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Compositional Theory and Practice in  
Mid-Sixteenth-Century Spanish  
Instrumental Music:

The “Arte de Tañer Fantasia” by  
Tomás de Santa Maria  
and the music of  
Antonio de Cabezon

Indiana University, 1990

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**Compositional theory and practice in mid-sixteenth-century  
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Tomas de Santa María and the music of Antonio de Cabezón**

**Roig-Francolí, Miguel Angel, Ph.D.**

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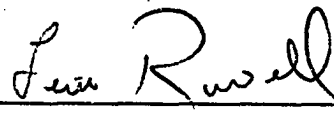
COMPOSITIONAL THEORY AND PRACTICE IN MID-SIXTEENTH-CENTURY  
SPANISH INSTRUMENTAL MUSIC: THE *ARTE DE TAÑER FANTASIA*  
BY TOMAS DE SANTA MARIA AND THE MUSIC OF ANTONIO DE CABEZON

Miguel A. Roig-Francolí

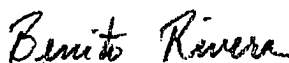
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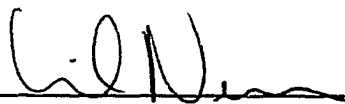
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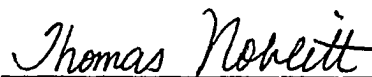
Lewis Rowell

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David Neumeyer

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Thomas Noblitt

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**PART I**  
**BACKGROUND**

## INTRODUCTION AND LITERATURE REVIEW

The *Libro llamado arte de tañer fantasta* (literally, "Book named art of playing fantasía") was published in Valladolid in 1565.<sup>1</sup> Its author, Tomás de Santa María, a Dominican friar and organist, wrote the treatise with a pedagogical purpose, as we learn in the opening pages. The work, in two parts, has four major sections. Chapters 1 to 23 deal with the rudiments of theory, notation, and keyboard technique; chapters 24 to 26 include a presentation of polyphonic modality and a discussion of cadences. Part 2 opens with a thirty-chapter study of the technique of "playing in consonances," a bass-oriented method of vertical composition; chapters 31 to 53 contain an extended discussion of imitative, contrapuntal, and formal techniques that should be mastered by any performer wishing to improvise *fantasta*. The treatise is thus a practical survey of structural principles and compositional techniques applied to keyboard improvisation.

The opening pages give further indication of the treatise's significance. The title page informs us that "the book has been examined and approved by his Majesty's eminent musician, Antonio de Cabezón, and by his brother, Juan de

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<sup>1</sup>Tomás de Santa María, *Libro llamado arte de tañer fantasta* (Valladolid: Francisco Fernandez de Córdova, 1565; facsimile ed., n.p.: Gregg International Publishers, 1972).

Cabezón." In the ensuing Prologue Santa María declares again that in the sixteen years that he took to write his treatise he "consulted with persons skilled and knowledgeable in the faculty [of improvising *fantasia*], especially with Antonio de Cabezón, his Majesty's eminent musician."

While the treatise itself is a major source for Renaissance instrumental practice from the point of view of both performance and composition, Santa María's association with Cabezón provides one more element of interest for the scholar. Can the treatise help in our understanding of Cabezón's music? This question is the point of departure for the present dissertation, and its answer is in the affirmative. Santa María's discussions refer to the same genres, techniques, structures, and styles practiced by Cabezón. There is certainly a qualitative gap between the products of Cabezón's musical genius and Santa María's expositions and musical illustrations. As a good pedagogue, Santa María is clear and systematic in his teachings, which patiently lead the student from the very beginning stages of musical learning through the intricate art of imitative improvisation. The theorist avoids speculation and confusing interpretations, and, while he confines the student to the limits of his prescriptions, he also indicates that the practice of great masters often departs from these limits.

This is indeed the case with Cabezón. But while the genius of the composer overflows the schemes of the pedagogue, the stylistic and structural bases of both masters are largely the same. Santa María's compositional theory provides us with valuable principles that illuminate Cabezón's music. This is one of the infrequent

cases in music history in which a major treatise deals with updated compositional practice as represented by the works of a major contemporaneous composer.

The historical stature of Cabezón has been sufficiently established by now, despite the limited availability and diffusion of his works. As the court organist of the two most powerful monarchs in sixteenth-century Europe, Charles V and Philip II, Cabezón was exposed to the musical culture of different countries. His influence was spread by means of his published compositions and his journeys to Italy, Germany, France, the Netherlands, and England.

Cabezón's musical sources, his significance, and his influence on composers from other countries have been studied by Willi Apel, Macario S. Kastner, and Raymond Schroyens, among other scholars.<sup>2</sup> Apel argues for Cabezón's influence on Frescobaldi by way of the school of cembalists that flourished in Naples around 1600, especially Trabaci and Mayone. Both Kastner and Apel stress that the variation form first emerged in Spain, and point out the influence of Cabezón's variation techniques on the English virginalists. Similarly, Schroyens examines

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<sup>2</sup>Willi Apel, "Early Spanish Music for Lute and Keyboard Instruments," *Musical Quarterly* 20 (July 1934):289-301; idem, "Neapolitan Links between Cabezón and Frescobaldi," *Musical Quarterly* 24 (October 1938):410-37; idem, *The History of Keyboard Music to 1700*, trans. Hans Tischler (Bloomington: Indiana University Press, 1972); Macario Santiago Kastner, "Parallels and Discrepancies between English and Spanish Keyboard Music in the Sixteenth and Seventeenth Century," *Anuario musical* 7 (1952):77-115; idem, "Rapports entre Schlick et Cabezón," in *La musique instrumentale de la Renaissance*, ed. J. Jacquot (Paris: Centre National de la Recherche Scientifique, 1955), pp. 217-33; idem, "Il soggiorno italiano di Antonio e Juan de Cabezón," *L'organo* 1 (1960):49-69; Raymond Schroyens, "Engelse en Spaanse invloeden op de clavier-musiek van Jan Pieterszoon Sweelinck (1562-1621)," *Praestant* 20 (April 1971):26-40 and 61-67.

Cabezón's influence on Sweelinck's art of variation.

Apel's evaluation of Cabezón is explicit enough to deserve lengthy quotation:

We find efforts . . . towards an instrumental polyphonic music in all the musical nations of Europe at the beginning of the 16th century; but, as regards the artistic significance of their creations, none of them can compare with the Spaniards. Neither Arnold Schlick nor Cavazzoni (to name only the best) can vie with a Cabezón.

After pointing out that Cabezón's variations excel considerably those written about fifty years later by John Bull and William Byrd, Apel states that "Sweelinck was the first to reach a height approximating that attained by Cabezón, whose direct influence, moreover, in matters of style is apparent." And, concerning Cabezón's *tientos*, Apel remarks:

The *tientos* of Cabezón display an astonishing wealth of ideas in the idiom of the keyboard. And they display also a loftiness of conception and logic in construction that raise them high above all works created in the field of free instrumental composition up to the time of Frescobaldi.

