missing hand that is the true accidental hand of the Latin Hand. A similar problem will be found with the Hand of Plato presently.

\textsuperscript{561} Ibid. \textit{Con questa mano li Sonatori ponno sonare le Opere di B nelli stromenti non comodi à cantanti, e sarà seconda sotto, rispetto alla troppo acutezza, e se saranno basse, si soni per l’accidente seconda sopra, e se bisognerà terza, à quarta sopra, regolandosi dalli ut. The transpositions are as yet unclear to me.}

\textsuperscript{562} Ibid. \textit{Con questa mano, & ordine di b accidentale le opre estreme basse per b si ponno sonare una 4 sopra, & à rispetto di B sarà terza sopra, e rispetto all’accidente di B sarà seconda. These transpositions are as yet unclear to me.}
Let us dissect the missing hand from the Hand of Boethius, which consists of the modern tritone, E-flat A, as formed by the F naturalis and B-flat mollis hexachords. Following d’Avella, we might name this hand in honor of Aristotle’s father: The Hand of Nicomachus, Example Six. In d’Avellian discourse, it could also be a “conjunction of Boethius.” The Hand of Nicomachus is conjoined with the Hand of the Latins on the F hexachord and with the Hand of Aristotle on the B-flat hexachord. The total gamut consists of the pitches F, G, A, B-flat, C, D, and E-flat. The E-flat ensweetens the B-flat E tritone on the Latin Hand in the second way. Therefore, the Hand of Nicomachus holds the true accidental mode of the Latins’ essential soft-b mode. In turn, the Hand of Aristotle’s A-flat ensweetens the E-flat A modern tritone on the Hand of Nicomachus in the first way. Therefore, the Hand of Aristotle is accidental to the Hand of

\[563 \text{ ibid., 37.}\]
Nicomachus, which, under these circumstances, may be both essential to the Hand of Aristotle and accidental to the Hand of the Latins.

**Example Six: The Hand of Nicomachus**

The common Guidonian Hand appears in Example Seven (A), with one glaring alteration: D’Avella has omitted the *mollis* hexachord (on F), which is found on the Hand of the Latins. Curiously, the ut of this *mollis* hexachord appears printed in the knuckle of Guido’s pinky finger—but the hexachord is discontinued immediately thereafter. Thus, this hand’s gamut simply consists of the Guidonian diatonic—minus B-flat—and is more appropriately a “hand of the essential or natural hard-B [mode].” It overlaps with the Latin Hand, as afore mentioned. Beneath the Hand of Guido, d’Avella again provides transpositional equivalents for

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564 I suspect d’Avella forget to erase this ut. On the basis of the errors in the Hands of Aristotle and Boethius, I do not think the book’s publisher was musical-theoretically literate enough to intervene.
instrumentalists. With it, works in the soft-b mode may be transposed up a whole-tone for the convenience of singers. One therefore may tentatively connect this hand with the transposition of Crescentio’s *publica forma* up a whole-tone, as was done in Chapter 40. However, d’Avella himself does not make this connection.

Guido’s accidental hand, named after Plato, appears in Example Seven (B). It is also a “conjunction of Boethius.” It does not overlap at all with the Hand of Guido’s hexachords. Plato’s middle finger has a misprint in the middle joint: The ut on aa sol should not be there. The hand’s mutations occur on the fourth (ie: D G) and fifth (ie: G d). Again, there is not a *mollis* hexachord built upon G and g. The total gamut consists of the pitches A, B, C-sharp, D, E, F-sharp, and G (contrast these to the original Platonic academy). Beneath the Hand of Plato, d’Avella again provides transpositional equivalents for instrumentalists.66 The introduction of C-sharp is, upon closer inspection, superfluous, for one only needs an F-sharp to ensweeten Guido’s B F tritone. Again, as was the case with the Hand of Aristotle, something has gone wrong with d’Avella’s dissection of the Hand of Boethius. D’Avella does not acknowledge this excess sharp, which more properly makes the Hand of Plato accidental to a missing hand consisting of an ancient tritone, C F-sharp, as formed by the D naturalis and G mollis *hexachords*.68 That is to say, the accidental Hand of Plato has turned a missing accidental hand

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565 Ibid. *Con questa mano, & ordine di b accidentale le opre estreme basse per b si ponno sonare una 4 sopra, & à rispetto di B sarà terza sopra, e rispetto all’accidente di B sarà seconda.* These transpositions are as yet unclear to me.

566 Ibid., 38. *Con queset’ ordine le opera di b si possano sonare nelli organi bassi, per commodità de’ cantanti, e sarà un tuono alto, altri dicono una seconda.*

567 Ibid. *Con l’ordine di questa mano le opre di B naturale basse negli organi, e stromenti bassi si ponno sonare, e sarà un tuono, ò seconda sopra, e rispetto à b essenziale 3 sopra.* These transpositions are as yet unclear to me.

568 I am presently at a loss to explain why d’Avella did not mention these superfluities in the Aristotelian and Platonic Hands. However, they are indicative of d’Avella’s theoretical thought and capacity.
into an essential hand. It is this missing hand that is the true accidental hand of the Guidonian Hand.

Example Seven: The Hands of Guido and Plato

Let us dissect the other missing hand from the Hand of Boethius that consists of the ancient tritone, C F-sharp, as formed by the D naturalis and G mollis hexachords. Following d’Avella, this hand might be named in honor of Plato’s teacher: The Hand of Socrates, Example Eight. In d’Avellian discourse, it could also be a “conjunction of Boethius.” The Hand of Socrates is conjoined with the Hand of Guido on the G hexachord and with the Hand of Plato on the D hexachord. The total gamut consists of the pitches G, A, B, C, D, E, and F-sharp. The F-sharp ensweetens the ancient F B tritone on the Guidonian Hand in the second way. Therefore, the Hand of Socrates holds the true accidental mode of the Guidonian essential hard-B mode. In

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569 D’Avella, 38.
turn, the Hand of Plato’s C-sharp ensweetens the C F-sharp ancient tritone on the Hand of Socrates in the second way. Therefore, the Hand of Plato is accidental to the Hand of Socrates, which, under these circumstances, may be both essential to the Hand of Plato and accidental to the Guidonian Hand.

Example Eight: The Hand of Socrates

If d’Avella indeed erred in dissecting the proper accidental hands, then the reader may wonder: What principles governed his dissection? Surely he knew in theory and practice, following Chapter 38, that the Latin’s B-flat E tritone did not need an A-flat to ensweeten it and likewise that the Guidonian F B-natural tritone did not need a C-sharp to ensweeten it? I would propose that d’Avella simply started with the outermost accidentals on the Hand of Boethius, A-flat fa and then C-sharp mi; then he traced to the hexachords that generated these pitches, E-flat fa ut and A sol ut. In turn, d’Avella recognized that E-flat ensweetened the Latins’ tritone; and,
proceeding down from A sol, that F-sharp mi ensweetened the Guidonian tritone. He therefore
stopped his dissection at this point and conjoined B-flat ut and E-flat ut hexachords into one
accidental hand, D ut and A ut into the other accidental hand. The inconsistency that these
accidental hands did not hexachordally overlap like the essential hands did not concern d’Avella.
If d’Avella had alternatively conducted his dissection of the Hand of Boethius starting with the
innermost accidentals on the hand, E-flat fa and F-sharp mi, and traced back to the essential
hands’ unensweetened tritones, then he would have simply conjoined B-flat ut and F ut
hexachords and D ut and G ut hexachords. D’Avella would have thereby arrived at the Hands of
Nicomachus and Socrates; he would have realized that A-flat and C-sharp accidentals remained
and, as such, proceeded to extract the Hands of Aristotle and Plato. We shall return to this
proposed dissection path later, when we re-assimilate the Hand of Boethius.

D’Avella’s dissection of the Hand of Boethius into four hands and our re-dissection of it
to include two more hands are now complete. Following his dissection, D’Avella next combines
his four extracted hands’ gamuts into a ladder diagram, Example Nine.570 The first column
consists of the Hands of the Latins and Aristotle joined together; the second and third columns
consist of the Hands of Guido and Plato left unjoined (without a given reason). Curiously, the C
hexachords found on the Hand of the Latins have been omitted from the diagram; perhaps
d’Avella now recognized that they were redundant with the Guidonian Hand. The diagram, like
the Hand of Boethius, is frankly not easy on the eyes, as the rungs of the ladder and solfège
syllables do not line up (compare the alignment of Guido’s Gamma G ut to the G re of the
Latins). Although such a ladder diagram typically models hexachordal disjunctions, d’Avella

570 Ibid., 39. It is not my intent to revise this diagram to feature the six hands.
curiously envisions it “as if [it is] a keyboard instrument with the semitone keys.” Indeed, such a practical keyboard may in fact be a better visual aid to explain and explicate Gesualdian chromaticism than an extended Guidonian hand. Oddly, d’Avella does not acknowledge a contradiction between this chromatic gamut and its “keyboard” consisting of the black keys B-flat, E-flat, A-flat, F-sharp, and C-sharp and the keyboard gamut detailed in Chapter 45, in which G-sharp took the place of A-flat, as well as Chapter 39. In his description of this gamut, d’Avella notably again betrays an ignorance of the mean-tone tempering of keyboards; he describes the two semitones which fill the whole-tone interval from D to E as consisting of a minor semitone D E-flat with a value of four commas and the major semitone E-flat E with a value of five commas. Curiously, he continues to say that the whole-tone interval from G to A is likewise divided (which, although incorrect, does accord with the Hand of Boethius)—this stands in sharp contradiction to the sonorous proportions given in Chapter 39, which d’Avella did not here acknowledge. He additionally prizes this ladder diagram for readily visualizing the aforementioned intervallic relationships between the essential modes and their accidental modes: The E-flat and A-flat accidentals in Aristotle’s mode are seen to be a whole-tone below the Latin’s F and B-flat; the F-sharp and C-sharp accidentals in Plato’s mode are seen to be a major semitone

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571 Ibid. *In questa figura, quasi strumento con li tasti della semitonii si figurano tutte le voci de’ Quattro modi descritti nelle quattro mani.*

572 Ibid. *Da d sol re in e la mi, si ponno fare, e formano due semitonii (come nel cap 30) l’uno minore, e l’altro maggiore; il minore è quello, che vien fatto in e fa ut, col tasto spezzato discosto da d Quattro come, dal qual fa, sino al mi, ci sono cinque come semitono maggiore, dunque da d ad e sono nove come, che fanno il tuono perfetto. L’istessa occorre da g sol re ut ad a fa pur col tasto spezzato, e da a fa, al mi, di a la mi re.*
above Guido’s F and C. He then contrasts Plato’s major semitone intervals, C C-sharp and F F-sharp, which consists of five commas, to that of Aristotle’s minor semitones.

Example Nine: The Hand of Boethius on a Ladder Diagram

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573 D’Avella only writes the second of these two: Si vede anco, come l’accidente di B giacente, neanco, come dicevo, sopra c sta nel luogo del suo essenziale, ma un semiton maggiore sopra nelle lettere c & f (ibid.)

574 Ibid. Nell’ordine di mezzo la corda di c fa ut, che di sopra vi è un tasto spezzato, che dice c mi, quella distanza sopra il fa sudetto è d’un semiton maggiore di cinque come, così anco sopra la lettera f fa ut nel secondo ordine, vi è un tasto spezzato nel terzo ordine, che dice la mi, quella distanza dal fa naturale è d’un semiton maggiore.
Without forewarning, d’Avella next introduces a sixth hand, Example Ten (A), in addition to those of Boethius, Guido, Plato, Aristotle, and the Latins (this is an eighth hand, if we include those of Nicomachus and Socrates). Chapter 23, “How another hand different from the prescribed one is necessary,” details the “Hand of the two # diesis,” which, according to the hand’s palm, is different from the hand of Plato. The hand of Plato has F-sharp and C-sharp, but this hand additionally has G-sharp and D-sharp (the latter of which is misprinted in the palm as “F-sharp”). Yet both the hand of Plato and the hand of the two # diesis are hard-B modes; the reader wonders why d’Avella did not accordingly name this Platonic hand after one of Plato’s successors. The gamut of this hand thus consists of E, F-sharp, G-sharp, A, B, C-sharp, and D-sharp. Although d’Avella did not define this hand in terms of accidentality, the G-sharp makes it accidental to the Hand of Plato, which features the G C-sharp tritone. The Hand of Plato is thereby rendered essential. D’Avella writes in the palm (rather generically in comparison to the other hands) that “this hand is very necessary for singers and instrumentalists to enter and exit from labyrinths and difficulties. Composers may make use of it to multiply fugues.” He does not mention precise levels of transposition or refer back to this hand in his Chapter 46 examination of various Neapolitan composers’ fughe. Later in Chapter 23, d’Avella ascribes several more faculties to this hand. First, one may use this hand to transpose up a semitone, in the “chance that the instrument was deficient in the bass.” Second, d’Avella reiterates that it will serve composers to “multiply fugues and embellish their works, as in Chapter 39.” This glaring reference to the chapter on Gesualdo’s Tenebrae and Crescentio’s publica forma must also be erroneous (although it remains uncertain if we might retrace from such an error an earlier stage

575 Ibid., 40. Come sia necessaria un’altra Mano differente dalle prescritte.  
576 The final reference to Chapter 43 G is again spurious, as there is not a G printed in the margin. The reader wonders if the vague applications mentioned in the various hands, such as “varying fugues,” are not part of a contrived rhetorical strategy to convince the reader of their usefulness. How exactly does this hand “vary fugues” and not the others?
of grouping his chapters). Finally, singers will be guided by the hand to “name,” “sing well,” and “give the proper amount of breath to those voci that twist both the mouth and body because they seem like they can not be formed with an ordinary amount of breath and surely bring danger of making dissonance.”

The Hand of the two # diesis’ D-sharp is, now predictably, accidental to a missing essential hand consisting of the modern tritone D G-sharp and A naturalis and E durus hexachords. In d’Avellian discourse, these could also be “conjunctions of Boethius.” This hand has mutations of the fourth and fifth (ie: hard-B e and E hard-B). It appears dissected in Example Ten (B). Let us name this Platonic Hand, the true accidental hand to an essential Hand of Plato, the Hand of Plutarch.

577 Ibid., 41. & havrà occasione per questo modo di questa Mano di due diesis di poter sonare le opera un semitonio più alte, caso che lo strumento fusse tanto difettoso nel basso, avvertendo...benver servirà per i Compositori per moltiplicar le fughe, & abbellire le loro opere al cap. 39. mà a’ Cantori sarà guida necessaria anco, ocorrendo canti simili di saper nominar le note, dove consiste il ben cantare, e dargli il fiato competente, del quale al cap. 20 altrimente torcendo e bocca, e corpo (imaginandasi che quelle voci non si possano formar con fiato ordinato) portano sicuro pericolo di fare la dissonanza. D’Avella’s reference to Chapter 20, “On the formation of the voice to sing well,” here holds. “Twisting the mouth” to sing accidentals elsewhere appears in Chapter 46 (on Neapolitan fughe) with the previously examined unidentified excerpt from LaCorcia (76).
Example Ten (A): The Hand of the Two # Diesis
Example Ten (B): The Hand of Plutarch

The remainder of Chapter 23 compares and contrasts in greater detail the “Hand of the two # diesis” to the Hands of Aristotle and Plato and presents another ladder diagram with all five modes “so that [their] differences may be seen more openly.”

D’Avella observes that the Hands of Aristotle and the two # diesis both have the syllables re and mi on F and G, as well as C and D. However, the former’s are on white keys and the latter’s on black keys that a major semitone higher. The Hand of Plato has the syllables mi and fa on F and G, but the Hand of

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578 Ibid. E perché più apertamente si veggano le differenze, hò voluto formare qui li seguenti cinque modi.
579 Ibid. Questa mano di due # in f e g, c & D nelle voci si conforma con la mano di b accidentale, e nelle mutationi, però differiscono di luogo, perché, se quell’accidente in F dice re e mi, in g lo dice in quelli tasti bianchi; ma questo dice il re, in F e mi, in g però nell’i tasti negri, un semitonio maggiore più sù.
the two # diesis has the syllables re and mi on these two pitches. D’Avella endeavors to point out the difference between the former’s white key G fa and the latter’s black key G mi. D’Avella concludes this chapter with another ladder diagram, which now adds the Hand of the two # diesis to the above, Example Eleven. This diagram allows the reader to continue the analysis of the six syllables’ varying pitch levels, so that they might not be confused by finding the same syllables on the same letters with different accidentals. Here, d’Avella does not include the precise tunings, as he did before. He does not again compare it to a keyboard, this time with split keys in between D and E, G and A, which occur through the conjunction of the Hand of Aristotle with the Hand of the two # diesis (a practical split-keyed instrument again in contradiction to Chapters 39 and 45). The first column contains the Latins’ gamut; the second, Aristotle’s (note the grave E-flat conjunction, otherwise absent from the Hand of Aristotle); the third, Guido’s (note the grave E conjunction); the fourth, Plato’s (again note the grave E conjunction); the fifth, the two # diesis (the grave E is present in the original hand). One reads this diagram from the letter names left to right, looking for matches among various hands’ syllables. These matches primarily occur on the Hands of Aristotle and the two # diesis, of which it here suffices to point out but a few examples. In addition to those given by d’Avella above, we find the syllable fa placed on grave A in the Hands of Aristotle and the two # diesis; but the former is an A-flat and the latter an A-natural. In the same hands, therefore, sol and ut appear on B; but Aristotle’s is B-flat and the two # diesis is B-natural. One may continue this analysis of these two hands up the rungs of the ladder. D’Avella would also want his readers to

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580 Ibid. Perche quello, sebene dice mi, nell’istessa corda negra, è tasto di F fa ut e c questo modo si dice re, e quello nella corda di g si dice fa, e questo modo si dice mi, però quello dice il fa, nel tasto bianco, e questo dice mi, nel negro: talche è differente.

581 Ibid., 42.

582 Ibid. Non vi hò posta la distanza del semitoniij, havendone ditto nella prescritta figura.

583 The grave C-sharp fa in the fifth column should read la.
observe where one hand has the syllable fa but another the syllable mi. In addition to those pointed out by d’Avella above, this occurs, of course, on the hard-B and soft-b of the Guidonian and Latin gamuts. Moreover, Guido has C-natural fa and Plato has C-sharp mi. Aristotle has D-natural mi, Plato D-natural fa, and the two # diesis D-sharp mi. The Latins and Guido have E-natural mi, Aristotle E-flat fa, and the two # diesis E-natural fa. One may continue this analysis of all five hands up the rungs of the ladder and, to be sure, find many more such correspondences and differences. It is the task of the Hand of Boethius to assimilate these various gamuts into one pragmatic diagram which will guide singers through the many corde found in Neapolitan chromaticism.

Example Eleven: Hands of Boethius and the Two # Diesis on a Ladder Diagram
Accidental Essential and Essential Accidental Modes

It is surprising that d’Avella does not acknowledge in his Chapters 22 and 23 dissections that the essential mode of the Latins may, as is well-known (in however different terms), in fact be accidental to the essential mode of Guido: The Latins’ B-flat ensweetens the Guidonian F B tritone into F B-flat, the first kind of ensweetening. Likewise, the essential mode of Guido may be accidental to the essential mode of the Latins: Guido’s B-natural ensweetens the Latin B-flat E tritone into B E, the second kind of ensweetening. Nor, as we found in the Hands of Plato, Aristotle, and the two # diesis, did d’Avella consider that an accidental hand may render another accidental hand essential. Curiously, he addresses the first of these issues later in the treatise in Chapter 31, “On the value and effects of the accidentals; and how an essential mode may be accidental to the other [essential mode]”, which, as I mentioned in my proposed sub-division of the treatise, might more properly have been placed as Chapter 24 (instead of the beginning of the sonorous proportions’ chapters). Instead, this chapter was coupled with the Chapter 32, “On the other effects that the accidentals perform,” which, as previously discussed, primarily consisted of a defense of LaCorcia’s use of A-flat fa. Even more curiously, d’Avella does not then include another chapter, “How an accidental mode may be essential to another accidental mode;” rather he incorporates this into Chapter 31, without indication in the heading. To complete d’Avella’s analysis of essential and accidental modes, we must turn ahead in the treatise to Chapter 31; then we may return to these modes in their assimilated form (the Hand of Boethius).

Chapter 31 begins with an erroneous reference back to Chapter 23, section A, in which d’Avella claims to have mentioned that the “perfect voce” in one mode may be “imperfect” in another and vice versa. However, Chapter 23 concerned the Hand of the two # diesis and its comparison to the other hands. Perhaps he meant to refer to the scholastic discussion in Chapter
22; yet the division of perfect and imperfect voices was not made in that chapter. D’Avella then clarifies that the latter, “imperfect voce,” is accidental (and the former, “perfect voice,” is essential). But the accidental imperfect voce should not only be understood for the accidentals proper to the accidental hard-B and soft-b modes. In fact, the accidental imperfect voce may also be understood—and is understood, d’Avella emphasizes—for the essential modes. Therefore, an essential mode may be accidental to another essential mode, on account of the imperfect accidental voce it contains. Likewise, an essential perfect voce is also understood for the accidental modes. Therefore, an accidental mode may be essential to another accidental mode, on account of the perfect essential voce it contains. D’Avella then claims that this exchange of essences for accidents “happens often;” but he surprisingly does not explain that it happens primarily to ensweeten the tritones found on the essential Guidonian and Latin hands by means of turning their respective essential perfect hard-B and soft-b voce into accidental imperfect voce. Instead, d’Avella exemplifies the affective applications of this exchange: When a musician wants to “show an affect with soft-b that may not be so easily shown, he places hard-B in place of soft-b.” This perfect voce hard-B is sung accidentally for the soft-b mode, until “that affect will be shown.” In the same way, a perfect voce soft-b is often placed accidentally for the hard-B mode to “show a pleasing affect.” D’Avella then observes that this exchange is not restricted to the hard-B or soft-b corde, but also those after it (C, D, etc.). Therefore, these other corde are also “diverse in sound [because of their] diverse quantity, and quality.” These accidental

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584 Ibid., 48.
585 Ibid. E questo occorre spesso, che volendosi spiegare un’ affetto, che col b. non si può così efficacemente spiegare, il Musico nel loco del b. vi mette il B e tanto farà che canti per quel modo, finché haverà spiegato quell’ affetto, e poi leva il B questo B. dico, che in questa occasione è accidente di b.
586 Ibid. Parimente cantandosi per B occorre spiegare qualche affetto piacevole, e non si può così commodamente spiegare col B che fà il Musico? nel luogo di B mette il b e mentre dura quell’ affetto fà che canti b mole, questo b sarà accidente di B perché doppo lo leva.
587 Ibid. E questi modi gionti non solo variano quella corda, mà anco le altre doppo.
modes may be “moved according to the will and needs of the musician.”⁵⁸⁸ Therefore, the accidental b and # are necessarily movable on the hands.⁵⁸⁹ Ironically (and unfortunately), the two notated examples that follow in Chapter 31 do not, as the chapter’s title and discussion thus far promised, exemplify essential modes becoming accidental modes and vice versa. Nor, for that matter, does d’Avella even mention the precise hands involved in the examples. The first example simply shows a step-wise descending minor sixth with a fifth mutation from C to E, in which the F-natural has been raised to F-sharp to undo the tritone with B; see Example Twelve (A). In d’Avellian discourse, the perfect voce F found on the essential Guidonian Hand has been ensweetened by the imperfect voce F-sharp found on the missing accidental hand proper to the Guidonian Hand that should have preceded the Hand of Plato. No essential mode has become an accidental mode or vice versa. The second example similarly shows a simple step-wise descending major sixth with a fifth mutation from C to E, in which the E has been lowered to undo the tritone with B-flat. This time there is a matching ascent back to C, in which the A has been lowered to undo the tritone with E-flat; see Example Twelve (B). In d’Avellian discourse, the perfect voce E found on the essential Latin Hand has been ensweetened by the imperfect voce E-flat found on the missing accidental hand proper to the Latin Hand that should have preceded the Hand of Aristotle. No essential mode has become an accidental mode or vice versa. This exchange, at last, occurs on the ascent back to C; however, d’Avella does not (and could not) acknowledge it, as he did not create the accidental hand proper to the Latin Hand. In the ascent, the imperfect voce E-flat found on the missing accidental hand proper to the Latin Hand has been ensweetened by the imperfect voce A-flat found on the Hand of Aristotle. Finally, the accidental

⁵⁸⁸ I have not yet located the prior reference to the “will and need of the musician” in d’Avella’s Regole.

⁵⁸⁹ Vi sono li due veri accidenti di b e di B secondo le loro Mani, e questi anco sono mobile, secondo le necessità, & anco variano le corde, e consonanze, dove sono apposte.
Hand of Aristotle has rendered the preceding E-flat a perfect voce of an essential mode’s hand. The accidental E-flat has become essential. The third example does indeed exhibit the exchange of Guidonian and Latin perfect essences for imperfect accidents. Perhaps, then, it should have come first. Yet, d’Avella immediately and arrogantly derides it as rudimentary; he “gives it to notify the little ones” about his scholastic musical theory. This example, in which B-flats alternate with a B-natural within the compass of the given C E minor sixth may, according to d’Avella, be read in two ways; see Example Twelve (C). First, the B-flat voce, otherwise perfect in the essential Latin Hand, is to be read as imperfect and accidental to a prevailing hard-B mode and, therefore, essential Guidonian Hand. Alternatively, the B-natural voce, otherwise perfect in the essential Guidonian Hand, is to be read as imperfect and accidental to a prevailing soft-b mode and, therefore, Latin Hand. Following a similar example of this exchange of hard-B’s and soft-b’s taken from plainchant, D’Avella’s exposition of essences, accidents, and their exchanges is essentially completed.

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590 Ibid. E per darn’ un poco di notitia a’ giovani... This arrogance arises again in d’Avella’s translation of Book I of Boethius (which he falsifies as the ever involved Book III) into Italian “(per i giovani)” in Chapter 33 on the definitions of consonance and dissonance.
Reassembling the Dissected Hands: The Conjunctions and Another Hand

Having completed d’Avella’s dissection of the Hand of Boethius into its essential and accidental modes, we may now reassemble the various hands into one—a formidable task which I believe d’Avella implicitly presumed his readers would complete at the end of Chapter 23, before proceeding onto the neo-Boethian exposition of the sonorous proportions abruptly begun in Chapter 24. Returning to the Hand of Boethius, we find that Boethius’ *corde* are indeed conveniently differentiated: Print for hard-B modes and italics for soft-b modes; italics always appear first in order followed by print. We find that not one *chorda* is both italicized and printed.\(^591\) In devising the hand, d’Avella intentionally allocated each syllable to each joint once and only once. For example, in Boethius’ knuckles there is a Platonic C-sharp mi followed by D-fa, but not an Aristotelian C-natural *mi* followed by D-flat *fa*; there is an Aristotelian E-flat *fa*

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\(^591\) The sole exception is the C hexachord of Guido and the Latins, which is printed only and not also italicized. As will be seen below, that was one of the intents of the hand. It would be rather miraculous if these were printed without error. The pinky’s a la and *mi* should exchange places. This same misprint curiously appears in the middle finger’s *aa* joint, suggesting the printer applied the same “mold” for acute and super-acute pitches with the same syllables.
followed by F-natural sol, but not a Platonic E-natural fa followed by F-sharp sol; and so forth for the rest of the hand. In light of d’Avella’s Chapter 23 comparison of the Aristotelian and Platonic hands’ re’s and mi’s on C, D, F, and G, this is problematic and leads the reader to the most glaring discrepancy in the Hand of Boethius: The Hand of the two # diesis was not assimilated into it. At a glance, the Hand of the two # diesis’ grave E conjunction is missing below the Latins’ F conjunction on the side of Boethius’ thumb. Indeed, the Hand of the two # diesis’ mi’s and fa’s are entirely off the Hand of Boethius. There should be printed mi’s on G and D, printed fa’s on A and E. However, no G-sharp mi appears at the Gamma G ut tip of Boethius’ thumb; nor does A-natural fa appear on Plato’s Gamma A ut joint. No dd-sharp mi appears at the top joint of the middle finger. The Hand of the two # diesis’ ee-fa (and, incidentally, the Hand of Guido’s ee-la, the Hand of Plato’s ee-sol, and the Hand of Aristotle’s ee-fa) placed next to the tip of the middle finger has been omitted. The mi’s and fa’s on these four corde, G, D, A, and E are all italicized, meaning they belong to the soft-b modes. That is to say, G-natural and D-natural are the mi’s and A-flat and E-flat are the fa’s that belong to the Hand of Aristotle. The reader inevitably wonders: Was the Hand of the two # diesis developed at a later stage in d’Avella’s thought and not properly incorporated into his earlier writing?

There are several other less conspicuous omissions from the Hand of Boethius: First, the Aristotelian hexachord beginning on bb-flat ut in the fourth finger’s joint above the knuckle has been entirely omitted. Second, there is not a G-sharp mi on the Hand of Boethius, only G-natural mi. G-sharp mi, as previously mentioned, would be the Plutarchian accidental ensweetening of the Hand of Plato’s G C-sharp tritone. Surely, the Neapolitan madrigalists’ chromatic gamut included G-sharps—and, indeed, A-flats with the sonorous proportions of G-sharp. Why, then, has d’Avella omitted this critical corda from the Hand of Boethius? On the basis of the
complete omission of the Hand of the two \# diesis and these other omissions, one may rapidly conclude that the Hand of Boethius does not, as d’Avella so proudly claimed, contain “the entire compendium of Music.” Given his defensiveness about his theoretical remedy for the “insufficiency” of the Guidonian hand, surely d’Avella himself was aware of these insufficiencies of the Hand of Boethius?

Upon closer scrutiny, the Hand of Boethius, beneath its superficial obscurity and promises of ingenuity, is eminently more common than d’Avella would lead us to believe; it was not even necessarily devised for Gesualdian chromaticism. In fact, the very same extended Guidonian gamut with all six syllables placed on each joint appears in Pietro Cerone’s contemporaneous Neapolitan tome, El Melopeo y Maestro (published in 1613). This more extensive Neapolitan treatise, written by a musician and priest who served alongside Stella, Maione, and Macque at the Annunziata but one mile from d’Avella’s church, yet which oddly makes no explicit mention of their (or Gesualdo’s) music, may clarify the real reasons for this hand and reveal a certain commonality and inadequacy within d’Avella’s musical thought. This extended Guidonian gamut, according to Cerone’s Book V, Chapter 6, outlined in Example Thirteen, simply arises from divisions of whole-tones, which are called “conjunctions” (as opposed to “Conjunctions of Boethius;” Column One. More specifically, these divisions are made to avoid mi-contra-fa dissonances by placing a mi wherever there is a fa on the Guidonian Hand and vice versa. In turn, the hexachords (or “deductions”) underlying these new “conjoined” mi’s and fa’s are extrapolated; Column Two. These new hexachords’ syllables are in turn placed on the joints of the hand to extend the Guidonian diatonic gamut. According to Cerone, there are ten total conjunctions and their matching hexachords, five with soft-b

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592 Cerone, 404. Cerone does not actually place these conjunctions physically on the Guidonian Hand, nor expressly state that he did not do so on account of the possible impracticality of such a hand.
accidentals and five with hard-B accidentals. As enumerated in Column One, the soft-b conjunctions are classified with odd numbers and the hard-B conjunctions with even numbers. However, numbers six through ten are only octave transpositions of the second through fifth conjunctions into the acute and super-acute registers. Therefore, the ten conjunctions may be abbreviated into five, beginning with the whole-tone A B and climbing up the scale to G A. By way of contrast, D’Avella’s unique classification of these conjunctions appears in Column Three. Collectively, the conjunctions are attributed to Boethius; and, however more erroneously, the odd numbered soft-b conjunctions are Latin and Aristotelian, the even numbered hard-B conjunctions, Platonico. For sake of contrast to the numerical order that the conjunctions are added to the Guidonian Hand, I have included in the third column, the previously proposed numerical order in which the “Conjunctions of Boethius” were dissected from the “Hand of Boethius.” That is to say, the fifth and final conjunction of Column One was the first dissected out from the complete hand, and so forth.

