

## CHAPTER 2

### MUSIC THEORY IN CLIO'S MIRROR\*

**M**USIC THEORY, Carl Dahlhaus has warned us, is a subject that notoriously resists its own history. How, he challenges us, is it possible to write any meaningful history of a discipline whose subject matter has shifted so dramatically over time?<sup>1</sup> Topics of musical pedagogy that we today take for granted as integral to music theory were not always so considered—rules for writing counterpoint or realizing a figured bass, for instance. Conversely, many of the traditional components that made up the quadrivial science of *musica theorica* are now considered peripheral subjects lying precariously close to occult and esoteric thought, or more benignly, perhaps, as part of some mathematical or acoustical sub-discipline. Nor are these contrasting allegiances mutually exclusive at any given historical period. Widely diverging conceptions of music theory can often be found jostling with one another in the same historical culture, within the oeuvre of the same writer, and occasionally even in the same publication.

As a pointed illustration of this diversity, we might consider three texts stemming from the same decade of the early seventeenth century: Thomas Campion's *A New Way of Making Fowre Parts in Counter-point by a Most Familiar, and Infallible Rule* (London: John Browne, ca. 1614), René Descartes's *Musicae compendium* (ca. 1618; printed Utrecht: Gisbertus à Zyll & Theodorus ab Ackersdyck, 1650), and Robert Fludd's *Utriusque cosmi, maioris scilicet et minoris metaphysica*, 2 vols. (Oppenheim: Johann

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\*This article is an abbreviated and revised version of the author's Introduction to the *Cambridge History of Western Music Theory* (Cambridge: Cambridge University Press) to appear in the Fall of 2001.

<sup>1</sup>Carl Dahlhaus, "Was heisst 'Geschichte der Musiktheorie?'" in *Ideen zu einer Geschichte der Musiktheorie*, *Geschichte der Musiktheorie*, ed. Frieder Zaminer, vol. 1 (Darmstadt: Wissenschaftliche Buchgesellschaft, 1985), 8–39.

Theodor de Bry, 1617–21). Each of these works has been classified as “music theoretical” (although, ironically, none of them actually employs the title “music theory”).<sup>2</sup> Yet it is certainly not the case that all three works represent similar kinds of theory. Champion’s modest treatise is an eminently practical guide for the novice composer looking for a quick and “easie” means of harmonizing a given bass line using a number of simple rules of thumb. Descartes’s treatise, even shorter than Champion’s, is on the contrary quite learned. The *Compendium* is a classic text of musical “canonics”—the science of plotting and measuring musical intervals on the monochord. Unlike Champion’s text, it has no practical function except perhaps as a test case of the young philosopher’s nascent deductivist method of geometrical reasoning. Finally, Fludd’s mammoth treatise of Rosicrucian lore and gnostic learning is an unapologetic paean to the harmonic cosmos of Plato’s *Timaeus*. Given the profoundly different contents and intended readership of each of these works, we may well ask ourselves how they could be unified within a single disciplinary paradigm we call “music theory.” What conceptual boundary can we circumscribe that would help us define and delimit the contents of historical music theory? Put baldly, is “music theory” ultimately an intelligible and meaningful historical subject, one that is both intellectually coherent and conceptually stable?

To answer these questions, it might be helpful as a first step to begin with some Greek etymology. In pre-Socratic usage, *theôria* (θεωρία) is a visual term. It entails the action of seeing or observing. A *theôros* (θεωρός) is a spectator at a theater or games. A *theôros* could also be a witness in a legal dispute or a delegate or ambassador conveying information that he attests to have witnessed.<sup>3</sup> Although the two terms are etymologically unrelated, a number of Greek writers also noted the striking similarity of the word to *theós* (θεός)—a god and divine observer, the seer who sees all.

It was Plato who first called the philosopher a special kind of *theôros*. In the *Republic*, Glaucon points out to Socrates the parallels between the observer at a theater and the philosopher, whom Socrates had just defined as possessing a restless curiosity and “taste for every sort of knowledge.” Like the theater audience, the philosopher too is an observer, curious about—but detached from—the events of which he is a spectator. Socrates agrees that

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<sup>2</sup>As trivial evidence, we may note that all three authors and these works are listed and discussed in the recent dictionary of historical music theory: David Damschroder and David Russell Williams, *Music Theory from Zarlino to Schenker: A Bibliography and Guide*, *Harmonologia*, no. 4 (Stuyvesant, NY: Pendragon Press, 1990).

<sup>3</sup>Nicholas Lobkowitz, *Theory and Practice: History of a Concept from Aristotle to Marx* (South Bend, IN: University of Notre Dame Press, 1967), 15.

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the parallel is certainly striking, but he ultimately considers it deficient. For the real goal of the philosopher is different from that of the theatergoer. His wish is not to be entertained or to have his senses ravished; rather, it is to gain *epistēmē* (ἐπιστήμη)—the knowledge of the true and good. “And this is the distinction I draw between the sight-loving, art-loving practical class and those of whom I am speaking, and who are alone worthy of the name of philosopher.”<sup>4</sup>

In characteristic dialectical fashion, Aristotle contrasted the kind of *epistēmē* gained by *theōria* with the practical knowledge (*praktikē* [πρακτική]) gained through action (*ergon* [ἔργον]). This was to be a fateful pairing, for henceforth, theory and practice would be dialectically juxtaposed as if joined at the hip. In Aristotle's conceptual schema, the end of *praktikē* is change in some object, whereas the end of *theōria* is knowledge of the object itself.<sup>5</sup> This is not to say that it was impossible to combine the two; on the contrary, Aristotle considered *theōria* not so much opposed to *praktikē* as a higher form of *praktikē*, while *praktikē* was conversely a kind of applied theory.<sup>6</sup> Still, there is a fundamental epistemological distinction drawn between the two as principles of action. To recast these categories in related Aristotelian terminology, we could say that *theōria* is the discipline of final causes (that why a thing is made) and *praktikē* that of formal causes (that into which a thing is made).<sup>7</sup>

It is helpful to understand these original meanings of *theōria*. For in its most fundamental sense, music theory is a science of final causes. Strictly speaking, music theory is not concerned with “formal” or “efficient” causes (how a piece of music is composed or performed). Instead, theory is to concern itself with basic ontological questions: what is the essential nature of music? What are the fundamental principles that govern its appearances? (Plato would have spoken of music's “forms.”) The great medieval transmitter of ancient Greek thought, Anicius Manlius Severinus Boethius (ca. 480–525/26) is famous for subdividing this kind of music-ology (literally, the

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<sup>4</sup>Plato *Republic* 5.18–20 (473b–77b); trans. Benjamin Jowett, *The Works of Plato: Translated into English with Analyses and Introductions* (New York: Tudor, n.d.), 215.

