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## Between Analysis and Music Theory

### Towards a New Understanding of Renaissance Polyphony Tonal Space

Im zwanzigsten Jahrhundert folgte die Herangehensweise an die polyphone Modalität drei verschiedenen Interpretationslinien: der teleologischen von Carl Dahlhaus, der historistischen von Bernhard Meier und der radikal empirischen von Harold Powers. Vor allem die letztere hat das unbestreitbare Verdienst, die Aporien der beiden anderen Perspektiven aufzuzeigen. Die Vorstellung, dass der Verstand des Komponisten im sechzehnten Jahrhundert eine Art “tabula rasa” war, scheint jedoch im Widerspruch zu den neuesten Erkenntnissen der kognitiven Psychologie zu stehen, ebenso wie zu der historischen Tatsache, dass der gregorianische Modus in der Ausbildung der Musiker jener Zeit von Bedeutung war. Wir für unseren Teil haben seit langem einen problematischen Ansatz für die polyphone Modalität vorgeschlagen, der auf der Beobachtung beruht, dass jede *Tonal Type* von Natur aus und unabhängig von stilistischen Variablen unterschiedlich auf die modale Zuweisung reagiert. Die bisher durchgeführten Untersuchungen haben uns eine kontinuierliche Bestätigung dieser These geliefert, aber wir müssen fortfahren, indem wir die musikalischen Beispiele, die von den Theoretikern des sechzehnten Jahrhunderts in Bezug auf die Modalität angeführt wurden, erschöpfend untersuchen: Beispiele, die mit ihren Unstimmigkeiten oft genau den problematischen Charakter der Modalzuschreibungen hervorheben. Eine der wichtigsten unter diesen Unstimmigkeiten betrifft die Rolle der Tenorstimme bei der Definition des Modus, die in der Theorie so nachdrücklich gefordert und in der Kompositionspraxis oft vernachlässigt wird. Die nächsten Schritte unserer Forschung werden daher in diese Richtung gehen.

In the twentieth century, the approach to polyphonic modality followed three different interpretative paths: Carl Dahlhaus’ teleological approach, Bernhard Meier’s historicist perspective, and Harold Powers’ radically empiricist assessment. The latter had the undeniable merit of highlighting the aporias of the other two; however, the idea that the mind of the sixteenth-century composer was, from the modal point of view, a kind of “tabula rasa” seems to contradict the latest findings of cognitive psychology as well as the historical fact that the modes of the Gregorian tradition were still fundamental in the training of musicians of the time. To resolve this aporia, we have long proposed a problematic approach to polyphonic modality based on the observation that each tonal type responds differently to modal assignment by its very nature and independently of personal and stylistic choices. The research we have done so far has provided us with much confirmation of this idea; however, a thorough examination of the musical examples given by sixteenth-century theorists concerning modality is now required. Indeed, these examples often highlight precisely the problematic nature of modal attributions. Among these inconsistencies, one of the most significant concerns the role of the tenor voice in the definition of modes—something that is insistently asserted in theory but often disregarded in compositional practice. The next stage of our research will therefore focus precisely on such examples.

SCHLAGWORTE/KEYWORDS: Analyse der Musik der Renaissance; Analysis of Renaissance music; Modalität; Modality; Modes; Musik der Renaissance; Reception of the concept of mode in modern musicology; Renaissance Music; Rezeption des Modusbegriffs in der Gegenwart; Tonal organisation; tonale Organisation; Tonarten

If we look today at the approach of twentieth-century musicology to the tonal organisation of so-called ‘classical vocal polyphony’, we can see that it was essentially polarised around three different theoretical-analytical perspectives.

The first perspective can be defined as *teleological*. It dominated the scene at least until the 1970s and culminated in the studies of Carl Dahlhaus, in particular in his *Untersuchungen über die Entstehung der harmonischen Tonalität*.<sup>1</sup> Its core—in as few words as possible—was the consideration of the shift from ‘modality’ to ‘tonality’ as an inescapable and necessary development: necessary, because in Dahlhaus’ conception the tonal organisation of Renaissance polyphony was considered nothing else but a rough and provisional stage in the journey that would lead Western music to the harmonic tonality of the common practice; inescapable, because the seeds of harmonic tonality were thought to be already contained in Renaissance modality, and the transition to the former from the latter was therefore seen simply as an inevitable and organic development.

