CHAPTER 1

How We Got into Harmonic Tonality, and How to Get Out

Few topics in our discipline are more fraught, or more fundamental, than tonality. The term has been applied to diverse phenomena: from basic pitch relationships in music of myriad global traditions, to the energies created by the union of the subdominant and the dominant in the tonic triad, to listeners' psychological orientations toward statistically likely musical events.[1] Even within the domain of the Western "common practice," tonality coordinates such varied attributes as triads and seventh chords, major and minor scales, key-defining cadential formulas, and interactions between harmony and counterpoint.[2] Yet, though several scholars have catalogued tonality's defining characteristics, their lists rarely agree, and it is not always clear how these characteristics relate to each other. Need they all be present or only a few? Are they mutually dependent or separable? And why prioritize some attributes of eighteenth- and nineteenth-century Western tonal music but exclude others? Brian Hyer reminds us that much of this definitional slipperiness is a symptom of tonality's philosophical origins. When Alexandre Choron and François-Joseph Fétis coined the term in the early nineteenth century, their goal was historical periodization, not theoretical description.[3] As Hyer puts it, "tonality is an ideological as well as a theoretical construct."[4]

1. For the definitive catalogue of definitions of the term *tonality*, see Michael Beiche, "Tonalität," in *Handwörterbuch der Musikalischen Terminologie*, ed. Hans Heinrich Eggebrecht (Stuttgart: Verlag, 1992), 412–433.
2. Daniel Harrison has recently reconsidered the heritage of our common practice in *Pieces of Tradition: An Analysis of Contemporary Tonal Music* (New York: Oxford University Press, 2016). Two useful catalogs of tonal features can be found in Dmitri Tymoczko, *A Geometry of Music: Harmony and Counterpoint in the Extended Common Practice* (New York: Oxford University Press, 2011), 4; Joseph Straus, *Introduction to Post-Tonal Theory*, 3rd ed. (Upper Saddle River, NJ: Prentice Hall, 2005), 130.
3. Alexandre Choron and François Joseph Marie Fayolle, *Dictionnaire historique des musiciens ... Précédé d'un Sommaire de l'histoire de la musique*, 2 vols. (Paris: Valade, 1810), xxxix; François-Joseph Fétis, *Résumé philosophique de l'histoire de la musique* (Paris: H. Fournier, 1835), ccxx–ccxxi.
4. Brian Hyer, "Tonality," in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (Cambridge: Cambridge University Press, 2002), 747.

Given the haze surrounding the terminology, it is unsurprising that we have sought tonality's origins time and again, and that our studies have yielded varied and controversial results. Carl Dahlhaus is one of the most successful modern thinkers to undertake this project; Eric Chafe subsequently expanded some of Dahlhaus's most intriguing observations in an extensive study of Monteverdi.[5] More recently, emboldened by the pioneering work of Harold Powers,[6] historians of theory have plumbed the amorphous discourses surrounding pitch structure in the sixteenth and seventeenth centuries to trace connections between individual modes and keys.[7] And in the past few years Dmitri Tymoczko and Ian Quinn have called into question some of the basic assumptions that underlie our histories of tonality, encouraging new avenues of investigation.[8] These studies are built upon wildly different methodological and philosophical foundations: some address the history of theory while others trade in style change and compositional practice, some are unapologetically presentist while others are meticulously historicist, and all define tonality in different ways. Disagreements about tonality's ancestry have a robust history—as Thomas Christensen has recently chronicled, when Fétis drew a firm boundary between *tonalité ancienne* and *tonalité moderne*, he sparked a drawn-out battle among prominent nineteenth-century musicians and historians who sought the origins of tonality's appellative consonance in ever-earlier repertoires.[9] As today, these debates masqueraded as attempts to trace tonality's history, but they belied more fundamental disputes about what constitutes a tonal music in the first place.

This contentious disciplinary history makes one thing clear: tonality has many histories that must be considered independently. Tonality is woven from a motley array of threads: pitch structure, counterpoint, harmony, meter, rhythm, phrase structure, and form, but also music theory, instrument design, notation, acoustics, philosophy, and cognitive psychology. Each element is situated in several historically, geographically, and culturally specific loci. No one parameter developed in a single context, no subset of parameters collectively define tonality.

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5. Carl Dahlhaus, *Studies on the Origin of Harmonic Tonality*, trans., Robert O. Gjerdingen (Princeton, NJ: Princeton University Press, 1990); Eric Chafe, *Monteverdi's Tonal Language* (New York: Schirmer Books, 1992).

6. For instance, "Is Mode Real?" *Basler Jahrbuch für historische Musikpraxis* 16 (1992): 9–52; "Tonal Types and Modal Categories in Renaissance Polyphony," *Journal of the American Musicological Society* 34, no. 3 (1981): 428–470.

7. For example, Harold Powers, "From Psalmody to Tonality," in *Tonal Structures in Early Music*, ed. Cristle Collins Judd (New York: Garland, 1998), 275–340; Jessie Ann Owens, "Concepts of Pitch in English Music Theory, c. 1560–1640," in *Tonal Structures in Early Music*, ed. Cristle Collins Judd (New York: Garland, 1998), 183–246; Gregory Barnett, "The Meaning of Tuono: Tonality, Musical Style, and the Modes in Settecento Theory," in *Fiori Musicali: Liber Amicorum Alexander Silbiger*, ed. Claire Fontijn and Susan Parisi, Studies in Music (Sterling Heights, MI: Harmonie Park, 2010), 203–234.

8. Tymoczko, *A Geometry of Music*; Dmitri Tymoczko, *Tonality: An Owner's Manual* (forthcoming); Ian Quinn, "Tonal Harmony," in *The Oxford Handbook of Critical Concepts in Music Theory*, ed. Alexander Rehding and Steven Rings (New York: Oxford University Press, forthcoming).

9. Thomas Christensen, *Stories of Tonality in the Age of François-Joseph Fétis* (Chicago: University of Chicago Press, 2019), 68–90.

Most of these features are overdetermined and thus arise in several contexts for varied, often disparate reasons. Consequently, I believe we should narrow our focus to consider single panels in the tapestry of tonality and tug on the particular threads that combine to form one compelling figure. We won't understand tonality fully if we only gaze on the tapestry from a distance; instead, we're faced with the more daunting task of accounting for the journey of each and every thread. And it's possible that if we pull in the right places, the entire picture will unravel.

Accordingly, this book isolates one moment in tonality's history: it examines a modest repertoire of homophonic vernacular partsongs that straddled the turn of the seventeenth century, and considers how these partsongs exploit rhythm and meter to craft harmonic trajectories. In 1591, Italian composer Giovanni Giacomo Gastoldi published a book of *balletti*—light, homophonic secular songs in a dance-like idiom—that sparked a brief but intense vogue for vernacular homophony. Gastoldi's homophonic style spread like wildfire throughout Italy and was enthusiastically imported and imitated by English and German consumers for the next two decades. Composers of homophonic partsong engineered a particular kind of centricity that I argue is distinctively tonal: they strategically deployed dominant harmonies at regular periodicities and in combination with poetic, phrase structural, and formal cues, thereby creating expectation for tonic harmonies. Homophony itself created the conditions for these experiments. Spurred by an increasing demand for comprehensible texts, Gastoldi and his contemporaries developed rigid text-setting procedures that promoted both metrical regularity and consistent phrase rhythm. Together, parameters like text-setting, rhythmic consistency, metrical regularity, phrase structure, and form—all features that *regulate* pitch content—supported compositional frameworks where composers could establish trajectories from dominants to tonics at multiple scales.