Example Thirteen: The Conjunctions and Deductions According to Cerone

<table>
<thead>
<tr>
<th>Conjunctions (Divisions of the Whole-Tone): Place a fa where there is a mi and vice versa</th>
<th>Deductions (Hexachords): Conjoin these to the Guidonian Hand [forms the Hand of Boethius]</th>
<th>D’Avella’s Dissected “Conjunctions of Boethius”</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A re and B mi (B-flat fa)</td>
<td>F ut G re A mi B-flat fa C sol D la</td>
<td>3. Latin (Italics)</td>
</tr>
<tr>
<td>2. C fa ut and D sol re (C-sharp mi)</td>
<td>A ut B re C-sharp mi D fa E sol F-sharp la a ut … f-sharp la aa ut … ff-sharp la</td>
<td>4. Platonic (Print)</td>
</tr>
<tr>
<td>6. c sol fa ut and d la sol re</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. cc sol fa and dd la sol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. D sol re and E la mi (E-flat fa)</td>
<td>B-flat ut C re D mi E-flat fa F sol G la b-flat ut … g la</td>
<td>2. Aristotelian (Italics)</td>
</tr>
<tr>
<td>7. d la sol re and e la mi</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Let us now add these conjunctions to a fill-in-the-blanks Guidonian Hand, Example Fourteen, and, by so doing, recount the original assimilation of the Hand of Boethius. Adding the first conjunction places the sub-grave F ut on Boethius’ thumb and ensuing hexachords on F (Hand 1). Adding the second conjunction places the grave A ut on Boethius’ thumb and ensuing hexachords on A (Hand 2). Adding the third conjunction places the grave B-flat on Boethius’ thumb and ensuing hexachords on B-flat (Hand 3). Adding the fourth conjunction places the grave D ut on Boethius’ middle finger and the ensuing D hexachords (Hand 4). Adding the final fifth conjunction places the grave E-flat ut on Boethius’ ring finger and the ensuing E-flat hexachords (Hand 5—note that that this conjunction does not place a grave E-flat on Boethius’ thumb; however, d’Avella inconsistently placed an E-natural on the Hand of the two sharp diesis’ thumb). We have now effectively allocated all six syllables to each joint of the hand.

Example Fourteen: Conjoining the Five Deductions to the Guidonian Hand
By way of contrast, let us now dissect the “Conjunctions of Boethius” from this Hand of Boethius, Example Fourteen #5, and, by so doing, observe the difference between the Hand’s generating principle and d’Avella’s dissection procedures; see Example Fifteen. It is not as simple as going through Example Fourteen backwards in the order 5, 4, 3, 2, 1, G. Again, d’Avella’s dissections are likely at odds with the deductions. Although we indeed first removed the E-flat hexachords (1), we then cut out the B-flat (2) and F (3) hexachords, moving into the Hand, so to say. Then we take our scissors back out of the Hand and cut out the A (4) and D (5) hexachords, working inwards again to the Guidonian joints.
Example Fifteen: Dissecting the Deductions from the Hand of Boethius
In addition to clarifying the Hand of Boethius’ gamut, Cerone’s *Melopeo* also details the discrepancy between the extended Guidonian gamut’s conjunctions and the conjunctions on the common keyboard.\(^{593}\) As was seen in Chapter One of this study, this accounts for the variation between A-flat and G-sharp’s presence. Example Sixteen compares these two gamuts. Cerone points out that, on the keyboard conjunctions, the second flat in between D and E lacks the fifth above and the fourth below, A-flat; likewise for the third sharp in between G and A. Cerone merely describes these fifths as “fa contra mi dissonances.”\(^{594}\) In direct conflict to d’Avella’s

\(^{593}\) Ibid., 928.

\(^{594}\) Ibid., 929.
ear-witness account of Gesualdo’s *Tenebrae*. Cerone claims that composers did not intend to sing these A-flat and D-sharp accidentals accompanied by the “imperfect” and “deficient” pitches on the organ.  

**Example Sixteen: Conjunctions “Off the G. Hand” vs. “On the Keyboard”**

<table>
<thead>
<tr>
<th>Conjunctions (Divisions of the Whole-Tone)</th>
<th>Deductions (Hexachords): “Off the Hand” (Above)</th>
<th>“On the Keyboard” (Below)</th>
<th>“Conjunctions of Boethius”</th>
</tr>
</thead>
<tbody>
<tr>
<td>A and B (B-flat)</td>
<td>F ut G re A mi B-flat fa C sol D la</td>
<td>F ut G re A mi B-flat fa C sol D la</td>
<td>Latin</td>
</tr>
<tr>
<td>C and D (C-sharp)</td>
<td>A ut B re C-sharp mi D fa E sol F-sharp la</td>
<td>A ut B re C-sharp mi D fa E sol F-sharp la</td>
<td>Platonic</td>
</tr>
<tr>
<td>D and E (E-flat)</td>
<td>B-flat ut C re D mi E-flat fa F sol G la</td>
<td>B-flat ut C re D mi E-flat fa F sol G la</td>
<td>Aristotelian</td>
</tr>
<tr>
<td>F and G (F-sharp)</td>
<td>D ut E re F-sharp mi G fa A sol B la</td>
<td>D ut E re F-sharp mi G fa A sol B la</td>
<td>Platonic</td>
</tr>
<tr>
<td>G and A (A-flat) (G-sharp)</td>
<td>E-flat ut F re G mi A-flat fa B-flat sol C la</td>
<td>E ut F-sharp re G-sharp mi A fa B sol C-sharp la</td>
<td>Aristotelian [Platonic]</td>
</tr>
</tbody>
</table>

Elsewhere (in Book XIII, Chapter 62), Cerone also reformulated the off the Guidonian Hand conjunctions to accord with the conjunctions on the keyboard. He states this change (and the demonstrative staff notation of each deductive hexachord that follows) was done “particularmente para los Compositores.” Again, he did not physically place these keyboard conjunctions on an extended hand; however, this raises the possibility that d’Avella could have done so, “for the composers’” sakes. This “Hand for the Composers,” as we might call it, appears in Example Seventeen, in which the E hexachords have turned Platonic.

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595 Ibid., 930. This statement is perplexing, given that Ascanio Mayone was organist and, later, music director at the Sanctissima Annunziata where Cerone was a singer and likely writing some of his treatise.

596 Ibid., 758.

597 However, I have not reordered the hexachords, for sake of making this change immediately comparable to the Hand of Boethius. According to the conjunctions, the E ut should have changed places with E ut and moved to the very end of the sequence of voce. That is to say, the knuckle of the Hand for the Composers’ ring finger should, according to the conjunctions, properly read: E fa la mi sol re ut (and so forth for the subsequent corde’s voce).
Example Seventeen: The Hand for the Composers

Using the Hands in the *Regole*

As we have completed the dissection and reassembly of the Hand of Boethius, let us now return to d’Avella’s references in Boethius’ palm and see how his hand relates to the other
chapters throughout the treatise. D’Avella refers us to Chapters 32, 45, and 29 B.\textsuperscript{598} Chapters 41-44 are pertinent too. We have already forayed into the first two of these chapters in this study: Chapter 32 consisted of a defense of LaCoricia’s use of A-flat fa from “that Scholar” and Chapter 45 included key discussions of the two-fold placement of the syllable fa on A and E that enabled us to uncover the keyboard origins of the ensweetened modern tritone’s sonorous proportions. D’Avella refers us to these chapters in Boethius’ palm because they, like the Hand of Boethius, also detail the positioning of all six solfege syllables on each \textit{corda}.\textsuperscript{599}

The Hand and the Implicit Circle of Fifths

Turning to Chapter 32, we might recall that d’Avella, as one defense of LaCoricia, envisioned song as an implicit circle of fifths on which fa and every other syllable could be placed without restriction. Therefore, the Hand of Boethius should, in principle, also defend LaCoricia. Indeed, d’Avella concluded Chapter 32 with a reference back to the hands for the positioning of fa on E, B, C, F and G, A, and D.\textsuperscript{600} But, upon closer inspection, there are discrepancies among the placements of the six syllables on the Hand of Boethius and the implicit circle of fifths that d’Avella did not acknowledge. In contrast to the implicit circle of fifths, the Hand of Boethius distinguishes between the fa’s placed on Aristotelian and Platonic naturals and Aristotelian flats. There is indeed an Aristotelian A-flat fa on the Hand of Boethius to defend LaCoria; but there are not Aristotelian D- and G-flat fa’s on the Hand, as these \textit{corde’s} fa’s are

\textsuperscript{598} Another mention of the Hand of Boethius occurs at the end of Chapter 41, in which d’Avella mentions an unidentifiable tenor part by one Nicolò Tantucci, nel Peccia. The Hand is supposed to facilitate the transposition of this passage down a fifth from C to F.

\textsuperscript{599} The reference to Chapter 29 can not be for the positioning of all six syllables on each \textit{corda}; for this chapter concerns the demonstration of major semitones on instruments (and, therefore, song), only one of which—F-natural F-sharp—is related to the Hand of Plato (47). Therefore, this peripherally chapter may be glossed over.

\textsuperscript{600} D’Avella, 50.
Platonic D- and G-naturals. If, therefore, we were to revise the implicit circle of fifths to accord with the Hand of Boethius as given by d’Avella, it would appear as in Example Eighteen.

Example Eighteen: Implicit Circle of Fifths with Hand of Boethius Print and Italics

Alternatively, let us revise the Hand of Boethius to accord with the implicit circle of fifths given by d’Avella, on which every syllable appears on every note without restriction.\(^{601}\)

This gamut is tantamount to placing both printed Platonic and italicized Aristotelian corde on each joint on each joint of the hand (and doubling their use to encompass E-flat mi, E mi, and E-sharp mi, C-sharp fa, C fa, and C-flat fa, and so forth); that is, twelve syllables per joint—a fully saturated hand ostensibly beyond any practical aid. Or, one could devise the complement to the Hand of Boethius, in which Platonic corde are substituted for Aristotelian corde and vice versa. The Hand of the two # diesis would then appear on this complementary hand. In anticipation of plotting Neapolitan chromatic madrigals on the hand, let us therefore rename the Hand of

\(^{601}\) Or so d’Avella would lead us to believe in his defense of LaCorcia. In Chapter 45, it becomes clear, for example, that the chorda hard-B and soft-b’s voci collectively share all six note.
Boethius given by d’Avella the “Left Hand of Boethius” and its complement the “Right Hand of Boethius;” see Example Nineteen.

Example Nineteen: Right Hand of Boethius

All Six Syllables on the Hand

Chapter 45 has already been examined in detail alongside Chapters 21 and 39 for the six-fold positioning of the syllables on each *corda* of the Hand of Boethius and for the two-fold
placement of fa on E and A, which was necessary to elucidate the practical difficulties of the
Hand and the instrumental bases of the ensweetened modern tritone. This chapter’s title, “What
use is extracted from knowing these Diatonic, Chromatic, Enharmonic, and Harmonic [kinds of]
songs,” is misleading, as d’Avella does not actually correlate these kinds of songs to the
multiple positioning of the syllables. Chapter 45 primarily details four “difficulties” musicians
and singers face in diatonic, chromatic, enharmonic, and harmonic species of song. All of these
difficulties concern the positioning of syllables on corde; therefore, d’Avella has referenced this
chapter in Boethius’ palm. I suspect he did not directly include these “difficulties” in Chapters
21-23 as part of his strategy to counter the seeming “intricacy” of the Hand of Boethius and its
soft-b and hard-B modes. The first difficulty is, predictably, the placement of all six syllables on
each corde. Here, d’Avella reiterates his circular reasoning of this placement without any new
details. However, he here adds that this difficulty has induced some to make chromatic
monochords that can play all the voci in each corde. That is to say (to provide a hypothetical
example for d’Avella), the positioning of the syllables ut, re, mi, fa, sol, and la on A necessitated
a split-keyed chromatic keyboard that could sound all of these syllables on A-flat, A-natural, and
A-sharp (save for A-flat mi and A-sharp fa, one presumes). Although one may doubt d’Avella’s
monastic perspective that the extension of the Guidonian gamut necessitated chromatic
instruments, the revised Hand of Boethius may certainly be equated with a 14-tone split-keyed
chromatic keyboard featuring D-sharp and E-flat, G-sharp and A-flat; and, the Left and Right
Hands of Boethius may certainly be equated with a 21-tone split-keyed chromatic keyboard. Yet
d’Avella then immediately contradicts his elsewhere occasional praise for chromatic instruments
and argues that the ordinary monochord in fact contains all the voci in each corde. This is, in my

602 Ibid., 69. Che utile si cava dal saper questi canti Diatonici, Cromatici, Enarmonici, & Harmonici?
603 Ibid. La prima difficoltà, si certificano, che in ogni corde, rispettivamente possono essere tutte le sie note, per
salire, e scendere; perché il canto, essendo, come il circolo...
reading, comparable to saying that ordinary keyboard contains the syllables ut, re, mi, fa, sol, and la on A, where G-sharp and B-flat may stand for A-flat and A-sharp.\footnote{Ibid.}

The second difficulty d’Avella identifies in Chapter 45 is that the syllable la is placed on F and C; this placement follows, of course, from the placement of ut on D-flat and A-flat. Although d’Avella found that la “might well be” on these corde, “many” found this “a brutal thing, because the Guidonian Hand does not demonstrate [la on F and C].”\footnote{Ibid.} To clarify this, d’Avella first generates the six syllables on C: C is sol fa ut on the Guidonian Hand by virtue of the hard-B and soft-b. It acquires mi as the black key C-sharp. To generate re, d’Avella argues that where there is a sol, there is its mutation, re. C re, in turn, implicates B-flat ut and E-flat fa.\footnote{Ibid., 69-70.} To generate C la, d’Avella invokes a “most vulgar rule” [regola vulgatissima]: Where there is a re, there may be another mutation, la; where re ascends in an accidental mode, la descends. He then exemplifies this most vulgar mutation “more subtly” [più sottilmente] with a notated example of a descending and ascending major sixth: F sol E-flat fa D mi C la B-flat sol A-flat fa B-flat sol C re D mi E-flat fa. Provided these notes “may be found on the instrument” and that the fa may be formed on A la mi re, then one may sing this major sixth “harmonically.”\footnote{Ibid., 70.} One may therefore “not say that [the mutation on C re la] does not accord,” for, as d’Avella has shown, it has “accorded optimally.”\footnote{Ibid.} Although d’Avella did not here reference his hands, this major sixth’s mutations may be easily traced in the Hand of Aristotle.
He then additionally exhibits la on C with the same minor sixth extended to an octave and transposed up a step: F-sharp sol E fa D-sharp mi C-sharp la B-natural sol A fa G-sharp mi F-sharp re G-sharp mi A fa B-natural sol C-sharp re D-sharp mi E fa F-sharp sol. Again, this mutation “will be most concordant” [saranno concordissimi]. These mutations may be easily traced on the Hand of the two # diesis.

The third difficulty d’Avella identifies in Chapter 45 at first seems redundant with the first—except that now we learn that both nature and art have ordered the placement of the six syllables on each corda. He then proceeds to generate la, ut, and sol for hard-B; la in the manner above, ut from the mode of the two # diesis’ E fa, and sol from the descending mutation on ut in this mode. This difficulty may be solved by the Hand of the two # diesis. The fourth and final difficulty is the two-fold positioning of fa on E-flat and E natural, A-flat and A-natural previously analyzed in detail. The difficulty of the co-existence and substitution of G-sharp mi for A-flat fa, E-flat fa for D-sharp mi may be solved by the Hands of Boethius and the Composers. This portion of Chapter 45, as previously mentioned, also includes the second reference to Crescentio’s publica forma; however, it also includes, albeit out of place, an example of hard-B la (the third difficulty), which is taken from Palazzotto’s O dolcezza d’amore (I, 22). As seen in Example Twenty, the except features the doubly ensweetened ancient tritone F-sharp B-flat, which, it will be recalled, led d’Avella to unnecessarily apply unnotated musica ficta out of causa necessitas in Nenna’s Coridon. Here again, d’Avella goes astray. He attributes to Palazzotto the “denigration” of the B-flat “with affect.” However, d’Avella claims that it was sung with the soft-b as signed; but singers should notice the F-sharp mi that,

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609 Ibid., 70. La terza difficoltà è, che in ogni corda rispettivamente si possono dire tutte le sei note sonore, e distinte, come la natura, ed arte l’ha ordinate (come nel capo 20) à pronuntiarsi.

610 Ibid., 71. Questi sono passi de’ valent’ huomini D. Giuseppe Palazzotto Siciliano denigrando il b con l’affetto, lettera e # [sic] par che si renda incantabile nel Madrigale O dolcezza d’amore, nelle parte del Tenore.
through the hard-B mode, necessarily varies the first two notes. In this way, the B-flat fa
becomes B-natural la. The D is therefore ut, a syllabication that d’Avella permits (unnecessarily
it seems to me) through the fifth mutation sol on D. D’Avella observes that these affects
continue through the sigh figure on B-natural la at the end of the excerpt.\textsuperscript{611} Again, he warns of
“other serious composers, who use the same modes, so that they might not be wrongly
censored.”\textsuperscript{612} Save for the Guidonian D sol mutation, this example may be easily traced on the
Hand of Plato.

Example Twenty: D’Avella’s Citation of Palazzotto’s \textit{O dolcezza d’amore}

D’Avella did not directly apply the Hand of Boethius to particular musical examples of
the Neapolitan madrigalists’ chromaticism in his treatise, only the soft-b, hard-B, and two #
diesis modes in the abstract, for which he provided exercises in Chapters 41 through 43. These
exercises are simply solfege practice for the hexachordal mutations and disjunctions that occur
throughout chromatic music (which we briefly encountered in his teaching of Gesualdo’s \textit{Et
inclinato capite} motif). Given their contents, three or four of these chapters could have been
placed directly after the opening chapters on the extension of the Guidonian gamut, its hard-B
and soft-b modes, ladder diagramming, and before the introduction of the sonorous proportions.
Chapter 41, at first glance, is of an entirely different realm than the intensely theoretical,
historical, and polemical Chapters 39 and 40 on Gesualdo’s *Tenebrae* and Crescentio’s *publica forma*. In Chapter 41, d’Avella plainly exhibits “How the mutation of the fifth may be made above every fa and [the mutation of] the fourth below [every fa]”\(^{613}\) without any exceptional musical examples. To be sure, its only topical connection to the previous chapters is that the tritone is also generated upon any fa. The significance of the mutations of the fourth and fifth were, of course, inscribed in each of d’Avella’s hands. Therefore, Chapter 41 and its exercises could have been placed thereafter. Likewise, Chapters 42 and 43 treat “The ways in which the two accidentals may be resolved through the hard-B and soft-b [modes]”\(^{614}\) and “How one may enter and exit the said modes.”\(^{615}\) These chapters, as d’Avella’s reference back to Chapter 21 (and 22?) suggest, could have been placed right after his scholastic discourse on the hard-B and soft-b modes. The only reason why these chapters should be grouped at this point in the treatise is that d’Avella now incorporates new terminology that he defined, however belatedly, in Chapter 44: “On the Invention of Diatonic, Chromatic, Enharmonic, and Harmonic [Kinds of] Songs.”\(^{616}\) Even this chapter could have more properly been placed in the first treatise on the origins of music. However, to continue exploring the Hand of Boethius’ guidance throughout the treatise on *canto figurato*, we must take more of d’Avella’s lessons in music history.

D’Avella begins his history of the four kinds of song in Chapter 44 with the general observation that many nations and schools of philosophy “tired themselves over inventing ways of singing.” Then, “having invented [these ways], they gave introductions and means to learn

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\(^{613}\) Ibid., 62. *Come sopra, e sotto ogni fa può essere la mutatione di quarta, e di quinta.*

\(^{614}\) Ibid., 63. *In che modi si risolvino li due accidenti per B e per b.*

\(^{615}\) Ibid., 64. *Come si può entrare, & uscire da detti modi.*

\(^{616}\) Ibid., 68. *Dell’ Invenzione de’ Canti Diatonico, Cromatico, Enarmonico, & Harmonico.* With this chapter and its terminologies previously applied in Chapters 30 and 42-44, we are about to enter what Beccatelli called “another sea filled with major confusion about the past” [*un altro Pelago pieno di maggior confusion del passato*] (67). Again, Beccatelli rehearses Gaffurius’ history of the three genres to correct d’Avella. He then observes the mixture of the Diatonic and Chromatic species in sacred music, as accompanied by instruments.
[their songs] to their followers." In this regard, the Neapolitan musicians’ teachings of their chromatic accidentals’ “origin, values, and quality” from master to disciple, recounted at the very beginning of d’Avella’s treatise, is no different than any other culture’s invention of ways of singing. According to d’Avella, there were three “sorts” of nations: The Greeks (or the Platonists and Peripatetics), the Normans, and the Lombards. These nations “perpetuated” their diverse songs in church by means of their scholars and students until the time of Pope Gregory. However, these nations’ ways of singing were “most difficult” and there was “much discord” among scholars trying to form one school of singing alone. Therefore, Pope Gregory, greatly desiring that unified way of singing in church, composed a new Antiphonary and Gradual and gave them to Guido d’Arezzo, who was charged with finding the “easiest way” to order and teach these books’ chants. Some of this is familiar from before; but now D’Avella has uncovered these three previously undiscussed nations’ original ways of singing and proceeds to their definitions and classifications. Of course, as might be expected from his Boethian, Aristotelian, Platonic, and Latin attributions of Guidonian Hands, d’Avella’s history of diatonic, chromatic, enharmonic, and harmonic music is distinctly his own. Nevertheless, we must be more objective readers than Burney, Beccatelli, and others and extract as much as we can from

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617 Ibid. Diverse Nationi, e scuole de’ Filosofi s’ affaticorno per inventor modi di cantare, & inventato davano introduzione a’ seguaci, & ordine per impararlo.


619 Ibid. E desiderando il Padre santo, che si cantasse à un modo nella Chiesa (oltre che quei modi erano difficilissimi, e molto dissonanti trà i scolari d’una scuola istessa) diele al P. Guido Aretino l’Antifonario, e Graduale composto da lui, come si è detto, ordinandoli lo disponesse al modo più possibile facile, che con quel sol modo voleva si cantasse, per introdurre l’unità del canto nella Chiesa santa.
Let us therefore first read this history and then see it developed (or, if it developed) in modern Neapolitan pedagogy and practice.

The Platonic and Peripatetic Greeks together invented and sang songs in which “two different voci were placed in one and the same corda.” These voci proceeded in an “equal quantity from semitone to semitone,” which was, in d’Avella’s opinion, “bruttissimo, e difficilissimo.” However, at d’Avella’s time, one could still hear “relics” of this song in Greek churches. This way of singing, as seen in d’Avella’s notation, Example Twenty-One (A), was called “diatonic,” from “Dia, & Tonos,” because, according to d’Avella’s etymology, there are two different voci in one corda. The Normans, by way of contrast, invented and sang songs in another “special way” that contained semitones, commas, and schismas. Their way of singing struck d’Avella as “impossible to learn and know its origins” because, over time, the “thread was lost;” for, as in all sciences, students made “thousands of errors” and “bastardized” their teachers’ first principles. This way of singing, as seen in d’Avella’s notation, Example Twenty-One (B), was called “chromatic,” from Croma, “color,” because, according to d’Avella’s

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620 Indeed, I would strongly discourage rejecting the following history, as several of d’Avella’s Neapolitan and Franciscan followers evidently believed this history and rehearsed it in their treatises. One is Santoro (11). Another one is Andrea di Modano’s Canto hamonico (Modana: Cassiani, 1690): 13. This treatise, published by the archiepiscopal printer, is named after d’Avella’s history of “harmonic” song.

621 Ibid. I Greci dunque, per sapersi l’origine, e la diversità de’ canti, così Platonici, come Peripatetici cantavano, e facevano in ogni corda spesso due diverse voci, di quantità, equalità da semitonio à semitonio, bruttissimo, e difficilissimo, che hoggi in parte ve ne sono reliquie nelle loro Chiese, e questo canto si chiamò diatonico à Dia, & Tonos, che vuol dire due voci differenti in una corda. The use of “diatonic” first appears (expectedly) in Chapter 30, on the division of the perfect whole-tone into two unequal semitones. It remains to be seen if other Neapolitans and Franciscans produced such alternative etymologies. Cerone notably remarks on the oddity of the Neapolitan understanding of the word “Symphonia:” Y esto por el vocablo se sabe: porquanto Symphonia, se exprime en latino Consonancia; y deriva de sin, & phoni voce...Adviertan que los Napolitanos (aunque en todo y por todo impropriamente) por Symphonia entienden la Musica de diversos instrumentos ordenada; mas segun los escritores Theoricos, Symphonia es el cantar en dos bozes solas (248). Cerone then rehearses a more standard history of diatonic, chromatic, and enharmonic music (250).
etymology, there are different signs of “four commas, two commas, more and less.” The Lombards sang yet differently and invented a way of singing in which the same *nota* was “gradually” sung on different *corde*. The result was a kind of song in which one always heard the “same sound.” Alternatively, the Lombards sang intervallic leaps of thirds, fourths, fifths, and beyond. Neither of these two ways, in d’Avella’s opinion, had *harmonia* in their intervallic sequences, seen in Example Twenty-One (C). The Lombards’ way of singing was therefore called “Enharmonic,” from “*sine Harmonia, ò Amphonia*.”

D’Avella then turns to the preservation of these three nations’ diverse ways of singing in the face of Pope Gregory’s unification movement; after all, Pope Gregory did not want to “annihilate the memory of these inventors.” Therefore, d’Avella believed that “through the work of the Holy Spirit, the Holy Father conserved all [of these ways of singing] and formed from them a [new way of song] in his Antiphonary and Graduale.” For d’Avella, this way of singing was “Harmonic,” on account of its “sweetness, concord, and *melodia*.” D’Avella did not exemplify this harmonic way of singing in notation since the Latins sing it daily in all churches, as facilitated by the Guidonian Hand.

Did d’Avella find these ways of singing in the Neapolitan madrigals?

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622 Ibid. *Li Normanni cantavano con altro modo speciale, e con tanti segni di semitonij, di come, e scisoni, ch’era una confusione, & impossibile ad imparare, e saperne l’origine, essendosi perso il filo, come occorre d’altre scienze, che imbastarditi li principij de’ primi Maestri, li allievi fanno mille errori, e questo canto, perché haveva tanti, e diversi segni di Quattro comme [sic], di due più, e meno, si chiamò Cromatico, Croma in Greco dice Papia, vuol dir colore, dunque Cromatico vuol dir colorito.*

623 Ibid. *I Longobardi poi cantavano diversamente, dicendo l’istessa nota gradatamente in diverse corde, facendo sempre l’istesso suono, overo cantavano, saltando da spetie à spetie di terza, di quarta, di quinta, à altra delle 13 al cap. 70 C. È l’uno, e l’altro modo, perché non haveva harmonia, cioè sequel di note l’una doppo l’altra (altri la chiamavano Amphonia) il loro canto fu chiamato Enarmonico, idest *sine Harmonia, ò Amphonia.*

624 Ibid., 68-69. *Siche essendo il canto in tante diversità, e difficoltà insieme, nè parendo bene di annichilare la memoria di niuno di questi Inventori; per opera del Spirito santo (mi giova creder) il Padre santo di tutti questi tre modi, conservandoli tutti, come si dirà, ne formò un canto nel suo Antifonario, e Graduale sudetto, qual canto si chiama Harmonico, così ditto per la soavità, concento, e melodia, che si canta con facilità, & è quello, che usiamo noi Latini, con l’istruzione della mano nell’invenzione della Musica, e con quei principij, e modi del primo Trattato, & à questo modo (posposti tutti gli altri) ordinò ditto Padre santo*
Having acquired d’Avella’s definitions of the four kinds of song, we are ready to take the Hand of Boethius and work through his mutation exercises in Chapters 41-43. The first of these chapters is succinct and simply provides hexachordal mutations on fifths. The second, “In which modes the accidentals are resolved through B and b,” is substantially more involved, as it details how to make transitions between “disparate” modes. For this, d’Avella provides a general rule: One can not go from one extreme mode to another without passing through the intermediary modes (again, this is one rare instance in which d’Avella provides a rule in his Regole). By “disparate” modes, d’Avella means in particular three possible combinations: 1. The accidental of the hard-B mode (that is, Plato) versus the accidental of the soft-b mode (that is, Aristotle), 2. The accidental of the hard-B mode (that is, Plato, again) versus the natural (or essential) soft-b (that is, the Latins), and 3. The accidental of soft-b (that is, Aristotle, again)

Example Twenty-One (A-C): Greek, Norman, and Lombard Song

A)

B)

C)

si cantasse, come hoggi sic anta in tutta la Chiesa. D’Avella then continues with evidence of the three ways of singing in “harmonic” song or, equally, “ecclesiastical” and “angelic” song.

Chapter 41’s contents may be summarized in brief, as d’Avella most exhibits mutations of fourths and fifths under any fa. One of the examples has a rare metaphor in d’Avella’s thinking: A “rapido fiume, che se da una parte toglie, ad un altra porge.” There are additional examples of b-fa on A and, by now, redundant claims that others say the notation is “false” (62).

D’Avella, 63. In che modi si risolvino li due accidenti per B e per b.

Ibid. Di questo parere son’ io, che ogni accidente si deve risolvere nel suo modo essenziale, e da quelle poi, se sarà necessario, far transito, come mezi più opportune ad altri modi disparati, secondo la Regola, che non si deve, nè può farsi transito ordinate da estremo ad estremo, se non per li opportune mezi.
versus the natural (or essential) hard-B mode (that is, Guido). He seems to have here dispensed with his “Conjunctions of Boethius” appellations. However, we will retain them in our analysis of this chapter. These modal combinations are “greatly disproportionate” and the transition from one to another is not “orderly,” but “violent.” Therefore, one may not go directly from accidental mode to accidental mode, but must pass through the essentials as intermediaries. That is to say, one must proceed from Plato to Aristotle via Guido and Latins. These transitions are made through two ways of singing, “Harmonic” and “Diatonic.” “Harmonic” song is here defined differently than above (and less spiritually): “In the course of singing, neither the corda nor the voce are altered; and, the notes are [solfeged] according to the natural order of each mode.” That is to say, roughly speaking, there are no hexachordal mutations or disjunctions. “Diatonic” song is also defined differently than above: The singer leaves one mode for another and, therefore, one corda is called two different voce. There may or may not be notes intervening in this maneuver. If there are, the singing is called “Diatonic improper;” if there are not, “Diatonic proper.” This “diatonicism” includes hexachordal conjunction and disjunction. D’Avella will later say in the examples that diatonic improper is found in canto

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628 Ibid. Modi disparati intendi accidente di B & accidente di b. Accidente di B è b naturale; Accidente di b è 'l modo di B naturale. My reading of the passage maintains that the two printed “è” should be “e” and continue the previous “&.” Alternatively, d’Avella is only stating here that Plato and Aristotle are “disparate” and that the soft-b is accidental to Plato and the hard-B is accidental to Aristotle. The following musical examples, however, highly suggest that d’Avella also considered the more intermediate modes as “disparate.”

629 Ibid. Si che fra questi, essendo grand’improporzione, non si può far transito ordinato, mà violento, come si vedrà per li esempi, intendi però immediatamente, cioè non si può far transito da accidente ad accidente immediatamente, cioè doppo l’accidente di B voglio entrare al modo dell’ accidente, o modo di b perche non si può: si può ben si doppo il modo dell’ accidente sudetto, entrare al naturale di B e dal B al b naturale, e poi da quello all’ accidente suo.