The second perspective can be called *historicist*. It was established by Bernhard Meier around the middle of the century, was given a systematic form by the same scholar in his 1974 book *Die Tonarten der klassischen Vokalpolyphonie, nach den Quellen dargestellt* (published, significantly, in Utrecht and not in Germany),<sup>2</sup> and gained general acceptance in the English-speaking world with the translation published in the United States in the same year as Dahlhaus’ *Untersuchungen*.<sup>3</sup> Basically, Meier’s main conviction was that modes were a reality in their own right, not only fundamentally different from the later harmonic tonality but also self-sufficient and thus without any evolutionary need to become something else. The most important consequence of such a conviction was the belief that, even today, it is always possible unambiguously to attribute to a given ‘classical’ polyphonic composition one of the modes of the medieval and Renaissance theoretical

1 Dahlhaus 1988.

2 Meier 1974. On the dispute between Meier and Dahlhaus, see Loos 2020.

3 Meier 1988; Dahlhaus 1990.

tradition,<sup>4</sup> because the composers of the time knew what they were doing, and it is therefore up to us to recognise and understand what they were doing (even to such a degree that, when the attribution seems to be too difficult or even impossible, the problem is thought to lie with the analyst and not with the system).

The third perspective, which we propose to call *empiricist*, was introduced by Harold Powers with his renowned 1981 essay “Tonal Types and Modal Categories in Renaissance Polyphony”.<sup>5</sup> Powers—again to make a long story short—read the Renaissance theoretical pronouncements on polyphonic modality as a vast *a posteriori* classificatory operation—an operation, however, marked by multiple contradictions. For this reason, he felt the whole question needed to be examined afresh and as objectively as possible. To this end, he developed a new analytical approach based on what he considered to be the chief features of Renaissance music (which he called ‘minimal markers’): the key system, divided into the opposing sets of ‘natural keys’ and ‘high keys’ or ‘chiavette’; the sound system, expressed by the *cantus durus* vs. *cantus mollis* signature; and finally, the lowest pitch of the final sonority of each composition—three features that together form what he called ‘tonal type’ and intended as «the particular combination [that] minimally characterize[s] [...] a class of polyphonic compositions».<sup>6</sup>

Powers’ perspective is historically and epistemologically remarkable because it highlights the weaknesses and aporias that plague the other two perspectives. On the one hand the discrepancies between sixteenth-century music theory and compositional practice are indeed much more numerous and significant than Meier suspected or was willing to admit.<sup>7</sup> On the other hand, the studies devoted over time to the slow and progressive emergence of harmonic tonality in the course of the seventeenth century, also inspired by Powers’ reflections and carried out by, among others, Gregory Barnett and Michael Dodds, have definitively

4 For the moment we will not deliberate the question of whether the attribution process should use the eight-mode or the twelve-mode system (and why). See below.

5 Powers 1981.

6 Powers 1981, 436–439. Both the definition *tonal type* and the associated concept are, as Powers openly admits, derived from Hermelink 1960, esp. 13–4.

7 For example, nowhere in Meier 1988 is there any mention of Palestrina’s motets *Magnum hereditatis mysterium*, *Magnus sanctus Paulus*, *In diebus illis*, *Beatus Laurentius*, *Congratulamini mihi*, *Hic est vere martyr*, *Beatus vir qui suffert*, and *Exaudi Domine* (*Motecta festorum totius anni*, nn. 5, 15, 17, 18, 25, 31, 34 and 36), which, in our opinion, pose considerable problems of modal attribution in the eight-mode system to which Palestrina always remained faithful; see Mangani/Sabaino 2008, 236–244.

relegated the teleological perspective to the margins of scientific *bon ton* and to a few general works that have resisted developments in the field