In other words, this book argues for a model of tonality—and of tonality's history—that centers not pitch, but rhythm and meter. Metrically oriented harmonic trajectories encourage *tonal expectation*. And we can locate these trajectories in repertoires that we traditionally understand as "modal." For instance, in the A section of his partsong *Il prigioniero* (1594, no. 6), Gastoldi points from the dominant at the phrase's midpoint to the tonic at its conclusion with several signs.[10] The phrase appears as Example 1.1 🌑; I use arrows to show possible trajectories of expectation. Gastoldi establishes regular phrase rhythm, with two-measure lines that group into four- and eight-measure units.[11] He repeats the stanza's third line to create a symmetrical structure out of an asymmetrical poem; the abrupt "non mi far" in m. 6 interrupts the listener who might be satisfied by the completed honor/amor rhyme and instead directs her to the

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10. Throughout, I will identify partsongs with their first date of publication and their number in the collection; refer to the list of musical sources for more details.

11. I will refer to mensural note values with their mensural names (semibreve, minim, etc.) but larger mensural units as "measures," according to the barring in the figure. In most instances, I have barred examples according to the theoretical *tactus* (which, in the partsong repertoire, is usually the semibreve). The concept of *theoretical* tactus—the *tactus* implied by the mensuration sign—is drawn from Ruth I. DeFord, *Tactus, Mensuration, and Rhythm in Renaissance Music* (Cambridge: Cambridge University Press, 2015), 50–52.

Example 1.1 Gastoldi, *Il prigioniero* (1594, no. 6), A section. Lute part omitted.

end of the phrase. The opening measures embark on a melodic descent from $\hat{5}$ down to $\hat{2}$, which Gastoldi echoes (reharmonized) in mm. 5–6. The two dominant arrivals (mm. 4 and 6) orient us toward the tonic cadence that completes the melodic descent and concludes the rhyme. A suspension further marks the final cadence. Gastoldi immediately repeats this section, both clarifying its formal boundaries and enabling the listener to re-traverse now-familiar terrain, perhaps catching signs that she missed the first time, or perhaps attending to the broader landscape now that her immediate path is clear. This simple phrase creates abundant expectation for the final tonic; Gastoldi's toolbox includes metrical periodicity, poetic rhyme, surprise changes of phrase rhythm ("Non mi far!"), melodic goal-direction, cadential dissonance treatment, and formal repetition. Though he also uses some traditionally "modal" harmonies, they do not compromise the phrase's period-like form or its large-scale dominant–tonic trajectory.[12]

I am hardly the first person to suggest that tonality is not merely a pitch phenomenon. In 1930, Edward Dent remarked that "throughout the sixteenth century we shall find that the incipient sense of classical tonality is always most strongly to be felt in the music which is most vigorously accented. Form, rhythm, and tonality are in fact inseparably bound up with one another, and they ought to be studied as inseparable things."[13] More recently, Brian Hyer has called attention to the artificiality of the pitch/meter divorce in our broader discourse:

12. Period-like phrases are much older than this late sixteenth-century *canzonetta*. Leo Treitler identifies this common structure in medieval song in "Musical Syntax in the Middle Ages: Background to an Aesthetic Problem," *Perspectives of New Music* 4, no. 1 (1965): 75–85.

13. Edward J. Dent, "The Musical Form of the Madrigal," *Music & Letters* 11, no. 3 (1930): 232.

> Tonal theories have tended to concentrate on harmonies to the virtual exclusion of all other musical considerations. . . . Yet this separation of harmonic from other musical considerations is artificial. Meter in particular is crucial to the subordination of dissonant harmonies to consonant ones. . . . While most theorists concentrate on harmonic and sometimes melodic considerations, tonality is perhaps best conceptualized as a *tertium quid* in which melody, harmony, and meter all combine into a single musical nexus.[14]

In fact, theorists of tonality have long advocated the integration of melody, harmony, and meter. Though this aspect of their work has faded in our increasingly pitch-centric discourse, even Jean-Philippe Rameau and Fétis assigned meter and phrase structure a supporting role in the history and practice of tonality. Pondering Claudio Monteverdi's *Cruda Amarilli*, Fétis suggests that the unprepared dominant seventh chord, Monteverdi's primary innovation, precipitated a change in music's unfolding in time. Palestrina's music, Fétis argues, is characterized by "the incessant connection of phrases, and the absence, or at least the extreme rarity of final cadences."[15] By contrast, Monteverdi assembles his madrigal out of short homophonic phrases demarcated by cadences. Fétis emphasizes the modernity of this shift, writing, "the creation of modern tonality . . . had another result; namely, the formation of the regular rhythm of the periodic phrase, by the frequency of cadences."[16] The dominant seventh chord's goal direction and periodic phrase structure, for Fétis, went hand in hand.

This book argues at length that we have much to gain from broadening our understanding of tonality to incorporate music's motion in time, but for now two examples can demonstrate this point in brief. Edward Lowinsky opens his study of the "evolution" of tonality with its naissance: "the cadence," he argues, "is the cradle of tonality," and ground bass patterns are "the playground in which it grew strong and self-confident."[17] Lowinsky compares two similar ostinato patterns, the *passamezzo moderno* and the *Zefiro* (Example 1.2). The two bass lines begin identically, establishing G as the tonal center and moving to D at the midpoint of the phrase. The second half of each phrase restarts on G, but here, they part ways: the *passamezzo moderno* repeats its first half, increasing the harmonic rhythm to close not on D but on G. The Zefiro has the same destination, but detours to F♮ en route to its final cadence. But Lowinsky identifies a crucial difference between these two bass lines: the *passamezzo moderno* bass presents "harmonic progressions in a clear tonal major, whereas the related *Zefiro* . . . is a

14. Hyer, "Tonality," 735.
15. François-Joseph Fétis, *Traité complet de la théorie et de la pratique de l'harmonie (1844) / Complete Treatise on the Theory and Practice of Harmony*, trans., Peter M. Landey, Harmonologia: Studies in Music Theory (Hillsdale, NY: Pendragon, 2008), 165.
16. Ibid., 167. Cf. Fétis's similar comment in the *Résumé philosophique*: "sa lumineuse pensée conçut aussi la nécessité d'un rhythme régulier" (ccxxv). See Christensen, *Stories of Tonality*, 82. Joel Lester notes that Rameau's theory similarly lost its horizontal component in subsequent centuries: see "Rameau and Eighteenth-Century Harmonic Theory," in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (Cambridge: Cambridge University Press, 2002), 774.
17. Edward E. Lowinsky, *Tonality and Atonality in Sixteenth-Century Music* (Berkeley: University of California Press, 1961; reprint, New York: Da Capo Press, 1990), 4–5.