630 Ibid. Harmonico è quel canto, che nel corso del cantare non s’altera corda, nè voce veruna, e le note si dicono, secondo l’ordine naturale per ciascun modo, cioè, doppo ut, re, mi, &c. e così scendendo doppo la, sol, fa, &c.

631 Ibid. Diatonico poi sarà quel canto, che lasciato il primo modo di cantare n’introduce un’altro diverso, con note fra mezo, o senza, che perciò una stessa corda si chiama de’ dui modi: l’uno per il primo, e l’altro per l’altro modo nell’ istesso luogo, e suono, e questo non è Diatonico proprio, ma improprio...proprio Diatonico è quello, che si dice à dia, & tonos, & è quello, che in una medema corda, senza traporvi altre note si dicono due voci differenti di suono, nome, e luogo.
fermo, but diatonic improper is limited to canto figurato. Furthermore, diatonic improper’s conjunctions and disjunctions enable one to continue harmonically. These definitions of diatonicism are even more “ahistorical” than the “historical” ones!

Having confusingly enough discarded his “Conjunctions of Boethius” and redefined the species of song, D’Avella now launches into over a dozen practical examples and exercises of how to pass in between disparate modes of various combinations. The first set of these is short, no longer than a line each, and their contents and descriptions may be readily summarized in the table found in Example Twenty-Two.

**Example Twenty-Two: D’Avella’s Exercises for Passing from Mode to Mode**

<table>
<thead>
<tr>
<th>Ex.</th>
<th>Disparate Modes</th>
<th>Conjunctions and Disjunctions</th>
<th>Species</th>
<th>Remarks (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Latin to Guido to Latin (preliminary)</td>
<td>A mi and A re</td>
<td>Diatonic Improper</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A re and A la</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Latin to Guido to Latin to Aristotle to Latin to Guido to Plato</td>
<td>B-flat fa and B mi B mi and B-flat fa D la and E-flat fa E-flat fa and E mi C ut and C-sharp mi</td>
<td>Diatonic Proper</td>
<td></td>
</tr>
</tbody>
</table>

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632 Ibid., 64. *Questo canto Diatonico [proprio] si trova nel canto figurato, & il canto Diatonico improprio...si trova nel canto fermo.*

633 Ibid. *Da b à B non si può far transito senza il canto Diatonico improprio, cioè chiamare una nota di più modi, e nel stesso suono, & a questo modo si camina armonicamente.*

634 These flow seamlessly into Chapter 43, “How one may enter and exit the said modes.” Ibid. *Come si può entrare, & uscire da detti modi.* My intent here is to provide a guide through this section en route to the longer example that concludes Chapter 43.

635 Again, the so inclined reader may readily find these ten simple notation examples (here withheld for sake of space) in d’Avella, 64. Chief among the difficulties here is supplying the correct mutations and disjunctions for exiting and entering the modes. Note that d’Avella has additionally discarded the print/italics distinction for the hard-B and soft-b modes.

636 There appears to be a mistake in d’Avella’s identifications of the first two examples at the bottom of page 63. The first example is mis-identified as “Harmonic;” it should be “Diatonic improper” on account of the hexachordal conjunctions. The second example is then correctly identified as “Diatonic proper.”
<table>
<thead>
<tr>
<th></th>
<th>Latin to Plato</th>
<th>Plato to Aristotle</th>
<th>Aristotle to Plato</th>
<th>Plato to Latin</th>
<th>Diatonic</th>
<th>Proper</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ch. 43</td>
<td>Guido to Socrates</td>
<td>B mi and B la</td>
<td>Harmonic</td>
<td>Diatonic</td>
<td>Proper</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Latin to Aristotle</td>
<td>G re and G la</td>
<td>Harmonic</td>
<td>Diatonic</td>
<td>Proper</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Guido to Aristotle</td>
<td>A mi and A-flat fa</td>
<td>Diatonic</td>
<td>Proper</td>
<td>“con violenza”</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Latin to Plato</td>
<td>B-flat fa and B mi</td>
<td>Harmonic</td>
<td>Diatonic</td>
<td>Proper</td>
<td>“con violenza”</td>
</tr>
<tr>
<td>5.</td>
<td>Socrates to Aristotle</td>
<td>B la and B mi</td>
<td>Harmonic</td>
<td>Diatonic</td>
<td>Proper</td>
<td>Socratic</td>
</tr>
</tbody>
</table>

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637 D’Avella, 64. For the next two examples, d’Avella retreats from the disparate second and third examples, asking how to observe the natural order and harmonic song: *Per sodisfare dunque al quesito in che si risolvono gli accidenti, per osservare l’ordine della natura, e caminar harmonicamente?*
Among these many examples of diatonic improper song turned harmonic, the tenth example of Chapter 43 stands out; for there, d’Avella introduces “enharmonic” song (but, as one would by now expect, not as the Lombards invented it). This enharmonic kind of song is another way to sing “harmonically,” which makes the “greatest effects:” Where mi should follow fa, substitute re in mi’s stead. His one example of this enharmonicism appears in Example Twenty-Three. The notations here are not to be read continuously across the barlines (unlike before). In measure one, Latin B-flat fa should be followed by A mi; in its stead, Guidonian A re is substituted. In measure two, Aristotelian A-flat fa should be followed by G mi; in its stead, Latin G re is substituted. In measure three, Platonic D fa is followed by the Two # diesis’ C-sharp re. The final two measures “enharmonically” juxtapose Aristotelian E-flat fa with Latin D re, Guidonian C fa to Platonic B re.

638 Ibid., 66. Questo modo di dire il re, doppo ogni fa, fà effetti grandissimi, che con facilità s’entra da un modo ad un’ altro harmonicamente. Che sotto al fa dev’ esser mi, e se ci dice re; questo è l’enarmonico.
Example Twenty-Three: Enharmonic Modal Transitions

The last example in Chapter 43 assimilates all of these modal transitions and kinds of song, is of veritable composition length, and is perhaps as labyrinthine in content and notation as the Hand of Boethius that should guide us through it. It is a substantial exercise only for the “curious.” “So be ready, Scholar,” d’Avella warns, “and fix your eyes upon the accidentals, so that [the example] will be sung well.” D’Avella’s only hint is that it begins and ends in the Guidonian mode. Fixing our eyes on this challenge in Example Twenty-Four hurts them as much as squinting at the Hand of Boethius. Filled with miniscule and erratically placed voce (still without print/italic distinctions), accompanied by occasional designations of “diatonic” (how vague) and “the same” [l’istesso], the exercise even runs onto the next page by one line (this printing error has been removed in Example Twenty-Four, but the page-turning indication “sol” is readily seen at the bottom right end of the second to last line). Each line is numbered as an individual example (1-9), but they are actually supposed to be read and sung continuously. Having worked through this exercise out of curiosity myself, I would invite other curious readers to try the passage and then consult my guides that follow Example Twenty-Four.

639 Ibid., 66. E per dare essercitio all’ [sic] curiosi hò fatto questo esemprale per tutti modi, però sia accorto il Scolare, e fissi gli occhi à gli accidenti, che cantarà bene: comincia per B naturale, e segue per gli altri modi già detti, e finisce in B naturale.
Example Twenty-Four: D’Avella’s Cumulative Exercise for Modal Transitions

The exercise begins on Guidonian C, but d’Avella did not assign it a solfege ut or fa. The next measure is a Two sharp diesis C-sharp la, so let us assign fa to the opening C-natural. Then a transition may be made to the Two # diesis mode’s C-sharp la via a hexachordal disjunction to
Platonic C-sharp mi. The second measure then proceeds in Two # diesis mode, with a hexachordal conjunction F-sharp re and C-sharp re. The final note of the measure, however, is undefined by d’Avella: C-sharp sol. This implicates an A-sharp mi conjunction that is off the Hand of the two # diesis. Sol has no apparent practicality. This C-sharp could have been re or la. If la, we may reverse the transition back to Guidonian C fa in the next measure. Then a simple Guidonian B mi is disjunct to Latin B-flat fa. In line two, we have a Latin E mi disjunction with Aristotelian E-flat fa, which, for some unknown reason, d’Avella elected to identify as “diatonic” (and, more specifically, diatonic proper). The printing in this Aristotelian measure is off: re belongs under C, not D. We then take an enharmonic turn from E-flat fa to Platonic E re, after which Platonic G fa mutates to Guidonian C fa via implicit G ut conjunction. In a reversal of his enharmonicism, d’Avella next juxtaposes Guidonian A re to Aristotelian A-flat fa via an implicit Latin A mi. What follows next is a tricky Aristotelian A-flat fa to Platonic D fa tritone. D’Avella did not prescribe how to do this, beyond forcing the D fa upon us: A fa sol re mi tritone, D mi Aristotelian to D la Nicomachus to D re Latin to D sol Guidonian to D ut Socrates and, at long last, D fa Platonic. The first measure of line three is unclear without a signed B-flat fa. Here, we are supposed to go from Platonic C-sharp mi (at the end of line two) to Latin B-flat fa back to Platonic G fa (despite the fact that no sharp accidentals follow), which leaps to Guidonian C fa. As Latin F fa becomes Aristotelian F sol, the rest of line three becomes a reprieve. Curiously, the fourth line is but a repetition of lines two and three: The E-flat at the end of line three begins the same sequence found starting with the E-flat pick-up to the third measure of the second line. The repetition lasts until the first note, D, of the fifth line. It is as though d’Avella wanted us to try it again. The fifth line’s clef is misprinted as a tenor clef instead of alto. Here Aristotelian E-flat fa becomes Platonic E sol via Guidonian E mi and
Platonic E re. Then Platonic D fa is disjunct to Two # diesis D-sharp mi; we continue “harmonically” in that mode with a hexachordal conjunction on C-sharp la. Along the way, A fa reverts to Platonic F-sharp la via A ut. Line six: Platonic A ut (curiously printed as “do”—are these really d’Avella’s voce?) mutates to Platonic A sol to G fa and F-sharp mi. The Latin la on D seems unnecessarily placed for the one note, when we are just to return back to Platonic F-sharp mi (with a fa ever so precariously close underneath it). Measure two mutates from Platonic G fa to Guidonian E la, from which mutate back to Platonic A sol, in order to prepare a G fa enharmonic switch to Plutarchian E re. Line Seven immediately moves into the Two sharp diesis mode via the sol of F-sharp; yet, d’Avella withholds the D-sharp of this mode and instead makes us leap from Two sharp diesis A fa to Platonic D fa. The second measure introduces the D-sharp, for which we must enter back into the Two sharp diesis mode during the E sustained over the barline. We sing harmonically in this mode for the remainder of the line. Line eight begins with an enharmonic Two # diesis A fa to Guidonian A re. If his designation is any indication, this enharmonicism on the “same” pitch delighted d’Avella. The monastic reader of the Library of Congress copy—having valiantly made it this far in the exercise—then courteously warns us that something is astray with the B-flat via the check mark. However, he was not kind enough to provide us with the correct voce. In fact, we must look ahead to the F sol at the end of the measure to recognize that we must place an Aristotelian ut on that B-flat and mutate to it from Guidonian C fa. To begin measure three, we must mutate the fifth down to B-flat sol. The following ut is misprinted under F instead of E-flat. We here practice the fifth mutation again down to E-flat fa and continue in the Aristotelian mode. The final measure is the most disparate, juxtaposing Aristotelian and Two sharp diesis modes, con violenza. Incidentally, the transfer from Aristotle E-flat fa to that B ut was the very same disjunction we encountered in
d’Avella’s misreading of Nenna’s Coridon. Line nine is the climax of the exercise, as it has an F-sharp hexachord that is off the Hand of the Two sharp diesis (now d’Avella is really testing our knowledge of neo-Platonic philosophers—Who ought this additional hand we need here be named after?) The exercise concludes by mutating back to the mode of the Two # diesis on B sol. I suspect the fa under D-sharp is certainly a misprint, unless d’Avella is testing our reading of Chapter 44, which, as previously discussed, exhibited how the sound of E-flat fa was substituted for notated D-sharp mi’s. We conclude with a diatonic proper exchange of Two sharp diesis E fa for Guidonian E la.

After the exercise, D’Avella offers no congratulations to those who made it through, but merely reiterates that the sight of so many accidentals in this example will “maximally confuse whoever is not practiced in the Chromatic, Enharmonic, and Diatonic ways of singing, and in the Hands, all of which are here [left to the reader to] infer.” Of all the accidentals in the exercise, he picks up the placement of fa on A again. This time it seems the reader should have expected the fa on A-flat and not A-natural, in the usual manner of the fa-on-mi conjunctions. For this, he refers the reader to Chapter 45, in which A-flat fa and A-natural fa were found on chromatic instruments, not mentioning Chapter 39, of course. Finally, although nobody would agree with him, d’Avella claims the solfege indications in this were really chosen to proceed “as harmonically as possible.”

By now, perhaps nearly all of the examples encountered thus far have, for the present-day musicologist, seemed to be far removed from Gesualdian chromaticism and d’Avella’s Chapter

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640 Ibid., 68. Dal veder solo tanti accidenti, ciascun si confonde, massime chi non è pratico a’ canti Cromatici, Enarmonici, e Diatonici, e nelle mani, quali tutte sono qui inferite.

641 Ibid. E se si vuol sapere come sia il fa, in a senza b vedasi il capo 45 alla quarta difficoltà, come anco in ditto capo si dichiarano altre cose, che con lo strumento ciascuno ne può essere più capace.

642 Ibid. Ed io in alcuni luoghi delle esempij sudetti hò posto alcune lettere, per formare le voci harmonicamente quanto si può.
proclamation to be able to teach and defend it. But our persistence through the extended
Guidonian gamuts and exercises, anatomical dissections, scholastic metaphysics, and
mythological histories might finally be rewarded when d’Avella unveils another solfege exercise,
similar in its labyrinthine content to Example Twenty-Four, but this time derived from the actual
Neapolitan madrigal repertoire. Chapter 46, the final chapter of the treatise, “How imitations
and fughe are multiplied with the Diatonic, Chromatic, Enharmonic, and Harmonic [kinds of] songs,”
a bewildering accumulation of imitations and fughe in Neapolitan madrigals and
evillanellas (as promised) along with everything else d’Avella either forgot to mention or could
not conceive of an independent chapter for: Praise for Palazzotto, the purported existence of C-
flat fa, the excessive and redundant notation of accidentals, the censorship of LaCorcia, and
Francesco Orso’s equal division of the whole-tone. The title is moreover misleading, as, does
d’Avella not apply the “historical” kinds of songs in the chapter’s contents, but the “ahistorical”
kinds of songs. Upon beginning the chapter, however, his primary objectives are clear: To show
how the accidental modes are employed in imitations and fughe and resume the Chapters 31 and
32 discussions on the effects of accidentals. There are three principle citations, Example
Twenty-Five: Montella’s Occhi, ch’io tanto adoro (A), in which the first measure’s F-sharp
imitates the second measure’s B-natural; Nenna’s Ardemm’ insieme (B), in which the
imitation’s E-flat and B-natural “must, in accordance with the will of the composer, the form and
meaning of the accidentals, be sung like the [B-flat and F-sharp];” an unidentified motet by

\[ \text{Con li canti Diatonici, Cromatici, Enarmonici, & Harmonici si multiplicano l’ immitationi, e le fughe.} \]
\[ \text{Nel capo 32 s’ accennò, che gli accidenti, oltre gli altri effetti, moltiplicavano l’immitationi, e le fughe nel canto.} \]
\[ \text{Ne la seconda imitatio ne si deve cantare altrimente, che la prima, che questa è la volontà del compositore, e la forma, e valore dell’acci\-}
\[ \text{D’Avella additionally shows how Palazzotto “used it” (Nenna’s imitation) in his Ch’io moro, at the same pitch level (but not exactly the same figurations). Although I}
have relegated this seemingly little discovery of d’Avella’s to a footnote, it actually has rather profound
Alessandro Grande (C), in which the sequence ut re mi fa is imitated (although the third measure is dubious). 647

Example Twenty-Five: Imitations by Montella, Nenna, and Grandi

D’Avella then multiplies these three imitations into an exercise in the manner of Example Twenty-Four, which one may “understand by studying the hands.” 648 He begins with that of Grandi, multiplying the excerpt “through all the modes as one may,” and then proceeds with those of Montella and Nenna, warning that enter quickly and seamlessly in the notated example. 649 Note, these are d’Avella’s own imitative modal developments upon these composers’ imitations in Example Twenty-Five. 650 Again, the accidentals seem “terrifying” and “unsingable;” but d’Avella promises they are “ordered” such that they may be sung
“harmonically, without [proper] diatonicism pressing on one *corda.*” But, in order to do this, one must know the mutations of each mode. However, they are orderly and may be sung harmonically, if one knows the mutations of the modes of accidentals. Unlike the previous example, d’Avella gives “a little help” by placing the syllables on several notes. Not only that, he identified the mode under each bar, revealing what transitions and mutations must be made to enter and exit the them. One might even play it on an instrument and find the accidentals well placed. As seen in Example Twenty-Six, the Grandi imitations begin by multiplying the first and second measures’ Guidonian mode into two measures of the Platonic mode (the la and sol syllables are unclear). D’Avella next takes a turn into the Aristotelian mode. In the first and second measures of the third line, he then turns around towards the Platonic and Two # diesis modes, notably through the enharmonic mutation E-flat fa D re. The Montella imitations begin in the middle of the fifth line and simply progress increasingly to the Two # diesis modes. The Nenna imitations then take up this mode in the ninth line and turn back towards the Aristotelian mode to end the exercise. It is much more straightforward than Chapter 43.

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651 Ibid., 74. *Dà terrore à vedere tanti accidenti, & ognuno giudica che siano incantabili. Però sono ordinati talmente, che senza il Diatonico, forzando una corda, se ponno cantare armonicamente; ne sarà capace chi si sia, se non saprà le mutationi di ciascun modo.*

652 Ibid. *Per dare un poco d’aiuto, trà le note vi hò posto la voce scritta in alcune corde, quando si fà il transito da modo à modo, e nel spazio trà l’una, e l’altra tirata de’ righi, hò esplicato i modi, acciò prendendoli difficile, possa contrapesare le mutationi, che qui consiste ogni cosa, e sapere entrare, & uscire.*

653 Ibid. *E chi si diletta di strumento sarà più capace, che con quello toccando, troverà il tutto ben disposto.*

654 Note that the first line’s clef is misprinted.
The Hands and Gesualdo’s Music

We have now worked through all of d’Avella’s hands, their exercises, and applications. One can not help but have a sense of disappointment that d’Avella did not directly apply the Hand of Boethius to Gesualdo’s *Tenebrae* (the very passage that brought about Boethius’ necessity) or Gesualdo’s chromatic madrigals. As d’Avella evidently did not consult these madrigals, he could not have been aware of the problem that much of Gesualdo’s chromaticism,
as notated, remained “off the Hand.” But discrepancies certainly arise between The Hand of Boethius and the *Tenebrae*, perhaps now predictably. First and foremost, the E-flat A-flat and D-sharp G-sharp ensweetened modern tritones’ precise sonorous proportions do not appear on the Hand of Boethius; they appear on the Hand for the Composers. On the Hand of Boethius, the ensweetened modern tritone’s sonorous proportions occur between Aristotelian A-flat *fa* and Platonic C-sharp *mi*. Therefore, the Hand of Boethius’s modern tritones are A-flat D and G C-sharp, where the D-flat *fa* ensweetening has the sonorous proportion of C-sharp *mi* and the G-sharp *mi* has the sonorous proportion of A-flat *fa*. This overt lack of concordance between the Hand of Boethius and the Neapolitans’ chromatic music is ironic, given d’Avella’s decidedly empirical dissection of the Hand of Boethius. How, then, was this hand supposed to guide church singers through Gesualdo’s *Tenebrae*? If one tries to plot the canto’s *Et inctlinato capite* motif (E-flat, B-flat, A-flat, G, F-sharp) on the Hand of Boethius, one begins at the Aristotelian e-flat *fa* at the tip of Boethius’ index finger and silently passes through his middle finger’s Aristotelian d *mi* to his ring finger’s Aristotelian c *re*; here one should silently mutate to the Latin c *sol* in order to sing Latin b-flat *fa* at the tip of Boethius’ pinky. According to d’Avella’s Chapter 39 instructions, however, this b-flat should be solfeged sol on account of the impending A-flat. One must therefore silently back-track to the tip of Boethius’ ring finger and, instead of mutating from Aristotelian c *re* to Latin c *sol*, one should mutate from Aristotelian c *re* to Aristotelian c *la*. Then one may sing Aristotelian b-flat *sol* at the tip of Boethius’ pinky. Next, one simply proceeds down Boethius’ pinky, singing Aristotelian a-flat *fa* then Aristotelian g *mi*. From here, one must descend a semitone to the cadential f-sharp by mutating the Aristotelian g *mi* into Aristotelian g *la*, which in turn must mutate into Latin g *re*. Latin g *re* must mutate into

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655 See, however, Chapter 46, in which d’Avella rejects the use of C-flat, as found in the villanellas of Montella. (I have not found this purported C-flat in the surviving parts of Montella’s prints).
Latin-Guidonian g sol, which must mutate into Guidonian g ut, which must finally mutate into Platonic g fa to descend to Platonic f-sharp mi. However, the Aristotelian a-flat fa actually has the sonorous proportions of the g-sharp mi found on the Platonic Hand of the two # diesis. This corda, as was seen, is off the Hand of Boethius given by d’Avella. Therefore, one must back-track up Boethius’ pinky to Aristotelian a-flat fa and now substitute in its place the Hand of the two # diesis’ g-sharp mi and then descend from there to a Platonic g fa en route to Platonic f-sharp mi. How might these sharp hexachordal disjunctions from notated A-flat to sounding G-sharp and G-sharp to G be made? This is a question of mutation which d’Avella should have asked and answered in Chapter 39, but did not. Indeed, d’Avella does not refer his readers in Chapter 39 to the Chapter 21 Hand of Boethius (and vice versa). Although he claimed that the Hand of Boethius could lead singers through Gesualdian chromaticism, I suspect he was aware that it could not. He did not solve this problem.

Let us now, as one representative Example, plot the extreme chromaticism of the first verse of Gesualdo’s Moro, lasso—first on the Hand for the Composers, and then on the Left and Right Hands of Boethius, as chromatically notated. Moro, lasso’s opening is recalled in Example Twenty-Seven.656

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656 The left and right Hands of Boethius should accommodate all of Gesualdo’s madrigals, (in notation) as they have come down to us. However, those of his successors (Rossi, Mazzocchi, and Micheli, among others) will require yet more hands on account of the double flats and sharps. As such, this post-Guidonian expansion of the gamut has only just begun.
Example Twenty-Seven: Gesualdo’s *Moro, lasso*

Plotting this progression on the Hand for the Composers, the alto begins on a Platonic E-sharp mi with the sonorous proportion of a Guidonian F-natural fa on the pinky’s knuckle. One then simply moves to E mi on the ring finger’s knuckle. The following Platonic D-sharp should be solfeged a disjunctive mi; however, it has the sonorous proportion of a disjunctive Aristotelian E-flat fa, also on the ring finger’s knuckle. Having recognized and performed these disjunctions successfully, one then simply proceeds to an Aristotelian D mi at the knuckle of the middle finger. From there, one leaps an octave to D mi at the tip of the middle finger. Next, one must sing a modern tritone leap from this Aristotelian D mi to a Platonic G-sharp mi (surely one of Gesualdo’s expressive text-setting devices in the passage—although in not so philosophical or Guidonian terms). How might the alto make this leap? If one mutates from Aristotelian D mi to Latin D la and proceeds down the hand through C sol, B-flat fa, to A mi, then a mutation could be made from Aristotelian A mi to Guidonian A la—but that does not help the alto mutate to Platonic A fa. Returning to the tip of the middle finger, the same stumbling block of course arises should one proceed from Aristotelian D mi to C re and mutate there to Latin C sol and proceed to A mi. It seems then, that the alto has no choice but to return to the tip of the middle finger and make another disjunction from Aristotelian D mi to Platonic D fa and proceed down the hand through C-sharp mi, mutating to C-sharp la, B-natural sol, A fa, and then, at long last, G-sharp mi followed by A fa. The quinto’s path is less disjunctive. Beginning on the index
finger’s knuckle Platonic C-sharp mi, one leaps to A ut on the thumb’s joint. Here, one makes—however inelegantly—a mutation to Guidonian A re and returns to the knuckles B mi, C fa, D sol, C fa. The tenor performs this same path transposed up a fifth to begin on the pinky’s Platonic G-sharp mi, mutate on E ut to E re and rise up through B la. The bass begins on a Platonic C-sharp mi on the index finger’s knuckle, then makes a disjunction to Guidonian C-natural fa on the same knuckle, and simply proceeds to B mi on the knuckle of the thumb. The leap from Gamma ut to the pinky’s G ut is simply made, with a mutation to G sol. From there, one descends to E mi la and, lastly, A re on the thumbs’ joint.

Let us next plot Moro, lasso on the Hands of Boethius, which do not have the acoustically correct voce, but are notationally correct. The alto begins on the Platonic E-sharp mi on the left Hand of Boethius’ ring finger’s knuckle. (Again, note that we have reinterpreted the Hand of Boethius to include this sharp; for d’Avella, this was Guidonian E mi alone). One must then make a disjunction to Platonic E-natural fa on the same knuckle. However, the left Hand of Boethius has Aristotelian E-flat fa. One must therefore turn to the right Hand of Boethius, on whose ring finger is Platonic E-natural fa. (Again, recall that this E-natural fa was originally off the Hand of Boethius and placed by d’Avella on the Hand of the two # diesis). The D-sharp mi is just a knuckle over on the middle finger. Next, for the D-natural, one needs a disjunctive Platonic fa. Unfortunately, the right Hand of Boethius has Aristotelian D-flat fa and not Platonic D-natural fa. One must therefore switch back to the left Hand of Boethius to find the disjunctive D-natural fa on the middle finger’s knuckle. Then one leaps an octave to the D-natural fa tip of the middle finger and proceeds to leap a modern tritone to Platonic G-sharp mi. Proceeding from D-natural fa to C-sharp mi at the tip of the ring finger is easily enough done. But if one wants to again make a mutation to C-sharp la, this corde is not on the left Hand of
Boethius; for d’Avella did not conjoin the Platonic Hand of the two # diesis’ E hexachord to this hand (on which C-sharp is la), as E ut was occupied by Aristotle’s hexachord (on which C-natural is la). (Recall that placing both la and la on C was a “difficulty” in Chapter 45). Therefore, one must mutate from C-sharp mi on the left Hand of Boethius to C-sharp la on the right Hand of Boethius. Then one may proceed, as before, down the hand, through B-natural sol, A fa, and then, at long last, G-sharp mi followed by A fa. The remaining parts pose no comparable difficulty. The “curious” reader, as d’Avella would say, may here be invited to continue through Gesualdo’s most chromatic madrigals, guided by the Hands of Boethius.

The Hand of Brugis

It is of course unknown if Gesualdo himself and his followers used Guidonian hands in the teaching and performance of their madrigals; but certainly the Hand of Boethius was not the Hand of Gesualdo. Although d’Avella held the Hand of Boethius up to shield the Neapolitan madrigalists from public censorship on the part of “little experienced practitioners,” the Hand and its dissected constituents only appeared like a big stop sign for d’Avella’s few readers. As Burney and Beccatelli all too easily rebuked d’Avella: Boethius, Aristotle, and Plato, did not have a hand in Guidonian pedagogy. Therefore, for these critics, this must have been the Hand of the most historically illiterate of music theorists, d’Avella. Curiously, this attribution too proves mistaken. In a pioneering study of 1963 that will have newfound ramifications for establishing d’Avella’s authorial identity and theoretical capacities, Giuseppe Massera revealed that d’Avella’s Hand of Boethius was in fact taken corda by corda from the short (and nowadays very obscure) treatise which prefaced the 1500 Graduale and 1503 Antiphonarium of Franciscus

657 Note, however, that Trabaci used the inganno technique. To be sure, Vicentino used Guidonian hands in the teaching of his chromatic and enharmonic system (I, 5). These hands may provide a further point of contrast between d’Avella and Vicentino.
Like d’Avella, Brugis was a member of the Franciscan order of the *Minori Osservanti* (in the *provincia Sancti Antonii* of Padua); and, as such, his treatise was evidently most readily available to d’Avella. This is confirmed by d’Avella’s one and only citation of Brugis’ *Graduale* in the first treatise of the *Regole*, where he (perhaps incorrectly again) attributed the invention of the five-line staff to Brugis. However, d’Avella, for reasons proposed presently, notably did not cite Brugis’ treatise in Chapter 21. In his treatise, Brugis unveiled a “*manus perfecta*” to guide novice singers away from the “many dissonances” that often arise in the “imperfect,” “insufficient,” and “incomplete” Guidonian Hand. Unlike d’Avella’s Hand of Boethius, Brugis’ “perfect hand” was devised for plainchant alone. Brugis maintained the terms *mollis*, *durus*, and *naturalis* for the hand’s hexachords. Most importantly, Brugis did not “dissect” his “perfect hand” into its constituents (although he rewrote the pitch letter name for soft-b and hard-B accidentals). Finally, in a more recent and closer analysis of Brugis’ “perfect” hand, Berger further discerned that Brugis abstained from placing a sharp mi and flat fa on two proximate joints of the hand (ie: G-sharp mi on the bottom pinky joint and A-flat mi on the joint above it) because of the Pythagorean commas between such intervals—a significant point that d’Avella did not make in his neo-Boethian theory. The Hand of Brugis appears in Example Twenty-Eight. When placed beside the Hand of Boethius, one finds that both hands have the same finger-prints.

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659 Beyond that, however, Brugis’ biography remains unknown. Ibid., 35. The currency of his *Graduale* at the turn of the seventeenth-century (particularly in Naples) is also unknown.

660 Ibid.

661 Ibid., 50-51.

662 Ibid., 56.

663 Berger, 51.

664 Massera, Tav. II.
Even d’Avella’s precise design of the first ladder diagram was taken from Brugis’ treatise, *corda by corda*. In Example Nine, we saw that d’Avella joined the Hands of the Latins and Aristotle in one column and yet divided the Hands of Guido and Plato into two columns, without explanation. In fact, this diagram is a mirror image of Brugis’ division of his “perfect hand” into *mollis, naturalis*, and *durus* orders. As seen in Example Twenty-Nine, Brugis’ orders atypically *descend* from the grave register at the top of the ladder to the super-
acute register at the bottom of the ladder. The *mollis* order in the first column on the left consists of hexachords on F, B-flat, and E-flat. This order, it will be recalled, is identical to d’Avella’s conjunction of the Hands of the Latins and Aristotle—minus the Latins’ C hexachord, which was curiously left off the Latin and Aristotelian order on d’Avella’s ladder diagram.

Note, however, that Brugis has curiously omitted the a-natural mi in the acute and super-acute registers. Why and where did it go? The *naturalis* order in the middle column of Brugis’ ladder diagram consists of hexachords on G and C. This order, it will be recalled, is identical to d’Avella’s Guidonian Hand alone. Surprisingly (and for reasons unknown), the missing a-natural mi’s of the *mollis* order appear in this *naturalis* order—even though the *naturalis* order does not include hexachords on F. The durus order in the last column on the right consists of hexachords on A and D. This order, it will be recalled, is identical to d’Avella’s Hand of Plato.