In our view, however, along with these salutary acquisitions, Powers' empiricist perspective has at least one unsound element. A necessary consequence of what Powers himself has argued in his other famous essay *Is Mode Real? Pietro Aron, the Octenary System, and Polyphony*,<sup>8</sup> in point of fact, is the idea that the mind of a sixteenth-century composer, as far as the tonal organization of polyphony was concerned, was almost a *tabula rasa*—or, to put it another way, that a sixteenth-century polyphonist approached the act of composition without any prior self-knowledge of the organisational arrangement of the tonal space, particularly with regard to the selection and hierarchy of pitches. Such an idea, which already intuitively is not very credible, from our own perspective has at least two weaknesses. On the one hand, it is at odds with the complex cognitive nature of the act of composition itself (including extemporaneous-improvisation, as jazz scholars and ethnomusicologists are well aware), which implies a constant interaction between top-down and bottom-up processes.<sup>9</sup> On the other hand, it does not take into account the undeniable historiographical datum of the fundamental role (or perhaps better: imprint) that the then omnipresent liturgical monody and its related criteria of linear pitch selection (which is another way of saying: the modes) still played in the training of fifteenth- and sixteenth-century musicians (but probably also of the seventeenth-century ones).<sup>10</sup>

In order to avoid becoming prisoners of such an impasse, it seems to us far more productive to approach the question from another point of view: namely, from the recognition that the criteria of tonal organisation that have governed

8 Powers 1992.

9 On the relationship between intuition and reasoning in compositional processes, see Pohjannoro 2016, which states that «artistic intuition shows its full potential when there is (1) a guiding principle, which centralises and guides searches in the problem space; (2) constant fluidity between different processing modes so that intuition is guided by as much evidence as possible and explicated to the point that ensures the achievement of generic aims (aesthetic coherence); (3) expert ability to learn implicitly; and (4) the ability to tolerate ambiguity» (227).

10 For the consideration and performance of Gregorian chant in the late sixteenth and seventeenth centuries, see Stefani 1987, 141–183.

the historical course of Western music<sup>11</sup> cannot be—and have not been—reduced to a single principle.

The essence of the organisation of the tonal space of any piece of music, we believe, essentially consists in rendering the sonic continuum discrete beyond the level of scalar segmentation, in order to provide performers and listeners with structural articulations useful for grasping the form of the piece as well as its tension towards a more or less predetermined goal resulting from the chain of internal articulations. To this end, composers of varying times, places, genres, and idiosyncratic inclinations have resorted to very different logics. Sometimes, as in the harmonic tonality of the common practice, the horizontal and vertical unfolding of the sonic material employed is eminently hierarchical and prefigures a clear and predictable goal.<sup>12</sup> In other cases, as in the dodecaphony of the Second Viennese school, the tonal organisation is based on an elaborate pre-compositional system but there is no hierarchy between the individual pitches.<sup>13</sup> In still other cases—such as the polyphonic modal space of the Renaissance we are discussing in this paper, as we hope to make clear—the music is organised around a weak hierarchy of pitches but nevertheless possesses a certain predictable directionality.<sup>14</sup> Finally, there are also organisations of tonal space that are characterised by very weak pitch hierarchy and in which the final sonority is the consequence of the development of the dynamic process of composition rather than of the adherence to organic, pre-compositional categories, as seems to be the

11 The whole question should also be considered from an ethnomusicological perspective; however, as this could be misleading in the present discourse, we allow ourselves to set it aside for the time being.