Example 1.2 The *passamezzo moderno* and the *Zefiro*, after Lowinsky.

hybrid between a tonal and a modal cadence."[18] In other words, the presence of a Mixolydian F♮ indicates that the *Zefiro* is modal; its absence similarly identifies the *passamezzo moderno* as tonal. There are a few problems with this claim. First, if we take the F♮ to be a signal of the modality of the *Zefiro*, we cannot take its absence to indicate the tonality of the *passamezzo moderno*. Lowinsky hedges against this view, taking care to note that the sixteenth-century musicians using this progression were probably not thinking tonally: "It is tempting to interpret the term *passamezzo moderno* as indicating awareness on the part of the sixteenth-century musician that the 'tonal' pattern of the *passamezzo moderno* constitutes something novel."[19] Yet, he goes on to attribute this scare-quoted "tonal" pattern to "clear use of the Ionian" (a mode which, we should note, had not yet been described in theory in the first decade of the sixteenth century, when the *frottole* that are the subject of Lowinsky's inquiry were being preserved in printed sources). In other words, Lowinsky equates identity with ancestry: since the *passamezzo moderno* and the Ionian mode sound like G major, they are tonal; accordingly, since the *Zefiro* sounds different, it is not. (We might note, also, Lowinsky's choice to notate these bass lines with a sharp signature, which did not appear in contemporary sources.) Yet, the *passamezzo moderno* and the *Zefiro* are far more similar than different. The power that Lowinsky attributes to a single "modal" degree, F♮, does a disservice both to the apparent modality of the *Zefiro* and the supposed tonality of the *passamezzo moderno*.

If we gently redirect our attention away from pitch content and toward other parameters, we may more robustly account for the similarities between these two ostinato bass patterns. Both create a strong trajectory of expectation from the D major harmony that bisects them to the G major harmony on which they conclude. This trajectory is supported by the sense of re-beginning that arrives with the fifth chord of each pattern, as well as the faster harmonic rhythm that prepares the final tonic at the end of the phrase. I argue that this trajectory is tonal, and that its tonality is neither compromised by the Mixolydian F♮ in the *Zefiro*, nor guaranteed by the absence of this degree from the *passamezzo moderno*. In fact, the tonal harmonic trajectory and the modal background collection are different kinds of phenomena; the presence of one need not require the absence of the other.

18. Ibid., 10.
19. Ibid., 10.

The ostinato bass patterns reveal that two pieces with distinct pitch content can share a single tonal trajectory. At the same time, a single pitch framework can invite both modal and tonal interpretation. Ever since Fétis identified Monteverdi's *Cruda Amarilli* as the harbinger of *tonalité moderne*, the madrigal has become an important analytical touchstone for modern scholars seeking to characterize seventeenth-century tonal structure. But there is little consensus on the madrigal's tonal allegiances, as indicated by the contrasting titles of Eric Chafe's *Monteverdi's Tonal Language* and Susan McClary's *Modal Subjectivities*, both of which feature prominent analyses of *Cruda Amarilli*. Both authors base their analyses on the binary between love (*amar*) and bitterness (*amaramente*)—puns on Amarilli's name—that motivates Guarini's text (Example 1.3a). Chafe and McClary agree that Monteverdi stages a conflict between two potential tonal centers, C and G, to reflect Mirtillo's ambivalence: he loves Amarilli but fears she will reject him. But Chafe and McClary differ in their reading of the madrigal's harmonic equivocation: for McClary, *Cruda Amarilli* exploits the unique capacities of the Mixolydian mode, for Chafe, it embraces the tonal energies of subdominant and dominant functions mediated by their tonic.

In Chafe's reading, the love/bitterness binary plays out in the conflict between F♮ and F♯ built into the madrigal's Mixolydian mode. When Monteverdi introduces cadences on D in the madrigal's final section, he confirms the G tonal center and the F♯ reigns ascendant (Example 1.3b). As a result, Chafe posits that "Monteverdi's conception of the mode is a tonal one": the G tonal center emerges from the antithesis between the cadences on the subdominant and the dominant.[20] He clarifies: "The main point is therefore not that Monteverdi has anticipated modern tonality and the concepts of subdominant and dominant in choosing those particular cadences, but that he found a means of applying his reading of the poetic text . . . to the creation of an analogous dynamic within the madrigal."[21] Chafe's provocative theory of seventeenth-century tonal structure allows him to imbue modal pitch collections with tonal energies.[22] In brief, Chafe separates a composition's pitch content (the hexachordal gamut under one of two transpositions), conceptual system (mode or key), and melodic, harmonic, and contrapuntal character (modal or tonal). As a result, he is able to argue that Monteverdi's works are founded on modal assumptions even as they explore tonal dynamics—hence, *Cruda Amarilli* is in the Mixolydian mode, but manipulates the symmetrical arrangement of subdominant and dominant around its G tonal center. Chafe manages to have it both ways: Monteverdi's music is at once both modal and tonal and neither modal nor tonal.

20. Chafe, *Monteverdi's Tonal Language*, 13.
21. Ibid., 17.
22. Chafe argues that the Guidonian system of interlocking hexachords underlies transposition in modal repertoires. Depending on its signature, a work may express either the normal gamut (based on the F, C, and G hexachords, with no signature), or the transposed gamut (based on the fictive B♭ hexachord and the F and C hexachords, with a signature of one flat). The central hexachord for each system (♮ or ♭ signature) constrains a work's tonal content (that is, its cadences and range of accidentals). Ibid., 24–31. Chafe's most succinct explanation of this theory appears in *Analyzing Bach Cantatas* (New York: Oxford University Press, 2003), 74–77.

Example 1.3a Monteverdi, *Cruda Amarilli*, mm. 1–25.

Susan McClary pushes back against the narratives advanced by Fétis and Chafe, sensibly arguing that throughout the sixteenth century the madrigal "move[s] not closer to but instead further and further away from what might qualify as 'tonal.'"[23] In *Cruda Amarilli*, Monteverdi dramatizes Mirtillo's pain by

23. Susan McClary, *Modal Subjectivities: Self-Fashioning in the Italian Madrigal* (Berkeley: University of California Press, 2004), 6. McClary's analysis is drawn from her dissertation, "The Transition

Example 1.3a Continued.

exploiting an ambivalence in the Mixolydian mode. As McClary interprets it, the G–G mixolydian octave divides in two ways: properly, as G–D/D–G, or deviantly, as G–C/C–G.[24] The competing fifth species (D–G and G–C) stoke the enmity between potential G and C finals. In McClary's semi-Schenkerian reading, the G final can only overtake C if the upper D is prepared by a full fifth descent from A. Monteverdi first introduces us to this A early in the madrigal—in the infamous m. 13, where a series of dissonant licenses famously aroused Giovanni Maria Artusi's indignation (and, eventually, attracted Fétis's attention).[25] For McClary, the "ahi lasso" A is not just a "cute escape tone"; rather, it's a violent confrontation: the

from Modal to Tonal Organization in the Works of Monteverdi" (PhD diss., Harvard University, 1976), 160–175.