<sup>5</sup>Aristotle *Metaphysics* 2.1.5–7.

<sup>6</sup>Terence Ball, “On the Unity and Autonomy of Theory and Practice,” in *Political Theory and Praxis: New Perspectives* (Minneapolis: University of Minnesota Press, 1977), 65.

<sup>7</sup>A third form of activity discussed by Aristotle that is also related to music was *poiēsis* (ποίησις), whose end is the object made and hence a discipline of “efficient” causes—that by which a thing is made. But it would not be until the sixteenth century when *musica poetica* began to be taught as a distinct compositional discipline on a par with *musica practica* and *musica theorica*.

“knowledge of music”) into three parts: *musica mundana*, *musica humana*, and *musica instrumentalis*. All these kinds of “music” were united by “harmonia,” the proper concordance (“symphoniae”) of magnitudes and multitudes. *Musica mundana* concerned the macro-cosmic harmony of the universe—the motion of the planets and the rhythms of the four seasons; *musica humana* concerned the micro-cosmic harmony of the body and soul—the disposition of the four humors and temperaments; and *musica instrumentalis* concerned the sounding harmony of “songs” made by singers and instrumentalists. For Boethius, a faithful student of Platonic thought, number and proportion was the “final” cause governing each of these three kinds of harmony. The true philosopher of music, the true musical *theōros*, was the one who understood this numerical basis of harmony beyond the shadows of its profane resonance in *musica instrumentalis*. And the discipline within which one studied the proportions underlying music in all its macrocosmic and microcosmic manifestations—and hence music theory in its most fundamental and authentic sense—was termed by ancient writers as “harmonics.”

It is worth noting that no early writers actually used the double cognate “music theorist” to designate a student of harmonics. In a locution drawn from Plato but extended by generations of medieval exegetes, Boethius simply called one who aspired to the true knowledge of music a “musician” (*musicus*, from the Greek *mousikos* [μουσικός]). In one of the most widely repeated aphorisms from the Middle Ages, Guido of Arezzo could contrast a “musicus” who understood the philosophical nature of music to the ignorant singer (“cantor”) who could only sound the notes: “Musicorum et cantorum magna est distantia. Isti dicunt, illi sciunt, quae componit musica.”<sup>8</sup> Of course we cannot forget that Guido was indeed concerned with real *musica instrumentalis*, unlike Boethius. We have unusually specific evidence concerning Guido’s activities at the Arezzo cathedral during the early eleventh century as a director and teacher of choirboys. And he was widely credited with developing some of the most important and influential pedagogical aids to help singers learn their craft: staff notation for the accurate reading of neumes, solfege syllables to help learn and memorize chants, and

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<sup>8</sup>Indeed, Guido at one point compared the singer who did not understand music to an animal (“bestia”). For a masterly survey of the *musicus/cantor* dichotomy in medieval thought, see Erich Reimer, “*Musicus-Cantor*,” in *Handwörterbuch der musikalischen Terminologie*, ed. H. H. Eggebrecht (Wiesbaden: Steiner, 1978).

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an elementary grammatical taxonomy by which to compose and analyze these chants.<sup>9</sup>

Given the profound influence of Guido's "practical" writings—they were copied and distributed in the Middle Ages more widely than any other musical work save for Boethius's *De institutione musica*<sup>10</sup>—we are clearly entering a new period with new expectations for the *musicus*. For all that musicians of the early Middle Ages may have revered the authority of the Greek and Hellenistic writers—or at least what they gleaned through Boethius and Martianus Capella—they were also committed to another authority: that of the church and its sacred chant repertoire. Thus, as Joseph Smits van Waesberghe has pointed out, there was a pronounced tension between the *auctoritas ecclesiastica* and the *auctoritas greca* (although some theorists such as Hucbald strove mightily to reconcile the two).<sup>11</sup> No longer could a true musician remain aloof from musical practice and lead the contemplative life of the *bios theoretikos* (if indeed that was ever possible outside of Boethius's lonely prison cell, where he composed the *Consolatio philosophiae* shortly before his execution). Given that virtually all musical writers in the Middle Ages were associated in some way with the church, it would have been incredible for them not to have been concerned about the *musica instrumentalis* they would have heard and chanted in their daily offices of worship—the *opus Dei*. With the pressing need for Carolingian authorities to bring some kind of order to a burgeoning but chaotic chant practice, choir directors were pressed to think of means for classifying, notating, and teaching singers a stabilized chant repertoire. Aurelian's modest tract, *Musica disciplina*, from the late ninth century, was only the first such propaedeutic textbook of *musica plana*. And as more complex performance problems arose with the introduction of improvised organum and dis-cant singing, new pedagogical demands faced the *cantor*, above all, that of mensuration.<sup>12</sup>

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<sup>9</sup>Joseph Smits van Waesberghe, *Musikerziehung: Lehre und Theorie der Musik im Mittelalter*, Musikgeschichte in Bildern, ed. Heinrich Besseler and Werner Bachmann, III/3 (Leipzig, VEB Deutscher Verlag für Musik, 1969), 23. Ironically, the pedagogical aid with which his name is probably best known—the Guidonian hand—was one for which he almost certainly had no responsibility.

<sup>10</sup>Michael Bernhard, "Das musikalische Fachschriftum im lateinischen Mittelalter," in *Rezeption des Antiken Fachs im Mittelalter*, Geschichte der Musiktheorie, ed. Frieder Zamminer, vol. 3 (Darmstadt: Wissenschaftliche Buchgesellschaft, 1990), 72.