12 Lester 2003; Bernstein 2003.

13 Covach 2003.

14 The organisation of the tonal space of medieval and Renaissance polyphonic compositions could be considered also as the result of contrapuntal movements, either *alla mente* or in terms of *res facta* (see, for example, the pioneering remarks in the last paragraphs of Bent 1988 and the most comprehensive discussions by Jans 1992, 167–188; Sabaino 2013, 287–325; Sabaino 2016, 71–100). The same organisation could be seen also as the result of the way in which a listener of the time perceived melodic archetypes and intonation formulae in relation to hexachordal *voces*, as Jochen Brieger argues (Brieger 2013); an approach that we believe is not incompatible with our concept of ‘problematic representation’ and with which we propose to engage as we continue to research. However, since the theorists of the period encompassed by the term ‘classical vocal polyphony’ identified precisely in the concept of ‘mode’ the main hermeneutic principle of such organisation, we think it is appropriate to continue to focus on this very concept, taking full account of the musicological considerations made in this regard in recent decades.

case of the fourteenth-century Italian polyphony that we analysed some years ago,<sup>15</sup> as well as of the French Ars Nova music that have been studied from this point of view by Sarah Fuller, Peter Lefferts, Yolanda Plumley and Jennifer Bain.<sup>16</sup>

In this rough classification (which can certainly be improved, but which we feel is sufficiently comprehensive), polyphonic modality is placed in a corner which inevitably entails a certain degree of complication—and therefore presents a problem when it comes to analysing actual compositions. For this reason, a few years ago we proposed to introduce the concept of ‘degree of problem [*grado di problematicità*] of modal representation of a tonal type’ into the theoretical tools concerning the tonal organisation of Renaissance polyphony.<sup>17</sup> On the basis of the analyses carried out on a sample of significant modally- and non-modally ordered collections by Palestrina, Lasso, Victoria and other Renaissance composers,<sup>18</sup> we have come to the further conclusion that the problematic nature of the concept of ‘tonal type’ lies in the fact that different tonal types represent different modes with different degrees of resistance: or, in other words, that each tonal type resists modal representation in different and particular ways, and that this resistance does not depend on a composer’s personal choices or preferences, but is inherent in the tonal type itself (something that, incidentally, makes Powers’ concept of tonal type much less ‘objective’ than he pretended). To this problematic nature of modal representation, integral to the system as such, must be added the extensive recourse, by almost all composers at least from mid-sixteenth century onwards, to modally irregular cadences as means of textual exegesis (we speak here of ‘modally irregular cadences’ beyond the oscillations of the theorists on the subject and in the sense intended by Meier in the second part of his book).<sup>19</sup> This usage, which has been undeniably confirmed by our research and by that of many other colleagues,<sup>20</sup> brings to the surface not only a solid pre-compositional awareness on the part of the composers, but also a systemic sharing of the same awareness on the part of the listeners, at least the patrons and the *cognoscenti* (for without this sharing the exegetical intent innermost to the very

15 Mangani/Sabaino 2015.

16 Fuller 1986; Fuller 1987; Fuller 1992a; Fuller 1992; Fuller 1998. Lefferts 1995; Plumley 1996; Bain 2001; Bain 2003; Bain 2005; Bain 2008.

17 Mangani/Sabaino 2008.

18 Sabaino 2008; Mangani 2016; Mangani/Sabaino 2019.

19 Meier 1988, 248–285.

20 See, for instance, Mangani 2021, esp. 91–2; Mangani/Sabaino 2019.

conception of Renaissance vocal music would be impossible to grasp). This exegetical intention—i.e. the re-expression of the inner meaning of the biblical, liturgical or literary text by purely musical means—is indeed sometimes conveyed, beyond the very idea of modally irregular cadences, by peculiar modal conducts (suffice it to recall here the case of Orlando di Lasso’s extraordinary motet *Si bona suscepimus*, in which the out-of-mode conclusion that follows a modally clear-cut *exordium* is the exact counterpart of the liturgical text that invites the faithful to surrender with confidence to divine will, even when it seems to be unfathomable and to lead them into unknown lands).<sup>21</sup>

The above criticism aside, however, Harold Powers is quite right to caution against a naïve consideration of the intersection between sixteenth-century modal theory and the composers’ habits of organising tonal space. Indeed, a careful comparison of the two areas suggests very clearly that at the root of the problematic nature of sixteenth-century modality lie a number of dichotomies between theory and practice. Let us recall here at least three of them.