24. McClary summarizes her idiosyncratic approach to modality in *Modal Subjectivities*, 18–22. On her methodology, see Anthony Newcomb, "Review of *Divining the Oracle: Monteverdi's Seconda Prattica*, by Massimo Ossi; *Modal Subjectivities: Self-Fashioning in the Italian Madrigal*, by Susan McClary," *Journal of the American Musicological Society* 60, no. 1 (2007): 215–216.

25. Artusi discusses this passage in *L'Artusi, overo delle imperfettioni della moderna musica* (Venice: Giacomo Vincenti, 1600). The most thorough analysis of the Artusi-Monteverdi controversy remains Claude V. Palisca, "The Artusi–Monteverdi Controversy," in *Studies in the History of Italian Music and Music Theory* (Oxford: Oxford University Press, 1994).

Example 1.3b Monteverdi, *Cruda Amarilli*, mm. 44–67.

canto voice tries to establish the D with a fifth descent from A, but the lower voices thwart her with their insistence on a C context. This moment embodies Mirtillo's incompatible love and bitterness.[26]

Both Chafe and McClary explore how the madrigal's melodic structures, cadences, and harmonies express Mirtillo's love and anguish. Yet Chafe's

26. McClary, *Modal Subjectivities*, 185–187.

Example 1.3b Continued.

interpretation hinges on Monteverdi's emergence as a tonal composer, whereas McClary's depends upon the composer's commitment to an expressive approach to polyphonic composition rooted in the modes. The two authors adduce much of the same evidence to support their oppositional arguments. For Chafe, the C and G are two Riemannian functions seeking their third, whereas for McClary they reflect a melodic and structural instability in the Mixolydian mode. For both writers the ambiguity is resolved through the tonicization of D in the madrigal's final section. Chafe's dominant identifies G as the tonic, McClary's is the culmination of the process by which the high A of "Ahi lasso" is repurposed as the top of a fifth descent to D which neuters the pull of the Mixolydian mode's upper register toward C. What does it mean for our theories of tonality and modality that such perceptive analysts as McClary and Chafe can use the same evidence and come to radically different conclusions? Their conflict suggests that in an effort to define the origins of tonality we may be looking in the wrong place.

Why can't McClary and Chafe just get along? Their impasse follows from their question: "Is *Cruda Amarilli* tonal?" does not have a yes-or-no answer. The question comes from Fétis: his initial claim that modality and tonality are two different manifestations of the same phenomenon (*tonalité ancienne* and *tonalité moderne*) has long been naturalized as an assumption that pieces adhere to one

system or the other.[27] But in practice the two systems can be difficult to differentiate. Chafe and McClary both tie their analyses to the madrigal's pitch content, yet, modal and tonal pitch collections are in many cases identical. As a result, pitch structure is an imperfect and often misleading criterion by which to distinguish modal and tonal repertoires. Instead, we might ask "*How* is *Cruda Amarilli* tonal?" Fétis would say that the madrigal's tonality lies in the appellative consonance and the drive toward tonic that this interval creates—that is, tonality is an energetic dynamic that directs a listener's attention toward an anticipated future tonic arrival. In her later work, McClary similarly argues that the earliest tonal composers "harnessed the leading tone in order to create extended trajectories of desire," though she does not cite *Cruda Amarilli* as an example.[28] Alternately, Chafe locates tonality in the madrigal's frequent cadences, motivated by Monteverdi's mostly homophonic texture. Without imitation to guide his unfolding counterpoint, Monteverdi turns to short, goal-directed phrases, transposition, and repetition; phrase rhythm and large-scale structure govern the madrigal's tonal relationships. Pitch, it seems, is not the key that unlocks *Cruda Amarilli*'s tonality—rather, it's how Monteverdi *organizes* pitch that counts.

Of course, rhythm and meter alone cannot account for tonality in all of its rich, chaotic diversity. Tonality involves a host of intersecting parameters—consistent pitch distributions, stereotyped harmonic progressions, standardized voice-leading frameworks, conventional phrase templates, formal procedures involving modulation to closely related keys, to name only a few. Each of these components has its own complicated history. And none of them constitutes tonality on its own. But we have underemphasized the importance of regulatory structures, ranging from rhythm and meter to phrase structure and form, in our theories of tonality. Harmonic progressions and voice-leading frameworks are mired in specific metrical contexts; changing the metrical disposition of a phrase can alter our interpretation of it. Similarly, even as tonality motivates eighteenth- and nineteenth-century phrase structure and form, phrases and forms shape and communicate tonal trajectories—they don't *use* tonality, but *make* tonality. Investment in these regulatory structures can pay particularly rewarding dividends for tonality's history, precisely because they can be studied independently of incremental changes in sixteenth- and seventeenth-century pitch structure. This is not the only story of tonality's history worth telling, but it is a history that we cannot ignore.

27. Fétis sets up a dichotomy between *tonalité ancienne* and *tonalité moderne* throughout his writings. For instance, in the immediate aftermath of Monteverdi's discovery of the V[7] chord, "there was no longer a first, second, nor third mode, neither an authentic nor plagal in music; there was but major and minor, and in a word, *tonalité ancienne* disappeared and the *moderne* was created." Fétis, *Résumé philosophique*, ccxxiii.

28. Susan McClary, *Desire and Pleasure in Seventeenth-Century Music* (Berkeley: University of California Press, 2012), 8. McClary and I apply similar arguments to quite different repertoires, in part because of our distinct treatment of mode. See Gregory Barnett, "Review of *Desire and Pleasure in Seventeenth-Century Music*, by Susan McClary" *Early Music* 41, no. 2 (2013): 337–340.

Modality is not the Renaissance version of tonality

In 1974, Bernhard Meier characterized mode as "a well-established system of musical logic, complete in itself—a system of order effective in every place in any music according to its laws."[29] He believed that modality could unlock the mysteries of sixteenth-century polyphony if only we could internalize modal principles in the way we already unconsciously internalize tonal ones. He frames this quest in grand terms:

> May this book lead its reader to that goal toward which the author has never tired of striving for twenty years: the revelation of Renaissance music to today's listeners and students as a tonal language as alive and expressive as is more recent music, with which we are more familiar, and as a means of expression that speaks to our common humanity, if only we prove able and willing to understand its point of view and adopt it again as our own.[30]

With this autobiographical petition, Meier situates his work in opposition to midcentury German attitudes about modality—that the modes are "deficient" versions of the major and minor scales waiting to be actualized as the tonal system of twenty-four keys within a triumphant narrative of musical progress. Instead, Meier argues that the modes organize the musical surface and background structure in the music of "the old masters," lending them "coherence" and acting as "bearers and mediators of musically logical development."[31] Meier embraces two common assumptions about modality: that (all) Renaissance music was composed in the modes, and that modality is analogous to tonality.