Finally, in his summary Apel introduces the often-quoted comparison of Cabezón with Bach:

Nobody who seriously studies the works of Cabezón is likely to feel that our praise of him is exaggerated. To associate Cabezón with Bach, as we have casually done, signifies more than the expression of an unconsidered admiration. It points to an inner relationship that links the Spanish master more closely to the great German than perhaps to any other musician.<sup>3</sup>

The present study of Cabezón's music will indeed show that Apel's comparison was

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<sup>3</sup>Apel, "Early Spanish Music," pp. 294-98.

not exaggerated. The musical greatness shared by the two composers is reflected in the sweeping unity of their compositions, in the depth of their musical expressions, and in their compositional and contrapuntal mastery.

#### *Literature on Cabezón*

The music of Cabezón has reached us through two sixteenth-century collections. A number of his pieces were included in the *Libro de cifra nueva para tecla, harpa y vihuela* (Alcalá de Henares, 1557), a collection of instrumental compositions edited and published by Luys Venegas de Henestrosa. The second collection, *Obras de música para tecla, arpa y vihuela* (Madrid, 1578), containing only works by Cabezón, was published by Antonio's son, Hernando.<sup>4</sup>

In one of the few serious analyses of any of Cabezón's works published to date, Almonte Howell regretted that "the works of the blind Spanish master have

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<sup>4</sup>The following are modern editions of the two collections respectively: Higinio Anglés, *La música en la corte de Carlos V, con la transcripción del Libro de cifra nueva para tecla, harpa y vihuela de Luys Venegas de Henestrosa*, Monumentos de la música española, vol. 2 (Barcelona: Instituto Español de Musicología, 1944); Antonio de Cabezón, *Obras de música para tecla, arpa y vihuela*, 3 vols., ed. Felipe Pedrell, new ed. by Higinio Anglés, Monumentos de la música española, vols. 27, 28, and 29 (Barcelona: Instituto Español de Musicología, 1966). Cabezón's intabulations have been published as a separate volume under the title *Obras de música: Glosados*, ed. María A. Ester Sala (Madrid: Unión Musical Española, 1974). The following two volumes of selected pieces from the *Obras de música* were edited by Macario Santiago Kastner: *Antonio de Cabezón, Claviermusik* (Mainz: B. Schott's Söhne, 1951); *Tientos und Fugen* (Mainz: B. Schott's Söhne, 1958). For a comprehensive list of pieces by Cabezón in modern editions, see Howard Mayer Brown, *Instrumental Music Printed Before 1600: A Bibliography* (Cambridge, MA: Harvard University Press, 1965), pp. 174 and 291.

remained singularly unavailable for study and performance. . . . Quite naturally, such a dearth of musical examples brings about a dearth of analyses and studies."<sup>5</sup>

The availability has been improved by the recent publication of the first critical edition of Cabezón's collected works.<sup>6</sup> Twenty-four years after Howell's article, however, the dearth of structural analyses still exists.

The scholarly literature on Cabezón is either biographical, as in various publications by Kastner and Anglés,<sup>7</sup> or analytical, with focus on stylistic elements or thematic relationships, as in the case of the studies by Elinore Barber, Hoyle Carpenter, John Hughes, and Luis Merino.<sup>8</sup>

Kastner's *Antonio und Hernando de Cabezón* is the only biography of the

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<sup>5</sup>Almonte Howell, "Cabezón: An Essay in Structural Analysis," *Musical Quarterly* 50 (January 1964):18-30.

<sup>6</sup>Charles Jacobs, ed., *The Collected Works of Antonio de Cabezón*, 5 vols. (Brooklyn: Institute of Medieval Music, 1967-86).

<sup>7</sup>See, for instance, Higinio Anglés, "Antonio de Cabezón: Su vida y su obra," *Anuario musical* 21 (1966):1-15; Anglés' *La música en la corte de Carlos V* also presents abundant documentation on Cabezón's role at the Emperor's court; Macario Santiago Kastner, *Antonio und Hernando de Cabezón* (Tutzing: Hans Schneider, 1977); idem, "Relations entre la musique instrumentale française et espagnole au 16ème siècle," *Anuario musical* 10 (1955):84-108, and 11 (1956):91-110.

<sup>8</sup>Elinore Barber, "Antonio de Cabezón's *cantus-firmus* Compositions and Transcriptions" (Ph.D. dissertation, University of Michigan, 1959); Hoyle Carpenter, "The Works of Antonio de Cabezón" (Ph.D. dissertation, University of Chicago, 1957); John Hughes, "The *tientos*, *fugas*, and *diferencias* in the *Obras de música para tecla, harpa, y vihuela* of Antonio de Cabezón" (Ph.D. dissertation, Florida State University, 1961); Luis Merino, "The Keyboard *Tiento* in Spain and Portugal from the 16th to the Early 18th Century" (M.A. thesis, University of California, Santa Barbara, 1968).



composer published to date. Unfortunately, the book is neither scholarly in its style and approach, nor historically reliable. In his review of the biography in the *Journal of the American Musicological Society*, Charles Jacobs provides a sharp and clear assessment of Kastner's work:

Unfortunately, Kastner's predilection for excessive, overwrought verbiage and supposition--carried to astonishing extremes--is present in this book to the extent that one's confidence in its reliability is seriously shaken. . . . The transformation of fantasy into fact . . . is, at times, subtly enough carried out to ensnare readers not constantly on guard. . . . The book is further marred by casual footnote documentation, careless use of terminology, weak stylistic analysis, and useless digressions.<sup>9</sup>

Jacobs mentions various examples of negligent scholarship, one of which is that the book lacks a general bibliography.

The music of Cabezón has not been analyzed from the point of view of compositional or modal structures. The only studies of modality in sixteenth-century Spanish instrumental music focus on the ample vihuela repertoire. And even these, presented in survey style, give more attention to the listing of conclusions in tabular format than to the study and discussion of the peculiar structure of individual pieces.<sup>10</sup>

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<sup>9</sup>Charles Jacobs, review of *Antonio und Hernando de Cabezón*, by Macario Santiago Kastner, in *Journal of the American Musicological Society* 33 (Summer 1980):389-94.

<sup>10</sup>Two such studies of vihuela music are: Maria Ester Grebe, "Modality in the Spanish Vihuela Music of the Sixteenth Century and its Incidence in Latin-American Music," *Anuario musical* 26 (1971):29-59, and 27 (1972):109-29; John Griffiths, "The Vihuela Fantasia: A Comparative Study of Forms and Styles" (Ph.D. dissertation, Monash University, Melbourne, Australia, 1983).