Comparing D’Avella’s ladder diagram to Brugis’ diagram, we see, at a glance, that d’Avella merely flipped the diagram over so that the orders *ascend* from the grave register at the bottom of the ladder to the super-acute register at the top of the ladder. Above the columns, he substituted his novel essential and accidental terminologies for Brugis’ traditional *mollis*, *naturalis*, and *durus* terminologies. This substitution is perhaps the surest indication that d’Avella rejected these common hexachordal designations. Like Brugis, d’Avella omitted the a-natural mi in the acute and super-acute registers in the Latin order—even though this *voce* is essential to the F hexachord. He likewise kept this a-natural mi in the Guidonian order—even though he correctly removed it from his Guidonian Hand. Oddly, however, the a-mi appears only in the acute register and not the super-acute register. I hesitate to think that this was an erasure by d’Avella to correct the diagram to match the Hands; for nowhere else in the ladder diagram did he make such a correction. Most likely, this a la re was a misprint. The final column
is identical with Brugis. It is surprising that d’Avella did not alter Brugis’ diagram ever so subtly to match the hands. He certainly read it closely, for, as we saw, he provided in the margins a tuning analysis of the divisions of the whole-tones, which Brugis did not provide.

Example Twenty-Nine: Brugis’ Ladder Diagram

<table>
<thead>
<tr>
<th></th>
<th>Odo naturalis</th>
<th>Odo versus</th>
</tr>
</thead>
<tbody>
<tr>
<td>f. Ut.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. re.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. mi.</td>
<td>a. re.</td>
<td></td>
</tr>
<tr>
<td>c. faut.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. folre.</td>
<td>c. mi.</td>
<td></td>
</tr>
<tr>
<td>e. la mi.</td>
<td>f. fol.</td>
<td></td>
</tr>
<tr>
<td>f. la mi.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. la mi.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. mi.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example Twenty-Nine: Brugis’ Ladder Diagram
D’Avella, having elsewhere in his treatise cited Brugis, “plagiarized” this “perfect” hand and its mollis-naturalis-durus diagram (if indeed “plagiarized” is the correct term).\footnote{This raises the question if d’Avella also directly borrowed any of his musical examples and exercises, particularly the modal mutations found in Chapters 42-43. My current position is that the rest of the book’s examples are indeed original.} To cover up this “plagiarism,” d’Avella renamed the “perfect hand” after Boethius, fully knowing that it was in actuality the “Perfect Hand of Brugis.” Boethius, after all, was a greater authority than Brugis to invoke in a defense of Gesualdo. D’Avella may have additionally assumed that Brugis’ hand was old enough not to be recognized by his intended Neapolitan readership. This is one plausible answer to Burney’s question about d’Avella’s ahistorical attributions of his hands. Furthermore, d’Avella disingenuously wrote that he himself devised this hand, it will be recalled, to protect the Gesualdo circle’s chromaticism from censorship (among two other reasons): “So that inexperienced practitioners may not easily censure the good composers, who regularly serve themselves of those [accidentals] in their works…and for this reason the following hand was made.”\footnote{D’Avella, 34.}

Nowhere did d’Avella include the original reasons why this hand was made by Brugis. Unlike d’Avella’s treatise, Brugis’ treatise and “perfect hand” were addressed “to that brother with maximum necessity to save him from nearly an infinity of errors and so that he might properly sing and compose songs.”\footnote{Massera, 73.} The “perfect hand” was devised simply “because many common or imperfect dissonances [occur] on the Guidonian Hand that we are not able to avoid. Therefore to omit [the Guidonian Hand], we deliberately decided to impart to the musicians our so-called perfect hand.”\footnote{Ibid., 75.} Nowhere did Brugis include censorship of a chromatic repertoire (nevertheless one a century into the future) under his reasons. Yet d’Avella knew that...
the Hand of Brugis was, in some way, insufficient for Neapolitan chromaticism; witness again his added hand of the two \# \textit{diesis} (which was of his own conception). Surely, his hands were never subsequently employed in musical pedagogy to learn Neapolitan chromaticism (although Brugis’ “perfect hand” and other similar hands that placed a mi alongside every fa and vice versa were likely more successfully applied in practice). Upon closer inspection, d’Avella even betrayed the fact that the Hand of Boethius was not his own to his critics by dissecting it to begin with: If he had truly devised this hand himself, he would have “assembled” it from hexachordal conjunctions on successive constituent hands into the Hand of Boethius. The dissection, however correct or incorrect, suggests that d’Avella encountered this Hand as a complex whole and needed to study it closely.

Despite his good intentions, D’Avella’s invocation and “plagiarism” of a circa 1500 Guidonian Hand to defend an unprecedented chromatic practice under attack circa 1600 greatly diminishes our present-day evaluation of his capacity as a theorist. To be sure, the “Hand of Boethius” has more to do with d’Avella’s reading of Brugis’ \textit{Graduale} than Gesualdo’s \textit{Responsoria} and the Neapolitan chromatic madrigal repertoire. But, again, he did not have Gesualdo’s complete madrigals or \textit{Respensoria} at hand to extract the proper chromatic gamut and devise matching Guidonian hands. Although this study has revealed numerous insufficiencies in the Hand of Boethius, its presentation, and attribution, we—unlike the Hand of Boethius’ few readers before us—have indeed followed d’Avella’s admonition at the end of the first chapter of his treatise: “Read the discourse first, and then pass a judgment.”
Chapter Four

Two Historical Ensweetening Supplements: Kircher’s Enharmonic Metabolic Style and Monteverdi’s Final Stand Against Artusi

Through a reading of Chapter 39 of d’Avella’s *Regole*, I have argued in this study that Gesualdo employed the mean-tone tempered wolf positioned at E-flat G-sharp and its progeny as affective text-setting devices in both his sacred and secular music. To supplement d’Avella’s contemporary listening experiences in Gesualdo’s native Naples and his subsequent historical and theoretical writings, I strategically cited in my commentary to Chapter 39 several closely related historical sources that, although unknown to d’Avella and scarcely known today, are quite close to home for d’Avella: The Neapolitan Stella-Colonna Controversy, the Sicilian Raval-Falcone Controversy, Cerone’s fear of the “Chaos of Confusion” that the unchecked substitution of mean-tonal accidentals could inadvertently create, the violations of the “Holy Cross of Music Theory” that Beccatelli sought to purge, the debate that raged between Beccatelli and Chiti over mean-tonal accidentals with d’Avella’s *Regole* close at hand, and Santoro’s inclusion of F major-minor “venom” as one of the “vices” of plainchant in post-d’Avella Naples. The possible post-Tridentine overtones of this last source even led us to find a historical precedent for Gesualdo’s out-of-tune *Tenebrae* in the otherwise modally subservient spiritual madrigals of Palestrina. I moreover cited out-of-tune crucifixion sonorities in the musical Holy Week orations of Gesualdo’s poetic peer, Marino. More “close to d’Avella’s home” historical sources may yet be recovered. However, as this argument has never before been advanced in modern musicology, readers versed in Vicentinian, Zarlinian, Bachian, among other theories and practices that outright reject out-of-tune mean-tonal sonorities—especially in presumably unaccompanied vocal music—may still have their doubts. As I alluded in my introduction, my
argument may be buttressed through musical analysis alone, exhibiting how the harmonic progressions in Gesualdo’s first three books of madrigals are overwhelmingly constricted within the in-tune mean-tonal limits of two flats (E-flat and B-flat) and three sharps (F-sharp, C-sharp, and G-sharp), that he subsequently began to venture slightly out-of-tune in the fourth book (first introducing the ensweetened A-flat-tuned as G-sharp and D-sharp tuned as E-flat), and, ultimately, that he ventured further out-of-tune in his fifth through seventh books. However, I have also maintained that historical source evidence is, for such a potentially radical sounding argument, certainly the strongest and the foundation for subsequent analytical, critical, and theoretical studies of Gesualdo’s chromatic music. Therefore, the purpose of this chapter is to provide yet further supplemental historical evidence for the mean-tone wolf’s text-setting presence in the madrigal repertoire—Gesualdian or otherwise. This evidence is, admittedly, few and far between. Oddly, however, this evidence is culled from historical-theoretical sources with a vastly different reception history than d’Avella’s; they are the long recognized “Monuments” of Renaissance music theory and literature. Indeed, these madrigalistic out-of-tune mean-tonal accidentals find concordances in the Roman Barberini musical “academy” devoted to emulating and theorizing both Vicentino’s and Gesualdo’s chromaticisms, as reported in Athanasius Kircher’s Musurgia Universalis, and the Monteverdi-Artusi Controversy (and its direct predecessor, the Zarlino-Galilei “dialogues” on modern music’s proper ancient tuning). Let us reconsider both of these sources, beginning with the most Gesualdian of the three, the Roman academy, then return to Gesualdo’s temporary home in Ferrara and join Artusi in the concert which provoked his Imperfettioni, and then work backwards to the Zarlino-Galilei dialogues.
Kircher’s *Musurgia*

The mid-seventeenth century Barberini Rome reception and fascination with Gesualdo’s madrigals has long been recognized through the emulative madrigals of Michelangelo Rossi, Antonio Cifra, and Domenico Mazzocchi (whose 1638 prints are the latest works that profess a Gesualdian influence), as well as the theoretical treatises of Doni, Kircher, and Valentini. The Gesualdo citations in the writings of Doni and Kircher were briefly revisited and problematized in light of Chapter 39 of d’Avella’s *Regole* (Chapter Two of this study). It was seen that Doni’s extended mean-tonal frettings on his viols were at odds with the frettings of Stella and Crescentio; hence, his tablatures for performing Gesualdo’s chromatic madrigals in-tune were actually out-of-tune. Moreover, I pointed out that Doni included the E-flat G-sharp mean-tone wolf among the “*altri intervalli insoliti, e stravaganti*,” without allocating it a place in madrigal text-setting. It was seen that Kircher’s citations of Gesualdo’s madrigals as representative of the “*Affectus dolorosi*” and “*Affectus amoris*” might have been different, had he read in d’Avella’s *Regole* that the Neapolitan musicians of Gesualdo’s generation considered the *Tenebrae*’s ensweetened tritones “affections” and Judas’ contrapuntal circles “prohibited.” Of course, neither Doni nor Kircher were practical musicians and the practical relevance of their overtly erudite theoretical tomes has always been up for debate—and their occasioned remarks on Gesualdo are no exception. Without making a broad argument that Kircher’s *Musurgia* is indeed a practical treatise, I will here argue that one hitherto overlooked chapter in his treatise reports the mean-tonal Gesualdian madrigal practice. Moreover, it includes his personal reflections on

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670 To these well-known authors’ treatises, I will shortly add Leone Santi’s 1630’s *Comparazione della moderna con l’antica musica*, currently kept in the Francisco Barberini collection at the National Library of Spain. I have not yet seen all of the manuscripts on tuning and temperament described in Lucas Kunz’s still foundational *Die Tonartenlehre des Romischen theoretikers U. Komponisten Pier Francesco Valentini* (Kassel: Barenreiter-Verlag, 1937).
the affectiveness of out-of-tune mean-tonal triads, which prove to be quite similar to those of
d’Avella and the Gesualdo-era Neapolitan musicians.

In Book Seven of the Musurgia, devoted to ancient and modern music and divided into
theoretical [“eromatica”] and practical components, Kircher takes up, among other topics, the
“great controversy” among “modern authors” concerning the compositional applications of the
three species of tetrachords—and the enharmonic tetrachord in particular in Chapter Seven. \(^{671}\)
Kircher’s subsection on the enharmonic species [De Enarmonico Genere] in this chapter was
immediately marked by Kircher himself with the qualification “ab Authore intento”—short for
the lengthier “in sensu ab Authore intento.” \(^{672}\) This, so far as I have found, is the only time
Kircher indicates that what follows in a chapter is expressly intended according to his own
unique sense. The reader familiar with Kircher’s Donian influences must here temporarily
remove Doni’s presence from their minds. According to Kircher, we are in store for a unique
chapter in the history of music theory.

Kircher’s section on enharmonicism may again be subdivided into theory and practice,
the latter being the more remarkable (and for which the “ab Authore intento” really pertains).
The opening portion on theory begins by reiterating the lack of consensus among the ancients on
the enharmonic species, save for its practical difficulty in song, its eventual abandonment, and
the high level of skill required for singing it. \(^{673}\) The subsequent two page long rehearsal of the
precise proportions of the enharmonic species is commonplace. What is most important vis-à-vis

\(^{671}\) Kircher, 635. Magna inter Authores modernos controversia est, de triplicis generis compositionibus. It is not
within the scope of this study to do a complete reading of Book Seven, only the Chapter Seven section on
enharmonicism.

\(^{672}\) Ibid., 658.

\(^{673}\) Ibid. Multi Veterum de genere enarmonico varia tradiderunt, & in nonnullis quidem conveniunt, in quibusdam
discrepant. Conveniunt omnes, quod ad cantandum sit difficile, adeò ut ferè derelictum sit; & quod non nisi à peritioribus in arte cantantaretur.
his section on enharmonic practice is adoption of the 128:125 diesis, which is the proportion by which three justly intoned major thirds fall short of the octave; it is identical to the garden variety quarter-comma mean-tone diesis; thus, for example, the discrepancy between E-flat and D-sharp is identical in the just and mean-tone tempered sequence of major thirds E-flat G, G B and B D-sharp. Kircher then exhibits three enharmonic tetrachords in the sequence of 128:125, 25:24, 5:4: “B, B^, C, E,” “E, E^, F, A,” and, perhaps redundantly, “B, B^, C, E” an octave higher.\footnote{Ibid., 659.}

Following the tetrachords, Kircher then exhibits the wide variety of intervals that may arise from these three tetrachords, ranging from the enharmonic diesis itself (B B^) to an octave raised by that diesis, Example One (A).\footnote{Ibid.} From this variety, Kircher then isolates the particularly unique enharmonic intervals that do not arise in the diatonic and chromatic species, Example One (B).\footnote{Ibid., 659-660.}

These theoretical preliminaries, although seemingly unremarkable, must here be acknowledged, for Kircher’s account of enharmonicism in practice will feature one exceptional interval that these tetrachordal combinations cannot obtain.

Example One (A): Intervals that may be Formed by Enharmonic Tetrachords

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{example_one_a.png}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{example_one_b.png}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{example_one_c.png}
\end{figure}
Example One (B): Enharmonic Intervals Isolated from (A)

“And these,” Kircher emphasizes en route to his section on enharmonic practice, “are the intervals that may be placed in the three enharmonic tetrachords.” Inevitably, theory and practice do not align; for, in contradistinction to the intervals listed in Example One (A and B), “Those that may be truly called enharmonic consonances, experience teaches us according to instruments on which we are presently compelled to use intervals of this kind.” Kircher here abandons the rational restrictions of the tetrachordal combinations and turns to the listening to musical instruments for the variety of enharmonic intervals. He then names one example, before many. It should now be familiar from Chapter 45 of d’Avella’s Regole. “For example,” Kircher continues, “we use D#, in a chromatic semitone position [from D], on Eb, yet that [D#] is at a distance of an enharmonic diesis from this [Eb].” That is to say, in d’Avella’s precise words, “on the black key of D [i.e.: D#] they commonly sound the soft-b of the soft-b mode, [which] they

677 Ibid., 660. Atque h[æ]c sunt inte[r]valla, quae in tripli tetrachordo enarmonico ervi [sic] possunt, patetque hoc genus multo reliquis duobus laxiores habenas obtinere; cum omnia reliquorum, & alia praeterea hic recensita propria contineat. Kircher here continues with a metaphorical reference to “loose” “reins” or “lashes” [laxiores habenas] in the relationship between these enharmonic intervals and the two other species. This historical contextual reference will have to be discerned, as it is appears placed right at the pivot between enharmonic theory and practice. Moreover, this particular sentence represents the challenges the printing of the treatise’s formidable Latin prose raise. Many of the misprints may be readily corrected, such as the present substitution of the “ct” ligature for the diphthong in “hæc.” Other misprints that interfere with the syntax may not be as easily corrected.
write on E la mi [i.e.: E-flat].” The D E-flat diatonic semitone has assumed the role of the D
D# chromatic semitone, where, on the mean-tone tempered keyboard, the interval between D#
and Eb is one diesis in the proportion of 128:125. Kircher’s next example should be likewise
familiar: “Moreover, we have a minor third diminished by a ^, which [occurs] on instruments
[when] we use F G# in place of F Ab.” We shall have to read on to discover if this diesis-
deficient f minor third is, for Kircher, either amazingly affective or viciously venomous.
Kircher then temporarily deviates from his listing of practical enharmonic intervals and, perhaps
excitedly, reports that “All these [enharmonic dieses] the learned Galeazzo Sabbatini
demonstrated beautifully on that amazing keyboard,” which we “should see in the preceding
Book Six among the other surveyed [instruments].” There, Kircher details Sabbatini’s
Vicentinian keyboard with whole-tones divided into five dieses. One can imagine Sabbatini
demonstrating the F G# substitution for F Ab, versus the F Ab in and of itself, among other
intervals that make use of the mean-tonal diesis. He then continues with more enharmonic diesis
substitutions, now as they may also be found on string instruments (a concordance with Stella
and Crescentio, yet at odds with Doni): “We experience it [the enharmonic diesis] and these

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678 D’Avella, 70.
679 Kircher, 660. Quod verò dictæ consonantiae enarmonicæ sint, experientia nos docet in instrumentis; in quibus
subindè huiusmodi intervalla usurpare cogimur. v.g. nos usurpamus D# loco diesis chromaticæ in Eb; &
tamen illa ab hac distat diesi enarmonica. Habemus præterea semiditonum diminutum ^, quo in
instrumentis utimur F G# loco F Ab.
680 Ibid. Quæ omnia pulchrè demo[n]stravit doctissimus Galeazzus Sabathinus in mira illa tastatura, quam vide in
libro sexto præcedenti inter reliquis recensitam. On a subtle note, Kircher here betray his one
theoretical influence for this section, Sabbatini, to whom he will return again in greater detail. Perhaps,
then, this discussion of enharmonicism is not exclusively “ab Authore intento.” I suspect that Kircher’s
theoretical indebtedness was not entirely limited to Sabbatini. Indeed, the use of such intervals as F G#
also appears in the Discorsi, o Lezioni accademiche of Antonio Maria Abbatini, who is elsewhere cited
throughout (and suspected to have collaborated with Kircher in writing) the Musurgia. Unfortunately,
Abbatini’s Discorsi, being of a pedantic academic nature, do not include practical musical examples or
citations; and, moreover, his madrigals are lost. Nevertheless, one might find supplement examples of
this “enharmonicism” in his surviving sacre canzoni. The Discorsi are edited in Galliano Ciliberti, Antonio
Maria Abbatini e la musica del suo tempo (1595–1679): documenti per una ricostruzione bio-bibliografica
(Perugia: Selci Umbro, 1986).
grades of enharmonic consonances on the cithara, lyre, and on similar instruments, granting in most cases the increase and decrease of a ♭ to be used, as in Eb for D#, G# for Ab, F for E#, C for B#, B♭ for A#. Here, having but alluded to the diesis exchange of sharps and flats and cited only one interval, Kircher next turns to his aesthetic judgment of this practical enharmonicism. He first alludes to all of the secular musical characteristics deplored by Santoro and the Roman preachers cited above; but, perhaps in a tactical maneuver against such censors, strategically places an “although” first, ultimately siding in favor with the enharmonicism: “Although such consonances may be very languid, weak, and soft, they may nevertheless be disposed elegantly with diligence and judgment, such that they are not incongruent to harmonico negotio, but have the secret to stir the affections (I know not why).”

This sentence, almost as tantalizingly brief as the Neapolitan performers’ indirect discourse about Gesualdo’s Tenebrae, is a precious gem. Having elsewhere proposed an elaborate (and nowadays esoteric) theory of the affections replete with sonorous numbers, mixtures of variously colored bile, and so forth, Kircher is now at a loss to unlock the secret of this practical enharmonic music’s affective powers.

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681 Ibid. Experimur id in cythara, testudine, & in similibus instrumentis loco aliorum hosce enarmonicos consonantiarum gradus, licet ut plurimum ♭ auctos diminutos[q]ue usurpari, ut Eb pro D#. G# pro Ab. F pro E#. C pro b#. B♭ pro A#.

682 Ibid. & tametsi tales consonantiae admodum sint languide, flebiles & molles, si tamen eleganter & cum industria iudicioq[jue] disponantur, no[n] ta[n]tum non sunt incongruae harmonico negotio, sed & nescio quid abdítum habent ad affectus incitandos. Kircher’s neologism “harmonico negotio” is here left untranslated. With this term, in fact, he is drawing upon his discussion of the affections in the theoretical section of this Book VII on ancient and modern music, where “harmonico negotio” is first introduced (and only otherwise used in the entire treatise). The chapter is: Erotema VII. Physiologum; Wüomodo numerous harmonicus affectus moveat (551-552). Thankfully, Palisca made inroads with this highly metaphysical chapter in his Music and Ideas and even selected the paragraph on “harmonico negotio” for inclusion. Tellingly, however, his translation trails off with an ellipsis as he arrives on this now critical term (195, fn. 45). Equally telling, Palisca did not isolate the matching “affections” in the enharmonic chapter. Certainly, the metaphysical connotations behind Kircher’s affective description of these enharmonic sonorities will have to be engaged. But for now, let the practical components of this chapter be prioritized and Kircher’s affective descriptions placed in concordance with d’Avella and Santoro. Finally, let us observe that Kircher did not include this enharmonicism among the “abuses” in music, as detailed in three chapters in the theoretical portion of Book V (559 et passim).
Kircher merely continues enumerating enharmonic applications in practice: “Hence, we presently use the enharmonic diesis in songs, for often on cadences we suppress the voice after the dissonance from increasing the # to ^, as E Eb for E D# and F# Bb for F[#] A#. It is clear this is to be placed below the cadences, where the same diesis is placed in the acute as for the grave; still G# is distant from Ab by an enharmonic diesis (this is the third kind of cadence).” Kircher’s allusion to the voice diminishing or dropping out on B major and F-sharp major triads cadencing on E and B, so as to emphasize the raised sharp leading-tones appears to be unique, in terms of historical performance practice. The precise meaning behind the third cadence is obscure (to substitute A-flat for G-sharp is less plausible than the preceding two cadences.683 Kircher then invokes these cadences for support against those other (unnamed) theorists who deny the possibility of polyphonic enharmonicism and begins to turn to his musical examples: “Thus, there are many [cadences] which might not be able to be expressed in diatonic [songs]. From this, it is openly gathered that polyphonic enharmonicism [is] not so impossible as these authors might want it [to be]. These deeply beautiful and ingenious enharmonic modulations will be exposed and are able to be deduced from the following examples.”684 Kircher will notably be seen to rebut those who held that polyphonic enharmonicism was impossible with instrumentally accompanied examples. He does not introduce a cappella enharmonic polyphonic examples that were conceived at (and with reference) to an instrument. Here concludes his discursive explanation of the enharmonicism.

683 Ibid. Hinc in cantibus subindè utimur diesi enarmonica, nam sæpè in cadentijs deprimimus vocem post dissonantiam ad # auctam ^ ut E Eb pro E D# & F# B[flat] pro Fx A# [the Fx is a misprint, likely, for F#]; Patet & hoc in infra ponendis clausulis, ubi eadem diesis tam in acuto quàm gravi ponitur; & tamen G# ab Ab per diesin enarmonicam distat. huius generis est tertia clausula;

684 Ibid. ut proindè multa sint, quæ in diatonicis aliter exprimi no[n] valeant. Ex quibus apertè colligitur, polyphoniam enarmonicam non tam impossibilem, quàm eam velint esse authores. Imò pulchrè & ingeniosè in effectum deduci posse huiusmodi modulationes enarmonicas ex sequenti specimine patebit.
The historical origins of this mean-tonal enharmonicism put into practice are as obscure to Kircher as they were to d’Avella. In an elaborate panegyric, he writes: “Unless I am mistaken, this ingenious method of composing was first invented by the most excellent Symphoneta Dominico Mazzocchi in the noblest works of madrigals printed in Rome by this most renowned author, in which the mother of Euryalis lamented in the designated diatonic-chromatic-enharmonic texture.” At this point, Kircher actually betrays his indebtedness to Doni, for Doni, in fact, also cites this lament by Mazzocchi of exemplary of the very same practice. Yet curiously, these two theorists, it will be seen, have different explanations of the same practice. Therefore, Kircher’s “ab authore intento” designation will be allowed to still stand. Doni’s prior discussion of Mazzocchi’s lament appears in his Annotazioni sopra il Compendio de Generi della Musica, published in Rome ten years before Kircher’s Musurgia. Notably, one of the nine treatises/discourses in the Annotazioni happens to be dedicated to Sabbatini, to whom Kircher was, as just stated, indebted for his enharmonic theory and practice. However, this discourse oddly does not address (and more specifically, criticize) Sabbatini’s practical

685 In fact, as aptly as Kircher’s designation “enharmonic” fits this music, he would have found that many of the precedents were called “chromatic” by the Neapolitan and Ferrarese practitioners. Indeed, for those madrigalists who classified their works, the designation “chromatic” (when not in the note nere mensural sense) referred to madrigals that transgressed the common two flats (B and E) and three sharps limits (F, C, and G), usually going only as far as D-sharp and/or A-flat. Such a designation was used by the Neapolitan Rodio (moreover, his Madonn’il vostro petto e tutto giaccio is “del genere cromatico,” despite the fact that its chromaticism only lies in a B major triad without reference to chromatic tetrachords). In Ferrara, Giulio Fiesco “chromatic” Bacio soave provides a supplemental D-sharp classification to the other bacio examples cited in this study), Ludovico Agostino provided a chromatic and diatonic setting of Voi livia non m’amate for comparison. Above all others, Lasso’s renowned Prophetiae Sibyllarum (composed during his 1550’s residency in Naples), places a B major triad on the “Chro” of “Carmina Chromatico” (which is followed by c-sharp minor on “ma” and E major on “tico”). By way of contrast, Kircher would have had to include this example in this chapter, devoted to the “Carmina Enarmonico!” Among numerous studies of Lasso’s chromaticism, the first mean-tonal proposals were notably put forward by Martin Rhunke in his “Lassos Chromatik und die Orgel-stimmung,” in Convivium musicorum: Festschrift Wolfgang Boetticher, ed. Heinrich Hülsen (Berlin: Merseburger, 1974): 291-308. Elsewhere, the Atri madrigalist (and tuner of the Atri cathedral organ) designated his madrigals with D# “chromatic.”

686 Giambattista Doni, Annotazioni sopra il Compendio de’ Generi, e de’ Modi della Musica (Roma: Andrea Fei, 1640).

enharmonicism or include the Mazzocchi lament. Instead, the lament is cited in the volume’s first treatise, “On the true Tonoi and Modes,” as dedicated to Pietro della Valle. As always, Doni’s extraordinary philological erudition permeates this lengthy treatise that, as written, appears seemingly far removed from common-practice. Indeed, it is no surprise that Doni’s very short discussion of Mazzocchi’s lament has been overlooked, as it is carried out entirely in the abstract (without musical examples) with Greek terminologies. Nevertheless, we may extract this discussion from the treatise and understand Doni’s matching explanation of Mazzocchi’s lament.

Having exposed the “true” octave divisions and modes, Doni turns to provide some practical prescriptions for those who “will want to compose with a diversity of modes.” He continues to say that those composers will find “using more than three of them [the modes] in any composition seems superfluous; for in this number we see included...the three kinds of melodies [modulationi], to which all the others are reduced.” Doni then defines the three kinds of melodies we have for a mode: First is the “Natural, in which one uses the pitches of any fundamental mode and rarely or never adopts wandering pitches or accidental sings.” That is to say, a natural melody uses the pitches A, B, C, D, E, F, G. Let us take our Dorian (Doni’s

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688 Ibid, 76-177. Trattato primo de’ Tuoni, ò Modi veri. Al Signor Pietro della Valle. This complete treatise, from which we previously cited Doni’s designation of the E-flat G-sharp mean-tone wolf as “extraordinary” and the bending of G-sharp frets to doubly work for A-flat frets (for Gesualdo’s madrigals in particular), will merit a complete study of its own, if only because it encapsulates the following brief acknowledgement that Mazzocchi substituted sharps for flats and vice versa. One could do a complete contextual study and examination of how Doni positioned this within his otherwise perhaps esoteric modal discourse. Note that Doni’s “tuoni” and “modi” are reversed in meaning from those of Kircher (and perhaps our more common understanding), which we shall encounter in the next chapter of his treatise. For Doni, “tuoni” are “modes” and “modi” are the modes’ “octave species.”

689 Ibid., 173. Aggiungo in riguardo della pratica un ricordo utile per quelli che vorranno comporre co[1] diversità di Tuoni, che l’usrane piu di tre in alcuna compositione pare superfluo: poiche in questo numero vediamo comprendersi...le tre sorti di modulati; alle quali si riducono tutte l’altr[e]; I have omitted Doni’s reference to the three types of cadences (according to him, on ut, re, and mi) for additional numerical support.
Phrygian mode) as a reference example, built naturally upon D. Second is “its [i.e.: the natural’s] alteration with signs of reduction, or soft-b’s, whether there are many or few of them.” These accidentals pertain to the “Systaltica” or “melancholy” species. Taking our D Dorian reference as an example, this simply might transpose it to D-flat, among other possibilities (but not modal mutations). Third is “its [i.e.: the natural’s] variation with the raising sign called the diesis [#], which one refers to the ‘Diastaltica’ and cheerful species.” Again taking our D Dorian reference as an example, we might simply transpose it to D#, among other possibilities (but not modal mutations). Doni’s three kinds of modal melodies then take a twist towards Kircher’s practical enharmonicism, although in modal and octave species terms (not strictly intervalllic): “Now, although in the true and legitimate connection of the modes, the lower [melodies] than the natural or fundamental [melodies] are served by flats and the higher ones by sharps, this often proves [to be] to the contrary.” Outside of the truth, sharps often lower a mode and flats often raise it. Having taken this turn, Doni reluctantly descends from his high level of erudition and superior knowledge of the “truth” and “accommodates” himself “to the little understanding of the pure practitioners.” Enter Mazzocchi—but not Gesualdo, according to Doni’s stage directions. “Without many instructions and rules,” Doni says, “they [the pure practitioners] may compose very beautiful and affective songs, practicing only the three said different [kinds of melodies].” They the pure practitioners “observe that that part of the composition that is scattered with sharps contains among the pitches [some] that are higher than

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690 ibid, 173-4. *Cioè la naturale, che si serve delle corde d’alcun Tuono fondamentale, & poco, o niente adopra le corde peregrine, o segni accidentali; & questa si riferisce alla specie Heschastica, o quieta; l’alterata co’segni d’abbassamento, o b. mollì; moltì, o pochi che siano; la quale si rapporta alla specie Systaltica, & malinconica: & la variata col segno d’alzamento detto diesì; che si referisce alla specie Diastaltica, & allegra.*

691 Ibid., 174. *Or benche nella vera, & legittima connessione de’ Tuoni, non sempre i più gravi del naturale, o fondamentale, si servino de’ b. mollì, & i più acuti de’ diesì; mà spesso ciò riesca al contrario, tuttavia (per accomodarmi alla poca intelligenza de’ meri Pratici) dico che senza tante avvertenze & regole, si possono comporre bellissime, & affettuosissime cantilene, praticando solo le tre differenze dette.*
the natural [i.e.: the “natural” sharp version of the mode’s natural form] and, vice versa, that which adopts flats contains pitches lower than the [“natural” lowered] mode.” Moreover, “the cadences of each [such mode] are irregular and uncertain.”

Let us pause here, and return to our D Dorian exemplars, plugging Doni’s abstract discussion into them. D Dorian lowered to D-flat Dorian in the pure practitioners’ common non-extended mean-tone temperament is C# Eb Eᵇ F# G# Bᵇ B♮ C#. D-sharp Dorian is E-flat F F# G# A# C C# D#. We readily see sharps (and naturals) lower than flats and flats (and naturals) higher than sharps. Surely, among other possibilities, a cadence on the fifth degree of D-sharp Dorian would be, for Doni, “irregular and uncertain.” Yet, for both Doni and the pure practitioners, “very beautiful and affective” songs might be composed with such higher-than-high and lower-than-low modes. His affective evaluation matches that of Kircher, although Kircher did not seem to have as many theoretical reservations about the “truth.” Note that Doni has abstractly expressed this practice beyond isolated intervals in modal terms (with explicit transpositions with implicit enharmonic mutations in the mode’s octave species); but he has not called it “enharmonic” musical practice.