Harold Powers devoted much of his career to advocating a more skeptical view of modality.[32] Powers contends that modal theory should be understood not as a prescriptive set of compositional rules, but rather as a descriptive classification system applied, mostly post hoc, to musical works. He notes that, when Pietro Aaron first articulated a doctrine of polyphonic modality, he aimed to organize compositions into modal categories, not to characterize mode as a musical property that was inherent to the compositional process.[33] Instead, Powers notes

29. Bernhard Meier, *The Modes of Classical Vocal Polyphony: Described According to the Sources, with Revisions by the Author*, trans., Ellen Beebe (New York: Broude Brothers, 1988), 27. See discussion in Anthony M. Cummings, "Review of *The Modes of Classical Vocal Polyphony: Described According to the Sources*, by Bernhard Meier, trans. Ellen Beebe," *Music & Letters* 72, no. 1 (1991): 79–84; Cristle Collins Judd, "Renaissance Modal Theory: Theoretical, Compositional, and Editorial Perspectives," in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (Cambridge: Cambridge University Press, 2002), 336.
30. Meier, *The Modes of Classical Vocal Polyphony*, 18–19.
31. Ibid., 17, 27.
32. Powers argues this viewpoint most strenuously in "Tonal Types and Modal Categories," 428–470; "Is Mode Real?" 9–52; and "Modal Representation in Polyphonic Offertories," *Early Music History* 2 (1982): 43–86.
33. Powers, "Tonal Types and Modal Categories," 433–434; Pietro Aaron, *Trattato della natura et cognitione di tutti gli tuoni di canto figurato non da altrui piu scritti* (Venice: Bernardino de Vitali, 1525).

that composers were trained not on modal principles but rather on counterpoint rules. The separation of counterpoint and mode in Renaissance treatises is emblematic of the distinctive place these two discourses held in sixteenth-century musical thought. Counterpoint was the domain of musical practice; mode occupied the hazier realm of speculative theory. Furthermore, Powers demonstrates that composers tended to be explicit when they were composing "in" the modes. After Aaron's treatise appeared in 1525, composers began to craft modal cycles and editors and music printers began to organize collections according to the modes.[34] Self-consciously modal composition was a symptom, not a cause of modal theory. As a result, Powers urges us to separate modal theory from contrapuntal practice—two domains that were sometimes allied but often independent:

> Polyphonic compositional practice and polyphonic modal theory are in principle completely independent of one another, and have a common historical basis only in their primitives, in the underlying tonal system of the Guidonian diatonic. Their convergence in the sixteenth century needs to be examined in the domains of practice and theory separately, and with different kinds of intellectual tools.[35]

The gamut alone provides sufficient constraints to organize sixteenth-century counterpoint; modality adds an additional, optional layer of complexity.

Powers's work has significant ramifications for the study of Renaissance polyphony. Frans Wiering succinctly summarizes the analytical opportunities that separating counterpoint, modal theory, and mode in practice affords:

> Powers's contribution to the study of polyphonic modality opens the way to a study of the creative and varied ways in which composers applied the modes to their works, *provided that they chose to make use of them*. The object of modal analysis is no longer to determine the mode of a piece, list the exceptional features, and explain them away according to a rather fixed set of principles; but rather to determine whether a mode figured in the composition, what conception the composer had of modality, by which modal characteristics he expressed the mode, how these features might have interfered with non-modal aspects of composition, whether and how the text is expressed by means of the mode, and so forth.[36]

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34. Because they are explicit about their modal designs (whether pre-compositional, in the case of composers' cycles, or post-compositional, in the case of anthologies organized by editors or music printers), modal cycles have become the basis for most studies of polyphonic modality. See especially Frans Wiering, *The Language of the Modes: Studies in the History of Polyphonic Modality* (New York: Routledge, 2001), which includes an indispensible appendix listing modal cycles, and Michael R. Dodds, *From Modes to Keys: The Organ in Baroque Liturgy* (forthcoming).

35. Powers, "Is Mode Real?" 21. Though he writes from a different perspective, Eric Chafe frames sixteenth-century pitch structure similarly: the diatonic gamut, not the modes, provides a composition's pitch resources. See Chafe, *Monteverdi's Tonal Language*, 24–31.

36. Wiering, *Language of the Modes*, 17, emphasis mine. Cf. the recent dialogue between Kyle Adams and Gregory Barnett: Kyle Adams, "Mode *Is* Real: A Re-examination of Polyphonic Modality," *Theoria: Historical Aspects of Music Theory* 19 (2012): 33–64; Gregory Barnett, "Sixteenth-Century Modal Theory and Renaissance Ideologies: A Response to Kyle Adams," *Theoria: Historical Aspects of Music Theory* 20 (2013): 165–183; Kyle Adams, "Music Theory and its Purposes: A Response to Gregory Barnett," *Theoria: Historical Aspects of Music Theory* 20 (2013): 185–194.

At the same time, mode is not the only tool—or even an appropriate metric—for understanding much Renaissance polyphony.

Similarly, if we avoid reflexively describing all sixteenth-century counterpoint as "modal," it is clear that we need to nuance claims like the ubiquitous "modality evolved into tonality."[37] Such a statement invokes at least three distinct historical and theoretical projects, which have different methodological underpinnings and attendant truth claims. First, we might trace how the eight or twelve modal scales eventually give way to the twenty-four major and minor keys; this question concerns the history of music theory. I will refer to this as the *history of scales* approach. Joel Lester undertakes this project in *Between Modes and Keys*, where he studies "the transition from recognition of modes to recognition of major and minor keys" in German music theory, which he links to "the transition from an intervallic to a chordal conception of harmony."[38] But this *recognition*—and even this *chordal conception*—is the domain of the sixteenth- and seventeenth-century music theorists, not composers (even though their concerns intersect).[39] Critically, we can use musical sources in support of this theoretical history. For instance, Powers and Michael Dodds both use modal cycles to trace incremental changes in contemporary understanding of pitch structure.[40] However, modal cycles are themselves engaged in a kind of theoretical project—studying them still tells us more about music theory than about musical practice writ large.

Powers makes a related but narrower argument in "From Psalmody to Tonality," where he follows the paths of just two church tones as they transform into two modern keys in a constellation of French and German liturgical sources. Powers demonstrates that different keys have different kinds of origin stories—some modern keys are transformations of modes and church tones, others are transpositions of other keys. And some modes and church tones were "dead ends" that did not evolve into new keys. By attending to the nuances that distinguish different keys and modes, Powers challenges our modern assumption that all twenty-four keys are transpositionally equivalent. Powers notes, for instance, that "subtle differences among and within eighteenth-century tonalities are echoes of more fundamental differences among their ancestral sixteenth-century

37. Powers expresses this view forcefully: "This suggests that modality and tonality may be different kinds of phenomena, and therefore not related through any of the simple evolutionary sequences to which we are today accustomed, such as: 'the modal system was displaced by the tonal system'; or, 'modality evolved into tonality'; or, 'the ancestors of our major and minor scales were the Ionian and Aeolian modes." "Is Mode Real?" 11–12. Cf. Chafe: "The dialectic of old and new is not the equivalent of a simple transition from modality to tonality" (*Monteverdi's Tonal Language*, xiv). Tymoczko criticizes claims like these on semantic grounds; see *A Geometry of Music*, 211, n21.

38. Joel Lester, *Between Modes and Keys: German Theory, 1592–1802* (Stuyvesant, NY: Pendragon Press, 1989), xv–xvii.

39. We have long been warned not to assume that the claims of music theorists necessarily explain contemporaneous repertoires. Some of my favorite discussions of this issue include Powers, "Is Mode Real?" 18; Peter Schubert, "Authentic Analysis," *Journal of Musicology* 12, no. 1 (1994): 3–18; for a more moderate approach, see Thomas Christensen, "Music Theory and its Histories," in *Music Theory and the Exploration of the Past*, ed. Christopher Hatch and David W. Bernstein (Chicago: University of Chicago Press, 1993), 9–39.