In his work *Les origines du tiento*, Louis Jambou compares Santa María's modal exposition with that of his contemporary Juan Bermudo, the author of the other major treatise on composition published in Spain in the mid-sixteenth century.<sup>11</sup> Jambou analyzes Mudarra's and Fuenllana's vihuela *tientos*, as well as Bermudo's keyboard *tientos*, using the concepts presented by the two theorists.<sup>12</sup>

The modal organization of vihuela music, however, shows discrepancies with keyboard modality, due mainly to the different tuning possibilities of the two instruments, and to the different ranges of accidentals that result. The vihuela had a system of fixed frets (the diatonic scale) combined with movable frets (the semitones that divide the diatonic scale). There is evidence that this allowed vihuela performers to tune their instruments to a system that closely approached equal temperament. This tuning in turn permitted freedom in the practice of transposition and in the use of accidentals.<sup>13</sup> Spanish keyboard instruments in the

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<sup>11</sup>Juan Bermudo, *Declaración de instrumentos musicales* (Osuna: Juan de León, 1555; facsimile ed., Documenta musicologica, series 1, no. 11, Kassel: Bärenreiter, 1957).

<sup>12</sup>Louis Jambou, *Les origines du tiento* (Paris: Centre National de la Recherche Scientifique, 1982).

<sup>13</sup>The use of accidentals in vihuela music and their effect on modality has been studied by Maria Ester Grebe in the article cited above. For references to the vihuela's movable frets and equal temperament, see the following: Jambou, pp. 79-85; Robert Stevenson, *Juan Bermudo* (The Hague: Martinus Nijhoff, 1960), pp. 51 and 58; Miguel de Fuenllana, *Orphénica lyra*, ed. and translation of introductory material by Charles Jacobs (Oxford: Clarendon Press, 1978), p. xciv, footnote 2; J. Murray Barbour, *Tuning and Temperament: A Historical Survey* (East Lansing: Michigan State College Press, 1953), pp. 164-66.

sixteenth century, on the other hand, seem to have been tuned to mean-tone temperament, which in standard practice reduced the available accidentals to three sharps and two flats.<sup>14</sup>

An analytical study of Cabezón's music thus needs no further justification. We will now examine the existing literature on Santa María and the references to the association between this theorist and the blind composer.

#### *Literature on Tomás de Santa María*

The significance of the *Arte de tañer fantasta* has not gone unnoticed among scholars. Extensive summaries of the treatise were published in the early twentieth century by Otto Kinkeldey and Max Schneider, and the chapters on keyboard technique were translated into German by Eta Harich-Schneider.<sup>15</sup> There is still no English translation of the treatise, but a detailed summary is provided by Richard Murphy in his dissertation, and a paraphrase of the complete treatise, as well as a transcription of all the musical examples, can be found in Warren

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<sup>14</sup>Charles Jacobs, "Spanish Renaissance Discussion of Musica Ficta," *Proceedings of the American Philosophical Society* 112 (1968):277-98; Barbour, p. 28.

<sup>15</sup>Otto Kinkeldey, *Orgel und Klavier in der Musik des 16. Jahrhunderts* (Leipzig: Breitkopf und Härtel, 1910; reprint ed., Wiesbaden: Georg Olms, 1968), pp. 25-55; Max Schneider, *Die Anfänge des Basso continuo und seiner Bezifferung* (Leipzig: Breitkopf und Härtel, 1918; reprint ed., Westmead: Gregg International Publishers, 1971), pp. 30-46; Eta Harich-Schneider and Ricard Boadella, *Fray Tomás de Santa María: Wie mit aller Vollkommenheit und Meisterschaft das Klavichord zu spielen sei* (Leipzig: Kistner und Siegel, 1937; 2d ed., Lippstadt, 1962).

Hultberg's dissertation.<sup>16</sup> A selection of *fantasías* from the *Arte* is available in a modern transcription by Pierre Froidebise.<sup>17</sup>

Scholars have often stressed Santa María's chapters on keyboard technique and performance style. This is the case both with Kinkeldey's summary and Harich-Schneider's translation mentioned above, as well as other studies by the latter, and by such authors as Lee Eubank, Charles Jacobs, Helmut Lange, Diana Poulton, and John Ward.<sup>18</sup>

Several authors have stressed the significance of Santa María's technique of "playing in consonances." It has been pointed out that it is a compositional procedure based on vertical sonorities regulated by the highest and lowest voices,

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<sup>16</sup>Richard Murphy, "Fantasia and Ricercare in the Sixteenth Century" (Ph.D. dissertation, Yale University, 1954), pp. 42-51; Warren E. Hultberg, "Santa María's *Libro llamado arte de tañer fantasía*: A Critical Evaluation" (Ph.D. dissertation, University of Southern California, 1964).

<sup>17</sup>Tomás de Santa María, *Oeuvres transcrites de l'Arte de tañer fantasía*, ed. Pierre Froidebise (Paris: Editions Musicales de la Schola Cantorum, 1961). A comprehensive listing of other modern editions that include *fantasías* by Santa María can be found in H. M. Brown, 220-21.

<sup>18</sup>Eta Harich-Schneider, "Zum Klavichordspiel bei Tomás de Santa María," *Archiv für Musikforschung* 2, no. 2 (1937):243-45; idem, *Die Kunst des Cembalospieles* (Kassel: Bärenreiter, 1939), passim; idem, *The Harpsichord* (Kassel: Bärenreiter, 1954), pp. 20 and 32; Lee Eubank, "Spanish Intabulations in the Sixteenth-Century" (Ph.D. dissertation, Indiana University, 1974), pp. 33-36; Charles Jacobs, *La interpretación de la música española del siglo XVI para instrumentos de teclado* (Madrid: Dirección General de Relaciones Culturales, 1959), passim; Helmut Lange, "A Tutor by Santa María," *Dolmetsch Foundation Bulletin* 14 (1968):5-6; Diana Poulton, "How to Play with Good Style by Thomás de Sancta María," *Lute Society Journal* 12 (1970):23-30; John Ward, "The *vihuela de mano* and its Music" (Ph.D. dissertation, New York University, 1953), pp. 64ff.

that the sonorities are reckoned from the bass, and that it is an early expression of the same principles that would later become the foundation for thorough-bass playing.<sup>19</sup> These authors, however, do not provide a detailed account of the procedure as presented by Santa María, nor do they discuss examples of the technique in contemporary literature.

Santa María's presentation of polyphonic modality has not been properly evaluated. Jambou appears to be the only author who has discussed Santa María's modal theory, and who has based his modal analyses on a comparative study of Santa María's and Bermudo's theories.<sup>20</sup> The *Arte de tañer fantasía* has not been assessed in the context of contemporaneous modal theory in other European countries. Francisco J. León Tello does not even include the *Arte* in his otherwise exhaustive *Estudios de historia de la teoría musical*, probably on the incorrect assumption that the treatise is not really theoretical, but rather a practical guide to performance and improvisation.<sup>21</sup>

The musical relationship between the *Arte de tañer fantasía* and the works of Cabezón, as well as its analytical potential, have been pointed out by various scholars. Harich-Schneider has spoken of the second part of the treatise as a

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<sup>19</sup>Murphy, p. 46; Schneider, p. 39; Ward, "The *Vihuela de mano*," p. 283; see also Carl Dahlhaus, *Untersuchungen über die Entstehung der harmonischen Tonalität* (Kassel: Bärenreiter, 1968), p. 89.