Next, Doni cites Mazzocchi’s il Lamento della Madre d’Euryalo, analyzing its verse “Hunc ego te Euryale aspicio” as “mixed with Lydian,” on account of its use of the sharp accidental throughout, “although it had not been composed for this end.” In contrast to the lament’s sharps, Doni then cites Mazzocchi’s Lagrime amare, in which the flat accidentals are analyzed as Iastian. The reader who does not know these works by heart will not have a clue about what Doni here speaks, so abstract is his discussion. Nevertheless, it will become clearer presently.

Bearing with Doni, we next read that “although you would not think so, it [the raised and

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692 Ibid. & osservando che quella parte della co[m]posizione che è sparsa di diesi, si comprenda frà corde più acute che la naturale; & per il contrario quella che adopra i b. mollì, sia più grave di Tuono, ò di corde: benche le distanze frà loro, & le cadenze di ciascuna, siano irregolari, & incerte.
lowered mode of each citation] makes a very good effect.”\footnote{Ibid.} He then, to conclude his one
discussion of the out-of-tune accidentals’ practice, advocates these two works as models for this
manner of composition; such models will “very much succeed without doubt, as they were
composed judiciously.”\footnote{Ibid., 174-175.} He finally warns, however, not to go lower than the sharps used as
flats or higher than the flats used as sharps. For example, do not begin D-flat Dorian lower than
C-sharp or D-sharp Dorian higher than E-flat.\footnote{Ibid.} Exit Doni; re-enter Kircher. We have made it
through the philological labyrinth, extracting the necessary concordance.

Having read Doni (and perhaps attended the same performance), Kircher will now turn
Mazzocchi’s \textit{il Lamento} (and \textit{Lagrima amare} later), exhibiting the same substitutions of flats and
sharps as Doni, in his more concrete terms.\footnote{Yet Kircher’s/Mazzocchi’s subtitles “\textit{Diatonico-chromatico-enanronimo}” and “\textit{Cantatur, ut scribitur, rigorose}” do cloud the issue. The enharmonism, save for one instance, is not written. How, then, shall it be sung?} Just as d’Avella reprinted Crescentio’s \textit{publica forma}, Kircher here reprints the lament (unlike Doni) in its entirety, “as a most noble judgment
and so that this standard example might be directed to all musicians to imitate.”\footnote{Kircher, 660.} Surveying the
beginning of \textit{Planctus matris Euryali}, excerpted in Example Two, we find that Mazzocchi begins
on a chromatic E major pedal and rises to an enharmonic F-sharp major triad, lingering on its B-
flat used in place of A-sharp to heighten the expression of the word “spicio,” as Euryalus’ mother looks upon the lifeless body of her son in disbelief. Now Doni’s terse description of this verse as “mixed with Lydian,” albeit with a different “end,” will make perfect sense. Doni’s analysis has mutated the first two measures’ E Ionian sonorities (ignoring the flat sixth in measure three) into E Lydian to account for the A-sharp in the F-sharp major triad in measure four. In the next measure, Doni mutated E Lydian into F-sharp Ionian and then, repeating the afore process, F-sharp Lydian, so as to accommodate the G-sharp major triad. Mazzocchi’s substitutions of sharper flats for sharps in this verse were, for Doni, mutations of mode (and, implicitly, its enharmonic division of the octave). Kircher did not make these analytical modal connections and instead remained at the enharmonic intervallic level. Reading on in Kircher’s terms from where we left off, the mother then asks herself in the second line if Euryalus’ body is not really her in the sleep promised by her old age; she retains the chromatic E major and enharmonic F-sharp major disbelief. Mazzocchi then harmonically intensifies her lament in the third line, juxtaposing an enharmonic B major triad pedal against a diatonic C 7-6 suspension, as she bewails “How could you leave me alone in such a cruel state?” The fourth line hinges on the shift between enharmonic B major and chromatic b minor, as she asks how he could deprive her of a last farewell. As she describes the foreign land on which Euryalus lies left to the Latin dogs in line five, Mazzocchi sets only enharmonic triads: B, C-sharp, and F-sharp major. Curiously, Kircher only labels the second of these as “enharmonic” above the staff, likely on account of Mazzocchi’s introduction of the diesis sign “x.” His annotations then trail off…
Example Two: Mazzocchi’s *Planctus matris Euryali*
Why did Kircher not label the previous B and F-sharp major triads as “enharmonic,” following his above statements that Eb is used for D#, Bb for A#? This question is paramount; for I suspect that this choice likely obscured the opening “enharmonicism” from his musical theoretical readers, who surely looked at the passage, saw the Ex, and concluded that it was, of course, “enharmonic.” They did not engage the preceding and following Latin discourse to learn that it was, in fact, not “enharmonic,” *ab Authore intent*—even though Kircher labeled it so.

Moreover, why is Mazzocchi’s C-sharp major triad spelled with an Ex instead of E#? Kircher stated that F is used for E#; but is this really an E#? An E with an x is conventionally only one enharmonic diesis above E, whereas E-sharp, being a chromatic semitone, is two. Clearly, something is askew between Kircher and Mazzocchi. Thankfully, both Kircher and Mazzocchi both included further explanations.

Mazzocchi wrote two equivalent statements on his use of the enharmonic diesis, one as a “notice” at the conclusion of the 1638 book of *Dialoghi e sonetti* (to which the given lament belongs), the other the preface to the 1638 *partitura* for his *Madrigali*. Both, as is well-known, invoke Gesualdo: In the *partitura*, Mazzocchi wrote “My own opinion, closer to that of the Prince of Venosa, is that all pitches should be rigorously written.” This, however, was with respect to repeating accidentals, not the enharmonic diesis x (which Gesualdo evidently never notated). In the “notice,” he cited Gesualdo and others for changing B-flat into B-natural and E-flat into E-natural with the # sign, not the natural sign, “although the Prince in the last of his Madrigals adopted a method altogether different from his first ones.” Mazzocchi’s definition of his enharmonic diesis x is clear: It, in fact, has the value of the mean-tone tempered minor

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699 Ibid., 296.
(i.e.: chromatic) semitone. His example is the major third above G#. B# was already used to change Bb a minor semitone higher; to form this major third, one needs another minor semitone, for which Mazzocchi rejects B# and B##. Instead (and this is the potential source of confusion for those, who, like Kircher, do not equate the minor semitone and enharmonic diesis), he selects Bx. This notation may, in turn, be repeated for the given major third above C#. He summarized this process of dividing the whole-tone in his preface with the chart reprinted in Example Three. Although he does not explicitly write that his division of the whole-tone is mean-tonal, this may be concluded from the designations in the first two measures, in which Bb fa is a minor semitone from B# mi, which is a major semitone from C (fa). In measure three, the B# is renamed, according to then common practice, a “chromatic diesis,” which is not to be confused with the “enharmonic diesis” in the fourth measure. The “chromatic diesis” B# stands in reference still to Bb, a major semitone. Although this two-fold use of the term diesis and their equivalent values may also be a potential source of confusion, Mazzocchi clarifies that “chromatic” dieses are found only between whole-tones and that “enharmonic” dieses are found only between semitones.  

Again, adding a minor semitone to B# forms Bx, the “enharmonic diesis” (and more specifically, as Mazzocchi indicates under measure four, the “major enharmonic diesis”). This forms the sought major third above G#. Mazzocchi then shows how this x is used in forming leading tone cadences other than C# Bx C# and F#ExF#: G# F## is poor, but G# F#x G# to form a major third over D# is approved. Completing the division of the Bb C whole-tone, he terms the interval between B and C a “minimal semitone” or “minor enharmonic diesis,” which is one degree less than the minor semitone. For Mazzocchi, this interval “can never achieve a satisfactory transition with neighboring consonances, but only exceeding strangeness.”

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700 Ibid., 311.
701 Ibid., 298.
Although one would expect him to reject the interval from practice, he continues that
“Nonetheless, I think it is a good thing to employ such melodies [with the minor enharmonic
diesis] sparingly, together with the usual ones.”\(^{702}\) Nowhere in his writings did Mazzocchi state
that these are mean-tonal fifths of a tone and—all the more importantly—nowhere did he write
of the substitution of mean-tonal sharps and flats. Had he done so in the manner of Kircher, he
would have written here that C is used for B\(_x\), F for Ex. He would have included that G\# is used
for Ab, Eb for D\#, and so on. Instead, he over generically claimed that “all the notes which we
have in Music can be flatted” and pointed out particular instances in his Sonnets and Dialogues,
citing “where for an octave running all the notes are flatted:” F Eb C Bb Ab Gb F. He did
not state that this octave was F Eb C\# C Bb G\# F\# F.

**Example Three: Mazzocchi’s Chromatic and Enharmonic Divisions**\(^{703}\)

If Kircher was working from Mazzocchi’s prints, from where did he derive his
explanation of this “affective” practical enharmonic music?\(^{704}\) Is Mazzocchi’s explanation of his
own music really deficient, if not false? One plausible explanation is that Kircher listened to
Mazzocchi’s music in performance and then, “stirred” by the listening experience, theorized
what he heard before consulting Mazzocchi’s prints for inclusion his treatise. He then would

\(^{702}\) Ibid., 300.

\(^{703}\) Kircher, 664. Kircher’s reprinting of this diagram is authentic.

\(^{704}\) There are several omissions from Mazzocchi’s printed notation as reprinted in Kircher’s treatise. These do not
undermine Kircher’s discussion. The most notable omission is that the “messa di voce” signs (V’s), which
indicate a gradual increase of both volume and pitch, are missing in measure five. These were included by
Mazzocchi in his definition of practical enharmonics. In that same measure, the E should be an Ex.
have found a difference between his listening experience and Mazzocchi’s “notices.” If so, it is rather astonishing that Kircher—a polymath with musical learnedness, but not necessarily a practical understanding of the most reserved of madrigal techniques—heard this mean-tonal practice and explained its notation so clearly in theoretical discourse. Yet, as regards the practicality of Kircher’s *Musurgia*, it remains unsurprising that this passage went un-deciphered by his readers. Beccatelli, presuming he engaged the *Musurgia*, did not also condemn the Jesuit Kircher for burning the “Holy Cross of Music Theory” in his analysis of Mazzocchi’s accidentals. To resolve this discrepancy between Kircher’s and Mazzocchi’s enharmonicisms and figure out how Kircher learned this madrigal practice, we need but read on in the *Musurgia*.

Kircher next rehearses Mazzocchi’s explanation of the diesis notation and reprints the division of the Bb C whole-tone diagram (Example Three); for he begs to differ. To be sure, Kircher has a correct understanding of Mazzocchi’s “notice,” but quickly interjects with his own revisions. The Latin prose is highly intricate, as always. He first asks his readers to “Note that in this dialogue the character x is an enharmonic diesis” (simple enough). In the next clause, he then intermingles both Mazzocchi’s and his definitions of the diesis. Kircher’s terminology, here, is unfortunately inconsistent; for he here equates (as was all too common) the term “comma” and “enharmonic diesis.” The clause reads as follows: “The character x is an enharmonic diesis, in which direction a comma [i.e.: one mean-tone diesis] increases a minor semitone.” The increase of a minor semitone is part of Mazzocchi’s definition (recall that in the “notice,” B# was increased a minor semitone from Bb en route to forming a major third with G#, notated as Bx); however, the value of a (i.e.: one) comma for the enharmonic diesis is Kircher’s definition. For Mazzocchi, the enharmonic diesis equaled the minor semitone in value. Kircher next points out that Mazzocchi was mistaken: “Although, if you look at the value, the author of
this [dialogue] confuses it [i.e.: the enharmonic diesis] everywhere with this chromatic sign #.”

According to Kircher, Mazzocchi should have used the # sign to indicate the rise of one enharmonic diesis (or comma), not only on the major third of the given C# major triad, but elsewhere. Why? Reading on for clarification, Kircher explains: “[This chromatic sign #] on a b chorda increases the [minor] semitone one comma [i.e.: one enharmonic diesis], changing fa into mi, in which manner #b [Kircher’s notational neologism for a sharp sounded by a flat] and b might truly be distinguished, as was already exhibited in Book Five.” That is to say, in repetition of Kircher’s previous explanations, placing a minor semitone D# above D raises the D# one enharmonic diesis (or comma) when Eb is used in its stead. For the C# major triad at hand, Mazzocchi should have indicated E# mi, which would be sounded by F fa, and thereby raised a diesis. However, “In order that the minor semitone might truly be increased into a major semitone, the author [i.e.: Mazzocchi] appends the enharmonic sign x to the chromatic sign #.” Kircher concludes that this “#x” (which Mazzocchi shortened to just “x”) is, “otherwise, usually represented by a triple cross [a 3 by 2 slashed sharp sign].” Note the overlapping equivalence between Kircher’s notational neologism “#b” (again, in which a sharp placed on a flat chorda is raised one diesis) and “#x” and “x”—as he defined “x,” with one unit of value. The only difference is that “#x” and “x” may occur irrespective of being placed on a flat chorda.

However, as Kircher’s and Mazzocchi’s values for the enharmonic diesis are inequivalent, his “#b” does not equal Mazzocchi’s “#x” under any circumstances. At this point, we have worked

705 Ibid., 663. Nota in hoc dialogo characterum x esse diein enarmonicam; qua semitonium minus crescit uno co[m]mate, quamvis author huius ea[m] passim si valorem species confundat cum hoc # signo chromatico, quod signum in chorda b auget semitonium uno commate, mutando fa in mi; quomodo verò #b & b distinguantur iamfuse [sic] in libro 5 expositu[m] est: ut verò promoveatur semitoniu[m] minus in maius, author adiungit # signo chromatico, signum x enarmonicum. I have been unable to trace Kircher’s reference to the #b enharmonic notation in Book V (if he had introduced this practice earlier, it would have occurred around page 234). Note, also, that Kircher does not introduce the reverse notation “b#.” If D#b refers to notated D# sounded by Eb a diesis higher, Ab# could refer to notated Ab sounded by a G# a diesis lower. I will use both notations in the following discussion.
through an extremely thorny and abstract paragraph. For clarification, Kircher next reprints Mazzocchi’s diagram of the division of the Bb C whole-tone (Example Three), “So that the steps might be divided according to the mind of the author [Mazzocchi].” Unfortunately, Kircher did not provide his division of this whole-tone, side by side. I have done this for two representative whole-tones in Example Four.

In the first column, second row, of Example Four, we see that Mazzocchi and Kircher agree on the division of the whole-tone into diatonic and chromatic semitones. For both, Bb and B natural are small chromatic semitones followed by large diatonic semitones B natural C. However, Mazzocchi prefers B# to be notated in place of B♮. Furthermore, the fifth divisions of the mean-tone tempered whole-tone readily understood by the theorist Kircher, must be supplied for the practitioner Mazzocchi. The small semitones have the value of two and the large semitones, three. In the second column, we further subdivide the whole-tone into enharmonicism. For Mazzocchi, the enharmonic diesis x between the diatonic semitone B# (i.e.: B-natural) C must be placed a small chromatic semitone above B# in order to form a major third with G-sharp. Thus, there are two consecutive small chromatic semitones Bb B# and B# Bx. Subtracting the sum of these two semitones from the whole-tone Bb C’s total of five, we get a value of one between Bx and C. As shown in his diagram of the division of the whole-tone, this interval was a “minimal” semitone or “minor” enharmonic diesis in comparison to the “small” semitone or “major” enharmonic diesis. Adding the small chromatic semitone C# to C, we confirm that Bx is indeed a large diatonic semitone from C# (as remarked in the third column); and, therefore, it is a properly tuned leading tone above G# to C#. Of course, Mazzocchi’s enharmonic division of the whole-tone has left a gaping hole in between B# and Bx. As seen in

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706 Kircher, 664. Adeò quidem ut gradus dividantur iuxta mente Authoris prout sequens paradigm refert.
the line below, one may fill in this gap by reversing his process and inserting a C minus a major
enharmonic diesis to form the major third below Eb, Cb. This step, however, was not considered
by Mazzocchi (nor did he continue on to “C-x,” as I have parenthetically included in line three).
As seen below Mazzocchi’s division in column two, Kircher’s enharmonic division of this
whole-tone differs. For Kircher, the enharmonic diesis ^ is one fifth of a tone above B-natural,
not two. It is B# that is two fifths above B-natural. This B# (and not B^), as remarked in the
third column, is the true diatonic semitone to C# and the proper leading-tone in a G# major triad.
However, according to his “experience” with musical instruments stated above, C natural fa is
used for B# mi. We must therefore shift B# mi one fifth of the whole-tone higher to the position
of C natural fa; this is done in Kircher’s second line. Since a mi is sounded by a fa, Kircher
notates this as “#b” and, in this particular instance, it would be “B#b.” Compared to the lines
above, we see that “B#b” equals “C.” This “B#b,” a chromatic semitone to C#, is one
enharmonic diesis too sharp to form a just major-third above G# and, as Kircher remarked,
sharpens such a cadence. This “B#b” is “enharmonic” music in practice, according to Kircher—
not Mazzocchi’s Bx. The third line of Kircher’s division shows that, alternatively, B^ equals Cb,
a subtle point left unsaid. Having worked through these differing enharmonic divisions of the B
C major semitone, the reader may here be invited to repeat the process for the E F major
semitone by means of transposition. When done correctly, one will find that Mazzocchi’s
notated Ex in the lament should, according to Kircher, be an “E#b.”

Let us repeat this comparison between Mazzocchi’s and Kircher’s enharmonic divisions
with the crucial “ensweetened” pitch A-flat in the whole-tone G A. As we continued the Bb C
whole-tone to C#, we may likewise continue here beyond the whole-tone G A to the pitch Bb; by
so doing, we may additionally compare the F# A# major thirds that are so prominent in the
lament for Euryalus. This appears in row two of Example Four. Here, however, we must extrapolate Mazzocchi’s divisions, as he did not write anything about Ab beyond “all the notes may be flattened” or A# at all. Again, they agree in the diatonic and chromatic divisions of the whole-tone; column one. But unlike Mazzocchi’s division of the Bb C whole-tone, which left out Cb, this division already introduces a diesis of one unit in between the G# and Ab semitones. For Mazzocchi, this would be a “minimal” semitone or “minor” enharmonic diesis; for Kircher, simply the enharmonic diesis. We may further enharmonically subdivide this whole-tone in the manner of Bb C by inserting a diesis in between the minor chromatic semitone Ab A. As seen in Mazzocchi’s first line in the second column, we do this by placing his “major” enharmonic diesis x on G. By so doing, we have twice sharpened G natural with minor chromatic semitones. This Gx is the major third above Ex, recalling that E# was used for E-natural and that x raises E# another minor semitone. As remarked in column three, Gx is therefore the proper diatonic leading tone to A#. For Mazzocchi, this Gx is “enharmonic” music in practice. For Kircher, this Gx is mistaken and must be a “chromatic” G##, as seen in his first enharmonic line in row two. As I have remarked in the third column, this G## over an E#, would be enharmonically sounded by A over F, although this was probably not in practice. For Kircher, the actual “enharmonic” music in practice within this division of the whole-tone is when G# is used for Ab, the latter being an enharmonic diesis higher than the former. This is seen in Kircher’s second line, in which the sounded Ab is moved to G#’s position and more properly named “Ab#.” On account of the subtraction of an enharmonic diesis, this Ab, as remarked in the third column, is now the diatonic semitone to G. As seen in Kircher’s third line, one may readily reverse this process for the substitution of B-flat for A-sharp, shifting B-flat one enharmonic diesis higher. Now A-sharp B, as remarked in the third column, is a chromatic semitone. Mazzocchi was mute on these
particular intervals. These two comparisons may here suffice to represent the discrepancies between Mazzocchi’s enharmonic theory and Kircher’s theorization of his presumed enharmonic listening experience when he first heard Mazzocchi’s lament.

Example Four: Mazzocchi and Kircher’s Enharmonic Divisions Compared

<table>
<thead>
<tr>
<th>Diatonic and Chromatic Division of Whole-Tone</th>
<th>Enharmonic Division of Whole-Tones</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mazz.: Bb 2 B# 3 C</td>
<td>Bb 2 B# 2 Bx 1 C 2 C#</td>
<td>Bx is the diatonic semitone to C#</td>
</tr>
<tr>
<td></td>
<td>Bb 2 B# 1 Cb 1 Bx 1 C 2 C#</td>
<td>Cb is a major third below Eb.</td>
</tr>
<tr>
<td></td>
<td>(Bb 1 C-x 1 B# 1 Cb…)</td>
<td>(C-x is a major third below E-x)</td>
</tr>
<tr>
<td>Kircher: Bb 2 B½ 3 C</td>
<td>Bb 2 B½ 1 B½ 1 B# 1 C 2 C#</td>
<td>B# is the diatonic semitone to C#</td>
</tr>
<tr>
<td></td>
<td>Bb 2 B½ 1 B½ 1 B# 2 C#</td>
<td>B# raised an enharmonic diesis to C and is the chromatic semitone to C# (Alternatively, Cb = Bx)</td>
</tr>
</tbody>
</table>

707 To develop this point: If Mazzocchi clearly knew enough theory to correctly form the major third justly over G#, albeit with an unconventional enharmonic discourse, one wonders why he could (or did) not similarly state the actuality that Bx was sounded by C. Likewise, why could (or did) he not state that G-sharp is used for A-flat and then formulate, in the manner of Kircher, a succinct affective doctrine for such substitutions? Furthermore, if he wanted to form a justly intoned major third over G-sharp used as A-flat, he even had the theoretical tools and discourse at his disposal. He would simply have had to subtract the “minor enharmonic diesis” or “minimum” semitone from C. Yet he did not provide a symbol for this interval. Clearly, Mazzocchi’s enharmonic theory and practice was not completely worked out (as one would expect from a practitioner) and I maintain that Kircher, having recognized this problem, is firmly working out the correct theoretical discourse for the practice.

708 Having here evinced Kircher’s theoretical adeptness with mean-tonal practice, I must here point out, for sake of further comparison, that he evidently misunderstood Vicentino’s theoretical and practical divisions of the whole-tone. Whereas the Vicentino’s whole-tone was theoretically divided into fifths, his practice only made use of five of the six pitches at a time, alternating, for example, G# and Ab. This was evidently a source of confusion for Kircher, who misread Vicentino’s whole-tones as being divided into fourths (638).
<table>
<thead>
<tr>
<th>M: G 2 G# 1 Ab 2 A</th>
<th>G 2 G# 1 Ab 1 Gx 1 A 2 A# 1 Bb</th>
<th>Gx is the diatonic semitone to A#</th>
</tr>
</thead>
<tbody>
<tr>
<td>K: G 2 G# 1 Ab 2 A</td>
<td>G 2 G# 1 Ab 1 Gx 1 A 2 A# 1 Bb</td>
<td>Ab is not A-x.</td>
</tr>
<tr>
<td></td>
<td>(G 1 A-x 1 G# 1 Ab...)</td>
<td>Proper A-x, a major third below C-x</td>
</tr>
<tr>
<td></td>
<td>G 2 G# 1 Ab 1 G## 1 A 2 A# 1 Bb</td>
<td>G## would be sounded by A (G##b)</td>
</tr>
<tr>
<td></td>
<td>G 2 Ab# 1 Ab 1 G## 1 A 2 A# 1 Bb</td>
<td>Ab lowered an enharmonic diesis to G</td>
</tr>
<tr>
<td></td>
<td>G 2 Ab# 1 Ab 1 G## 1 A 2 A# 1 A#b</td>
<td>G## and is the diatonic semitone to G</td>
</tr>
<tr>
<td></td>
<td>G 2 Ab# 1 Ab 1 G## 1 A 2 A# 1 A#b</td>
<td>A# raised an enharmonic diesis to Bb</td>
</tr>
</tbody>
</table>

Kircher confirms our suspicion that he absolutely disagrees with Mazzocchi’s enharmonic theory in the short paragraph following the reprinting of Mazzocchi’s division of the whole-tone: “And in this [the above division of the whole-tone], if you look at the theory, he [Mazzocchi] differs from me, as was revealed in the preceding discourse.” However, Kircher then retreats from enforcing theoretical exactitude in enharmonic musical practice and tolerates discrepancies, still praising Mazzocchi: “If the practice is tolerated in any way, then it can be whatever it may be. However, the Author [Mazzocchi], if not ignorant of theory, showed that speculation applied to practice, as it did not produce an unpleasant effect.\(^{709}\)

But Mazzocchi’s pardon did not pertain to all aspiring enharmonicists. Turning next to some general rules on this manner of composing, Kircher first quickly restores ancient enharmonic theory’s governance: “Therefore, for whoever is about to compose in this

\(^{709}\) Ibid., 664. *Atque in hoc, si Theoriam spectes, mecum differ, ut ex præcedentibus discursum potuit, si practicam id tolerari utcumque; potest; quicquid it, Author monstravit, se Theorici non imperitum, speculacionem ita praxi applicuisse, ut non iniuncundum effectum produxerit.*
[enharmonic] species’ manner, it is necessary that he should know beforehand a little of the three declared enharmonic tetrachords and their calculated proportions” (the keyword being “a little” [paulò], for it was exposed that the tetrachords could not account for all of the practical enharmonic intervals). 710 The second rule for the aspiring enharmonicist is to make sure that “enharmonic clausulas do not continue through the entire fabric of the composition, by artfully mixing chromatic and diatonic [clausulas] with enharmonic [ones], according to the assigned degrees.” Otherwise, “pure enharmonicism would be scornful and detestable.” But for Kircher, this is only a general guide and “by no means absolute;” it ought to be read with “great circumspection, caution, and judgment.” For the other extreme, diatonicism alone, as “sung by the majority,” is equally “illegitimate” and must be mixed with chromaticism and enharmonicism “with discretion” and according to the “prescribed rules.” 711 To be sure, these are all vague guides for the aspiring enharmonicist; and, recognizing this, Kircher is quick to leave out any further rules, wanting to move on to another example: “Save for some rules that are to be omitted (for the work might have been excessively weighed down by a multitude of things), I have thought to have sufficiently shown for us at this place the light by which one may reach [the status] of a wise Musician by means studying the said things for further information.” 712

710 Ibid. Quicunque igitur compositurus est hoc genere styli, oportet ut ad unguem cognoscat enarmonicorum paulò ante in triplici tetrachordo declaratorum rationes proportionesque.

711 Ibid. Secundo ut clausulas enarmonicas non per totum compositionis contextum continuet, sed chromaticas enarmonicis, has diatonicas artificiosè & secundum appositos gradus commisceat. Secus enim purum enarmonicum fieret, quod fastidio & tædio non carere, supra ostendimus. Nequaquam igitur iis absolutè, sed cum magna circumsepectione, cautela, & iudicio uti debemus, sicuti enim in Diatonico, quod plures canunt, non est licitum, quibuscunque intervallis & processibus uti; sed cum discretion & regularum prescriptione; sic & in chromatico & enarmonicò.

712 Ibid. Regulas, nè opus nimia rerum multitudine gravaretur, omittit[en]das duxi sufficit nobis aliquod hoc loco lumen ostendisse, quo ad dictarium rerum notitiam ulterioriorem mediante studio pervenire possit sagax Musurgus.
In lieu of any more rules on enharmonic composition, Kircher concludes his chapter with an exemplar that intermingles the three species: “And lest we may be seen to have excessively and arduously instructed, for the sake of the curious reader, I will add here a triphonium with the three species nearly exactly composed, from which that certain reader will be able to learn, as though from an exemplar, the way in which such compositions are to be advanced.” He warns, however, that it “proceeds difficultly, unless it will be sung by the more skillful and so great of singers. Though this may be, the exercise will render everything easy.” The triphonium is a motet on Isaiah 55:7, "Derelinquat impius viam suam" (“Let the wicked forsake his way”), which, as Kircher informs us, was one among many composed by Sabbatini, “rich in intelligence and perspicacity.” Unfortunately, Sabbatini’s enharmonic music, as for any of his theoretical writings on tuning, appears otherwise lost and a complete study of his motets and madrigals remains wanting. This particular motet occupies ten pages of Kircher’s treatise, but the text is abandoned after the first line, leaving readers to infer how the wicked man returns to God’s favor via the three species of song. Unlike the Latin discourse and Mazzocchi lament featured in this chapter, this enharmonic composition has been previously analyzed.

Barbieri, in his study of the enharmonic keyboards in Kircher’s Musurgia, analyzes “Derelinquat impius viam suam” according to Sabbatini’s Vicentinian keyboard, as reported in Book VI. This implicates that all of the notated accidentals should sound in-tune as notated.

713 Ibid. & ne nimis ardua præcepisse videamur, hic in gratiam curiosi lectoris apponemus triphonium iuxta triplex genus exactè compositum; ex quo veluti ex prototype quodam lector cognoscere poterit modum in huiusmodi co[m]positionibus procedendi.

714 Ibid. Quod tamen difficulter nisi à peritioribus tantum phonascis cantabitur. Quicquid sit, exercitium omnia reddet facilia.

715 Ibid. Non dubito quin insignis ille Galeazzus ad alias similes huic pro eo, quo pollet ingenii perspicacitate componentas præ caeteris animum adiiciet.

716 See Mabbett, 184.

717 Patrizio Barbieri, “Cembali enarmonici e organi negli scritti di Kircher. Con documenti inediti su Galeazzo Sabbatini,” in Enciclopedismo in Roma barocca. Athanasius Kircher e il Museo del Collegio Romano tra
My reading differs and argues that the motet is “enharmonic” in Kircher’s unique sense of the term in musical practice and not “enharmonic” on a split-keyed instrument. Elsewhere in this study, I have alluded to the possibility that composers and theorists with split-keyed instruments actually composed their chromatic madrigals according to the common 12-tone mean-tone gamut. That is to say, Vicentino’s fifth book of madrigals uses out-of-tune sonorities with acoustically false notations, while the madrigals in his treatise are in-tune; likewise for the madrigals of Stella (lost), Trabaci, Maione, Nigetti, and others. This argument, however, lacked documentary evidence; for Vicentino, as I remarked, never wrote in his treatise that A-flat is tuned as G-sharp in common madrigal practice. This documentary evidence may be found here in the Musurgia—if Kircher indeed heard Sabbatini’s music and musical theoretical demonstrations and if Sabbatini’s theoretical discourse and notations are, in fact, encapsulated in Kircher’s chapter on enharmonic musical instruments and the “ab Authore intento” section on enharmonic musical practice. My argument rests upon the fact that the enharmonic notations in “Dereliquat impius viam suam” do not match the notations on Sabbatini’s keyboard. A representative excerpt of the motet appears in Example Five (A). The excerpt is third system of the motet, as also excerpted by Barbieri. For ease of comparison, Sabbatini’s keyboard immediately follows in Example Five (B). 

Looking first at the basso continuo part of the motet, we see that Sabbatini here expresses wickedness with remote F#, G#, and C# major triads that abruptly turn to Eb, Ab, and Db major triads, followed by an f minor triad. On the vocal parts’ staves, there are some readily

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Ibid., 120. Although I disagree with Barbieri’s reading of this Sabbatini motet, I should point out that our readings agree with Kircher on Mazzocchi’s mistaking of the Ex diesis for the chromatic diesis E# (138 fn. 32).