The first is the importance generally attributed by theorists to the tenor voice for the modal classification, and in particular for the distinction between the authentic and plagal modes that share the same *finalis* (an aspect that becomes a kind of dogma in Meier’s historicist perspective).<sup>22</sup> Paradoxically, this tenor consideration became commonplace in a historical milieu in which the same voice was losing its original connotation as the usual carrier of the *cantus firmus*, and consequently its centrality in favour of the principle of general imitation and of a compositional style aiming at vertical euphony.<sup>23</sup> And it is only a further paradox that the modal role of the tenor was emphasised by Pietro Aron, the theorist who (after Iohannis Tinctoris’ pioneering but dissimilar reasoning)<sup>24</sup> established modality as the main organising criterion not only of chant, but also of polyphonic music.<sup>25</sup>

The second dichotomy is the opposition between an ‘external’ and an ‘internal view’ of the modes—to use Frans Wiering’s felicitous definitions. According to Wiering, the former was typical (though not exclusive) of practical musicians, and was used to determine the mode of any given composition essentially on the basis

21 Sabaino 2021, 55–61.

22 Meier 1988, 53–78.

23 Meier 1988, 49–53.

24 On Tinctoris’ voice-by-voice modal reasoning, see Molmenti 2013, 29–33.

25 Aron 1969; Aron 1970.



of its final pitch (sticking to the old medieval axiom *omnis modus in fine dignoscitur*); the latter, on the other hand, was favoured by theorists and ‘philosophers’, and based the modal attribution of a piece on an overall consideration of its development and on the structure of the modal octaves (position of the semitone, of the species of fourth in relation to species of fifth, etc.).<sup>26</sup> However, it is highly probable that in sixteenth-century theory and practice there were as many ‘modal views’ as there were theorists and composers. This, at least, is what emerges, on the side of the theorists from their different explanations of modes and their characteristics (and especially the so-called ‘modal ethos’),<sup>27</sup> and on the side of the composers from the distinctive *exordia* of many pieces of music that can be considered to represent one and the same mode.<sup>28</sup>

The third (and best known) dichotomy was the coexistence, from the middle of the century onwards, of two different modal horizons, the eight-mode system inherited from the chant tradition and the twelve-mode system proposed by Glarean and popularised (though not without resistance from other theorists and musicians) by Zarlino’s *Istitutioni*.<sup>29</sup> This last dichotomy forces modern musicologists to decide, case by case, whether it is more appropriate to analyse any given composition (or the musical output of a composer) according to the one or the other system, with all its consequences (since it is quite different, analytically as well as exegetically, to consider for example a natural-A tonal type as the representation of a ‘true’ mode or as a D- or an E-mode ending elsewhere than on its proper final).

So far, our research has focused on the last two dichotomies, in particular on the heuristic-hermeneutical legitimacy of an ‘internal view’ of the modes able to take into account both Meier’s historicism and Powers’ empiricism,<sup>30</sup> and on the peculiar status of A-tonal types and modes.<sup>31</sup> We believe, however, that the time has come to confront the first dichotomy directly and to revisit the question of the criteria for distinguishing an authentic mode from its plagal counterpart. Obviously, such a question needs to be addressed analytically with a wealth of ex-

26 Wiering 1988.

27 Sabaino 2005.

28 See the analysis of modal *exordia* for each pair of modes in Meier 1988, 178–233.

29 On the problems raised by the coexistence of the two systems, see Mangani/Sabaino 2019.

30 See footnotes 17 and 18, as well as Mangani/Sabaino 2019; Sabaino/Mangani 2013; Sabaino/Mangani 2014; Sabaino/Mangani 2018.