<sup>11</sup>Smits van Waesberghe, *Musikerziehung*, 19.

<sup>12</sup>It was perhaps not so much issues of modal identity or dissonance regulation that offered the most intractable problem to medieval musicians with the rise of contrapuntal

With the transmission of many of Aristotle's most important writings into the West by Arabic writers beginning in the twelfth century, musicians finally were provided with an unimpeachable authority by which to legitimize the kinds of propaedeutic writings of Aurelian and Guido—or as musical *praktikê* was rendered by the twelfth-century translators of al-Fārābī, “*musica activa*.”<sup>13</sup> To be sure, as the venerable curriculum of the “*studium generale*” migrated from the Cathedral and monastic schools to the newly formed universities of Bologna, Paris, and Oxford, scholars continued to study and offer their own glosses of *musica speculativa* in the Boethian paradigm.<sup>14</sup> Much more vigorous, though, was the industry of music instructors (*praeceptores*) who attempted to offer regulation and codification for the various parameters of rapidly changing musical practice through the textbook genre of the *eisagogê*.<sup>15</sup> And even when speculative topics were taught, they were often done so within a treatise having largely practical aims.<sup>16</sup> Hundreds of music treatises were penned and copied throughout the Middle Ages that offered more or less practical guidance on every possible problem of singing and composition (the boundaries between the two hardly

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singing as it was the conceptualization and notation of a hierarchy of rhythmic values by which to coordinate the voices of *musica mensurabilis*.

<sup>13</sup>Henry G. Farmer, ed. and trans., *Al-Fārābī's Arabic-Latin Writings on Music* (New York: Hinrichsen, 1965), 22.

<sup>14</sup>Nan Cooke Carpenter, *Music in the Medieval and Renaissance Universities* (Norman: University of Oklahoma Press, 1958), 32ff. Properly speaking, we might note that the term “*theoria*” was never used in the Middle Ages to designate writings on music, even for the most speculative genre of harmonics. With the spread of Aristotelian thought in the thirteenth century, however, a number of scholastically trained musical writers did start to employ the Latin cognates “*theoria*” and “*practica*” in their writings, including the likes of Franco of Cologne, Johannes de Muris, Walter Odington, and Johannes Grocheo. But as Jacobus of Liège noted, there was already a perfectly good Latin translation for the Greek word *theōria: speculatio* (*Compendium de musica* 1.1 [*Jacobi Leodiensis Tractatus de consonantiis musicalibus, Tractatus de intonatione tonorum, Compendium de musica*, ed. Joseph Smits van Waesberghe, Eddie Vetter, and Erik Visser, *Divitiae musicae artis, A/IXa* (Buren: Knuf, 1988), 89]; cf. *Speculum musicae* 5.13 [*Jacobi Leodiensis Speculum musicae*, ed. Roger Bragard, *Corpus scriptorum de musica*, vol. 3/v ([Rome]: American Institute of Musicology, 1968), 39]). Hence, whereas earlier medieval writers would refer to the “*scientia*” of music in regard to its philosophical study, later medieval writers employed the term “*speculatio*” (as in Jacobus's eponymous *summa* of musical knowledge). It was only in the later fifteenth century when some Italian humanists (above all, Franchinus Gaffurius) explicitly entitled their musical writings “*theoria*.”

<sup>15</sup>Smits van Waesberghe, *Musikerziehung*, 24ff.

<sup>16</sup>So works as early as the *Musica enchiriadis* and *Scolica enchiriadis*, texts from the late ninth century, can be read as both theoretical and practical, each containing Boethian discussions of musical arithmetic in addition to practical guides for notating, classifying, and singing chant and organum.

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recognized). Even as scholastic rhetoric became increasingly conspicuous during the thirteenth and fourteenth centuries, musicians trained in the newly flourishing universities devoted most of their energies to issues of *musica activa*. While it is perhaps an exaggeration for Albrecht Riethmüller to say that music entered the Middle Ages as theory and left it as practice, there is no question that the prestige of music theory was now declining precipitously as a philosophical and scientific discipline.<sup>17</sup>

But it would be wrong to see this process simply as one of an invigorated pedagogy of *musica practica* evermore encroaching upon the territory of an enfeebled *musica speculativa*, of *usus* triumphing over *ars*. Rather, it was more a case of music theory being refocused, its principles reconfigured so as to accommodate better the domain of *musica instrumentalis*. Lawrence Gushee has remarked that theory and practice do not emerge in the Middle Ages as so much distinct epistemological genres as they do a mix of intellectual styles, social functions, and musical contexts—features that may be differently combined in any given treatise.<sup>18</sup> Most treatises of “speculative” music theory in the late Middle Ages had dropped any serious discussion of celestial harmony (or if it was discussed, tempered by a healthy dose of Aristotelian skepticism).<sup>19</sup> Instead, the authors of these treatises—mostly scholastic writers of encyclopedic *Summae* of comprehensive musical knowledge such as Johannes de Muris, Jacobus of Liège, Walter Odington, Marchetto da Padua, or Hieronymus de Moravia—took many of the received quantitative topics of classical harmonics—the tetrachord, octave species, calculations of interval ratios, etc.—and adapted them with various degrees of success to issues of contemporary musical practice. Problems of pitch material (scales, intervals, mode, and solfege) were grouped under the rubric of “*musica plana*”; that of rhythm and mensural theory (really a kind of advanced counterpoint) under the rubric of “*musica mensurabilis*.” Even that venerated tool of speculative canonic—the monochord—was now used

<sup>17</sup>Albrecht Riethmüller, “Probleme der spekulativen Musiktheorie im Mittelalter,” in *Rezeption des Antiken Fachs im Mittelalter*, 177.

<sup>18</sup>Lawrence Gushee, “Questions of Genre in Medieval Treatises on Music,” in *Gattungen der Musik in Einzeldarstellungen, Gedenkschrift Leo Schrade*, ed. Wulf Arlt et al. (Bern: Francke, 1973), 388.