<sup>20</sup>Jambou, pp. 31-71.

<sup>21</sup>Francisco J. León Tello, *Estudios de historia de la teoría musical* (Madrid: Instituto Español de Musicología, 1962).

"commentary" on the music of Cabezón. Both Elinore Barber and Jambou mention briefly the musical affinity between Santa María and Cabezón, and so does Murphy. After asserting that "the practical embodiment of the methods of Santa María is found in the repertoire of Antonio de Cabezón," Murphy stresses the intimate association of Cabezón's compositional methods with the improvisational processes described by Santa María.<sup>22</sup> John Ward applies Santa María's descriptions and classifications of imitation in four voices to the analysis of vihuela *fantastas* by Esteban Daza, and concludes that Daza's *fantastas* can be analyzed measure-by-measure using Santa María's criteria.<sup>23</sup> The only comparison of a particular technique expounded by Santa María with its practical application in the works of Cabezón can be found, as far as I know, in Almonte Howell's article "Paired Imitation in Sixteenth-Century Spanish Keyboard Music." Howell concludes that Cabezón's treatment of paired imitation is systematically consistent with Santa María's prescriptions.<sup>24</sup>

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<sup>22</sup>Harich-Schneider, *Fray Tomás de Santa Marta*, quoted by Macario S. Kastner, *Contribución al estudio de la música española y portuguesa* (Lisbon: Editorial Atica, 1941), p. 95; Barber, p. 69; Jambou, p. 155; Murphy, pp. 51-52.

<sup>23</sup>Ward, p. 273ff.

<sup>24</sup>Almonte Howell, "Paired Imitation in Sixteenth-Century Spanish Keyboard Music," *Musical Quarterly* 53 (July 1976):377-96.

*Composition and Improvisation; Vocal and Instrumental Styles*

Two questions could arise at this point concerning the connection between the *Arte de tañer fantasía* and the music of Cabezón. First, what was the relationship between keyboard improvisation--the subject of Santa María's treatise--and composed pieces such as Cabezón's? And second, to what extent was instrumental music based on Renaissance vocal style? Both questions have been addressed by various scholars, all of whom have arrived at similar conclusions.

The subject of improvisation as related to notated composition is the main topic of Murphy's dissertation cited above. Murphy concludes that there is no difference in the mid-sixteenth century between the techniques of instrumental improvisation and those of written composition. Murphy demonstrates that the same improvisational processes described by Santa María and Diego Ortiz are found in keyboard, vihuela, and lute compositions, and stresses that in Santa María the rules of improvisation and composition virtually coincide.<sup>25</sup>

Eubank's point of departure is that Spanish sixteenth-century collections of instrumental music contain large numbers of intabulations of vocal compositions--that is, adaptations of motets, *chansons*, *villancicos*, Mass movements, and other vocal pieces--for the vihuela or the keyboard. The intabulations are frequently ornamented (a technique called *glosar*), and hence provide a guide to improvised

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<sup>25</sup>Murphy, pp. 42 and 52.

*glosa* on pre-existing vocal compositions.

In his articles, "The Use of Borrowed Material in Sixteenth-Century Instrumental Music" and "Parody Technique in Sixteenth-Century Instrumental Music," John Ward stresses the close connection between vocal music and instrumental composition and improvisation by means of parody, paraphrase, and intabulation.<sup>26</sup> In the case of Cabezón, for instance, forty-one *glosas* (ornamented intabulations) of vocal pieces by such composers as Josquin, Crecquillon, Verdelot, Mouton, Gombert, Clemens non Papa, Willaert, and others were included by his son in the *Obras*. Besides the intabulations, three of Cabezón's *tientos* are based on pre-existing vocal compositions: Willaert's chanson *Qui la dirá*, Ockeghem's *Malheur me bat*, and the *Cum Sancto Spiritu* from Josquin's *Missa Beata Virgine*.

Both Ward and Murphy remark that the imitative *ricercar* that flourished in the second half of the century (called *fantasia* by Santa María and *tiento* by Cabezón) was the reconciliation of idiomatic instrumental improvisation and vocal motet style, and that the bridge between the two was provided by the instrumental intabulation of vocal music. John Griffiths and Daniel Hertz have also pointed out the combination and compromise between vocal styles and idiomatic elements

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<sup>26</sup>John Ward, "The Use of Borrowed Material in Sixteenth-Century Instrumental Music," *Journal of the American Musicological Society* 5 (Spring 1952):88-98; idem, "Parody Technique in Sixteenth-Century Instrumental Music," in *The Commonwealth of Music*, ed. Gustave Reese and Rose Brandel (New York: The Free Press, 1965), pp. 208-28.



which can be found in sixteenth-century Spanish instrumental music.<sup>27</sup>

Further evidence in favor of the connection between vocal and instrumental composition can be found in both the *Declaración* and the *Arte*. Bermudo repeatedly advises the beginning performer not to attempt the improvisation of *fantasia* before he has studied on his instrument a great number of works by such accepted masters as Josquin, Morales, Willaert, Gombert, and Figueroa.<sup>28</sup> Similarly, Santa María advises the beginner to read on his instrument works by established masters as a means of acquiring the skills that will lead to improvising *fantasia*.<sup>29</sup> All of Santa María's specific references to music by other composers belong to vocal genres.<sup>30</sup> The theorist's keyboard *fantasías*, included in the treatise to illustrate compositional techniques, are close in style to vocal motets. The *fantasías* are presented in open score, and no effort has been made to align the voices. The character of each line as notated is eminently vocal, but the performer is expected to embellish the melodies with such instrumental traits as

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<sup>27</sup>Griffiths, pp. 19-20 and 524-28; Daniel Heartz, "Les styles instrumentaux dans la musique de la renaissance," in *La musique instrumentale de la renaissance*, pp. 61-76.

<sup>28</sup>Bermudo, fols. 29v, 60r, 84v, and 124v.

<sup>29</sup>Santa María, 2:121v. Since page numbering in each of the two parts of the *Arte* begins with fol. 1, references will henceforth be to the *recto* or *verso* folio number in part 1 or 2 of the treatise.

<sup>30</sup>Santa María refers to four motets by Josquin: *Ave Maria* (2:6v), *Inviolata* (1:61v), *Stabat mater dolorosa* (1:61v), and *Miserere mei Deus* (1:70v); two Masses by Josquin: *Missa fa re mi re* (2:6v), and *Missa Beata Virgine* (1:61v); and two motets by Verdelot: *Gabriel archangelus* (1:70v), and *Si bona suscepimus* (1:70v).

ornamentation (*redobles y quiebros*, part 1, chapter 19) and *glosa* or melodic variation (part 1, chapter 23).

Finally, it should be noted that one of the genres practiced by both Santa María and Cabezón was neither exclusively vocal nor instrumental. The *fabordón*, a widely accepted contemporary genre, was a four-voice chordal setting of one of the psalm tones. Santa María includes a chapter on *fabordón* composition in his treatise (part 2, chapter 16), and his examples are vocal. Cabezón, on the other hand, provides a set of four organ *fabordones* for each mode in the *Obras*. The first one in each set is plain (unornamented), while the remaining three are *glosados*--and hence unequivocally instrumental.