40. Powers, "Tonal Types and Modal Categories"; Dodds, *From Modes to Keys*.

tonalities."[41] For example, when he traces the transformation of the Phrygian-inflected fourth church tone into E minor, he notes that "an E-minor tonality arising from the replacement of F-natural in the mi-tonality of E with F-sharp is not the same as an E-minor tonality arising from transposition up one degree of a D-minor tonality."[42] Studies like Lester's and Powers's explore the history of the twenty-four major and minor keys. However, just as we should avoid conflating sixteenth-century modal theory with sixteenth-century contrapuntal practice, so should we resist treating the twenty-four major and minor keys as constitutive of *tonality*.

A second, related project, entails not modes and keys themselves, but rather the background pitch structure that supports them. I will describe this as a *history of pitch* argument. For example, in his forthcoming monograph, *From Modes to Keys: The Organ in Baroque Liturgy*, Dodds documents a transformation from a linear, vocally conceived diatonic gamut (conceptualized as a set of octave species that are rotations within a fixed ladder) to a circular, keyboard-based chromatic gamut (conceptualized as a set of transposable scales organized by the circle of fifths).[43] Dodds centers organists in his narrative: he documents a feedback loop between performance practice, repertoire, and music theory that motivated major shifts in how musicians of all stripes understood pitch structure in the sixteenth and seventeenth centuries. Of course, the history of scales and the history of pitch are intimately connected. Lester, Powers, and Dodds all elegantly traverse the porous boundary between them. Nevertheless, they describe distinct phenomena that affect theory and practice at different times and in different ways.

Finally, we might explore how tonal procedures inhere in sixteenth-century counterpoint, or how sixteenth-century contrapuntal procedures persist in later musics, an argument that is exclusive to musical practice—what I will call a *history of style*. This model locates tonality's origins not in modal theory, but rather in a set of compositional principles that gradually emerge from polyphonic counterpoint. Considering tonality as a history of style draws our attention away from theoretical descriptions of modal classification and toward real compositional decisions and the listening strategies that they motivate. This approach prompts us to examine the tonal properties of surface-level musical features: consistent harmonic patterns, cadences, phrase structure, melodic construction, and musical form all impart tonality to Renaissance counterpoint. But this work depends on and is reciprocal with our definitions of tonality.

Because tonality is multivalent, histories of style study diverse repertoire through a variety of methodological lenses. For instance, Eric Chafe explains that *Monteverdi's Tonal Language* is "less an attempt to describe a system according to

41. Powers, "Is Mode Real?" 14. Contemporary theorists of tonality are beginning to explore the differences between keys, for instance, Ian Quinn and Christopher Wm. White, "Corpus-Derived Key Profiles are not Transpositionally Equivalent," *Music Perception* 34, no. 5 (2017). I have recently developed this idea in "What do Signatures Signify?: The Curious Case of Seventeenth-Century English Key," *Journal of Music Theory* 64, no. 2 (2020): forthcoming.
42. Powers, "From Psalmody to Tonality," 337, fn 18.
43. Dodds builds on an insight from Powers, "From Psalmody to Tonality," 276–277.

which Monteverdi composed than to set forth the systematic features of the tonal language of his time in general and describe his particular version of it."[44] The scaffolding for Chafe's study is not modality, but rather what he calls the "modal-hexachordal system," which supports the background pitch collection, available cadence points, and transpositional possibilities of Monteverdi's music.[45] Monteverdi's tonal language, in Chafe's argument, consists of a new, vertical dissonance treatment that animates directed tonal motion, an attendant distinction between surface and structure, and a hierarchical arrangement of tonal centers that organizes musical form, with hermeneutic effects. In a forthcoming book, Dmitri Tymoczko undertakes a radically different kind of style history. Tymoczko studies statistical properties of diverse repertoires to argue that "functionality" (that is, harmonic patterns that follow the kind of syntax we teach in undergraduate music theory courses) is shaped by and emergent from contrapuntal norms.[46] Following Lowinsky, Tymoczko identifies a kind of "proto-functionality" in the frottola and other popular song genres that flourished around the year 1500; he then explores the incremental changes in contrapuntal structure, harmonic progression, chord construction, and melodic style that contributed to the emergence of more mature functionality by the end of the sixteenth century. This book, too, is a history of style: I argue that composers invested homophonic counterpoint with dynamic tendency by harnessing the power of text-setting, meter, phrase structure, and form. They crafted harmonic trajectories where strategically placed dominant arrivals created expectation for tonic at multiple scales. These three projects trace different histories: Tymoczko is interested in the unwritten rules that govern chord-to-chord harmonic syntax, Chafe in the hermeneutic potential of large-scale tonal allegory, and I am concerned with how composers orient tonal trajectories in time. These are distinct histories of tonality, but they are complementary; their breadth reflects tonality's abundant resources. What's more, their points of contact and divergence are productive starting points for untangling some of tonality's thorniest questions.

Tonal expectation

As composers explored new musical textures in the late sixteenth century, they experimented with fifth-related triads, building connections between them on multiple levels. I will call these triads *dominants* and *tonics* despite the terminological anachronism, and I will argue that connections between them facilitate *tonal expectation*, a mode of listening oriented toward tonic.[47] When composers deploy dominant arrivals strategically, they train listeners to predict tonic cadences at

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44. Chafe, *Monteverdi's Tonal Language*, xiii.
45. Ibid., 21–37.
46. Tymoczko, *Tonality: An Owner's Manual*.
47. By framing tonality as a mode of listening rather than a property of musical works, I follow the recent work of Steven Rings, who posits that tonal hearing consists of listener "intention" or

structurally significant loci. Composers marshal a variety of musical parameters in support of these dominant–tonic trajectories: text-setting encourages metrical regularity, poetic rhyme promotes binary grouping structure, goal-directed melodies increase expectation for tonic arrivals, and formal repetition expands the listener's perspective. As listeners connect increasingly distant dominants and tonics, they develop frameworks for orienting themselves within musical forms. Dominants and tonics act like *you are here* stickers on maps, situating listeners temporally and giving them space to observe the broader structures that surround them. By this model, tonality provides a set of navigational tools that organize listeners' experience of musical works and make ever larger formal and tonal horizons accessible to them.

Tonal expectation is a feature of large-scale harmonic frameworks rather than surface-level chord syntax. Of course, these domains are intertwined— local harmonic progressions contribute to tonal expectation, and the history of tonality unfolds in the interaction between local and global musical features. However, if we separate global expectation from local syntax we can consider these domains independently, and thereby paint a fuller picture of tonality's complex history. For instance, in the homophonic partsong repertoire, the large-scale trajectories that organize phrase structure and form are both consistent and circumscribed even when the surface-level harmonic progressions evade functional interpretation.[48] The repertoire's abundant period-like phrases and I–V–I tonal plans are important antecedents to later tonal strategies. Eventually, big-picture dominant–tonic trajectories and highly regulated harmonic syntax would come together. But we've focused disproportionally on the latter, causing us to ignore other significant early milestones in tonality's history—milestones like homophony.