Kircher, 460-461.
observable notations that should raise doubts about a chromatic or enharmonic keyboard origin for this motet. First, the fourth measure of the canto part has an F-natural (following a cancelling Fb in the previous measure) notated above the tenor’s notated C-sharp and the basso continuo’s C-sharp major triad. This F-natural, a diesis higher than E-sharp on an enharmonic keyboard, is one example of Kircher’s definition of practical enharmonicism, as sounded. As notated, it violates Kircher’s notational system; for the F-natural should be notated as the E-sharp. In turn, Kircher’s theoretical discourse would recognize that E-sharp sounded by F-natural as “E#b.” Another such notation occurs on the E-flat major seventh chord in the next measure. Of course, the progression from C-sharp major to E-flat major triads is extremely disjunctive. However, notice how Sabbatini connects the two triads in the tenor, by means of a common-tone C-sharp. This C-sharp is one diesis lower than the D-flat that should be notated and sounded over the E-flat major triad. Again, this is Kircher’s definition of practical enharmonic music in sound. However, in notation, the C-sharp should be a D-flat; and, in enharmonic discourse, “Db#.” The other clues that this is a practical enharmonic motet are the diesis indications (^) inserted under the staves. These are the critical distinctions between the motet and the enharmonic keyboard, which Barbieri overlooked. In Example Five (A), we first encounter the diesis mark in the tenor on the notated A#. The ^ marking raises this A# one diesis and, in accordance with Kircher’s discourse, is an A#b major third over F#. We repeat this process in the next measure of the tenor part, in which the B# with a ^ below is raised one diesis to C-natural. The resultant B#b forms the major third above G#. To complete the triad, the alto part has a D# with a ^ below; this becomes D#b. As the G# major triad is followed by a C# major triad, we encounter here an example of what Kircher has been terming an “enharmonic clausula.” Note that the alto’s E# is accompanied by a ^ below, signifying E#b, in contradistinction to the canto’s Fb. By way of
contrast, Sabbatini’s enharmonic keyboard, does not have the D#^, A#^, E#^, and B#^ notations supplied by Kircher in *Derelinquat impius viam suam*. In order of difficulty: Starting with the white A key, the A# on the second black key raised a ^ to the next black key is simply Bb; D#^ is simply Eb (misprinted as Db); E#^ is Fb^ (unclear on the diagram and a potentially confusing notation in its own right); and, finally, B#^ is B^^ (highly confusing that it is not Cb^).

Although the sharp triads in the motet are clearly notated with enharmonic ^’s, the subsequent flat triads are conspicuously missing them. In fact, this applies for all sharp and flat triads in the motet. Is it a printer’s oversight? For, according to enharmonic practice, the A-flats in the canto and D-flats in the alto (measure six) should have a diesis indication that they are Ab# and Db#.

Where are they? To resolve this issue, we must turn to the very end of the motet, where Kircher points out (all too belatedly) the “*defectum typi signis*” “Some small intervals of the enharmonic species in this composition are not notated on account of the lack of proper types of signs. Hence we place this ^ sign here and there in their place, which I want the reader to note.”\(^{720}\)

Kircher is here referring to the ^’s placed to indicate the otherwise un-notated dieses on D-sharp through B-sharp. Why he did not likewise place ∨ signs on A-flat through F-flat is uncertain.

Example Five (A): 3\(^{rd}\) system of Sabbatini’s *Derelinquat impius viam suam*

Example Five (B): Sabbatini’s Enharmonic Keyboard.
At this point, we have reached the conclusion of Kircher’s chapter on enharmonic music. The reader may have noticed that Kircher dwelled exclusively on the minute divisions of the whole-tone, the enharmonicization of the larger intervals by adding and subtracting a diesis, *clasulae*, and the affections. He did not examine enharmonicism from the perspective of more large-scale modal and/or tonal organization, as Doni would have had it. This, he takes up exclusively in the next chapter, the remarkable title of which catches our eyes like d’Avella’s chapter on “modern tritones:” “On the Mutation of Mode or Tone; or, the Metabolic Style.” Unlike the enharmonic chapter, Kircher does not immediately append the phrase “*Ab authore intento,*” which would have signified that the erudite changing of “mutation” into “metabolism” was of his own conception. Although Kircher’s individual ideas will nevertheless figure prominently in this chapter, Doni’s philological modal guidance here overtaken where, presumably, Sabbatini’s practical enharmonic guidance could go no further. Kircher opens this chapter with an admonishment that “common people judge of the musicians that they consider all those songs notated with #, b, and ♮ signs to be either chromatic or enharmonic.” For Kircher, this was a “truly remarkable error” and, “for those accomplished in music who want be considered masters, that which is to be known will follow from this chapter.” He continues to elaborate that the common people were mistaking the accidentals for the three harmonic species when, in fact, they were but mutations of tonos, which will be collectively termed

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722 Ibid. *Putat musicorum vulgus, omnes illas cantilenas quas vatis sigis #, b, ♮ notatas intuentur, chromaticas aut enarmonicas esse; Error sane insignis, & vel ex hoc capite notandus, quod eos etiam, qui consumati in Musica magistri haberi volunt, invaserit.*
“metabolisms.” Kircher is essentially paraphrasing and reiterating the words of Doni published but three years prior in his *De praestantia musiceae veteris*; and, as Doni there immediately introduces his neologism “metabolic” with reference to Gesualdo, it would be worth quoting the matching passage. Note how Kircher, for the sake of those of us who err by not yet knowing what metabolic tonos and mode mutations are, immediately softened Doni’s condemning word choice, replacing “barbarus” with “vulgus:”

We at once gather from Kircher and Doni that the accidentals we encountered in the preceding chapter were not merely “chromatic” and “enharmonic” (for surely the Mazzocchi and Sabbatini examples were not composed on these species’ tetrachords and their intervals), but mutations of tonos (and modus, not explicitly stated here). Now, to open Pandora’s historical

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723 Ibid. *Erroris causa est, quod non intelligant, in quo propriè consistant tria harmonica genera; ac proinde omne[m] mutatione[m] unius toni in alius[en] confundunt, vel cu[m] chromatico vel enarmonico; cu[m] chromaticu[m] & enarm. stylu[m] no[n] dicta signa, sed interval[a] paulò ante præscripta constituent:*  
724 I have slightly modified the translation and punctuation in Barbieri, *Enharmonic*, 270. Where Barbieri translated *metabolicos* as “modulated melodies,” we might retain “mutating.” Tracking down the precise idea behind Doni’s “metabolic” will require quite a hunt.
theoretical Box and venture into a realm far more forbidding than Cerone’s feared chromatic modal chaos: What do Doni and Kircher mean by “tonus,” “modus” and, what is infinitely worse, their “metabolic” “mutations?” Thankfully, “at this place” in his treatise, Kircher ventures to tell us in brief: Let us turn to “that certain distinction they place between modus and tonus,” he writes, betraying that “they” in general have only placed “one” such certain distinction. But he skips defining “tonus” and “modus” individually and proceeds directly to their “mutation.” So we will have to extract the individual definitions. “They say a mutation of tonus is when the tonus system is changed inside [or: inwards].” The keyword here is “inside” [penitus], signaling and implicating the familiar Ptolemaic change of the seven possible octave species (collectively, the “tonus system” under consideration here) within one characteristic octave whose ends are fixed in pitch. A “tonus,” taken individually, therefore would mean one of the seven octave species. The next definition of “modus” will support or deny our reading: “It is called mutation of mode when [the mode] was advanced from a chorda of a natural tonus to an unnatural tonus.” The keyword is “advanced” [processus], implicating that the mode mutates when it advances pitch [chorda]. This seems to refer to the change of the pitch the mode’s final is on. The word “inside” is not present, indicating that we are no longer constricted presumably within one octave. Thus far, a “modus,” taken individually, is one of the eight or twelve modes. The “mutation” of a “modus” seems to mean transposition—but with a kick: It has to change from a “natural” octave species to an “unnatural” one. That is to say, D Dorian may be transposed to G Dorian, but that is not a “mutation,” because it did not change octave species, nevertheless change into an “unnatural” octave species. Now the question is what are “natural” and “unnatural” octave species? Kircher continues to say that mode mutation advances from a “natural” octave species to an unnatural one when, “in which advancement, that which ought to
be made into whole-tone from a whole-tone, might be made into a semitone or diesis, as was said a little before.” This implicates a change from one mode to another with the transposition, now (say, D Dorian to E Phrygian, in which the D E whole-tone becomes an E F semitone). But this does not answer what octave species are natural or unnatural (for in these terms the octave species are simply different from one another, each being both natural and unnatural at times). Kircher’s definitions here end; and we will have to try to infer more thorough definitions on the basis of his musical examples, as well as Doni’s original theories. Surely, as we have not encountered anything remarkably new here, there must be more to “metabolism” than that?

How misplaced, misprinted, ambiguous, yet clearly underdeveloped is the section heading which accompanies the next paragraph: “The metabolic style, that is, which transposition.” The last word’s orthography aside, this means something more generic than mutating mode, as just defined. But Kircher’s purpose in this mislabeled paragraph is to turn to the affective character of the metabolic style, en route to his musical examples. This is as extraordinary as his description of the practical enharmonic music: “Furthermore, the mutation of both together [tonus and modus] has great emphasis, for it causes remarkable alterations in the listeners; and it [the mutation of both] may [make] [the remarkable alterations] to be infinitely varied and is best appointed to express whichever affections.” This provides a little, but key next step in defining the metabolic style: Tonus and Modus must be mutated both together. Of course, mutating tonus already changes modus and mutating modus already changes tonus—but: mutating tonus does not transpose modus. Be this as it may, we are still waiting to see what was so “remarkably changing” for Kircher’s and other listeners’ ears. Now, at last, Kircher will

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725 Ibid. *Hoc loco quidam discrimen ponunt inter modum, & tonum; Mutationem toni dicunt; quandò systema toni penitus mutatur; modi mutatio dicitur, quandò sit processus à chorda naturalis toni ad non naturalem, ut processus fieri debet à tono in tonum, is fiat in semitonium, aut diesin, uti paulo ante dictum est.*

726 Ibid. *Stylus metabolicus id est quod transpositius [sic].*
officially name this practice metabolic: “Truly this secret, which we name (not incongruously) the metabolic style, was known only to the most skilled masters.” Indeed, the concurrent mutation of tonus and modus was, for Kircher, a “secret” revealed. So profound was this revelation that Kircher waged his whole Musurgia’s worth upon his ability to explain metabolic music to his readers: “Truly, I will make the price of the work if I insert several examples of this metabolic style so that the reader might more easily understand what I will turn my attention to.” Like d’Avella, Kircher baffled all of his readers and his explanations of practical enharmonicism and its metabolic organization remained incomprehensible to his readers; the secret remained locked. Let us now turn to the musical examples, three in total, and see if we might be able to find the key.

Kircher’s first example is a duet between Heraclitus and Democritus composed by Carissimi, in which Democritus’ laughs [ridere] alternate with Heraclitus’ cries [piangere]. As seen in Example Six, these laughs and cries are expressed by “melismate metaboli.” Let us look through the example, hypothesizing the metabolisms, and then turn Kircher’s commentary: The first laughs are in F Ionian (mm. 1-5), the first cries in F Aeolian (mm. 5-10). This is a juxtaposition of diatonicism with enharmonicism, with no chromatic mediation. The cries’ f minor, D-flat major, and b-flat minor triads all lack one to two enharmonic dieses. The second laughs are in B-flat Ionian (mm. 10-15), the second cries in B-flat Aeolian (mm. 15-20). This is but a transposition; therefore, in light of Kircher’s and Doni’s opening remarks, let us hypothesize that this remains a juxtaposition of diatonicism with enharmonicism—and not define

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727 Ibid. Porrò mutatio utraque magnam emphasis habet, notabilesque alterationes in auditoribus efficit; potestque infinitas variari, & quibuslibet affectibus exprimendis appositissima est. Verum hoc arcanum solis peritioribus magistris notum est quem nos non incongrue stylius metabolicum appellamus. Verum operæ pretium faciam, si hic aliquot huius metabolici styli paradigmata inseram, ut quid intendam, lector facilius intelligere possit. In fact, Kircher already “made his book precious,” having said much the same thing for placing examples of the “amorous affect” (598)!

728 Ibid., 673.
the B-flat Ionian sonorities as chromaticism. The affective text-setting technique is unmistakable, but where might the metabolicism be in this example? The mutation from F Ionian to F Aeolian is a mutation of tonus; yet, there seems something “unnatural” with this mutation. The Aeolian octave species on F has an enharmonically lowered third and sixth. Contrast this, say, to the mutations from C Ionian to C Aeolian (in which the latter has an enharmonically lowered sixth, but not third) and from G Ionian to G Aeolian (in which the latter has no enharmonic degrees and, as such, seems to be “natural”). The mutation of tonus from F Ionian to F Aeolian is enharmonically affective, but it is certainly not yet metabolically affective as defined as yet by Kircher. Indeed, we have not also mutated modus by transposing the modal final to a new one, upon which an “unnatural” tonus must then be built. The subsequent transposition of the first F Ionian laughs and Aeolian cries to B-flat superficially seems to fail to meet these criteria. There is not a change in octave species on B-flat, which would mutate the modes and thereby become “metabolic.” However, upon closer inspection, the F Aeolian and B-flat Aeolian octave species are ever so slightly different; the latter seems even more “unnatural” than the former. Whereas F Aeolian has enharmonically lowered third and sixth degrees, B-flat Aeolian has enharmonically lowered third, sixth, and seventh degrees. Thus, Carissimi has enharmonically mutated the Aeolian octave species by means of transposing the modal final. As such, we have met Kircher’s criteria for the “metabolic” style: The affective significance of the metabolism is, again, unmistakable. In principle, the second cries should weep even more than the first by means of accentuating the seventh degree; this is not what Carissimi did. He not only withheld the pitch A-flat in the B-flat Aeolian, he raised it to form the dominant triad (as he equally did for the seventh degree in F Aeolian). Therefore, the metabolism is nullified and the example, as given, filled with IV V I cadences, is a rather quotidian display of ensweetened
modern functional tonality (which need not be less affective than modal metabolism per se).

What, then, is Kircher’s rationale for this example?

Example Six: Heraclitus’ and Democritus’ “Melismate Metaboli”

According to Kircher, the “inexperienced readers will persuade themselves that the frequently encountered soft-b accidentals have no chromaticism or enharmonicism.” We, now experienced in practical chromaticism and enharmonicism, but still novice in metabolism, almost concurred. We posited that the B-flat Aeolian was not chromatic, rather transposed
diatonic. However, we found numerous enharmonicisms among the many crying soft-b accidentals. Kircher would now retract them? He continues: These soft-b accidentals are, instead, “mutate greatly the tonus.” With this, we too almost concurred. We observed the mutations of the Ionian into Aeolian tonoi and even cited a very subtle enharmonic mutation between the two Aeolians. Kircher’s analysis is now complete; but he left out the most subtle mutation of modus from F Aeolian to B-flat Aeolian and, as such, has clearly failed to meet his own criteria for the metabolic style. Instead, he heaps praise upon Carissimi and calls this a “distinguished” example of the metabolic style. Clearly, although the octave species mutations and transpositions are readily observable, there is a problem here, which was easily enough foreseen: The abstract theoretical definition of metabolicism is rough, but the listening perceptions of highly affective music as metabolic are fluid. Let us now proceed and see if Kircher’s second musical example is more or less consistent and informative.

The second example is the second stanza of Mazzocchi’s *Lagrima amare*, as promised by Doni’s Annotazioni. The anonymous poem concerns the mutual dependence between Christ’s blood and our tears, as expressed by Mary Madalene: “One wants to heal the [fatal wound] on the colorless Redeemer, but His precious flood spreads. That blessed blood will be in vain for you, without the sorrowful flow of my tears.” Kircher’s description is purely affective; he writes of “how you see and feel with the hearing the affectionate tears of Mary Magdalene,

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729 Ibid. *Ubi frequentia b mollia nihil chromaticum aut enarmonicum habent, ut imperiti sibi persuadent; sed tonum tantum mutant...metabolici styli ratio luculentius pateret.*

730 Ibid. *Dialogus insigni artificio compositus est...incredibili sanè varietate exprimuntur...metabolici styli ratio luculentius pateret.* Kircher continues with rather redundant comments oddly printed in between the systems of this example, which I have here omitted.

731 *Ben vuol sanarla il Redentore esangue/ Ma indarno sparso il pretioso rio/ Sarà per lei di quel beato sangue; Senza il doglioso humor del pianto mio.*
pierced [by the Crucifixion], brought to life."\textsuperscript{732} His recollection of his listening experience is key, as it confirms that he has at least in part selected the enharmonic and metabolic Mazzocchi examples by ear. He even names here several skilled singers who “were required” [\textit{requireretur}]. But a metabolic analysis is entirely wanting for this example; and this blatantly objectionable omission indeed reinforces my suspicion that Kircher could not refine the intersections of the affections and modal metabolism. Indeed, as seen in Example Seven, Mazzocchi’s setting is predominantly an example of enharmonicism. Begun in F Aeolian, a brief A-natural leading tone occurs in measure six, followed by an ensweetened modern modulation to B-flat Aeolian in measure eleven. To be sure, this “affective” example, unlike the Carissimi, qualifies as “metabolic,” on account of the use of the A-flat seventh degree in B-flat Aeolian (measure twelve). But this is a minimal and unmarked way to exemplify such a critical mutation of octave species. In measures fourteen and fifteen, Mazzocchi mutates the B-flat Aeolian octave species into Dorian (the G D-flat tritone “weeping” for an A-flat ensweetening); but this temporary modal conflict, certainly not metabolic (no transposition has occurred), is ultimately overcome by an ensweetened modern functional IV V I. Perhaps the third musical example will be more metabolic.

\textsuperscript{732} Ibid., 674. \textit{Quam lachrymas vocat D. Magdalæ, peractam, in qua lachrymantis affectus ad vivum expressos intuere & auditu percipe.}
Following a reference to Pietro Eredia’s compositions in the metabolic style, Kircher presents his third and final example. As Barbieri has discovered, it is an excerpt from Pietro della Valle’s 1639 Esther Oratorio, the music of which is unfortunately otherwise lost. Unlike the Carissimi and Mazzocchi examples, the practical enharmonics of which are unmistakable

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733 Barbieri, “Pietro Della Valle.”
(if left unremarked by Kircher), this example was certainly composed at a Donian split-keyed “triarmoniam.” Kircher continues to depict the keyboard in words, on which the first level was Dorian, the second Phrygian, and the third Lydian. The musical excerpt appears in Example Eight. Kircher only points out that Dorian mutates into Phrygian, “in response to the mutation of the text.” Kircher’s primary contribution concerns the listeners attunement to the metabolic style here evinced, to which one may become accustomed to: “While [this transition from Dorian to Phrygian] brings an unusual mutation to the ears, it may not [always] be likewise made, so that a soul changed by this manner of alteration might not feel furious affections.”

But this affective response is to in-tune music and not out-of-tune music. The overriding point that must be made is that there is now a decisive and divisive problem in Kircher’s chapter; for we now have two out-of-tune examples and one in-tune example, all given under the same stylistic rubric of metabolic. As Barbieri himself omits further analytical discussion of this example, Kircher’s description will here too suffice in lieu of note by note analysis. More important is the overt incongruence of the three examples, from which we may conclude that, according to Kircher, one can: 1) be metabolic with out-of-tune enharmonic dieses mutating tonoi, provided the accidentals are interpreted as mutations of tonus, and not applications of enharmonic species. But, one can also 2) be metabolic with a split-keyed keyboard that obviates out-of-tune

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734 Ibid., 675. Sed lector modum ex paradigmate facile colliget, in quo est transitus dorij in phrygium tonum, dum auribus insolitam mutationem adfert; fieri quoque non potest, ut animus huiusmodi alteratione immutatus, affectiones non sentiat vehementes.

735 The problems I see are multiple: First, the alto clef is misprinted and should be a tenor clef (for Doni, each metabolic mutation is accompanied by a change of clef). Second, the assigned keyboard levels do not match the given description of the triarmoniam and it is not clear if Kircher is supplying those or neutrally copying them (the keyboard levels, by way of contrast, do not appear in the metabolic composition by Eredia in Doni’s Compendio, where the metabolisms are identified). Finally, there is the question of the accidental placements (witness the sharps for C and F in the Dorian top part) and mutating inflections (implied B-natural to B-flat in the Dorian and the composed E-natural to E-flat in the Phrygian).
enharmonic dieses, provided the mutation of the tonus is accompanied with a transposition of the modal final.\textsuperscript{736}

**Example Eight:** Excerpt from Pietro della Valle’s Esther Oratorio

![Musical Example]

Kircher concludes his chapter by only naming one Benedictus Narduccius and Gesualdo for further examples of the metabolic style.\textsuperscript{737} Surely Gesualdo’s madrigals were performed in Barberini Rome in-tune on enharmonic viols and keyboards, according to the theories of Doni;\textsuperscript{738} but, according to Kircher, the music composed in that academy in emulation of Gesualdo (or even without reference to Gesualdo) was also performed out-of-tune on common-practice instruments in an “enharmonic” manner. Unfortunately, Kircher did not study Gesualdo’s madrigals in detail or so much as place one of them in his chapters on enharmonicism and metabolism. If he lacked a thoroughly correct command of “metabolic” theory, certainly he was able to mark the enharmonicism in Gesualdo’s madrigals and praise their metabolic affectiveness. He apparently did not read d’Avella’s treatise hot off the press in Rome seven years later to discover that the Neapolitan madrigalists were “enharmonic” in his (and

\textsuperscript{736} I suspect that Doni’s elusively defined “metabolism” would match Kircher’s, even though Doni, in theory, disapproved of choice number one of these two, “affective” though it might be. I imagine that Doni’s, Eredia’s, and della Valle’s “metabolic” compositions were exclusively composed according to choice two.

\textsuperscript{737} Ibid.

\textsuperscript{738} An in-tune Donian performance of this repertoire may be found in the Earle his Viols’ *La Tavola Cromatica: Un’Accademia Musicale dal Cardinale Francesco Barberini* (Germany: Raumklang, 2004).
Sabbatini’s) practical sense of the term. Although the Neapolitans were also “metabolic,” their madrigals were not as philologically erudite as Doni thought.

Artusi’s Imperfettioni

As we have now sat with d’Avella in circa 1611 Naples to hear Gesualdo’s Responsoria (and the publica forma of its chromaticism) and taken another seat with Kircher and Doni in circa 1638 Barberini Rome to re-hear Gesualdo’s emulators, let us, at last, rejoin Artusi in 1598 Ferrara to re-hear Monteverdi’s madrigals, but a year after Gesualdo’s departure back to Naples. Certainly Artusi’s long studied Imperfettioni will require yet another reading in light of his theoretical successors’ best kept secrets revealed. Indeed, it is within the prima vs. seconda prattica polemics that we find a couple other concordances for the madrigalists’ text-setting applications of out-of-tune mean-tonal sonorities, equal in their persuasiveness to those we have studied thus far. This should not come as a surprise, for it has long been recognized that the first discourse of Artusi’s Imperfettioni is predominantly a retelling of Bottrigari’s 1599 Il Desiderio, overo de’ concerti di vari strumenti musicali, as well as a response to the Zarlino-Galilei disputes on the proper ancient tuning of modern vocal music. Yet the concordances are obscure and require not a little reading beyond what Artusi wrote. Again, as with Kircher’s and Doni’s treatises, it my present intent to make some strategic and focused incisions (and no more) into the Monteverdi-Artusi Controversy, this time to reveal where and why the composers and theorists encapsulated therein went out-of-tune with one another.

739 As transmitted to Naples via Cerone (1037).
740 The tunings and temperaments in the first part of Artusi’s Imperfettioni were explained by Malcolm Litchfield in his “Giovanni Maria Artusi’s ‘L’Artusi overo delle imperfettioni della moderna musica’ (1600), M.A. Thesis (Brigham Young University, 1987).
Joining Artusi’s interlocutors Luca and Vario in Ferrara, we first take a seat in the Chiesa di San Vita to hear a concert performed by its renowned choir of nuns in honor of the Austrian Queen Margaret’s arrival. Following an “incredible silence” at its end, a “peculiar harmony remained in the ears of the listeners,” which led Vario to remark (on behalf of Artusi) to Luca: “It has been many months and [even] years since I have heard any concert as well unified as this one.”

Vario then lists and examines no less than eight components to such a “well-unified concert performed in as great perfection as both art and artisans can do:”

Perfect resonance in the concert hall; compositions perfectly selected to match the registral ranges of the singers and instrumentalists; perfect distance between performers and audience; perfect construction of the instruments; perfect listening skills among and balance between the performers (no venomous envies, to recall our prior citation of this passage); perfect music composed by the likes of Merulo, Porta, Gabrieli, Palestrina, Gastoldi, Pallavicino, Giovanelli, Nanino, and others; perfect musical training; and, finally, of the “most importance, perhaps more than any other, whatever it might be:”

“All of the instruments of this concert were reduced to the temperament of only one ear.”

Now our Neapolitan and Roman ears begin to pick up, especially as Luca then adds: “I recall having sometimes heard some concerts, even by talented men, that more immediately offended my ear than pleased it. Now I realize that this could have easily arisen from the

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741 Artusi 1600, 2r. Al fine con un silentio incredibile, fornito il Concerto, restò nelle orecchie delli audienti un’Harmonia insolita, tanta che voltandosi il Sig. Vario al Sig. Luca le disse. Sono molti Mesi, & Anni, che io non ho udito Concerto alcuno, che tanto bene sia unito come questo.

742 Ibid. Noi vorremmo essaminare; Quali siano quelle cose che convengono ad un Concerto bene unito, & in quella maggior perfettione, che far può l’Arte, e gli Artefici istessi recitato.

743 Ibid., 2r-3v (listed with headings). L’ottava, & è di molta importanza, e forsi, più d’ogn’altra sia qual si voglia.

744 Ibid., 3v. Tutti gl’Instrumenti di questo Concerto sono ridotti al temperamento da una sola orecchia;
disunion—or I want to say distemperament—of the instruments, which from diverse states ought to have been reduced to temperament.”\footnote{Ibid., 4r. *Mi raccordo talhora haver sentito alcuni Concerti, che più tosto m'offendeano l'udito, che lo dilettassero, et pur erano valent' huomini: ben m'accorgo, che facilmente ciò potea nascere dalla disunione de gl'Instrumenti, che da diversi dovevano essere stati ridotti al temperamento, ò voglio dire distemperamento.*}

Our ears are indeed raised: The prospect of Monteverdi’s modern “distemperament” is as exciting as the prospect of Gesualdo’s “modern” tritones. But Vario and Luca next digress from the topic of distemperament and continue on about the aim of art (is it “grace” or “delight”?), various vocal and instrumental techniques, and, as we move to the *Chiesa di Santa Maria del Vado*, the materials of instruments. These digressions, although their contents are by now all too familiar, were of some renewed interest to our ears, now recalling that Montella used the ensweetened modern tritone with an elusively defined “much grace” (was that his aim?), Marino’s materialistic physico-theological demonstrations of the crucifixion strung instruments with unsympathetic lamb and wolf guts, and LaCorcia’s venomous tongue kissing was, well, something we best not interject and tell Vario about, lest LaCorcia endure more censorship beyond that of “that Scholar.”\footnote{Ibid., 4r-5r, for the ends of art and tonguing.} But what we really want to hear about are the ensuing imperfections of the musical instruments that their performers paid little attention to; for, as Vario asks Luca: “How would it seem to you, if the [practitioners] think of uttering a natural interval, but one hears an accidental one in its stead?”\footnote{Ibid., 7r. *Talche quando si pensano di preferire un’intervallo naturale, in luoco suo, se ne sente uno accidentale; che vi pare?* This is, in context, somewhat of a contrived non sequitur from the materiality of musical instruments and the accumulation of their minute imperfections to the tuning and temperament of musical intervals, their classifications, and imperfections.} This seems not vaguely familiar to us (thinking of uttering a perfect fourth above E-flat with an instrument, nevertheless an imperfect one); but Luca is less versed in this matter and, having “thought many times and confused
[himself] particularly on it,” anxious for Vario’s explanation.  

Let us see how Vario explains the “thinking natural intervals vs. singing and hearing accidental intervals” dichotomy; and, if his theory matches d’Avella’s, Doni’s and/or Kircher’s.

Vario proceeds to divide the instruments according to the size of their intervals

[grandezza de gl’intervalli]: Some are of the Ptolemaic species, others of the Aristoxenean species; the differences between these, when coupled with the picciole imperfettioni of instruments’ materials, will, Luca agrees, accumulate into a notabile imperfettione.  

Vario then identifies the Ptolemaic as that which has unequal whole- and semitones, the Aristoxenean as that which has equal whole- and semitones.  He adds a third classification, for those instruments not fixed in pitch that might be now Ptolemaic, then Aristoxenean, now otherwise.  

He and Luca rebut the theorist Lanfranco, who said the instruments are all tuned in the same manner; but our speakers would rather “leave him to stay and remain in his ignorance together with those who tire themselves with the instrument day and night to find extravagant things outside of reason and far from the experience already made by our ancestors and reduced into certain rules embraced by the sense and confirmed by the intellect.”  To be sure, they will one day recognize their error and know that they should have studied the works of the first practice composers.  

Following a lengthy and more refined classification of instruments into those that are fixed, alterable, alterably fixed (among other wordings for), Vario, always at Luca’s behest, groups the instruments according to how they might unite in a concert, Example Nine.  According to

748 Ibid., 7r.  Sono andato molte volte pensando intorno à questo particolare, ma io stesso mi confondevo.
749 Ibid.
750 Ibid. 7r-7v.
751 Ibid., 8r-8v.  Lasciamo, che stia, & resti nella sua ignoranza insieme con quelli, che giorno e notte s’affaticano con lo Instrimento per ritrovare cose stravaganti, fuori della ragione, e lontani della esperienza già fatta da’ nostri passati, e ridotta in regole certe dal senso abbracciate, & dall’intelletto confermate...al fine s’accorgaranno loro ancora del suo grave errore; per haver consumato il tempo in cose, che le portano poco honore; potendolo consumare in operationi degne di eterna memoria...
752 Ibid., 9r-10v.
Vario, all we need to know is which instruments have equal whole- and semitones (the third column), which ones have both intervals unequal (none listed, although these would be Ptolemaic), and which ones have an equal and unequal mix (the first column). Then you can unite them like with like, or with instruments that “bend in every direction” [{\it si piegano per ogni verso}] (the second column).{\textsuperscript{753}}

Example Nine: Artusi’s Division of Voices and Instruments by Tunings

<table>
<thead>
<tr>
<th>“First Order: Instruments that are tempered with the equal whole-tone and unequal semitone” [mean-tone temperament]</th>
<th>“Second Order: Instruments that bend in every direction” [unfixed just intonation]</th>
<th>“Third Order: Instruments that divide the [equal] whole-tone in two equal parts, and the semitones are equal” [equal temperament]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organ, Clavichord, Spinet, Monochord, Double harp</td>
<td>Human Voice, Trombone, Trombette, Rebec, Cornet, Flute, Dulzaine</td>
<td>Lutes, Viols, Viole bastarde, Cetera, Lyre</td>
</tr>
</tbody>
</table>

At this point we can not help but interject: “But Vario, according to Scipione Stella, who just left from here with the Prince of Venosa to return to Naples, at least some lutes are actually tuned in mean-tone temperament—and not in equal temperament according to the practices and theories of Vicentino, Galilei, Zarlino, and Bottrigari, upon which you are drawing. Moreover, according to many, including the Bolognese preacher-composer and neighbor of no less a theorist than Artusi, Domenico Micheli, the lyres of Job, Jesus, and Mary were tuned to the same mourning with which our organs weep, mean-tone temperament. And, there’s word that the English humanists have reason to believe that Orpheus’ lyre was also tuned in mean-tone temperament. Ought these two instruments at least also be grouped into the first column, if not even the viols and the cetera? In that case, the alleged distemperament could be dissolved.” But

{\textsuperscript{753}} Ibid., 10v-11r.
Vario and Luca move on, blindly unaware that the Ferrarese madrigalists’ lutes might well be tuned the same way as the Neapolitan madrigalists’. Instead, they ponder the delight that both the imperfect senses and the rational intellects must derive from the proper union of these instruments.\textsuperscript{754} We must wait a little longer for them to pick up the “thinking natural intervals vs. singing and hearing accidental intervals” dichotomy that so intrigues our Neapolitan-Roman mindset. Thankfully, as Luca brings in the analogy of a perfectly united concert to the miraculous yet lost effects of ancient music, Vario begins to turn towards the chromaticization of the Greater Perfect System.\textsuperscript{755}

As with Vario’s anecdotes about vocal and instrumental materiality, many of Vario’s transitional historical accounts slightly pique our Neapolitan interest: The ancient identity of poetry and music, with the poets’ songs tuned to their lyres; the use of these same instruments to praise and pray to the deities; and the accompaniment of the voice with only one instrument.\textsuperscript{756} Then, Vario recounts Guido d’Arezzo’s development upon the Greater Perfect System in a less vulgarized version than d’Avella’s; Luca asks if it provided more consonants than the ancients had.\textsuperscript{757} Ultimately reaching the mixture of naturals and accidentals in modern music’s consonances, he asks for Vario’s evaluation of it. Now, we rejoin the conversation with ears raised; for d’Avella had recounted the Greater Perfect System and, however confusingly, its modern chromaticization to explicate and validate the Neapolitans’ extended gamut. Recalling that, how might Vario’s evaluation of the Ferrarese gamut with the Greater Perfect System compare? Luca’s first citation appears in Example Ten.\textsuperscript{758} Likely, it was composed to fit the

\textsuperscript{754} Ibid., 11r-12r.  
\textsuperscript{755} Ibid., 13r.  
\textsuperscript{756} Ibid., 13v.  
\textsuperscript{757} Ibid., 14r-15r.  
\textsuperscript{758} Ibid., 15r.
situation. Vario, “following the opinion of the ancient theorists and several modern ones,” approves of the C# in the alto on account of a chromatic Diezeugmenon tetrachord (recall the Greater Perfect System from Chapter Three of this study), but criticizes the canto’s G-sharp as “worse.” According to the “thought of the good ancient theorists,” the Paranete G in the Hyperbolaion tetrachord was “particular to the diatonic species and does not belong to any other.” Thus, the G-sharp is neither diatonic, chromatic, or enharmonic.759 For Vario, measuring the passage according to the Greater Perfect System, G-sharp simply should not be there. Of course, this omission would be extraordinarily problematic for the modern madrigalists; so let us see how Luca proceeds.