<sup>19</sup>Again another terminological clarification is in order. No late medieval writer would call such philosophical writings on music “speculative theory” since it was understood that any properly “theoretical” discussion of music was “speculative” in the original, Platonic sense of the word. Albrecht Riethmüller has thus made the amusing point that the modern locution “speculative music theory” would have been triply redundant for a medieval writer, since the original concept of *musica* as a quadrivial science already entailed the concepts of both *speculatio* and *theôria*. Riethmüller, “Probleme der spekulativen Musiktheorie im Mittelalter,” 174.

in a highly practical way by teachers: as a musical instrument to establish pitches and scales for singers. The task of the music theorist was now that of the practical pedagogue: to teach the elements of music to be applied by the would-be performer or composer, while conversely helping to discipline that practice through the establishment of regulative rules. This is by no means to say that “speculative” knowledge of music was in complete disrepute; such knowledge was valued, but mainly to the extent it could be of value to *musica practica*. The true “musicus” of the later Middle Ages was now the “cantor peritus et perfectus”—one who not only knew, but could do, to turn Guido’s aphorism on its head.<sup>20</sup>

With the humanistic revival of ancient Greek thought in the later half of the fifteenth century, we find some renewed interest in the Boethian paradigm of cosmic harmonics. Indeed, among many Italian humanists, we witness a veritable “mania for music theory” as Knud Jeppesen has so aptly put it.<sup>21</sup> Questions of interval calculation and tuning were attacked with a vigor not seen since the mysterious group of “harmonicists” reported by Aristoxenus almost two thousand years earlier. Franchinus Gaffurius (1451–1522) was one such individual. It is not without significance that his major incunabulum of 1492, the *Theorica musice*, explicitly resurrected the Greek appellation “theōria.”<sup>22</sup> In the scramble to find and translate any ancient text concerning musical topics, scholars of the late quattrocento made the first real inroads in understanding Greek music theory.<sup>23</sup> The resulting publications of music theory—such as Gaffurius’s—constituted a heady mix of antiquarian topics: the ancient Greek *tonoi* and genres, monochord calculations based on Euclid and Ptolemy, and reflections upon the cathartic and magical powers of music. Yet it is noteworthy that Gaffurius did not see himself restricted as a writer to the ancient parameters of *musica theorica*, for in his next major treatise, he dealt head on with practical issues of counterpoint, mode, and mensuration. His *Practica musice* of 1496 was conceived not so much in opposition to the text that preceded it, but rather, as a logical and necessary complement to it, and upon the foundation of which it

<sup>20</sup>Gushee, “Questions of Genre,” 408.

<sup>21</sup>Quoted in Claude Palisca, *Humanism in Italian Renaissance Musical Thought* (New Haven, CT: Yale University Press, 1985), 8.

<sup>22</sup>*Theorica musice* (Milan: Iohannes Petrus de Lomatio, 1492; reprint in *Bibliotheca musica bononiensis*, II/5, Bologna: Forni, 1969); *The Theory of Music*, trans. Walter K. Kreyszig, ed. Claude V. Palisca, Music Theory Translation Series (New Haven, CT: Yale University Press, 1993). Gaffurius had actually published a shorter version of this treatise in 1480 entitled: *Theoricum opus musicae disciplinae*.

<sup>23</sup>A story brilliantly told in Palisca’s *Humanism in Italian Renaissance Musical Thought*.



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builds. It is worth noting that of the most important treatises of speculative music theory that would be penned over the following centuries by Gioseffo Zarlino, Francisco Salinas, Pietro Cerone, Marin Mersenne, and Jean-Philippe Rameau, all were paired with complementing treatises of *musica practica*—all indeed bound within the covers of the same volume. As Bartolomeus Ramis de Pareia (ca. 1440–91) put it poetically, the new integration of theory and practice was as if “mouse and elephant can swim together; Daedalus and Icarus can fly together.”<sup>24</sup>

The increasingly close dialectic that constituted Renaissance *theoria* and *practica* is paradigmatically evident in the area of tuning. As composers were increasingly employing tertian sonorities in their compositions by the fifteenth century, the received Pythagorean tuning of the ditone (81:64) was proving unsustainable. But the theoretical argument for tuning the major third to a just superparticular ratio (5:4) required considerable effort in the face of tenacious canonist traditions. The extended and passionate arguments waged on behalf of the justly tuned major third by Ramis and his allies show vividly how traditional *musica theorica* was being bent in the service of practice.<sup>25</sup> Indeed, tuning became an area of speculative thought in the Renaissance that was in many ways far ahead of practice, contrary to the widespread notion that theory must necessarily lag behind practice. The various proposals for enharmonic or quasi-equal temperaments by the likes of Vincenzo Galilei, Nicola Vicentino, and Simon Stevin far outpaced the practice of their contemporaries and would have to wait at least another one hundred years before enjoying wider acceptance and application by musicians.

An even more striking change in the fortunes of music theory, however, occurred in the late sixteenth and early seventeenth centuries at the advent of the so-called “scientific revolution.” Many of the hitherto classical problems of musical harmonics—in particular the generation and ranking of consonances—were newly treated by scientists as problems of acoustical mechanics. This shift towards mechanics did not in fact dislodge music theory as a quantitative science. One merely substituted proportions measured by vibrational frequency for those plotted out on a monochord. But the shift did change much of the metaphysical grounding by which consonance was

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<sup>24</sup>*Musica practica Bartolomei Rami de Pareja Bononiae*, ed. Johannes Wolf, Publikation der Internationalen Musikgesellschaft, Beihefte, vol. 2 (Leipzig: Breitkopf und Härtel, 1901); Bartolomeo Ramis de Pareia, *Musica Practica*, trans. Clement A. Miller, Musicological Studies and Documents, no. 44 (Stuttgart: Hänssler; American Institute of Musicology, 1993), 42.