Homophonic textures—ranging from Gastoldi's bite-sized vernacular confections to Victoria's rich sacred polychoral fare—have long attracted scholarly attention because their surface is so obviously triadic.[49] But these triads don't merely provide us with evidence of sixteenth-century harmonic syntax. Homophonic textures motivated composers to develop new tools for organizing music's temporal flow, since the musical surface was no longer animated by the

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orientation toward tonic that colors other musical events: *Tonality and Transformation* (New York: Oxford University Press, 2011). David Huron has made a similar argument about tonal hearing rooted in the psychology of expectation in *Sweet Anticipation: Music and the Psychology of Expectation* (Cambridge, MA: MIT Press, 2006).

48. I have argued that such "non-syntactical" progressions are not necessarily a deal-breaker for tonality in "Characteristic Tonality in the *Balletti* of Gastoldi, Morley, and Hassler," *Journal of Music Theory* 59, no. 2 (2015): 235–271.

49. For instance, Lowinsky notes "the composer's interest in chordal progressions that receive their sanction not from laws of intervallic counterpoint but from a harmonic sense based on an astonishingly early feeling for tonal logic" in the *frottola* and *villancico* (*Tonality and Atonality*, 6). More recently, Miguel A. Roig-Francolí has identified "the presence of a harmonic bass that supports fifth-related root-position triads" in Victoria's polychoral masses: "From Renaissance to Baroque: Tonal Structures in Tomás Luis de Victoria's Masses," *Music Theory Spectrum* 40, no. 1 (2018): 40.

gradual interaction of perfection and imperfection and the placid interweaving of points of imitation. Instead, in homophonic contexts the structure and rhythm of the text plays a substantial role in shaping the phrase structure and the form—a role that's decidedly different from the line-by-line approach to texts that Zarlino and other theorists advocated for polyphonic counterpoint. Homophonic counterpoint produced a highly segmented musical surface, with efficient text-setting, frequent cadences, minimal dissonance, and audible phrase boundaries. Composers, I argue, used tonal expectation to make this regimented surface comprehensible—and even meaningful. Homophony was a new kind of terrain that demanded novel equipment.

Since Leonard Meyer claimed that musical experience is characterized by expectation, the term has become as slippery and overdetermined as the triad itself.[50] At the same time, expectation lies at the intersection of culture and biology, making it difficult to theorize definitively.[51] Since *Emotion and Meaning in Music* was published sixty years ago, the theoretical literature on expectation has expanded considerably, but the intuitive general principle has remained surprisingly stable. When we listen to music we unconsciously compare what we're hearing to other music that we know and hypothesize about likely future events; when musical stimuli confirm or contradict these expectations, we react emotionally. David Huron has explored psychological expectation at length, building on recent work in experimental music psychology and computer-assisted corpus analysis. He demonstrates that expectations arise from repeated exposure to contextually similar stimuli, a process called statistical learning. Listeners remember and respond to regularities in a repertoire, thereby forming expectations that unfamiliar works will follow familiar patterns. Accurate predictions yield a cognitive reward—which we experience as pleasure—and expectation generally facilitates perception.[52]

In the homophonic partsong repertoire, then, tonal expectation involves a feedback loop between regular features of the musical surface and listeners' capacity to hear and interpret these regularities. The first of these is easier to pin down: dominant–tonic trajectories are ubiquitous in the homophonic partsong repertoire. What's more, composers use a number of other parameters to highlight these trajectories. More complicated is the question of what listeners heard and how they interpreted it. Robert Gjerdingen and Vasili Byros have recently laid critical groundwork for the study of historical listening. In his work on galant music, Gjerdingen has argued that we can access historical listening habits by studying regularities in musical repertoires—specifically, skeletal musical gestures that he calls *schemata*.[53] Gjerdingen's theory is built on cognitive psychology: an individual's listening history determines the schemata that she brings to the

50. Leonard B. Meyer, *Emotion and Meaning in Music* (Chicago: University of Chicago Press, 1956).

51. Huron, *Sweet Anticipation*, 3.

52. Ibid., 43. For a summary of the relationship between statistical learning and expectation, see pp. 59–89.

53. Robert O. Gjerdingen, *Music in the Galant Style* (New York: Oxford University Press, 2007), 3–5. See also Robert O. Gjerdingen, *A Classic Turn of Phrase: Music and the Psychology of Convention* (Philadelphia: University of Pennsylvania Press, 1988).

listening experience and thereby frames her understanding of the work's meaning and quality. While Gjerdingen does not consider expectation explicitly, his work, like that of Meyer and Huron, builds on the notion that learned probabilities of likely musical events shape the way listeners engage with music in real time. At the same time, Gjerdingen acknowledges that characterizing historical listening presents significant obstacles and instead describes his project as "developing a historically informed mode of listening to galant music."[54] Byros has recently expanded Gjerdingen's project by triangulating schema theory, corpus analysis, and reception history.[55] Byros traces the shifting reception of the opening of Beethoven's *Eroica* from the nineteenth century to the present; he argues convincingly that shifts in musical style—in particular, the rise and fall of a particular chromatic melodic schema—conditioned changing interpretations of the harmonically ambiguous opening phrase. Consequently, Byros argues that schemata "engender a situated psychology of hearing" and "provide access to historical modes of listening today."[56] By extension, he concurs with Gjerdingen's hypothesis that we can "interpret[] a musical corpus as a metaphor for experience": schemata are indeed "equivalent to the knowledge structures of listeners."[57] Of course, schemata are historically situated: they are specific to eighteenth-century courtly listening and therefore have little relevance to sixteenth-century compositional practice or listening habits. Nonetheless, Gjerdingen and Byros's work is provocative in its suggestion that statistical regularities in musical repertoires may help us to reverse-engineer the expectations of listeners whose experience is quite distant from our own.

At the same time, sixteenth-century recreational musicians interacted with the music of their day in a manner quite different from eighteenth- or twenty-first-century listeners. As I will outline in Chapter 2, the homophonic partsong repertoire provided popular entertainment for the educated and noble classes. These enthusiastic musical amateurs rehearsed and performed these works in amicable company, using whatever combination of instruments and singers was at hand. This is not music for listeners. Rather, sixteenth-century composers routinely embedded these charming partsongs with humor, references, and puns that would have been invisible to listeners. Consequently, my approach to sixteenth-century popular song emphasizes the experience of amateurs performing from partbooks. Performers are a privileged kind of audience—their encounters with musical works are visual, aural, and embodied, they engage with pieces multiple times, they are participants in as well as consumers of the music.

54. Gjerdingen, *Music in the Galant Style*, 19.

55. Vasili Byros, "Meyer's Anvil: Revisiting the Schema Concept," *Music Analysis* 31, no. 3 (2012): 273–346; Vasili Byros, "Trazom's Wit: Communicative Strategies in a 'Popular' Yet 'Difficult' Sonata," *Eighteenth-Century Music* 10, no. 2 (2013): 213–252.