31 Mangani/Sabaino, 2003); Mangani/Sabaino 2009.

amples and arguments, and therefore cannot be dealt with in the short space of this paper; we will therefore limit ourselves to stating the reasons which, in our opinion, make such an investigation urgent and crucial. These reasons may be summarised as follows:

1) In imitative polyphony it is not always possible to distinguish the authentic or plagal modality of any polyphonic piece unambiguously on the basis of the range of its tenor (or, indeed, the range of any other voice);<sup>32</sup>

2) Some sixteenth-century theorists discontinued considering the tenor range as the primary criterion for modal classification, but did not always replace it with other explicit criteria of equal importance.<sup>33</sup>

3) Many theorists proposed to distinguish the authentic mode from its plagal counterpart on the basis of the internal cadences of the composition.<sup>34</sup> This distinction, however, is not always effective, especially in those musical circles influenced by the Zarlirian theory, given the fact that the author of the *Istitutioni*, as it is well known, does not distinguish at all between cadences proper to an authentic mode and cadences proper to the corresponding plagal.<sup>35</sup>

4) Despite all these inconsistencies, however, the distinction between authentic and plagal modes is not only invariably affirmed in Renaissance theoretical writings, but is also clearly stated in modally-ordered collections<sup>36</sup> (something which,

32 Meier 1988, 165–169 had already noted that in the modes ending on E the ambitus differences between authentic and plagal are less pronounced in actual musical practice than in the other pairs of modes; however, it is not uncommon to observe little or no differentiation between authentic and plagal ambitus in the other *maneries* as well, even in modally ordered collections (see, for example, the first- and second-mode motets in Palestrinas' *Offertoria totius anni*).

33 The most conspicuous case is undoubtedly that of Pietro Pontio, discussed in Meier 1988, 75–78. Even if Meier believed that «although neither the primacy of the tenor nor the ambitus system has been discussed, it is evident that according to Pontio, too, the mode of a freely imitative composition is nevertheless represented in tenor and soprano in the form valid for the whole work» (77), in our opinion the question deserves further and deeper investigation. Another striking case is that of Gallus Dressler, for whom «in contrapuncto colorato [...] non Tenoris tantum sed et aliarum omnium vocum ratio habenda est», while «In cantionibus quae ex fuga constant, vox fugam incipiens vel continuans primaria et praecipua est, cui reliquae omnes quotquot fuerint parere coguntur»: Dressler 2007, 124 and 126.

34 See the overview in Meier 1988, 101–116.

35 According to Zarlino 1999, 320, the cadences proper to each mode are always on the first, third and fifth degree, regardless of the authentic/plagal distinction.

36 Wiering 2001, 265–296.

even according to Powers, amounts to *emic* evidence of the modal awareness of composers and printers of the time).<sup>37</sup>

In order to be able to reassess the organisational logic of Renaissance music, an investigation of the relationship between theory and practice specifically devoted to the distinction between authentic and plagal modes can therefore no longer be postponed. The most productive way of doing this, in our view, is to apply systematically and comprehensively the procedure we have already used to examine Zarlino's conception of modes nine and ten (the modes ending on A in *cantus durus* and in D in *cantus mollis*):<sup>38</sup> that is, to observe from an *etic* point of view the *emic* understanding of modes that Renaissance theorists put in place when they assigned a particular piece to a specific modal category. The first stage of the investigation (which we have recently begun) can, we believe, be a comparison between Zarlino's definition of each of the twelve modes and the examples he cites to support his definitions.<sup>39</sup> A second stage will similarly take into account both those theorists who quote (so to speak) 'retrospective' modal examples (above all Aron, Glarean, and Dressler)<sup>40</sup> and those who refer (also) to compositions closer to their own time of writing (for example Ponzio and Orazio Vecchi).<sup>41</sup>

Only at the end of such an investigation will it eventually be possible to formulate that 'new understanding of the tonal space of Renaissance music' that we have inscribed in the title of this paper—and (even more importantly) do so without repeating or perpetuating those teleological, historicist and empiricist aporias that have taught us so much but at the same time have often held us back, and have sometimes even distorted our understanding of such an important parameter of this music.

37 Powers 1981, 435–436.

38 Mangani/Sabaino 2003.

39 Mangani/Sabaino.

40 Aron 1525; Aron 1523, *Toscanello*; Glarean 1547; Dressler 2007, Dressler 1561.

41 Ponzio 1588; Ponzio 1595; Vecchi 1987.

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