<sup>25</sup>Palisca, *Humanism in Italian Renaissance Musical Thought*, 235–44.

understood. No longer evaluated by numerological constructs (such as Zarlino's *senario*), consonance could be seen as a purely physiological consequence of coincidental vibrational frequencies; hence the boundary between consonance and dissonance could now be a continuum that shifted based upon context and taste.<sup>26</sup>

Music theory thus seemed to have suffered a double loss by the end of the seventeenth century. On the one hand, it gradually receded from its Boethian heights in prominence and prestige through the robust growth of *musica practica* as a discipline. More and more energy seemed to be devoted to systematizing and regulating the parameters of a rapidly changing musical practice and poetics. On the other hand, many of the most time-honored problems with which music theory was historically identified, such as the measurement and evaluation of consonance, were now being appropriated by disciplines of natural science.<sup>27</sup>

"Music theory" continued to be cultivated by a few scholars throughout the Enlightenment in the model of traditional classical canonic. But for the most part, any treatise employing "music theory" in its title presented a limited and by now rather impoverished picture of the venerable discipline, one usually limited to rather pedantic calculations of intervals and tuning systems.<sup>28</sup> To be sure, new mathematical techniques such as logarithms were applied in order to quantify with meticulous precision the various kinds of mean-tone and quasi-equal temperaments thought up by scientists and musicians. But many of these tunings, it should be stressed, were "paper" temperaments with little relevance to the *ad hoc* practice of most keyboardists.

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<sup>26</sup>Claude V. Palisca, "Scientific Empiricism in Musical Thought," in *Seventeenth Century Science and the Arts*, ed. H. H. Rhys (Princeton, NJ: Princeton University Press, 1961), 109.

<sup>27</sup>It was in 1701 that the French scientist Joseph Sauveur christened one area of this study as "acoustique."

<sup>28</sup>A representative sampling of such theory titles is suggestive: Otto Gibel, *Introductio musicae theoreticae didacticae ... cum primis vero mathematica* (Bremen: Jacob Köhler, 1660); Thomas Salmon, "The Theory of Musick Reduced to Arithmetical and Geometric Proportions," *Philosophical Transactions of the Royal Society, London*, 24/302 (1705): 2072–77; Leonhard Euler, *Tentamen novae theoriae musicae* (St. Petersburg: Academia scientiarum, 1739); Friederich Wilhelm Marpur, *Anfangsgründe der theoretischen Musik* (Leipzig: Breitkopf, 1757); Giovanni Battista Martini, *Compendio della teoria de' numeri per uso del musico* (Bologna: Lelio dalla Volpe, 1769). Jean-Philippe Rameau's *Nouveau système de musique théorique* (Paris: Jean-Baptiste-Christophe Ballard, 1726) is also in the tradition, it being "new" only in the sense that it substituted an acoustical principal—the *corps sonore*—as the origin of musical proportions rather than the traditional canonist origin in string divisions (as was proposed in his *Traité de l'harmonie* four years earlier).

Thus, by the eighteenth century, music theory had become only a shell of its former glory. Rameau felt obliged on numerous occasions to defend the honor and dignity of music theory, while at the same time conceding such knowledge may be of little practical use to musicians. Yet for every defender of music theory—such as Rameau or Lorenz Mizler (1711–78), the founder of the “Corresponding Society of Musical Science”—there were critics like Johann Mattheson (1681–1764), who would lambaste music *theoria* (or as he preferred to call it, “musical mathematics”) as a discredited remnant of unenlightened prejudice, its advocates as “system builders” blindly—or deafly—constructing their elaborate numerical edifices with no regard to musical reality. With the weapons of empirical philosophy bequeathed by Locke, writers such as Mattheson could militantly hoist the Aristoxenian flag of “sensus” over that of “ratio.” Indeed, for most progressive thinkers of the Enlightenment, theory of most any sort was viewed suspiciously in comparison to the measured empiricism of inductive reasoning drawn from practice. The French philosophes would contrast this as the *esprit de système* versus the *esprit systématique*.

Perhaps because music theory had been so emptied of its traditional prestige and content, then, it was ripe to be rehabilitated with new empirical sobriety. By reconceiving theory as a systematic program of reasoning and pedagogy, Johann Georg Sulzer (1720–79) could appropriate the term in his ambitious encyclopedia of aesthetics, the *Allgemeine Theorie der schönen Künste* (1771–74). For Sulzer, theory was not so much an abstracted foundation of a given science from which are deduced empirical axioms in geometric fashion as it was a general process of reasoning by which the empirical and metaphysical components of a science were systematically itemized and coordinated.<sup>29</sup> Thus, in Sulzer’s program, “theory” would necessarily encompass those “practical” elements of taxonomy and regulation necessary to the instruction of any art in addition to its more abstracted, normative principles. But while Sulzer’s encyclopedia may have sketched out what such a program of music might entail (in the various articles written by Johann Kirnberger and his student J. A. P. Schulz), it was Johann Forkel (1749–1818), the famed music lexicographer, historian, and educator who first proposed a systematic program of study he called “Theorie der Musik” in 1777 that seemed to fulfill Sulzer’s plan.<sup>30</sup>

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<sup>29</sup>Although it would not be until the end of the century when Kant completed Sulzer’s great rescue project by rigorously working out the epistemological basis upon which valid theoretical reasoning may be conducted.

<sup>30</sup>Johann Forkel, “Über die Theorie der Musik” (1777); reprinted in Carl Friedrich Cramer, *Magazin der Musik* 1 (1783): 855–912.

Far from restricting music theory to a rarified science of interval calculations and tuning, Forkel redefines it as a broad pedagogical discipline of musical study “insofar as it is necessary and useful to amateurs and connoisseurs.” Specifically, Forkel includes five parts within his program of music theory: (1) Physics, (2) Mathematics, (3) Grammar, (4) Rhetoric, and (5) Criticism. Parts 1 and 2, roughly speaking, cover the traditional speculative domain of *musica theoria*, albeit updated with new scientific knowledge and languages. Parts 3 and 4 cover the traditional regulative functions of *musica practica* and poetics: systems of scales, keys, harmony, and meter, as well as their application by composers in terms of phrasing, genre, and rhetoric. Finally, part 5 foretokens a new concern that will play an increasingly important role in music-theoretical discussions: critical analysis. Here the theorist is concerned with such elusive qualities as the “inner character” of a musical work. Forkel’s program constitutes an extraordinary change in the meaning of music theory by radically expanding its domain in relation to practical pedagogy and criticism. No longer was music theory a preliminary or metaphysical foundation to practice. On the contrary, it was practical pedagogy that was now a subset of theory.