56. Byros, "Meyer's Anvil," 278.

57. Ibid., 278, 306.

On sixteenth-century listening

In his incisive commentary on the assumptions underlying the discipline of music theory, David Temperley calls attention to two distinct approaches to the study of "musical structure": descriptive theories "intend . . . to describe some aspect of musical perception or cognition," while suggestive theories "seek . . . to enhance it in some way."[58] Both of these methodologies are complicated by history. Whether we aim to describe a mode of perception or enrich hearings of a musical work, we have to ask *whose* perception is at stake. Is it our own? Or is it that of the historical listener, contemporary with the musical work? Obviously, the former is tidier: we can make (fairly) uncomplicated claims about our own experience, and assume that our experience can be replicated in listeners who resemble us. But the latter—our historical listener—is more difficult to pin down, even as she hovers implicit in the background of much of our theoretical work.

In this book, I aim to explore how sixteenth-century listeners might have heard based on the statistical regularities in the repertoires to which they were exposed and the compositional decisions that reflect assumptions about these regularities. Though we can't know for sure how listeners of any period heard, we *can* study how repertoires change and how repertoires and the pieces that comprise them make space for, and encourage, certain kinds of hearing. I have sought continuities between possible sixteenth-century listening strategies and modern ones. I posit that this modern experience of listening is tonal, insofar as it describes our ability to hear motion from dominant to tonic at multiple scales within a piece.

Of course, we can never know how sixteenth century listeners heard, or even *what* they heard—*musica ficta*, text underlay, mensural notation, performance practice, and more leave much to our historical imagination. And we certainly ought not to map our own anachronistic hearing backward more than four hundred years.[59] But it's also clear that the resources of sixteenth- and seventeenth-century theories are limited in their capacity to account for the music of their time, and that our own modern listening experience is no more or less contingent than a sixteenth- or eighteenth- or twenty-second-century one. To combat these criticisms, allow me to state at the outset my assumptions. First, tonality can be understood as a way of hearing that posits meaningful relationships between certain kinds of harmonic events (tonal expectation). Second, we are taught to hear tonally by regularities in the repertoires we know well (statistical learning), and we don't have to understand that we are hearing tonally to hear that way.[60] Third, many of the features that contribute to our experience of hearing tonally

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58. David Temperley, "The Question of Purpose in Music Theory: Description, Suggestion, and Explanation," *Current Musicology* 66 (1999): 70.

59. Margaret Bent vehemently argues for the dangers of such an approach in "The Grammar of Early Music: Preconditions for Analysis," in *Tonal Structures in Early Music*, ed. Cristle Collins Judd (New York: Garland, 1998), 15–59.

60. Leonard Meyer frames this issue beautifully when he writes that "listening to music intelligently is more like knowing how to ride a bicycle than knowing why a bicycle is ridable." Leonard B. Meyer, *Explaining Music* (Berkeley: University of California Press, 1973), 16. Qtd. in Temperley, "The Question of Purpose in Music Theory," 67–68.

exist, robustly, in repertoires outside of our agreed upon tonal "common practice." And finally, where possible, I have endeavored to contextualize historical compositional techniques and listener/performer behaviors with the intellectual culture that surrounded, influenced, and aimed to describe them.

The elusive phenomenon of tonal expectation pervades our thinking about music in part because we can account for it in so many different ways: it is an intrinsic property of musical works, a mode of listening, a feature of cognition, and an aspect of the collective experience of engaging with culturally situated artifacts. I borrow unapologetically from all of these methodological camps. In Chapter 2, I introduce the repertoire that is central to this study: the *balletto* and homophonic *canzonetta*. These popular partsongs circulated widely in Italy in the decades surrounding the turn of the seventeenth century, and their infectious style was avidly translated and imitated by English and German composers. I situate the international circulation of these partsongs within a broader culture of early modern translation to show how tonality emerged in distinct ways in different regions. I also explore how three musical styles—homophony, monody, and dance—converge in the homophonic partsong repertoire, and suggest that they share a vertical orientation that directs compositional attention away from pitch and toward music's movement through time.

The main body of the book comprises four chapters that explore how the homophonic partsong repertoire encourages tonal expectation on different levels. In Chapter 3, I draw on sixteenth-century text-setting rules and recent theories of sixteenth-century mensuration to demonstrate how metrically constrained text-setting schemas reinforce harmonic motion at regular periodicities. I correlate this argument with research from cognitive science that shows how meter orients listener attention toward metrically strong events. In Chapter 4, I place Carl Dahlhaus's theory of subordination versus coordination in dialogue with recent theories of phrase structure in vocal music to argue that composers used melodic, poetic, and rhetorical techniques to guide listeners through phrases. Through the analysis of over one thousand phrases, I demonstrate how repertoire-wide norms privilege dominant–tonic relationships at the phrase level. Chapter 5 uses theories of smallness to illustrate how *balletti* train listeners to attend to tonal dynamics at multiple scales within individual musical works. And I consider Italian, English, and German *balletti* in terms of sixteenth-century theories of translation to explore how regional stylistic variation reflects localized musical preferences. Chapter 6 takes a broader view: I draw on Elizabeth Margulis's work on repetition to explore how listeners oriented and reoriented themselves within musical forms, and I follow Hepokoski and Darcy to argue that deviations from harmonic, tonal, and formal norms establish and reinforce those norms. What this diffuse approach lacks in systematic rigor it gains in flexibility, which is critical in a study that explores tonal dynamics in so many different domains. After all, tonality is woven out of many threads, and only a flexible approach can begin to account for its rich colors and intricate patterns.

The final chapter steps away from the homophonic partsongs that are the focus of the rest of the study and instead reflects on other homophonic repertoires that flourished throughout the sixteenth century. I consider the improvisatory forms of

the frottola, which captivated courtly circles in the first decades of the century and which benefitted from Ottaviano Petrucci's earliest experiments in music printing. I then turn to France and *musique mesurée*, and explore the impact of midcentury rhythmic experimentation on the kinds of tonal expectation that I discuss earlier in the book. Finally, I look to the sacred realm and address the German cantional—four-voice Lutheran chorale settings that were the precursors to Bach's chorales. These repertoires encompass three languages and span one hundred years, yet, they all set vernacular poetry and prioritize the comprehensibility of their texts. And all of them encourage, to different extents, the same kinds of listening strategies manifested in the homophonic partsong repertoire. All four repertoires are products of the aesthetic requirements of humanism, which demands a new attention to the meaning, character, and moral effect of vernacular texts. Homophony, and the tonal hearing it supports, is simply a means to an end.

It is clear from the many promising leads, false starts, dead ends, and unanswered questions that plague studies of this topic that any history of tonality will be necessarily speculative, contingent, and incomplete. What's more, every attempt to elucidate an aspect of this history must take a position on what tonality is in the first place—a question that, as a discipline, we continue to discover is more complicated than we thought. These questions, at their best, go hand-in-hand. We can't fully grapple with tonality if we don't understand its origins, and we can't trace its history if we don't know what it is. Thus, this book offers a hypothesis: that one view of tonality and one sixteenth-century repertoire interact and illuminate one another in compelling ways. I believe that we can learn something about tonality through this approach, speculative though it may be, that we cannot learn any other way. And this book explores only one of many routes through which tonality came to be.