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The present dissertation is an analytical study of both the *Arte de tañer fantasía* and the music of Cabezón. The first part of the dissertation will provide the background for the understanding of Santa María's and Cabezón's works. In the first place, they will both be examined from a historical perspective. The *Arte de tañer fantasía* will then be placed in the context of sixteenth-century European modal theory. Finally, an analytical methodology derived from the treatise will be presented and compared to existing, and conflicting, methodologies for the analysis of Renaissance music.

The second part of the dissertation will concentrate on the analysis of Cabezón's music from the perspective provided by Santa María and other contemporary treatises. The analysis will first focus on modal organization, and

then on compositional techniques and formal processes. Finally, analyses of five representative *tientos* by Cabezón and two *fantastas* by Santa María will be presented in detail, while analytical graphs will be provided for each of the remaining twenty-three *tientos* and for nine of Santa María's *fantastas*.

The significance of the *Arte de tañer fantasta* as a treatise, the historical stature of Cabezón, and the quality of his compositions provide enough justification for the conclusions we shall reach, even though they are based on the limited repertoire of a single composer. Having thus presented the theorist and the composer, as well as the treatment given to them by modern scholarship, we will now examine the historical context in which they developed their respective musical careers.

## CHAPTER I

### HISTORICAL BACKGROUND

The sixteenth century was a time when culture and art flourished in Spain to a degree unparalleled by any other period of the country's history. A brief enumeration of some of the major personalities that developed their artistic geniuses or were born in that century will suffice as a reminder of the cultural greatness achieved by the newly unified country: Alonso de Berruguete, Diego de Siloé, Doménico Theotocopouli, "El Greco," and Juan de Herrera in the visual arts; Santa Teresa de Jesús, Fray Luis de León, San Juan de la Cruz, Cervantes, Góngora, Lópe de Vega, Tirso de Molina, and Quevedo in literature; Cristóbal de Morales, Antonio de Cabezón, Francisco Salinas, Francisco Guerrero, and Tomás Luis de Victoria in music.

The wealth and refinement of the many Spanish aristocratic houses also gave great impulse to instrumental music, since chamber musicians were frequently kept in residence in the palaces of the nobility. This aristocratic patronage may account for the publication of a large number of collections of instrumental music. Besides the two collections of keyboard music mentioned in the introduction--Venegas's *Libro de cifra nueva* and Cabezón's *Obras de música*--, the following vihuela

collections were published in Spain in the sixteenth century: *El maestro*, by Luys Milán (Valencia, 1536); *Los seys libros del delphín*, by Luys de Narváez (Valladolid, 1538); *Tres libros de música en cifra para vihuela*, by Alonso Mudarra (Seville, 1546); *Silva de sirenas*, by Enriquez de Valderrábano (Valladolid, 1547); *Libro de música de vihuela*, by Diego Pisador (Salamanca, 1552); *Orphénica lyra*, by Miguel de Fuenllana (Seville, 1554); and *El parnaso*, by Esteban Daza (Valladolid, 1576). The names and works of several major organists besides Cabezón have reached us through the *Libro de cifra nueva*. The collection includes works by Pere Albrech Vila, organist and composer at the Barcelona cathedral; Francisco Fernández Palero, organist of the royal chapel in Granada; and Francisco de Soto, clavichordist at the Castilian court of Charles V.

The flourishing of instrumental music was accompanied by the publication of the two treatises on instrumental music that have been cited in the previous chapter: the *Arte de tañer fantasía*, and Bermudo's *Declaración de instrumentos musicales*. Diego de Ortiz, established at the Spanish court in Naples, published his *Tratado de glosas sobre cláusulas y otros géneros de puntos en la música de violones*, a treatise on viol improvisation (Rome, 1553). Other influential theoretical treatises published in the century were Diego del Puerto's *Portus musice* (Salamanca, 1504); Francisco Tovar's *Libro de música práctica* (Barcelona, 1510); Gonzalo Martínez de Bizcargui's *Arte de canto llano y contrapunto* (Burgos, 1511); Martín de Tapia's *Vergel de música* (Burgo de Osma, 1570), a plagiarism of

Bermudo's *Libro primero de la declaración de instrumentos musicales* of 1549; Francisco Salinas's *De musica libri septem* (Salamanca, 1577); and Francisco Montanos's *Arte de música theórica y práctica* (Valladolid, 1592).

Such cultural prosperity was the result of a period of expansion in which Spain became the first political and military world power. The cross-fertilization produced by contacts between the international possessions of the Spanish kings enriched the Spanish culture in this century and allowed its influence to be spread throughout Europe and the New World. Because the life of Cabezón was directly related to the events in the Castilian court, I will review the composer's biography within the context of the social and political history that provided the frame for it.<sup>1</sup>

#### *The Life of Antonio de Cabezón*

Cabezón was born in Castrillo de Matajudíos (Burgos), on May 3 in either 1510 or 1508.<sup>2</sup> In his introduction to the *Obras*, Hernando states that his father

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<sup>1</sup>The sources for Cabezón's biography are the various biographical publications by Kastner mentioned in the introduction--valuable so long as they are approached with critical discernment--and Anglés' *La música en la corte de Carlos V*, a thoroughly documented book. Among the many sources that deal with the general history of the period, the following have been used for the present historical review: Agustín González de Amezúa y Mayo, *Isabel de Valois*, 3 vols. (Madrid: Dirección General de Relaciones Culturales, Ministerio de Asuntos Exteriores, 1949); Ramón Menéndez Pidal, gen. ed., *Historia de España*, 2d ed., (Madrid: Espasa-Calpe, 1966), vol. 19/1, *España en tiempo de Felipe II (1556-1598)*, by Luis Fernández y Fernández de Retana; Peter Pierson, *Philip II of Spain* (London: Thames and Hudson, 1975).

<sup>2</sup>See Anglés, *La música en la Corte de Carlos V*, p. 126.

was blind from early childhood. Cabezón received his musical education in Palencia, where he may have studied organ with García de Baeza, the well-known cathedral organist.

At the death of Ferdinand the Catholic (January 23, 1516), his grandson, Charles V, inherited the crown of Spain due to his mother's mental illness. Charles, a native of Flanders, arrived in Spain in November 1517, accompanied by Flemish singers and instrumentalists, and was crowned king in 1518. The next year, at the death of Emperor Maximilian of Austria, Charles became Holy Roman Emperor. He received the imperial crown in 1520. Besides the Spanish and German crowns, Charles's titles included those of King of Naples and Sicily, King of the Seventeen Provinces of the Low Countries, Duke of Milan, and Count of Burgundy.