With the advent of the nineteenth century and the founding of the many music conservatories and schools throughout Europe that would institutionalize the training of the next generations of performers, composers, and conductors, music theory fractured into a number of competing disciplinary paradigms that elude easy synthesis. On the one hand, the utilitarian turn of music theory evidenced in Forkel’s program was taken up by a few nineteenth-century theorists where theory was colloquially understood as a general program of music pedagogy. Characteristic is Gottfried Weber’s comprehensive *Kompositionslehre*, the *Versuch einer geordneten Theorie der Tonsetzkunst* (Mainz: Schott, 1817–21). Yet in its tendentious empiricism, Weber’s “Systematically Arranged Theory of Composition” hardly would be recognized as a theory of music in any sense by a writer such as Gaffurius—or even Mattheson for that matter.<sup>31</sup> On the other hand, some authors continued to use the term in the area of music in its more traditional sense of speculative foundations (e.g., in Moritz Hauptmann’s treatise of pseudo-Hegelian musical dialectics, *Die Natur der Harmonik und Metrik: Zur Theorie der Musik* [Leipzig: Breitkopf und Härtel, 1853]). Still other

<sup>31</sup>It is not surprising that at least in German-speaking countries, “Musiktheorie” never caught on as a broad disciplinary appellation, superseded at the end of the nineteenth century by the program of “Systematische Musikwissenschaft” articulated by Guido Adler. And to this day, “Musiktheorie” is equated in German-speaking countries with practical skills of musicianship, found primarily in the music conservatories (or *Hochschulen*) rather than the universities.

writers conflated “theory” with the most rudimentary program of music pedagogy, as in the following pocket catechism published in America in 1876: *Palmer's Theory of Music: Being a Practical Guide to the Study of Thorough-Bass, Harmony, Musical Composition and Form* (Cincinnati: Church, 1876).

If there is one element that might tie many of these various configurations of nineteenth-century “music theory” together, it is that authors increasingly relied upon the study of musical works from which they deduced—and illustrated—their teachings. While selected examples of music analysis can be cited as far back as the Middle Ages, it was only in the nineteenth century that theorists would regularly cite musical examples in their texts, more often than not drawn from a rapidly coalescing canon of “classical” masterworks. The aim in most cases was not—as with earlier theories—to look at individual works in order to derive normative patterns of compositional practice; rather, analysis was employed to gain insight and understanding of the individuating particulars of the artwork, the analysis often couched in the rhetoric of biological organicism. For the most ardent Romanticists, in fact, masterworks were defined precisely by their uniqueness, their status as sublime creations of genius that we may only begin to comprehend—though never replicate—through profound and prolonged contemplation.<sup>32</sup> Such then does the activity of music analysis curl back and connect with the original Platonic occupation of the *theōros*.

By the beginning of the twentieth century, a sharp reaction to music theory as a pedagogical discipline had set in. Partly in response to the grand theoretical projects of scholars such as Hugo Riemann (who, ironically, never actually entitled any of his works as theoretical),<sup>33</sup> writers such as Arnold Schoenberg would castigate the pretensions and conservatism of academic music theorists; indeed, the whole preface to the third edition of Schoenberg's own *Harmonielehre* (Leipzig: Universal, 1911; 3d ed., 1921) opens with a blistering assault on the hidebound discipline of “Musiktheorie” and its stultified pedantry.<sup>34</sup> Heinrich Schenker's own *bêtes noires*

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<sup>32</sup>Ian Bent's *Musical Analysis in the Nineteenth Century*, 2 vols. (Cambridge: Cambridge University Press, 1994) offers a valuable survey of some of this literature, with insightful commentary and lucid translations.

<sup>33</sup>His very first publication, a series of articles that appeared in 1872 under the title “Musikalische Logik: Ein Beitrag zur Theorie der Musik” (*Neue Zeitschrift für Musik* 68 [1872]: 279–82, 287–88, 353–55, 363–64, and 373–74), is the exception that proves the point.

<sup>34</sup>Yet it is as ironic as it is indicative that the English translation of Schoenberg's *Harmonielehre* published sixty years later would bear a title that would surely have its

were the “concert guides” of musical hermeneutics penned by the likes of Hermann Kretzschmar. Pointedly, Schenker entitled his own rehabilitation project “*New Musical Theories and Fantasies*” in clear contradistinction to the impressionistic poetical readings of Kretzschmar and his company.

Polemics aside, the twentieth century witnessed an unprecedented explosion of music theory. Not since the late fifteenth century was there such a fermentation of theoretical thought in all its various guises: speculative, practical, and analytical. Certainly one explanation can be posited: the loss of a common language of harmonic tonality. In the case of Schoenberg, of course, this entailed the formulation of an entirely new compositional system of serialism “using twelve tones related to one another” that he believed was the natural and inevitable successor of harmonic tonality. For Heinrich Schenker, on the other hand, this entailed a defensive, almost reactionary music theory that sought to rescue and validate a waning tonal tradition of which he believed himself to be a guardian and expositor. The two theoretical paradigms Schoenberg and Schenker bequeathed—that of compositional (prescriptive) serial theory and of analytic (descriptive) tonal theory, respectively—proved to be two of the most resilient and resonant in the twentieth century.

Another remarkable development of twentieth-century music theory was its broad professionalization as it became increasingly institutionalized within university programs. As with its medieval precursor, the modern university, particularly in North America, has offered a congenial home to the dedicated music theorist. This professionalization of music theory may be credited to a number of factors. There was of course the growth of musicology itself as an academic discipline, in which the scholarly study of music and musical documents (including those of historical music theory) was cultivated. There was also a favorable intellectual climate, particularly at mid-century, in which “positivistic” sciences were widely cultivated, and music analysis was a beneficiary—or at least certain styles of more “formalistic” analysis (of which Schenker’s, ironically, became a prime example).<sup>35</sup> Finally, there was a growing sense that the practical subject matter of music theory pedagogy (historically considered the domain of “*musica practica*,” as we have seen) demanded specialists for its teaching.