Example Ten: Luca’s First Citation for Vario’s Greater Perfect Systematic Judgment

The next heading catches our Neapolitan-Roman eyes: “Corde that are not on the ordinary keyboard.”760 Indeed, Luca, as we were hoping, will now ask Vario about the accidentals outside of the E-flat to G-sharp compass in the madrigals. In particular, he recalls having seen D-sharps alongside E-flats and A-flats in the madrigals of modern composers such

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759 Ibid., 15v. Vedeo che la parte del Contr’Alto, recita intieramente il Tetracordo Cromatico...secondo la opinione de’ Theorici Antichi, & d’alunci Moderni. Ma quello che peggio mi pare, nel Soprano l’ultima figura è segnata con il #, & pur quella così fatta corda non è Cromatica, né Enarmonica; ma particolare Diatonica, nè ad altro de generi s’appartiene secondo la mente de’ buoni Theorici passati.

760 Ibid. Corde, che non sono nel Clavace[m]balo ordinario.
as Rore and Gabrieli, Example Eleven.\textsuperscript{761} These are precisely the accidentals just outside that compass that d’Avella wrote so much about. Now, will Luca also ask Vario the same or similar questions that d’Avella asked us? Those are, to repeat: “If a song [with D-sharp mi’s] should be put forward according to the keys of the keyboard, how ought it be sung? And how might it be sung harmonically, without twisting the mouth? Is [the song] a thing of the imagination, if [the singer] does not have the D-sharp in their eyes?”\textsuperscript{762} Luca’s next remark about the examples show no such concern that the intervals should be sung in such a manner—that is, in keeping with the above stated dichotomy, “thinking natural intervals while singing and hearing accidental ones.” Instead, he passively acquiesces to Vario’s previous judgment: These examples “confirm” that modern madrigals are neither diatonic, nor chromatic or enharmonic, but a “third mixed thing.”\textsuperscript{763}

Example Eleven: Luca’s Second Citations for Greater Perfect Systematic Judgment

\begin{center}
\includegraphics{example_11}
\end{center}

Vario graciously accepted these confirmations and, all too easily proceeding with his explanation of the Greater Perfect System, forgot all about Luca’s question about the off-the-keyboard accidentals (for the time being). Although Rore (and Gabrieli) used A-flat and E-flat, these accidentals are also neither diatonic nor chromatic or enharmonic; for, as Vario refers us again to the Greater Perfect System, the pitches E and A are fixed endpoints in the \textit{Meson} and

\textsuperscript{761} Ibid. \textit{Mi raccordo ancora d’haver veduto la corda di D. sol, re, in alcuni Madrigali di Moderni Compositori, segnata con il #, la qual corda non si può Sonare nel Clavacembalo ordinario, nè sopra l’Organo; ma si bene nell’Istrumento fatto secondo la divisione di Non Nicola Vicentino.}

\textsuperscript{762} D’Avella, 70.

\textsuperscript{763} Artusi 1600, 15v. \textit{Cose tutte che mi vanno confermando, che queste Cantilene, non siano pure Diatoniche; ma una terza cosa mista.}
Hyperbolaion tetrachords, plus the acquired Proslambanomenos. They can not be moved. Although he does not say so, the D-sharp is “worse” for the same reasoning as the above G-sharp. At best, Vario proposes that these accidentals could be called “chromatic” on account of the division of the whole-tone; but for him, that is unsatisfactory. Nowhere does it come to his mind that the A-flats might be G-sharps and the D-sharps might be E-flats according to the keyboard (although these substitutions are still impermissible according to the Greater Perfect System). All he concludes from Rore’s (and Gabrieli’s) excerpts is that modern music is a “mixture of diverse things not known by all.”

All too conveniently, Luca left out the texts set to these accidentals, enabling Vario to bypass even the thought of such “imperfections.” Had Luca asked about the text-settings for these snippets, the discussion could have proceeded on that subject. Instead, he let Vario continue on to prescribe the Greater Perfect System for the modern musicians: “If the modern practical musicians knew the common and particular cordi in the species according to the thought of the ancients and many moderns (who do not diverge from their opinion), they would sometimes not do those things for their caprice without providing any reason.”

That is to say, returning to the Greater Perfect System, the tetrachordal endpoints B, E, and A are common and fixed; the C’s and F’s are common and fixed; the D’s and G’s are particular for the diatonic and may be removed to form chromatic C# and F#, the enharmonic C and F. That left the modern practitioners with but C# and F# (and their enharmonic divisions), which Vario will make clearer through notation presently. Thus, we see that whereas d’Avella

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764 Ibid. E’ vero che M. Cipriano usò in quel luoco il b molle; ma s’io volessi dire, che fosse Diatonico, non è vero; perché non si ritrova simil corda nella divisione, ò co[n]stitutione del Sistema massimo; ma più tosto potrei dire, che fosse Cromatica, quanto alla divisione del tuono, che si ritrova fra la corda D. sol re, & la E la mi, in dui Semituoni diviso; tuttavia à chi dicesse, che quel b molle usato in quella corda, non fosse nè Cromatico, nè Enarmonico, non direbbe forse cosa, che fosse lontana dalla verità. Et questa è una di quelle case, che mi fanno credere con voi, che la Musica Moderna sia una mescolanza di diverse case, non da tutti conosciuta.

765 Ibid., 15v-16r. Se li pratici Moderni conoscessero le cordi comuni, & le particolari de’ generi, secondo la mente de gli Antichi, & de’ molti Moderni, che pur on si discostano dalla loro opinione; tal volta non farebbono delle case, che per scapriciarsi, senza ragione alcuna fanno.
brought back the Greater Perfect System to historicize and authorize the development of modern chromaticism, Artusi has here brought it back as a rigid rule to quell the very same chromaticism.

Vario crusades on: Instead of obeying the fixed *corde*, the modern practitioners “sign whatever *corde* come to their mind with #, ♭, b accidentals corresponding to the same signs on one or more *corde* at an octave or a fifth.” This rings a Neapolitan bell: The notating of accidentals to form a fifth is but an implicit accidental circle of fifths; it is the same circle that d’Avella invoked to defend LaCorcia’s placement of A-flat fa a fifth under E-flat fa. From d’Avella’s perspective, this was done “with rule.” But for Artusi, this implicit accidental circle of fifths was against the rule of the Greater Perfect System, which, when lacking the Guidonian hexachordal circularity of God’s love for us, breaks the circle. The modern practitioners, like d’Avella and LaCorcia, had “thought that this sufficed for them, seeming that they had done everything very well according to the orders and rules of music” (if only d’Avella could or would have responded to this exact moment in his *Regole*!). To further break the accidental circle, Vario, now returning to Luca’s original question, next points out that the modern practitioners “do not realize that the greater part of such doings are not only impossible to sound on the organ or harpsichord, but also [the doings] succeed with difficulty when tried to be sung by the voice, which bends in every direction.” Vario rears his head from the wolf’s hole in the circle of fifths and now reveals the same confusion about singing these accidentals unaccompanied that we encountered in d’Avella’s Naples (although Vario’s “difficulty bending the voice” figuratively pales in comparison to d’Avella’s “twisting of the mouth”). He continues
that these accidentals were lazy acts: “Comfort makes man a thief,” as the proverb rightly says.\textsuperscript{766}

At Luca’s request, Vario then launches into a long exhibition of the Greater Perfect System’s common and particular pitches in the diatonic, chromatic, and enharmonic tetrachords, as well as the tetrachords compact versions with chromatic semitones filled in. Again, some side anecdotes along the kept our Neapolitan ears raised: Luca’s question if just playing black keys on the keyboard makes music “chromatic” (no, Vario answers, because transpositions of diatonic music to black keys remain diatonic).\textsuperscript{767} But what we mostly want to extract from this discussion is Vario’s delayed notation of his restriction of the accidentals to the Bx, Ex, C#, and F# “particulars” in between the fixed pitches A, B, C, D, E, F, G, A; see Example Twelve.\textsuperscript{768} Vario exhibits the \textit{Hypaton} (B to E) and \textit{Meson} (E to A) tetrachords, plus the tone of disjunction (A B); he is Aristotelian (and we are anxious to see how he, in contrast to d’Avella, chromatically and enharmonically fills in Aristotle’s gamut. Starting with the first tetrachord, we see that the B, C, and E are common to all of the diatonic, chromatic, and enharmonic tetrachords. To form the diatonic species, we must simply add to these common pitches the pitch D which, as it does not appear in the chromatic or enharmonic tetrachords, is “particularly” diatonic. Likewise, to form the chromatic tetrachord, we simply add to the common pitches the pitch C-sharp, which is “particularly chromatic.” For the enharmonic tetrachord, we add to the

\textsuperscript{766} Ibid., 16r. \textit{Pur che à quelle corde, che le viene in pensiero di segnare con #, ♯, & b molli, faccino li pratici, che con gl’istessi segni à quelle corrispondi una, ò altre corde in ottava e quinta, questo le basta parendole d’haver fatto il tutto benissimo, secondo gli ordini, e Regole della Musica; non s’accorgendo, che la maggior parte di quelle cosi fatte operationi, non solo non si possono Sonare nell’Organo, e Clavacembalo; ma volendole con la voce che si piega per ogni verso Cantare, difficilmente riescono: E ben vero, dice il Proverbio; La comodità fa l’uomo ladro.}

\textsuperscript{767} Ibid., 16v. There is no evidence here for the practitioners’ naming the accidentals outside of E-flat to G-sharp “chromatic.”

\textsuperscript{768} Ibid., 20r.
common pitches the pitch Bx, which is “particularly enharmonic.” The same process holds for
the next tetrachord under transposition.

Example Twelve: Common and Particular Corde in the Greater Perfect System

But if this is the possible gamut, why, Luca asked along the way, did Rore change the
common A into an A-flat? For Luca, Rore seemed to have made A particularly chromatic
(although he did not work out the complete tetrachord implications of this).\(^{769}\) Vario’s answer is
contrived in the extreme and contradictory to his prior precepts: Rore used the particularly
chromatic A precisely “because the corda is common to all the species” (my emphasis; Vario is
justifying a dubious particular by means of commonality).\(^{770}\) Vario then invokes the compact
tetrachords, citing the chromatic filling in of the whole-tones according to modern theorists (this
is comparatively less contrived a reason). He does not provide a notation of this; however, it
may easily enough be extrapolated, Example Thirteen. Amazingly enough, Luca seems to have
bought the first of these “excuses” from the rule and concludes from Vario’s precepts that Rore
was a “judicious composer,” he showed the “[bright] light to the practitioners,” “could have been
the first to have begun to accommodate the words well” (this, coming from somebody who just
left out the texts to his Rore excerpts), in addition to abstaining from the “barbarisms” of his

\(^{769}\) Ibid., 19v. Perche M. Cipriano se n’è servito come particolare del Cromatico...?

\(^{770}\) Ibid. Et perche quella corda è commune à tutti li generi...
predecessors and contemporaries. He did not recognize that Rore’s “particularly chromatic” A was likely tuned as the “particularly chromatic” G (that Vario had already deemed “worse”) for the “accommodation” of the words. In that case, Vario’s contrived rationale would have suffered even more and Artusi’s predilection for Rore would have had to end.

Tellingly, Vario subsequently abandons his first “excuse” for Rore’s A-flat (its particularity through its commonality)—but we shall hold him to it—and proceeds to discuss only the second (the modern compactness of the chromatic species by dividing all of the whole-tones. For Luca, now apparently turning his back on Rore and leading Vario, the moderns were dividing all these whole-tones with b and # accidentals “without any consideration or regard for anything and this seems to them a sufficient science in as much as it is necessary to them.”

Hence, Vario calls the modern musical gamut “a mixture of the two [diatonic and chromatic] species together, confusingly confused amongst themselves; and, this complete confusion arises from the practitioners’ ignorance.” Luca urges him on, confident that Vario speaks the truth, since he derived his “fine consideration” directly from the “modern things;” “it could not be other” than what he says. Vario raids on that the “more modern practitioners do not know any difference among whole-tones and semitones. They divide [the whole-tones] with the # and b accidentals without any consideration other than to have the formations [rincontri] of the imperfect consonances to make those effects that satisfy their caprice.” Since they do this, Vario thinks, “they themselves do not know which species of harmony is sung and played.”

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771 Ibid., 19v-20r. È stato iudicioso compositore M. Cipriano, & ha dato gran lume a’ pratici, & se io dicessi che fosse stato il primo, che havesse incominciato ad accommodare bene le parole, & con bell’ordine, non direi bugia...

772 Ibid., 20r. Ogni Tuono da loro con b molli, e # diesis viene diviso, senza haver altra consideratione, nè risguardo à cosa alcuna, & questo ò pare sufficiente scienza di quanto à loro debba essere necessario.

773 Ibid., 20v. La Moderna Musica non è altro, che una Mescolanza di due Generi insieme fra di loro confusamente confusi; & questa solenne confusione, nasce dalla ignoranza de’ pratici.

774 Ibid. Aspetto con desiderio qualche bella Consideratione, & mentre che la andate cavando dalle cose e’ Moderni, non può altrimenti essere, se non tale.
educated guess, Vario proposes that “one may judge that they have the opinion to follow Aristoxenus, which divides the whole-tone exactly into two equal parts.” Our Neapolitan-Roman ears are now completely raised and we are getting ready to interject. So persuaded by his own judgment, Vario immediately cites as support for this “most certain argument” Willaert’s “Quid non ebriatis”—and “many madrigals by Porta, Rore, Gabrieli, and many, many others will not be far away” from Willaert.775 Artusi has been steadily working up to this point, the crux of his first discourse, the theoretical rationale of the madrigalists’ chromaticism and practical solution to rid modern music of its distemperament: Aristoxenean equal-temperament; Example Thirteen must be equal tempered.776 Just as d’Avella slowly worked through the extended Guidonian gamut and the neo-Boethian measurements and judgments of musical intervals en route to Gesualdo’s Tenebrae, Artusi has worked towards Willaert’s notoriously perplexing chromatic chanson. But we Neapolitan-Roman Gesualdians, who interacted with and descended from the Ferrarese courts of Willaert and Rore, can no longer sit patiently still and as brainwashed as Luca, eaves dropping into this dialogue. Equipped with a strategic supply of ensweetened modern tritones from a corpus examination of the seconda prattica (and even the

775 Ibid. Li pratici più Moderni non conoscono differenza alcuna de Tuoni, nè di Semituoni; ma tutti dividono con #, et b molli, senza haver di loro altra considerazione, che haver li rincontri delle Consonanze imperfette per fare quegli effetti, che al loro capricio sodisfano, et molti altri particolari intorno a’ quali ne ragionaremos: vado anco pensando, che loro stessi non conoscano qual sia quella spetie d’ Harmonia, che si Canti, e Suoni; se bene si può iudicar, che habbino opinione di seguitare Aristosseno, che diuidea il Tuono apunto in due parti eguali: Argomento certissimo ve ne darà quella Cantilena fatta à due voci di Maestro Adriano, da cui ne cavarette la verità di questo fatto: nè sarà molto lontano da questo molti Madrigali, del Porta di Cipriano, del Gabrielli, et altri tanti e tanti.

prima prattica too), we must here enter the dialogue and reduce Vario’s imperfections to their perfections.777

Example Thirteen: Confusion in the Chromatically Compact GPS

“But Vario,” we politely interject, “we do indeed sympathize with your troubles with the ‘confusingly confused complete confusion’ in the chromatically compact Greater Perfect System you attribute to the ‘more modern’ practitioners. In the near future in Naples, Cerone will similarly fear that the “chromaticists” unchecked use of such accidentals in mutating the modes could destroy God’s Creation and reinstate the confusion of the Chaos. If it is not too much trouble, we would love to know if your erudite master Artusi might, like Cerone, be plotting to thwart this chromatic confusion according to post-Tridentine precepts to restore unity from confusion? Moreover, we grant that some chromatic madrigalists have indeed followed the opinion of Aristoxenus. In Naples, Orso also advocated for the equal-tempered division of the whole-tone. But neither Orso’s notational practice nor his theory fit the chromatically compact Greater Perfect System you have described; and, these madrigals of Orso went entirely unrecognized by his peers and successors. Even he himself predominantly composed with an

777 The most recent consideration of this perennial work is Roger Wibberley’s most learned “Quid non ebriatas dissignat? Willaert’s Didactic Demonstration of Syntonic Tuning,” MTO 10/1 (February 2004). As his title suggests, Artusi’s Aristoxenean temperament was mistaken for this work.
unequally tempered ensweetened modern tritone and its practical notation. What is an ensweetened modern tritone, you ask? Although it surely also a favorite among the “more modern” practitioners here in Ferrara, you might take a trip down to Naples in another ten years to hear this amazing interval in the *Tenebrae* that Gesualdo may have at least partially begun to conceive here. In the interim, however, we happen to conveniently have with us now a study *partitura* of the third book of madrigals by Monteverdi, from whom we understand we will hear more “more modern” madrigals in a concert here in Ferrara soon. In particular, I should like to bring your attention to the very last madrigal in this book, a setting of Celiano’s *Rimante in pace* in two-parts. The sorrowful and gloomy text is on the *partenza* and *lume* topics, on which Neapolitans commonly use this modern interval to express pains of death from separation of lovers. As you can see, Tirsi sighs and begs Phyllis not to leave him, rather “stay in peace.” The doomed to be exiled Phyllis answers that if she stays, then she goes; thus the law, destiny, and fortune prescribe. As she turns her eyes from the stars, she pierces Tirsi’s heart with arrows. Struck, Tirsi’s face turns deathly and he ponders how he will live on without his sun. It is this part of the madrigal that we would like to call your attention to.”

“*Rimanti in pace*” a la dolente e bella Fillida, Tirsi sospirando disse. “Rimanti, io me ne vo; tal mi prescrisse legge, empio fato, aspra sorte e rubella.” Ed ella ora da l’una e l’altra stella stillando amaro umore, i lumi affisse ne i lumi del suo Tirsi e gli trafisse il cor di pietosissime quadrella.

Ond’ei, di morte la sua faccia impressa, disse: “Ah, come n’andrò senza il mio sole, di martir in martir, di doglie in doglie?” Ed ella, da singhiozzi e pianti oppressa, fievolmente formò queste parole: “Deh, cara anima mia, chi mi ti toglie?”

“Stay here in peace,” says Tirsi to the beautiful and sorrowful Phyllis in a sigh. “Stay, I shall go; thus the law, impious destiny and cruel and bitter fortune prescribe.” And she, from one and then another star distilling bitter humour, fixes her shining eyes on those of her Tirsi, and transfixes his heart with most piteous arrows.

With death imprinted on his face, he says: “Ah, without my sun I shall go from anguish to anguish, from sorrow to sorrow.” And she, between sobs and laments, weakly frames these words: “Ah, my dear heart, who shall separate you from me?”

trans. Ivan Moody
Turning to Example Fourteen (A), Vario and Luca see that Monteverdi has here set the same A-flat under question to the word “morte;” by sustaining it in the bass for four breves, he “imprinted” [impressa] the pitch on Tirsi’s face and in our ears. They learn that Monteverdi ostensibly never before used this pitch, but overwhelmingly stayed within the two flats and three sharps compass that Luca spoke about and Vario invoked to break the modern practitioners’ circle. By positioning this madrigal at the very end of the book, Monteverdi seems to have followed the practice of saving “chromatic” madrigals that exceed that compass for the very end (although he did not identify it as such, in the manner of the Ferrarese chromaticists Fiesco and Agostino). Moreover, Monteverdi seems to have followed the same chromatic practice as Rore, whose renowned setting of Petrarch’s contemplation of the death of Laura, Mia benigna fortuna, we, like Galilei, always keep handy in partitura; see Example Fourteen (B).778 “Now,” we explain to Vario and Luca, “these A-flats make Monteverdi, according to your characterizations, as ‘judicious’ a composer as Rore, on account of his ‘accommodating’ the text. According to your rationale, Monteverdi has chromatically particularized the common A and chromatically compacted the Greater Perfect System by dividing the whole-tones D E and G A. Therefore, he, like Rore, must be an Aristoxenean. Of course, Monteverdi could also be Ptolemaic, wanting the A-flat C major third to be justly sung and not as sharp as an equal-tempered major third. But he, like Rore, being one of the “more modern” practitioners, is of neither ancient musical theoretical sect; for, being a modernist, he has here employed the ensweetened modern tritone that the ancients ‘could have used.’ But to express the modern tritone in your classicized discourse, Monteverdi and Rore have here taken the tritone formed between the chromatically particular E-flat and the common A, as the tritone expresses the pains of ‘morte.’ But they deliberately

selected this particular tritone for these particularly painful ‘morti’ on account of its ‘ensweetening,’ the perfect fourth E-flat A-flat. Now, the chromatically particular A-flat, non-existent on the common keyboard as Luca pointed out, is, in fact, substituted for by the common keyboard’s chromatically particular G-sharp—the very G-sharp that Vario found ‘worse.’ From this modernist perspective, the sharps and flats on your chromatically compact Greater Perfect System do indeed equal one another; but they are not Aristoxenean. Why not consider these madrigals and acknowledge this modern practice at this point of your treatise, in lieu of Willaert’s extremely experimental and exceptional ‘Quid non ebriatis?’ After all, you mentioned thinking natural intervals (such as the A-flat E-flat perfect fifth) versus singing and hearing accidental ones (such as the G-sharp E-flat diminished sixth), but have not actually cited this dichotomy in practice. If you do not do this at this point, everything else you might subsequently say about the “more modern” practitioners’ chromaticism and its place within the modal system runs the risk of being imperfect. Of course, if, having acknowledged this modern practice’s possibility at this point, then you could still go on to condemn it as an imperfection and continue proposing Aristoxenean temperament as the means to reduce it to its perfections.”

Example Fourteen (A): Monteverdi’s *Ond’ei di morte*
Example Fourteen (B): Rore’s *Mia Benigna Fortuna*

“Moreover,” we continue, tackling Vario’s equal-tempering of the confusingly confused complete confusion in the chromatically compact Greater Perfect System, “a more correct ancient representation of Rore’s and Monteverdi’s modern chromatic gamut would correlate the Greater Perfect System to the common keyboard (as Luca asked), substituting G-sharp for A-flat and E-flat for D-sharp, at the very least.” Vario should have done this in the manner of Example Fifteen, taken from Zaccaria Tevo’s *Il musico testore*, a late seventeenth-century treatise that
interests us not only for its engagements with Artusi, but its Franciscan foundations. In fact, Tevo had copied Artusi’s Example Twelve diagram of common and particular corde; then, without an explicit rebuttal of Artusi’s subsequent equal tempering of the chromatically compact Greater Perfect System, simply placed a mean-tonal Greater Perfect System in its stead. Tevo terms this the “Participated [i.e. tempered] and Mixed System of Music,” it is necessary because modern singing is “mixed” (as Artusi would agree). He explicitly states that the “black key between G and A serves as G-sharp and as A-flat, and likewise for the others.” He takes the trouble to correlate the tempered and mixed Greater Perfect System to the keyboard for “maggior intelligenza del nostro Musico Testore.” Turning to the Greater Perfect System diagram first, we may first see that the black keys in between G and A, C and D, and D and E indeed have both flats and sharps—but, curiously not the whole-tones F G and A B. The total mean-tonal chromatic gamut then consists of flats up to D and sharps up to D, corresponding to the most common transgressions of the three sharps and two flats compass. What is striking about the black-keys in between G and A and D and E is that Tevo terms them “modern”—and not any others. F-sharp and C-sharp, it will be recalled from Vario’s objections, exist in the chromatic Greater Perfect System, but not G-sharp and D-sharp, nevertheless A-flat and E-flat. Yet he implicitly understands these as chromatic (in the sense of dividing the whole-tone), as, unlike

779 Zaccaria Tevo, Il musico testore (Venezia: Antonio Bortoli, 1706): 76-77. Although some of d’Avella’s subsequent Franciscan followers seem to have acknowledged his work, Tevo appears to be an exception.

780 Ibid., 66.

781 Ibid., 75. Essendosi dimostrato li Sistemi de Greci, e di Guido, è il dovere anche mostrare il Sistema della Musica Participata, e Mista...vogliano, che il cantar moderno sii [sic] misto. Tevo then cites Bontempī’s Istoria Musica for the original diagram.

782 Ibid. Il tasto nero tra il G & A, al G serve per diesis, & all’A per b moole, e così degli altri. However, so far as I have found, there is no indication of the out-of-tune mean-tonal practice in Tevo’s treatise in actual musical citations and examples.

783 Ibid.

784 The designation “modern” is, moreover, much easier to work with than “metabolic.” However, “modern” only refers to the pitches and not changes in mode and tone; hence, it would be inadequate for Doni and Kircher.
Artusi, he renames the “particularly” diatonic pitches “diatonic and chromatic,” on account of the surrounding divisions (note, however, that for some unknown reason, that G remained only diatonic). In principle, however, I suspect the C-sharp key could also be “moderno” when interchanged with D-flat. Tevo’s occasional slight inconsistencies aside, this is the modern Greater Perfect System Vario should have presented before equal-tempering it.

Example Fifteen: Tevo’s Participated and Mixed System of Music
But Luca and Vario could not hear our Neapolitan-Roman pleadings. They then read through the Spataro correspondence on ‘Quid non ebriatis,’ arguing against Spataro that it must be equal-tempered, and take a highly abstruse theoretical turn without any further “more modern” musical examples: Next, they argue for Aristoxenean equal temperament on the basis of the tuning imperfections that arise when the Ptolemaic or mixture of the Ptolemaic and Aristoxenean (i.e.: mean-tone tempered) Greater Perfect System should be transposed.³⁸⁵ Some of this abstruse discussion keeps our ears attentive; for, it will be recalled that d’Avella did not transpose the Greater Perfect System into his modernized Platonic and Aristotelian gamuts (he made a clean, if unspoken, break) and Kircher’s and Doni’s metabolic theory regarded accidentals as potential transpositions of final and octave species. Indeed, Luca takes a similar step as he “remembers” to tell Luca that, in his opinion, the “force of these round-b signs seems such that they do not only change one consonance into another, but they also remove a whole entire system from its natural being,” which cannot be done if the whole-tones and semitones are unequal.³⁸⁶ Thereafter, Artusi at last explicitly condemns mean-tone temperament as an “imperfection,” on account of the unequal semitones that prohibit the unfettered transposition of the Greater Perfect System and modern music—but he rejects the equal tempering of keyboards on account of the “unusual harmony” that then sounds.³⁸⁷ However, save for the proportional underpinnings of this part of the discourse, we already excerpted the key transpositional “imperfections” discussed here when we envisioned Artusi present at Crescentio’s publica

³⁸⁵ Artusi 1600, 25v.
³⁸⁶ Ibid. Apunto mi soviene di dirvi, che mi pare che tanta sia la forza di queste Zifre, che non solo mutano una Consonanza in l’altra, dico di b rotondi, ma ancora rimovono tutto un Sistema intiero dal suo natural essere.
³⁸⁷ Ibid., 27r-v. He does so in the reverse order from here summarized: Ma se si potesse ridurre il Clavacembalo alla temperatura de gli Tuoni eguali, et li Semitoni similmente eguali; sentiresti una insolita Harmonia... La Imperfettione mò che nel Clavacembalo, et Organo io v ho scoperto, non può nascere da altro, che dalla inegualità de’ Semitoni.
forma. Just as we needed to place a Monteverdi madrigal with the ensweetened modern tritone before the Willaert crux of the discourse, we need also place a Monteverdian equivalent to Neapolitan *publica forma* afterwards. If so done, Artusi’s Aristoxenean argument would again still hold; but, without it, his musical representation of the modern musicians’ transpositional practice remains wanting and too abstract. As these proportional demonstrations, defenses of Aristoxenus, and a rehearsal of the Vicentino-Lusitano controversy (mentioning Vicentino’s ensweetening process),\(^788\) constitute the remainder of Artusi’s first discourse, we may proceed on to the second discourse, where we find a second concordance for the ensweetened modern tritone.

Taking our seat in Antonio Goretti’s house with Luca, Vario, Luzzaschi, and Fiorini, we are ready to re-hear one of the most infamous of all concerts. The program is all but memorized and the post-concert discussion, we already know by heart. Nevertheless, a couple things immediately stick out in Artusi’s *Ragionamento Secondo*. First, Vario judges the Monteverdi excerpts as “chimerical”—the very term d’Avella and his fellow “disciples of the ancients” used to describe Gesualdo’s ensweetened modern tritone. But, again, there are no such intervals in Luca’s chosen excerpts; and Vario, unlike d’Avella, intends the chimera to be a negative judgment: “It would please me much more if I saw that these passages were founded on some reason capable of appeasing the intellect. Castles in the air and chimeras founded on the beach do not please me. These novelties are worthy of censorship, not praise.”\(^789\) Second, the modern musicians, according to Luca, all call the *Cruda Amarilli* excerpt (and its like) “grace”—that

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\(^788\) *Ibid.*, 38r.

\(^789\) *Ibid.*, 39v. *Ma molto più mi piacerebbe s’io vedessi che questi Passaggi fossero fondati sopra di qualche ragione che acquetare potesse, lo intelletto; ma per Castelli in Aria, chimere fondate sopra l’Arena non mi piacciono, sono degne di biasimo queste novità, non di lode.* (c.f. 43r and 48r and Artusi 1603, 44, for the continued use of the term “chimera”).
elusively defined catchword we found in d’Avella’s Regole—and an “accented melody.”