The Emperor traveled constantly among his possessions, and he lived out of Spain for most of his reign. The Spanish court was peripatetic at the time: Valladolid was the main administrative center and frequent seat of the court, but other cities also hosted occasional sojourns of the Emperor or his Spanish regent, as in the case of Burgos, Tordesillas, Pamplona, Madrid, Toledo, and Aranjuez. When Charles visited Spain, he was always accompanied by his Flemish chapel, which included such members as Mouton, Picart, Gombert, and Payen.

In 1526 Charles married Isabel of Portugal. The court stayed in Valladolid most of the following year, and Philip II, Charles's successor, was born in that city on May 2, 1527. The court's residence at the time was the Palace of the Pimentel

family, next to the church of San Pablo where Philip was baptized. From 1529 to 1533 the Empress stayed in Spain as regent, while Charles was out of the country. She fostered the musical life of the court, which resided mainly in Madrid, Valladolid, and Toledo.

Cabezón entered the service of the Empress in 1526, and he did not leave the position of court organist until his death forty years later. In 1528, Francisco de Soto was appointed to the position of court clavichordist. The Empress died in Toledo in 1539, and both Cabezón and Soto remained in the service of the Emperor. In the previous year Cabezón had married Luysa Nuñez of Avila, the city in which he established his family residence. Avila was located at a convenient distance from Valladolid, Madrid, and Toledo, the most frequent seats of the court. Hernando, Cabezón's son and his successor as court organist, was baptized in Madrid in 1541.

In the years between 1539 and 1548, Philip resided mostly in Valladolid, while his two sisters, Princesses Doña María and Doña Juana, had their residence at the castle of Arévalo. The Emperor ordered that Cabezón and Soto live half a year with each. The well-known musician Mateo Flecha was chapelmaster at the princesses's court. In 1543, after Charles left Spain and Philip was appointed regent, the prince married Princess Mary of the Portuguese dynasty of Avis. The couple resided in Valladolid the following two years, at the palace of Francisco de los Cobos, personal secretary and counselor of the Emperor. The palace is located in front of the church of San Pablo, and Mary of Avis died there of childbirth in



1545. The surviving child was the ill-fated Don Carlos of operatic fame. At that time Philip decided to move the court to Madrid, even though he did not finally settle there until 1561.

Two new and renowned musicians joined the court in those years: Juan de Cabezón, Antonio's brother, was appointed court organist in 1546, and Luys de Narváez, the famous vihuela player, became master of the children's choir in 1548. Narváez's previous position had been as vihuela player to Francisco de los Cobos, the powerful advisor of both Charles and Philip. After 1548, Cabezón was relieved from his stays at Arévalo, and henceforth served only Prince Philip.

In 1548 Princess Doña María wedded the future Maximilian II of Austria in Valladolid. The wedding was presided over by Cardinal Madruzzi of Trent, who traveled to Valladolid with his chapel and with musicians borrowed from Duke Ercole II of Ferrara. In the same year Philip set out on his first journey to his future European possessions, leaving María and Maximilian as regents in Valladolid. The journey was thoroughly reported by its official chronicler, Juan Cristóbal Calvete de Estrella.<sup>3</sup> The following musicians traveled with the prince: nineteen singers, ten trumpet players, ten chamber musicians (flutes and viols), Antonio and Juan de Cabezón, and Luis de Narváez. The journey was Cabezón's first great chance to be exposed to the musical culture of some of the most important

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<sup>3</sup>Juan Cristóbal Calvete de Estrella, *El felicísimo viaje del muy alto y muy poderoso príncipe Don Felipe*, Antwerp, 1552 (Madrid: Sociedad de Bibliófilos Españoles, Series 2, nos. 7 and 8, 1930).

European cities, and in it he achieved his first major international recognition. The following are some of the cities visited by the Spanish princely retinue: Genoa, Milan, Pavia, Cremona, Mantua, Bossolengo, Trent, Bozen, Innsbruck, Munich, Augsburg, Ulm, Heidelberg, Saarbrücken, Luxembourg, Namur, Brussels, Gent, Bruges, Lille, Tournai, Arras, Cambrai, Mons, Antwerp, Bergen, Breda, Rotterdam, The Hague, Haarlem, Amsterdam, and Utrecht.

Upon their arrival at Genoa, a solemn Mass was celebrated in that city's church of San Lorenzo. According to Calvete, the Mass was sung by Philip's chapel, "with great admiration of the people when they saw with how much solemnity it was done, and with such well chosen voices; and when they heard the organ played with such great smoothness and strangeness by Antonio de Cabezón, unique in this genre of music, a new Orpheus of our times."<sup>4</sup>

A solemn Christmas Mass was celebrated at the Duomo in Milan, in which Philip was accompanied by the Cardinals of Trent and Savoy, the duke of Ferrara, and Francisco de Gonzaga, Duke of Mantua and Governor of Milan. Philip and his court were also received by Cardinal Hercules Gonzaga at Mantua, where Girolamo Cavazzoni held the post of organist, and by Cardinal Madruzzi at Trent, where the historic Council was meeting, summoned by Charles V in an attempt to control the religious strife that was dividing his German empire. After a long stay at Brussels, where Philip joined his imperial father, the retinue returned to Spain

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<sup>4</sup>Quoted by Anglés, p. 110. This and all translations in the dissertation are mine unless otherwise stated.

in 1550 by way of Germany. There Charles V failed to have Philip accepted by the German nobility as his successor to the Holy Roman Empire. The prince and his court returned to Valladolid in 1551.

Cabezón spent the years between 1551 and 1554 in Madrid and Valladolid, and with his family in Avila. In July 1554, Philip started a new major journey, this time to England, where he married Queen Mary Tudor. Philip's chapel at the time included twenty-two singers, nine treble children, ten trumpets, fourteen instrumentalists, Narváez, the Cabezón brothers, and Francisco de Soto. The following musicians accompanied the prince in his journey to England: twenty-one singers, fifteen instrumentalists, and the Cabezón brothers. The remaining members of the chapel, among them Cristóbal de Morales, stayed in Spain with prince Don Carlos.

The stay in London lasted until September 1555. Anglés, Kastner, and, as we have already seen, Apel, stress the likely influence that Cabezón's organ playing, especially his variation techniques, must have had on English musicians.<sup>5</sup> Thomas Tallis was at the time the organist in Queen Mary's chapel, where William Byrd was also a young organist and choir singer.

Philip traveled to Flanders in 1555, summoned by his father. On October 25 Charles abdicated all of his European states in favor of his son, while the title of Holy Roman Emperor went to Charles's brother, Ferdinand. On January 16, 1556,

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<sup>5</sup>Anglés, p. 126. See also the introduction to the present dissertation, n. 2.

Charles relinquished his Spanish kingdoms, and Philip II thus became the most powerful monarch on earth. His titles included those of King of Aragón, Castile, and their overseas possessions; King of Portugal (after 1580); King of the Seventeen Provinces of the Low Countries; King of Naples, Sicily, and Sardinia; Duke of Milan; and Count of Burgundy. Charles V retired to the Spanish monastery of Yuste, where he died on November 21, 1558. Philip visited London again in 1557, and in November 1558 Queen Mary died. The king returned to Valladolid on September 14, 1559, with two chapels: the Flemish, inherited from his father, and the Spanish.