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author turning in his grave: *Theory of Harmony*, trans. Roy E. Carter (Berkeley: University of California Press, 1978).

<sup>35</sup>For an insightful narrative of the intellectual origins of contemporary American music theory, see Patrick McCreless, “Rethinking Contemporary Music Theory,” in *State of the Art: Refiguring Music Studies in the 1990s*, ed. A. Kassabian and D. Schwarz (Charlottesville: University of Virginia Press, 1996).

Thus, by the 1950s, we find the first academic appointments of music theory in several American music departments and the foundation of advanced degree programs in music theory. (The Yale University Department of Music, under the leadership of Paul Hindemith, seems to have been the first academic institution to establish a music theory degree in the modern era.<sup>36</sup>) Significant, too, was the founding of several scholarly journals devoted to music theory, including the *Journal of Music Theory* (1957) and *Perspectives of New Music* (1962). The former journal was associated appropriately enough with the Yale program, the latter journal with the music department at Princeton University, where a combined program of composition and theory was developed under the leadership of Milton Babbitt. Noteworthy, too, was the founding of the Society for Music Theory in 1977, the first scholarly society devoted to the discipline of music theory since Mizler's organization some two hundred years earlier. And while this professionalization of music theory was initially limited to North American universities, in more recent years, it has become broadly international in scope, with new courses of study, degree programs, conferences, and publications devoted to music theory springing up around the world each year.

At the opening of the twenty-first century, then, there seems little doubt that music theory has once again firmly found its place in the scholarly study of music. To be sure, there remain many of the same disciplinary tensions we have witnessed in previous centuries between practical and speculative strains of musical study, between descriptive and prescriptive methods of inquiry. And music theory has continued to suffer its share of criticisms in the wake of the general rise of postmodern malaise at the close of the twentieth century. In particular, a number of musicologists have faulted theorists for cleaving to a perceived modernist mentality innocent of questions concerning cultural or social context. Certainly among music theorists themselves, there have been spirited debates and some anxious hand-wringing concerning the identity and methods of music theory. But as we enter a new millennium in the now two-and-one-half millennia old discipline of music theory, a new sense of confidence and energy seems to be animating the work of theorists. One of the most remarkable signs of this new vitalization is seen in the recent resurgence of unabashed speculative theorizing

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<sup>36</sup>Ironically, Yale had established an endowed chair in the Theory of Music as early as 1890 (the first appointment was of Jakob Stoeckel, by then a senior music instructor at the Yale School of Music), but the real florescence of scholarly music theory came to Yale only with Hindemith's arrival in 1940 in the newly constituted Department of Music (Allen Forte, "Paul Hindemith's Contribution to Music Theory in the United States," *Journal of Music Theory* 42 [1998]: 6).

among a number of scholars. For example, under the general rubric of “neo-Riemannian” theory, some music theorists have sought to extend imaginatively ideas drawn from Hugo Riemann’s theory of harmonic functions using advanced tools of algebraic group theory.<sup>37</sup> The aim of their theoretical work is not so much to deduce insight analytically from musical practice nor to regulate music pedagogically. Rather, they aim for a most traditional goal: to explore the universe of tonal *materia* in order to understand its boundless properties and potential. This resuscitation of the seemingly dormant tradition of speculative harmonics constitutes a remarkable chapter in the long history of music theory and suggests that the venerable study of *musica scientia* as envisioned almost 1500 years ago by Boethius may yet have the capacity to animate the imagination of musicians.



I have offered this abbreviated—and obviously highly selective—survey of the disciplinary peregrinations of music theory as it vividly opens up the many historiographical challenges facing any historian of music theory. The problem is not simply one of vicissitudes of labels and lexical taxonomies; rather, it goes to the fundamental ontological changes of meaning concerning *musica theorica*. To return to Dahlhaus’s challenge raised at the beginning of this introduction, we can see how the writing of a “history of music theory” poses any number of formidable paradoxes. To be at all meaningful, such a history would have to be both prospective and retrospective; it would need to look forward to the changes and ruptures of meaning that *theoria* underwent from its earliest conceptions—its migration into the emerging fields of acoustics and analysis, for example—as well as look backwards and reconstruct an idealized discipline of music theory containing topics that were not originally considered to be part of its program of study, such as the propaedeutic writings of the Middle Ages or many of the treatises of musical poetics and performance from the Baroque and Classical eras. Put simply, a comprehensive history of “music theory” must include a prodigious quantity of topics and problems that were at differing times not properly considered to be part of it.

Such a history of music theory is only conceivable, then, if we abandon any fixed definition of theory and allow instead for a flexible network of meanings. Dahlhaus has proposed one way to do this by distinguishing

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<sup>37</sup>I am thinking here of the work of David Lewin, Richard Cohn, and John Clough. A useful introduction to the work of these theorists is provided in Richard Cone’s essay, “Introduction to Neo-Riemannian Theory: A Survey and a Historical Perspective,” *Journal of Music Theory* 42 (1999): 167–80.



various “traditions” of music theory.<sup>38</sup> For Dahlhaus, the “speculative” and “practical” tensions we have just analyzed constitute two discrete traditions of “theorizing” that need be kept conceptually separate, however entangled they may appear within any given text. The “speculative” tradition he characterizes as the “ontological contemplation of tone systems.” This would encompass, then, not only the traditional programs of classical harmonics and canonicity but much research in the areas of acoustics and tuning theory during the seventeenth and eighteenth centuries and tone psychology in the nineteenth and twentieth centuries. The second “practical” tradition is characterized by Dahlhaus as the “regulation” and “coordination” of these tone systems applied to compositional practice. As a regulatory discipline, such music “theory” seeks to draw from practice normative rules of syntax and models of structure, while at the same time disciplining that practice through pedagogical strictures. Here we would have an even more expansive category of pedagogical writings crossing the centuries and touching on just about every parameter of music: counterpoint, harmony, rhythm, meter, melody, form, genre, and style. Dahlhaus adds a third theoretical tradition to his outline, one that really only rose to prominence in the nineteenth century, although it was foretold, as we have seen, by Forkel: music analysis. Here, the music analyst studies individual musical works not so much to derive normative patterns of compositional practice as to gain insight and understanding of the individuating particulars of the artwork.