Most importantly, Luca next reiterates the Aristoxenean prohibition of musical instruments in formulating the laws of harmony, for “instruments teach the false.” This reiteration is critical, for it occurs among the discussion of Monteverdi’s madrigals, which do not exhibit out-of-tune instrumental accidentals. Luca only depicts the modern musicians with deceived senses “fatiguing day and night with their instruments to hear the effect that they make in such passages [as Monteverdi’s fifth book].” Finally, the musicians’ justification of having parts individually concord with the tenor at the expense of the other parts strikes us, like Vario, as aesthetically unsound—if we were to agree with Cerone’s solution to composing new music when there is nothing new under the sun (unite the old materials in new ways, but not in an “unusual disjunction”). But as Luca and Vario begin to debate the open sevenths (rehearsing the mathematical proportions to provide the possible means to fill in this interval), try once more to reduce the imperfections of modern music to the Greater Perfect System and its perfections (this time continuing beyond isolated accidentals to build the diatonic octave species and modes upon it), compare the Ptolemaic, Euclidean, and (Artusi’s favorite) Aristoxenean modal systems, we must patiently wait until they return to modern music and the non-observance of the modes. We keep are ears open for a discussion of “modern modality,” not expecting its “ensweetening,” but there is none forthcoming. The subsequent confusion over the multiple terminologies for modal “mixtures,” “regularities,” and the like are all familiar, as are the twelve

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790 Ibid., 41r. Tutto questo s’addimanda gratia, & è un modulare accentato.
791 Ibid., 42r. Si conosce che il senso è ingannato; et à queseto attendono alla gagliarda questi Compositori, à nuovi Inventori; le bastardi sodisfare il senso, che perciò il giorno et la notte s’affaticano intorno a gl’instrumenti per sentire lo effetto che fanno, così fatti Passaggi; et li meschini non s’accorrono, che gl’instrumenti le dicono il falso...
792 Ibid., 43r. Osservano questi Musici, che quella parte, che fa la dissonanza con la più grave, habbi corrispondenza Harmonica col Tenore, di maniera che accorda lei, con tutte l’altri parti; e’l più grave accorda lui ancora con tutte l’altri; & così fanno una misura à lor modo.
793 Ibid., 59v.
modes of modern music, their non-standardized medial cadences, and, to conclude the discourse, Vario’s position that every song is indeed mixed with authentic and plagal registrations alternating among the parts. But it is the way that this last registral aspect of modern modality is presented that catches our attention; for Vario, having never cited any modern music to endorse his positions on the other modal aspects, all of a sudden invokes a motet by a composer otherwise seemingly peripheral to the prima vs. seconda prattica disputes. It is Costanza Porta, whose name was dropped on occasion in the first discourse.

In Artusi’s hands, Porta was placed in a rather peculiar and awkward, if not unsettling position in the Prima Parte delle Imperfettioni: He has the last word in this diatribe—whether or not he wanted it. Artusi tacked on Porta’s four-part motet “Vobis datum est” in its part-book entirety onto the final pages of the second discourse, lending this motet equal stature (or, at least visual stature) to Willaert’s “Quid non ebriatis?” Yet unlike the Willaert reprinting and all the other musical snippets from Rore, Gabrieli, and Monteverdi, Artusi here left the text underlaid in place. For all this, Artusi only wanted us to observe the modal mixture of the authentic and plagal registrations and an extremely arcane clef game that allows the singers to switch from C to A modes when performed right-side-up and upside-down. It is an unconvincing conclusion to such a substantial treatise and its polemical strategy was entirely unsuccessful: Not only have present-day commentators ignored Porta’s place while prizing Willaert’s and Rore’s in this treatise, even the Monteverdi brothers and L’Ottuso did so as well. But for some reason, Vario seems to have had this motet in his pocket at Goretti’s house and thought it was authoritative.

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794 Ibid., 65v et passim.
795 On a subtle note, it is extremely odd that only Porta—and not one other composer—is entered under “Lode” (praise) in the table of contents to the Imperfettioni.
796 Contrast Artusi 1600, 70v-71r to 21r-v.
We, of course, armed with a study supply of ensweetened modern tritones, have another Porta score up our sleeve.

Porta is not as far removed from our purposes as we might think and, no matter how odd and unpersuasive Artusi’s invocation of him might be, we must be indebted to Artusi for leading us to re-examine Porta’s oeuvre in light of the Neapolitan, Roman, and Ferrarese sources. Indeed, Porta and Gesualdo at least once met during the latter’s travels of 1594. Like d’Avella, Porta was a Franciscan. He also wrote a treatise on music. For all these counts, Porta may prove to be a more central figure than hitherto supposed. A survey of his works confirms this suspicion; for one of his madrigals—unlike the motet “Vobis datum est”—stands to not only further undo Artusi’s Aristoxenean Imperfettioni, but also greatly problematize the theories of tuning by Artusi’s direct predecessors and inspirations. The madrignal in question appears in the second of Porta’s five books (printed in 1569, while Porta’s madrigals were printed from 1555-1604). It is not especially marked by being placed directly at the end of the book, in the manner of others’ “chromatic” madrigals; rather, interwoven as number seventeen. But the madrigal’s poem, Mentre nel tristo petto, seen below, marks it on account of its extraordinary “macabre” mood (as Porta’s editor Ciro Cisilino aptly described it) and, most unfortunately, as yet unknown authorship and context. Its overtones, if not expressly spiritual, fittingly continue our study of the madrigalistic setting of the Passion. A Hebrew mother, trying to exorcise the enraged spirits of wrath, hunger, and pity in her son’s chest, calls for him to return the blood she gave him

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799 In I-Bc. Trattato di Contrappunto, ossia Instruzioni di Contrappunto date dal P. Costanzo Porta al P. Tomaso Gratiano da Bagnacavallo, B.140. The manuscript is Porta’s autograph.
through her milk and the body she created for him. Sharing in his guilt, she—“breaking every law of nature”—will bury herself alongside him.

| **Mentre nel tristo petto infuriato** | While in the enraged and sickly chest  |
| **L’ira, la fame e la pietà combatte** | wrath, hunger, and pity fought,  |
| **Dice la madre Hebra: Figlio mal nato,** | The Hebrew mother said: “Oh my wrongly born son,  |
| **Rendimi il sangue onde prendest’ il latte;** | bring me the blood from where you drank my milk;  |
| **Ritorna il corpo a chi t’ha generato:** | return your body to she who created you;  |
| **E rendimi le membra che t’ho fatte.** | and bring me the limbs which I made for you.  |
| **Che, rompend’ ogni legge di natura,** | Then, breaking every law of nature,  |
| **Darò col corpo al corpo sepoltura.** | I will bury my body next to yours.  |

It is this verse, “rompend’ ogni legge di natura,” that immediately catches our musical theoretical attention. Of course, the laws of nature in question in this poem are entirely ethical: A mother, who ought never have to bury her son in her lifetime, ought certainly never have to prematurely bury herself next to her son on account of his wickedness—whence the extraordinarily melancholic, if not downright repulsive character of the poem. However, Porta’s text-setting will have to match this character by likewise “breaking every law of nature” in renaissance musical theory’s prescriptions for practice, as though he was musically burying “Judas mercator,” as set by Gesualdo. As Cisilino describes the text-setting, Porta here rightly breaks every law of nature with a turn [un giro] so extraordinary in its modulations, ranging from E-flat to E major, moving to A-flat and B-major on the final couplet, and cadencing on E major. For Cisilino, this was “una vera novità negli schemi armonici del Porta” and perhaps evocative of those of Michiel Varoto (a nowadays all but entirely unknown Novarese composer). He,

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801 Even if the poem is currently anonymous, one is certainly anxious to investigate its ethical and spiritual contexts for Porta (and, from there, perhaps bridge out to Franciscan positions on such a topic).
contra to Artusi’s rules, assigned the mode of this madrigal to E on the basis of the final alone.802

However, certainly we may find more broken natural laws; and it is these that we must pose to Vario. Just as we strategically substituted Monteverdi’s “Ond’ei di morte” for Willaert’s “Quid non ebriatis,” we must now interject again and substitute Porta’s “Mentre nel tristo petto” for Porta’s “Vobis datum est.” The setting of this verse appears in Example Sixteen.

*Example Sixteen*: Porta’s “Mentre nel tristo petto”

Vario and Luca might first see that Porta here cadences on G with a raised leading-tone, implicating the confinalis of an apparent C Aeolian, before cadencing on the “final” E Ionian. The modal cadences are therefore grossly imperfect; the perfect modal registration, moreover, non-existent. In Example Sixteen alone, the canto, alto, quinto, and basso all seem plagal; the tenor authentic. These alone are reason to remove Porta from his prime *prima prattica* position in Artusi’s treatise. But Porta additionally sets the ensweetened modern tritone on “*legge di natura,*” the three words overlapped. Surely he recognized that placing an A-flat tuned as G-

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802 Ibid.
sharp against an E-flat would “break all the laws of nature” in this gruesome burial. Let us next see if and how he handled this interval in his treatise.

Porta’s treatise has the same common recognition of the two flats and three sharps compass. As seen in Example Seventeen, however, he acknowledges the possibility of flats beyond E-flat. He writes: “The soft-b accidental is placed on e la mi; and, it is also placed outside of e la mi, through chromaticism, however. It is always more accidental and not natural.” His first description of these flats as “placed through chromaticism” provides another concordance to the practitioners who termed madrigals that exceed the E-flat to G-sharp limits as “chromatic.” His second description of these flats as “not natural” is precisely what we were hoping for, vis-a-vis “Mentre nel tristo petto.” But he does not, as we equally hoped, continue to go into the tuning reasons for this artificiality. Porta, primarily a practitioner, abstained from mathematically precise tuning indications; he, like Nanino, simply left the E-flat A-flat interval out, pedagogically passing its possible use down orally. He does not say that “A-flat breaks every law of nature when placed with E-flat.” Instead, he continues to say “a soft-b accidental never follows after a #.”

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804 Porta, *Trattato di Contrapunto*, 2v.
Example Seventeen: Porta’s Treatise on the “Unnatural” Flat Accidentals

But we are not the only theorists who, on behalf of the modern practitioners, had Porta’s “Mentre nel tristo petto” kept up our sleeves, waiting for such an opportune moment to interrupt Artusi’s dialogue. In fact, Vincenzo Galilei also had this madrigal up his sleeve, presumably for his dissenting disputes with his teacher Zarlino over the proper ancient tuning of modern vocal music—the very precedents upon which Artusi’s Aristoxenean radicalities rest. This dispute is notorious and as tried as Artusi’s treatises; yet, for our present purposes, it suffices to essentialize it as all boiling down to siding with either with Zarlino’s position that modern vocal music’s tuning imitates Nature or Galilei’s position that it imitates Art.805 For Zarlino, Ptolemy’s justly intoned syntonic diatonic tuning was this Nature; for Galilei, the keyboard, a mixture of that syntonic diatonic tuning with Aristoxenean temperament, was this Art. We have already sufficiently encountered Zarlino’s idealist position and its problems with respect to Gesualdo’s violation of Beccatelli’s “Holy Cross of Music Theory.” He simply could not allow for a

805 I here cite only the most recent study of this dispute: Randall Goldberg, “Where nature and art adjoin: investigations into the Zarlino-Galilei dispute, including an annotated translation of Vincenzo Galilei’s Discorso intorno all’opere di messer Gioseffo Zarlino,” Ph.D diss. (Indiana University, 2011).
musical composition that “inclined” against God, Nature, and the Good, as manifested by Ptolemy’s syntonic diatonic tuning. Artusi dutifully rehearsed this in the first discourse of his Imperfettioni, that the sytonic diatonic imitated nature best and that, contra Galilei, we ought not seek in instruments “la natura della cosa Harmonica.”

In principle, Galilei could and should have pulled Porta’s “Mentre nel tristo petto” out of his sleeve and placed it on Zarlino’s table as proof that modern music was, at the very least, conceived according to the tuning and temperament of artificial musical instruments—which had the power to not only amend Nature, but also “break every law of nature.” To be sure, Porta had an implicit recognition that the A-flat major triad breaks “every law of nature”—above all other possible triads of his time, which, according to Zarlino, had to have been a product of nature; Porta could have been as key a rebuttal witness for Galilei against Zarlino as he was for us against Artusi.  

Galilei’s study score of Porta’s “che, rompend’ ogni legge de natura” appears in Example Eighteen.

Example Eighteen: Galilei’s Partitura of Porta’s “Mentre nel tristo petto”

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806  Artusi 1600, 7r-v.
807  This implicit understanding of naturalistic music theory by a practitioner notably finds a Neapolitan concordance in Alessandro di Costanzo’s “Come si m’acciendet, tutto ghiaccio sete?” Costanzo sets A-flat on “amor fuor di natura.” This nowadays most obscure book (only the basso part survives, digitalized in I-Bc) was in fact printed twice (Napoli: Sottile, 1604; Nucci, 1616). It may be associated with the Gesualdo school on account of the inclusion of madrigals by Nenna, Scipione Dentice, and Stella. Incidentally, Zarlino also set this poem, without breaking any tuning laws of nature, of course.
808  In I-f. MS. Gal. 9 fol 1-17r, #17.
So why did Galilei not play this card, as we do now? Even if the text is not underlaid for his contrapuntal study, surely he scored Porta’s madrigal (and the complete second book, to boot) from the underlaid prints. He was therefore surely familiar with the text, at one point. Is it possible he simply later forgot it, even during the height of his dispute with Zarlino? What if not really significant to him? (There is not an “x” marking the passage, as appears elsewhere in the manuscript). Or is there something more subversive at play here? I suspect it is the latter; for although Galilei argued for the mean-tonal instrumental tuning of modern unaccompanied vocal music, he never once, in the manner of Crescentio, argued that the voice would sing the out-of-tune intervals, wolf fifth or otherwise. To play this card, then, would be at odds with his own theory. Moreover, if Porta’s madrigal was sung by Zarlino’s students, the unaccompanied justly intoned voices would have likely obeyed all the laws of nature and sustained the long A-flat major triad in tune. Blunting the E-flat and A-flat according to a split-keyed instrument would not suffice to support Porta’s text-setting. Not only would this have left Galilei with a card against his own theory; he would have had to justify Porta’s (and the modern practitioners’) idealization that the A-flat major triad was out-of-tune when sung by unaccompanied voices—an idealization that far transcends Zarlino’s own (already overly idealistic) theory of tuning.

Having found an extraordinary example for the Nature vs. Art dispute, Galilei ended up in a jam, unable to use it. Ultimately, Zarlino and Galilei not only did not write about the modern composers intending to sing the mean-tone wolf to express the text, they (or, at least the latter, we may now surely conclude) even withheld their examples of that intent! Instead, Galilei continued advocating the instrumental bases of modern vocal music and Zarlino, as seen in Example Nineteen, continued going about the expansion of the Ptolemaic syntonic diatomic

809 Witness Zarlino’s Sopplementi, in which he berates those (by which he means Galilei alone) who came to believe that the voice sings according to the keyboard (130). But Galilei was far from alone; and Zarlino is perhaps deliberately misrepresenting many practitioners.
tuned Greater Perfect System to accommodate modern music (contrast Artusi’s Aristoxenean temperament of it above), refusing to believe that any contemporary composers were trying to break it.⁸¹⁰

Example Nineteen: Zarlino’s “Maximally Artificial Natural Greater Perfect System”

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⁸¹⁰ Ibid., 155. This expanded Greater Perfect System, as a cursory scan of the pitches and accidentals in the first column will reveal, is in fact based upon the two-flat (Bb and Eb) and three-sharp (F, C, G) keyboard; to these accidentals, Zarlino has added *chorde* with the commas enumerated in the second column and named in the third column to “acquire more consonances.” The result is a “maximally artificial Natural Greater Perfect System.” It is “artificial” in that it appears on the split-keyboard on the facing page (156). The curious reader will find that Porta’s “Mentre nel tristo petto” still breaks this artificial natural law and that Zarlino would have had to go beyond the maximum.
This unfortunate precedence these two key theorists set, severely at odds with the modern practitioners, subsequently permeated throughout Zarlino and Galilei’s followers, such as Artusi and Cerone. Again, we must be grateful that d’Avella was operating outside of this paradigm, even if we are somewhat disappointed he did not (and could not) engage these otherwise highly influential treatises. With but very modest natural and artificial aesthetic purviews (recall his apparently original classification of the artificial division of the natural whole-tone), d’Avella was blindly free from the tuning aesthetics of Zarlino, Galilei, and Artusi.

Following Porta’s “Mentre nel tristo petto” and the problems it caused for Artusi, Galilei, and Zarlino alike, we have one more related and supplemental card up our sleeve for Vario. It comes from the Spataro correspondence from which he derived his discussion of Willaert’s “Quid non ebriatis.” In a letter to Aaron concerning a model composition (1532), Spataro writes “You will find a D# in my composition, indicating a major third with B, which is found in very few monochords.” Some might say it should not be used if it is not found on the monochord. My answer is that art should imitate nature and not vice versa. If it can’t be played, it is the fault of the imperfect instrument, not of art. A lute could play it, but the voice would be better; such divisions of intervals are more familiar to skilled singers.” Clearly, Spataro adopts the later Zarlinian standpoint and he would expect singers to obey the laws of nature as they sing Porta’s “che rompend’ ogni legge di natura.” Turning to the motet, “Ave gratia plena dei genitrix,” one finds the D-sharp on a B major triad cadencing to an E major triad on “dei genitrix.” Following the text, the D-sharp is clearly to be sung “naturally” by the justly intoned

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812 Ibid. (552, fn. 6). The editors’ footnote: “In his Compendioio, fo. E5’ of the second part, Aaron mentions the possibility of obtaining D# on the organ ‘mettendo un Tasto bianco sopra del nero, di quantità, o spatio d’un Coma, come si vede in alcuni Istromenti nella Italia.”
813 Ibid., 553.
human voice as D-sharp, and not “artificially” by the “natural” human voice bending to the keyboard’s E-flat. So far, all this letter has done is acknowledge and reject Porta’s position. But what we want to pose Vario is Spataro’s subsequent use of this motet outside of theoretical correspondence and inside the Church. In his commentary to this letter, Lowinsky cited Frank Tirro’s discovery that Spataro subsequently revised this motet for a choir book, in which he eliminated the D-sharps (as well as the C#’s and b minor triads). Lowinsky’s understanding of this particular removal is telling, in light of our Tridentine investigations of Gesualdo’s Judas mercator D-sharps: “Spataro makes a revealing confession. The daring harmonies that he introduces into a discussion of how the ancient chromatic genus can be used in modern polyphony have no place in a choir-book for Church services.” Thus, it is not enough to say that the voice can sing these accidentals and that the Aristoxenean temperament on the lute may be the most fitting compromise; though that may be, the accidentals still have to be prohibited from practice within the Church. Oddly, Artusi did not make that explicit in his Imperfettioni, nevertheless acknowledge that composers were “breaking the laws of nature.”

Artusi’s tuning and temperament troubles with modern music cast a dark shadow on the second part of the Imperfettioni. This well-studied and persistently pedantic lengthy correspondence between Artusi and L’Ottuso essentially boils down to the former’s argument on and on that the modern practitioners’ sevenths, diminished fourths, and descents after sharps and ascents after flats are not new affetti because they are not new concenti, as proved through mathematical demonstrations. Unfortunately, Artusi, on account of his Aristoxenean biases, was simply railing against the wrong (or at least, lesser theoretically egregious) intervals, flats and

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814 Ibid., 562. Lowinsky then cites Willaert as a precedence for Spataro’s restriction of such chromaticism. My reading understands Spataro’s D-sharp as “chromatic” in the practical sense cited above in conjunction with Kircher’s definition of practical enharmonicism. It is “chromatic” not in genus, but by virtue being outside the common two flats and three sharps keyboard norm.
sharps, and *affetti*—and it is probably far too coincidental and convenient (for Artusi, that is) that L’Ottuso went along with Artusi on these particular matters and provided him with rebuttals to respond to. First and foremost, they should have been debating the mean-tone wolf and related intervals, the substitutions of flats for sharps and sharps for flats, and their new *affetti* (as documented by d’Avella); then, the other issues would rightly come second. I see no need to rehearse this correspondence *ad nauseam*; but, let us exhibit how “off topic” they are and how they might have equally discussed the wolf, taking the correspondence on the seventh, for example. In light of d’Avella’s *Regole*, the discussion of this particular interval stands out more than it otherwise would, as the “*ensweetening*” [*raddolcire*] of the seventh in modern music, as advocated by L’Ottuso, is under attack from Artusi. Not only are they prioritizing the wrong interval(s), they are also talking about the wrong ensweetening(s). I moreover strategically select the correspondence on the seventh in preparation for the final Monteverdi musical example in my present discussion.

Artusi begins his rebuttal of the seventh in his first letter by showing that it does not have any mean proportionals. He tries to form a perfect fifth and a minor third in the minor seventh by means of the four mathematical progressions permitted by Boethius to partition [*tramezare*] an interval: 1. Arithmetic (9:7:5), 2. Geometric (9:√45:5), 3. Harmonic (9: 6³/7:5), and 4. Contra Harmonic (63:53:33).[^1] None of these formed a fifth between the final two terms and a third (minor or major) between the first two terms. Thus, a *concento* may not be made in the seventh;

[^1]: The careful reader will note something sophistic in Artusi’s present demonstration: The first three of these are minor sevenths, the last, a major seventh.
without *concento*, it can not be a *novo affetto*. It can, however, be a “*novo disconcento*,” a “*novo aria*,” a “*novo sollecitudine* [rousing] dell’udito,” and “in somma nova confusione.”

Artusi made this demonstration in response to L’Ottuso’s modernist position that the seventh may be made “*diversa,*” “*buona,*” and “*raddolcita,*” as encapsulated in the next letter in the *Imperfettioni*. There L’Ottuso agrees that the seventh is, at its essence, a dissonance; but it may accidentally acquire these three attributes through its accompaniment, which places an interval in between the seventh. Then L’Ottuso throws Artusi’s mathematical demonstration out the practical window: “Who does not know that if we take this interval simply and properly, it will not have its real and true demonstration?”

Instead of demonstration, the seventh made *diversa, buona,* and *raddolcita* has “accent,” “deception,” and indeed “dissonance,” which not only make “a good effect,” but also bring “great delight to the ear as a new thing.” Were the seventh substituted for by an octave, all this would be lost. For L’Ottuso, this argument was analogous to a poet applying a metaphor to a proposition. L’Ottuso then cites Marenzio’s sevenths for support. Artusi’s “examination” of this letter first strategically puts some words in L’Ottuso’s mouth, so as to fetch his mathematical proportions from the theoretical outdoors: Namely, the accompaniment of the seventh changes the extremes of the interval. He then sees the “circumlocution” of the diversity, goodness, and ensweetening that this change brought about.

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816 Artusi, 1603, 8.
817 Ibid., 16. *Al particolare poi che ella dice; che quella cosa che per se è tale in ogni luogo sarà sempre tale, il che avverrà sempre alla settima, la qual per se è dissonanza; à questo io rispondo esser vero, che se sarà sempre tale; ma però per accidente potrà bene essere diversa, non essendovi alcuna dissonanza per se, che per accidente non pissi farsi buona rispetto alli accompagnamenti, coi quali sarà fraposto, quello intervallo dissono.*
818 Ibid. *Et se bene la settima usata dal Signor etc tramezata...Chi no[n] sà, che se vogliamo pigliare questo intervallo semplicemente, et propriamente tolto, non havrà la sua reale, et vera demonstratione?*
819 Ibid. *Ma per il contrario come accento, et come inganno, over come dissonanza sì, ma raddolcita dallo accompagnamento delle altre parti; senza dubbio non solo farà buono effetto, ma come cosa nova sarà di maggior diletto all’udito, che non sarebbe stata l’ottava suposta; et perché elle ne desidera la demostracione; da ottimo Poeta accordi la metafora al proposito.*
as just a roundabout way of saying that the dissonant seventh becomes a consonance.820

Following some trash talk on humans mutating into horses and oxen, Artusi asks L’Ottuso, the shape-shifter of sevenths, the very question we wish he asked Porta: “Where might such secrets of nature be found?”821 Artusi then tediously reverses the logic: If the accompaniment changed the seventh’s extremes into consonance, might it then change consonance into dissonance?822 He reverses L’Ottuso’s poetic metaphor with a poorly worded one of his own: The octave is indeed “benissimo” when substituted for a seventh. This leads him into defining “metaphor,” and then “accidental,” as misused by L’Ottuso. But, for our purposes, the definition of “ensweetening” the seventh is now clear: The seventh is not “ensweetened” by turning it into an octave (as one might expect, were one to apply d’Avella’s definition of ensweetening the tritone); rather, it is “ensweetened” by accompanying it with intervening consonances, fifth and third.

That is a simple “ensweetening” process and it was worth rehearsing its rather slow going debate to make some simple points. L’Ottuso and Artusi should have been discussing ensweetening the modern tritone, now in a twofold manner: One, as described by d’Avella; the second, as described by L’Ottuso (form an A-flat major triad). The latter ensweetening, d’Avella did not acknowledge. However, Crescentio exhibited an implicit seconda prattica understanding of it with his juxtaposition of C and A-flat major triads in the publica forma. Moreover, d’Avella, unlike L’Ottuso, tried to provide mathematical reasoning for the ensweetening. Artusi should have demonstrated the mean proportionals for the wolf (albeit, he would have had to have

820 Ibid., 34. Et vuole che questa mutatione da gl’accompagnamenti sia causata, come quello che stima, che gl’accompagnamenti faccino mutare gl’estremi della settima, & mutandosi divenghi diversa, & di diversa buona, & di buona raddolcita; di modo che questa sua circonlocuzione di parole, non mi pare, che altro voglino dire; se non che la settima dissonante divenghi consonante.

821 Ibid. Signor Dottore dove si scuoprono cosi fatti secreti di natura; che gl’accompagnamenti habbino tanta forza, che se gl’estremi sono dissonanti, gli faccino diventare diversi, buoni, raddolciti, cioè consonanti?

822 Ibid., 35. Ma dicami l’Ottuso se gl’accompagnamenti hanno forza d’immutare gl’estremi dissonanti in consonanti; qua[n]do gl’estremi saranno consonanti, qual virtù, qual forza havranno all’hora quelli accompagnamenti[n]ti? muteranno forsi gli consonanti in dissonanti?
enumerated it in just-intonation). He simply was off-topic with his intervals, sharps, and flats on account of his a priori Aristoxenean biases.

Of course, Artusi did not live to hear the continued development of Monteverdi’s seconda prattica, nevertheless read of the imperfections of modern music in the Neapolitan south and revise and augment his treatises accordingly. But we, having trekked from 1630’s Naples to 1638 Rome, did not have to take too much of a diversion to 1639 Venice to hear what Artusi could not: Monteverdi’s last operas. There, we heard Monteverdi’s last seconda prattica manifesto. Having perhaps never finished his promised treatise and, perhaps having lacked all the while the theoretical discourse to codify his thoughts on tuning and temperament, Monteverdi, like Crescentio, wrote a publica forma on the ensweetened modern tritone through music. To conclude our supplemental examples in this chapter, let us notarize it for him; for he had been experimenting with Artusi’s dreaded distemperament for years on end. For his final stand against Artusi, Monteverdi selected Il Ritorno d’Ulisse in Patria and, in particular, Penelope’s reluctant recognition that her husband might not come back to her. As she hands Ulysses’ bow over to the suitors to compete to win her hand, her heart breaks: “Alas, what have I promised, much against my will? Ah, too much in discord with my feelings!” As seen in Example Twenty, Monteverdi’s setting of “tropo discordante” does not dissapoint. It is, in Neapolitan-Ferrarese seconda prattica discourse, “an ensweetened modern tritone seventh.” It is not a consonance, he retorts to Artusi. It is indeed a new affection, for the seventh is in fact a diminished octave. He mocks Artusi’s preferred ensweetening of the seventh into octave, falsely resolving the seventh upwards, while ensweetening the seventh with an E-flat above G-sharp. The enharmonically deficient sigh figure teaches Artusi the new lamenting affections of
Mazzocchi that were all the rage. Not only that, Monteverdi dramatized the striking of the ensweetened modern tritone seventh in Penelope’s heart with perfect contrapuntal preparation.

Example Twenty: Monteverdi’s Last *Publica Forma* Against Artusi

Lacking the historical insights of d’Avella and Kircher, modern analysts could but only understate Monteverdi’s accomplishment here. Chafe, the only one to rightly mark this passage, simply traces the descent into the mollis hexachords and an abrupt shift to the durus side:

“Monteverdi represents [Penelope’s] conflict by means of rapid motion through the circle of fifths from d through Bb, Eb, and Ab (in conjunction with the ease of the promise), dissonance on “ah! troppo discordante,” and a sudden wrench from g to E harmonies as she accuses the gods of putting words in her mouth.”

But, in actuality, Monteverdi here unleashed the affective powers of distemperament, crashing the mean-tone tempered harpsichord and equal-tempered lute in the continuo together to send sonic shockwaves to literally shatter Penelope’s heart. As seen in Example Twenty-One, d’Avella’s implicit circle of fifths, coupled with distemperments, embodies Penelope’s hearts. The equal-tempered pitches appear in capital letters, the mean-tone tempered ones in lower-case letters.

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Artusi’s imperfections about modern music would continue unperfected for centuries and, as such, Monteverdi’s *publica forma* would go unnoticed. Nevertheless, Artusi, like d’Avella, Kircher, and Doni enabled us to begin to perfect those imperfections.
Conclusion

For having written a treatise on *canto figurato* that appears to have been primarily conceived in defense of Gesualdo, d’Avella’s conclusion to this treatise is wholly unsuspected and contrived. He does not re-iterate that he preserved this practice “as a worthy thing;”? he does not blast the “ignoranti” one last time. Perhaps recognizing that he himself had jumped around in his writing, d’Avella merely tacked on one last rhetorical question to the paragraph that criticizes Orso (and Chapter 46 does uniquely indent each of its eclectic sections): “Now, on account of the variety of accidentals spoken of in this treatise (very necessary for music and which the Common Hand does not demonstrate), will it not be said that the said Common Hand is insufficient for learning *canto figurato*?”824 It is as though the whole treatise was designed to debunk the Guidonian Hand in favor of the Hand of Boethius that d’Avella’ knew he did not invent.

At this point, we have concluded our first read through and reassessment of d’Avella’s *Regole*. I have exhausted all of my supplemental historical evidence that Gesualdo was employing the mean-tone tempered wolf as a text-setting device. We have read through several new sources, followed their lead into the post-Tridentine and Marinist literature, while itching to foray into the renaissance anatomical, astronomical, and Franciscan literature, and re-read several historical theoretical oldies but goodies. Having laid these foundations, we may begin to develop new theories of Gesualdo’s chromaticism and critical readings of his music. We may start “twisting our mouths” and sharpening our scalpels for whatever body parts we might have to (re-)dissect next. If we have taken several steps towards resolving the age-old Gesualdo

824 D’Avella, 76. *Hora per tante varietà d’accidenti dette in questo trattato, (tanto necessarie per la musica, e che la Mano Comune non li dimostra) non si dovrà dire, che detta Mano Comune non si sufficiente per imparar canto figurato?*
Controversy started by Burney and started some new Gesualdo Controversies (the obscenity in “*Judas mercator*” would be a prime candidate), we have d’Avella to thank. Now, will it also not be said that the Hand of Brugis will be insufficient for helping us learn to sing Gesualdo’s *canto figurato* deliberately out-of-tune? But, will it not also be said that, if not for the publication of d’Avella’s manuscript neo-Boethian treatise, the sound of Gesualdo’s music in Naples would, as it stands now, have been irreparably lost?
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