Cabezón had previously traveled back to Spain, after Philip granted him a one-year leave of absence starting January 1556, while Juan de Cabezón stayed in Flanders with the king. Antonio spent the year at Avila, where he may have taught his son Hernando and dictated to him the works that would later be published as the *Obras*. In the following years, from 1557 until Philip's return to Spain in 1559, Cabezón was in the service of Don Carlos in Valladolid and Toledo. In 1559 Hernando was appointed organist at the royal chapel.

A new period of the court's history began on January 28, 1560, with the wedding of Philip to Isabel of Valois, daughter of Henry II of France and Catherine of Medici. The royal couple moved to Toledo, where the court stayed until it finally settled in Madrid in 1561. Isabel gave great impulse to the music at the court. Starting in 1560, Miguel de Fuenllana, the illustrious vihuela composer and virtuoso, appears as the Queen's director of chamber music.

Cabezón and his family moved from Avila to Madrid in 1560, where life seems to have been uneventful and gentle for him as Philip's and Isabel's highly respected organist. He died on March 26, 1566. Philip's appreciation of Cabezón and his art is indicated by the fact that the king had Cabezón's portrait painted by the court artist, Alonso Sánchez Coello. Inventories of the Madrid Alcázar list Cabezón's portrait as late as 1700, but the fire that destroyed the palace in 1734 must also have destroyed the painting. The Latin epitaph engraved on Cabezón's tomb by order of Philip II is a further expression of the King's admiration for the blind organist:

In this grave lies that illustrious Cabezón who was the shining glory of organ music. What should we praise him for, when his fame fills the world, and his spirit has raised above the stars? Alas, he died and is being mourned by all of Philip's court, which lost with him such a precious ornament.<sup>6</sup>

#### *The Works of Cabezón*

It has already been pointed out that the music of Cabezón has reached us by means of two major sources: the *Libro de cifra nueva* (1557) of Venegas de Henestrosa, and the *Obras de música* (1578) edited by Hernando de Cabezón. The compositions by Cabezón in the *Libro* bear only the name "Antonio," but Cabezón's authorship of these pieces has been long established. Five of the *tientos* that appear in the *Libro* as composed by "Antonio" can be also found in

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<sup>6</sup>Maurino Alonso Cantarino, *El organista ciego de Felipe II* (Madrid: n.p., 1977), p. 37.

manuscript 242 of the Coimbra University Library, attributed there to "Antonio Cabeçon o cego."<sup>7</sup>

The pieces by Cabezón included in the *Libro* are the following: fourteen *tientos*; five settings of the hymn *Pange lingua*; six of *Ave maris stella*; five polyphonic settings (called "hymns" by Cabezón) of *O lux beata Trinitas*, *Te lucis ante terminum*, *Salve Regina*, *Quem terra pontus*, and *Sacris solemnis*; a *fabordón glosado* on *Dic nobis, Maria*; a *cantus firmus* composition in three voices *sobre el canto llano de la alta*; and two *glosas* on Rugier and the Pavana respectively.<sup>8</sup>

The compositions published in the *Obras* are the following: nine duets for beginners, three settings of the *Rex virginum* Kyrie, sixteen polyphonic hymns on diverse *cantus firmi* (such as *Ave maris stella*, *Pange lingua*, *Christe redemptor*, and others), thirty-two versets on the psalm-tone *seculorum* (four for each mode), fifty-three Magnificats (six or seven for each mode), thirty-two *fabordones* (four for each mode), thirty-two Kyries (four for each mode), fourteen *tientos*, ten sets of *diferencias* (variations), and forty-one intabulations. The *Obras* also include several compositions by Hernando, and a *glosa* by Juan de Cabezón.

The genres cultivated by Cabezón fall into several categories: hymns and other

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<sup>7</sup>Macario Santiago Kastner, "Los manuscritos musicales nos. 48 y 242 de la Biblioteca General de la Universidad de Coimbra," *Anuario musical* 5 (1950):78-96.

<sup>8</sup>*Tiento* 24, attributed to Antonio in the *Libro*, can also be found in the collection *Musica nova* (Venice, 1540), attributed there to Iulio da Modena. In *Musique de joye* (Lyons, ca. 1545) it appears twice, first attributed to Modena, then to Willaert (see Jacobs, *Collected Works*, vol. 2, p. xv). Hence, I will not consider this *tiento* to be by Cabezón, but rather by Modena.

*cantus-firmi* compositions, short liturgical compositions, *tientos*, *diferencias*, and intabulations. The hymns use melodic material from the Gregorian repertoire, either as subjects for an imitative texture in *ricercar* style, or as *cantus firmi*, or both possibilities combined. The sets of short liturgical compositions (Kyries, psalm-tone versets, and Magnificats in each mode) were meant to be performed in alternation with the choir. The Kyries are Cabezón's contribution to the Mass, while the psalm tones and Magnificats show that the organ was widely used in the Offices. The pieces on the psalm tones are of two types: the versets are short polyphonic pieces, normally imitative, using thematic material taken from the psalm tones; the *fabordones* are chordal harmonizations of the psalm tones. In the case of the Magnificat, Cabezón provides six versets for some of the modes, and seven for others, that is, the exact number needed for a performance in alternation of the twelve verses of the Magnificat, with a possible organ postlude in some cases.<sup>9</sup>

The main analytical focus of the present dissertation will be on Cabezón's *tientos*. The term *tiento* derives from *tentar*, to touch, try, or test. The oldest known *tientos* are those of Milán, Mudarra, and Fuenllana, all for vihuela. In the case of Milán, the *tiento* is a genre in which the technical possibilities of the instrument are explored and developed, and which allows the performer to improve or test his

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<sup>9</sup>See Apel, *The History of Keyboard Music*, pp. 129-138, and Klaus Speer, "The Organ *Verso* in Iberian Music to 1700," *Journal of the American Musicological Society* 11 (Summer/Fall 1958):189-99.

skills.<sup>10</sup> The *tientos* by Mudarra and Fuenllana have a different purpose. What is being tested in them is the tuning of the vihuela and the mode of the following composition. They are thus improvisatory, chordal preludes that set the mode for the performance.<sup>11</sup> The term as used by Cabezón refers to yet another genre. Cabezón's *tiento*, like the Italian *ricercar*, is a polyphonic composition in which imitation plays an important role, with several sections and in most cases several subjects. In its more developed form, each section opens with a point of imitation and closes with a full cadence. The *tiento* is the genre in which Cabezón achieves the greatest compositional complexity, as well as the greatest variety of techniques and the most coherent musical structures. The genre that Santa María describes as *fantasia* is virtually identical to Cabezón's *tiento*. The same genre applied to the vihuela is also called *fantasia* by Fuenllana.