Dahlhaus calls each of these theoretical traditions “paradigms” (borrowing from the historian of science, Thomas Kuhn).<sup>39</sup> It should be obvious from our brief historical overview that the boundaries among these three traditions are porous. Many theories and theorists mix them dialectically in often quite intricate ways. For example, it would hardly be an effortless task to disentangle those elements of Schenker’s theory that are regulative from those that are analytic—let alone even speculative. Still, these three traditions can be useful heuristics in sorting out the diversity of theoretical “styles” we find throughout history. By thinking of music theory not so much as epistemology than as a conceptual attitude, perhaps it is possible to map out a kind of historical evolution of musical thought while at the same time accounting for divergences and diversity within this thought.

The resulting picture is one that seeks not to flatten historical theories into a seamless narrative but rather to reveal—indeed even highlight—the

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<sup>38</sup>Carl Dahlhaus, *Die Musiktheorie im 18. und 19. Jahrhundert: Grundzüge einer Systematik*, *Geschichte der Musiktheorie*, ed. Frieder Zaminer, vol. 10 (Darmstadt: Wissenschaftliche Buchgesellschaft, 1984), 6–9.

<sup>39</sup>Dahlhaus, “Was heisst?” 29.

points of disjunction, rupture, and tension. For inherent in the music-theoretical enterprise is a series of ontological paradoxes: music theory is a discipline that seems to stand apart from practice yet is inextricably tied to that practice; a discipline that claims to transcend history yet is through and through historical. Ultimately, I believe, none of these tensions can be—or should be—resolved. Rather, each can be seen as helping to provide the energy and impetus of the discipline. For theory is not just a set of observational tools: these tools also tell us something about those who use them. If we recall that the traditional Latin translation of “theory”—*speculum*—also means “mirror,” we can begin to understand how historical music theories act as a mirror of past musical intellectual cultures, ones in which the theorist too is reflected as an observer. For the very act of reflection must necessarily put the interlocutor in a recursive relation with the object under scrutiny. There is ultimately no transcendental point of observation, given that such reflection must always take place at a given position in culture and in time. A true theory of music, then, reflects in both directions, telling us as much about the individual theorist as it does about the musical problem under consideration. At the same time, we as historians enter into this optical nexus, with our own reflections upon the past shining back in our own faces, revealing something about our own position in this geometric labyrinth of historical hermeneutics.

This reflexivity of music theory was already understood in the eighteenth century by an insightful, though today little-known music pedagogue named Johann Kessel (ca. 1766–1823). Inspired by the historicist theories of his contemporary, Johann Gottfried Herder, Kessel recognized that the evolution of music theory—like musical art itself—could offer a revealing window to our understanding of past musical cultures:

Since music itself is always changing and will continue to change, so must from time to time new theories of composition be developed that can explain and justify these new changes .... Whoever wishes to penetrate the spirit of an entire nation and an age or the history of mankind should perhaps give attention to musical artworks and their theories in order to gain deeper understanding ....<sup>40</sup>

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<sup>40</sup>“Da sich also die Musik selbst immer verändert und verändern muss, so müssen auch von Zeit zu Zeit neue Theorieen der Tonkunst ans Licht treten, welche die neuen Wendungen derselben erklären und begründen .... Auch dem Weisen, der in den Geist einer ganzen Nation und eines Zeitalters oder in die Geschichte der Menschheit tief einschauen will, könnten vielleicht musikalische Kunstwerke und Theorieen Winke geben zur tiefern Untersuchung und Enträthselung mancher psychologischen Erscheinung, weil sie uns den Gang der menschlichen Empfindungen darstellen.” Johann Christian Kessel, *Unterricht im Generalbasse zum Gebrauche für Lehrer und Lernende* (Leipzig: Hertel, 1790), preface.

The shifting configurations of music theory over the centuries, then, far from undermining any epistemic claims to transcendence or logical coherence, in fact endow the discipline with cultural vitality and relevance. The differing questions posed as well as the differing tools and languages used by which to answer these questions constitute windows through which the historian may look and glimpse a view of past musical cultures, allowing us to see what problems of music theory were considered pressing to solve, what topics of pedagogy critical to teach. In short, a theory text may be itself a *speculum* of intellectual and spiritual values as we observe the struggle of theorists to answer anew the age-old question of the scholastics: “Quid sit musica?”<sup>41</sup>



“Grau, teurer Freund, ist alle Theorie”—Grey, dear friend, is all theory—Goethe’s Mephisto warns Faust in a famous passage. And from the perspective of the author of the *Farbenlehre*, the systematic theorizing of Newton’s mechanical universe might have indeed seemed dishearteningly monochromatic in comparison to the living colors of the “golden tree of life.” Yet theories of music, whether lying low to the empirical ground or soaring high into the rarified air of speculation and abstraction, have nonetheless always possessed the capacity to instruct and inspire. Far from finding theory only an etiolating agent of impoverishment, countless generations of musicians have on the contrary found the intellectual contemplation of music to be enriching and ennobling, one that endows the musical experience with increased pleasure and profounder meaning.

It has been a crooked journey since Pythagoras first stumbled into the blacksmith’s forge and contemplated the numerical ratios that underlay the harmonious sounds he had heard. But as long as we continue to contemplate that delightful phenomenon which so enchants our ears, engages our minds, agitates our emotions, and lifts our souls, there will always be those who will pursue the intellectual quest. They will wish to engage in that ethical contemplation of music, to assume the venerable and honorable occupation that is the true *theōros* of music.

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<sup>41</sup>I have elaborated this hermeneutic thesis further in my essay “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.