While the practical function of the liturgical pieces is obvious, and the *diferencias* have a light character that makes them fit for courtly entertainment, the exact function of the *tientos* is not known. The *tientos* differ very much in scope and character, from short, austere, contemplative compositions that could well have had a role in the liturgy, to long, contrasted, and technically demanding showpieces in which Cabezón must have applied his virtuoso capabilities. Considering the length, difficulty, and masterfulness of some *tientos* found in the *Obras*, Hernando's

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<sup>10</sup>Jambou, pp. 134-46.

<sup>11</sup>*Ibid.*, pp. 94-106.



commentary regarding the function and rank of the pieces he includes in the collection should probably be considered an understatement:

These journeys and occupations did not allow [Cabezón] to write as he would have done if he had had calm and time. And thus what goes into this book should better be considered as crumbs that fell from his table rather than something he would have done on purpose and thoughtfully. These are only the lessons that he taught his disciples, and they are not proportionate to the master's knowledge, but rather to what the students could reach and understand.<sup>12</sup>

All of the *tientos* in the *Obras*, however, show a high level of compositional craft, from the points of view of counterpoint, formal growth, variety of compositional techniques, richness of organ resources, and tonal structure. Some of them are indisputable masterpieces, such as *tientos* 3 (mode 1), 6 (mode 3), 11 (mode 6), and 8 (mode 8). The case of the *tientos* in the *Libro* presents a different problem. Even though some of them can be ranked along with the best pieces in the *Obras* (*tientos* 10 in mode 1, and 18 in mode 4, for instance), others show a less developed compositional technique in some aspects. Some of the *tientos* display a more archaic type of counterpoint and cadential relationships than any *tiento* in the *Obras*. Examples of questionable voice-leading and unusually liberal treatment of dissonance can be found in *tientos* 3 (mode 5), 7 (mode 6), and 24 (mode 6). Other *tientos* show a less clear formal structure than those in the *Obras*, with no definite subject and section delimitations, as in the case of *tientos* 11 (mode 1) and 9 (mode 1). Finally, some *tientos* do not have a clear

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<sup>12</sup>Cabezón, *Obras de música*, ed. H. Anglés, p. 23.

tonal structure, as in the case of number 6 (mode 4). It should be noted that there is evidence of Venegas's tampering with several of the vihuela compositions included in his collection.<sup>13</sup> It is thus conceivable that Venegas's unorthodox editorial methods might also account for some of the stylistic weaknesses found in Cabezón's *tientos*.

The title of the *Libro de cifra nueva* refers to a new type of keyboard tablature which Venegas used for the first time in a printed source. The same notation was also used by Hernando in the *Obras*. Contemporaneous descriptions of the tablature can be found in the introduction to the *Libro* and the *Obras*. The notation is also explained by Apel in *The Notation of Polyphonic Music: 900-1600*.<sup>14</sup> In this tablature, remarkable for its simplicity, the white keys of the octave *f-e'* are indicated by the numerals 1 to 7. Lower octaves are distinguished by one or two dashes across the numeral, higher octaves by a dot or a comma following the numeral. Chromatic alterations are indicated by a flat or a sharp following the affected numeral. Rhythmic signs are added above the notes when they are needed.

A comparison of the two modern complete editions of the *Libro* and the

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<sup>13</sup>John Ward, "The Editorial Methods of Venegas de Henestrosa," *Musica disciplina* 6 (1959):105-13.

<sup>14</sup>Anglés, *La música en la corte de Carlos V*, pp. 156-60; Cabezón, *Obras de música*, ed. H. Anglés, vol. 27, pp. 25-28; Willi Apel, *The Notation of Polyphonic Music: 900-1600*, 5th ed. (Cambridge, MA: The Mediaeval Academy of America, 1953):47-53.

*Obras*, by Anglés and Jacobs respectively, shows that they both are accurate and reliable transcriptions of the original keyboard tablature, and so is Kastner's edition of the *tientos* from the *Obras*.<sup>15</sup> Anglés and Kastner have preserved the original note values in their transcriptions. Jacobs, on the other hand, uses different scales of reduction (1:1 or 1:2) depending on the metric signature of the piece. Anglés and Kastner have also followed the original notation of accidentals as closely as possible, while Jacobs has widely applied Bermudo's and Santa María's rules on *musica ficta* in his transcriptions of Cabezón.<sup>16</sup> Even though Jacobs's criteria are thoroughly justified and provide valuable information for the performer, I have found it more useful, from the analyst's point of view, to work with a transcription as close as possible to the original notation. I have thus used Anglés's editions of both the *Libro* and the *Obras* for my analyses. The numbering of the *tientos* used in the present dissertation is that of Anglés in *La música en la corte de Carlos V* for the pieces from the *Libro*, and the *Monumentos de la música española*, vols. 27-29, for the pieces from the *Obras*. A concordance of the different numbering used by Anglés, Kastner, and Jacobs in their respective editions is included as appendix 1. My numbering of Santa María's *fantasías* corresponds with that of Froidebise's edition.

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<sup>15</sup>For complete citations of these editions, see introduction, nn. 4 and 6.

<sup>16</sup>For a detailed justification of Jacobs' transcription methods, see his *Tempo Notation in Renaissance Spain* (New York: Institute of Medieval Music, 1964) and "Spanish Renaissance Discussion of Musica Ficta." The problem of *musica ficta* and how it affects modality will be discussed in chapter 4 below.

*Tomás de Santa María*

Little is known about Santa María's life, and some of the biographical information frequently repeated about him seems to be spurious. Pedro Aizpurúa has recently published a critical biography of the theorist in a volume of lives of Dominican artists published by the Order.<sup>17</sup> The title page of the treatise states that Santa María was born in Madrid, but does not provide a date. Aizpurúa proposes 1515 as an approximate date. It is known that Santa María joined the Dominican order in 1536 at the monastery of Santa María de Atocha (Madrid). The theorist states in his preface that "I serve my order by playing organs, as my superiors dispose." In his *Historia eclesiástica y flores de santos de España* of 1594, the Dominican chronicler Juan de Marieta also refers to Santa María's excellence as an organist:

Fray Tomás de Santa María, of the province of Castile, was a great musician, both as singer and performer. He did not want to hide his talents, but instead wrote for coming generations a treatise in Romance, divided in two books, on the art of organ performance, which is widely used by many musicians. He died in 1570.<sup>18</sup>

Santa María is likely to have been assigned to different Dominican monasteries. According to the 1563 contract between Santa María and Francisco

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<sup>17</sup>Pedro Aizpurúa, "Fray Tomás de Santa María," in *Retablo de artistas*, Familia Dominicana, vol. 4 (Caleruega, Burgos: Editorial Ope, 1987):255-75.

<sup>18</sup>Juan de Marieta, *Historia eclesiástica y flores de santos de España*, part 2, chapter 14 (Cuenca: Pedro del Valle, 1594).

Fernández de Córdova (printer of the treatise), reproduced by Aizpurúa, the theorist resided at that time at the monastery of Santo Domingo in Guadalajara. It is not clear where Cabezón and Santa María came in contact with each other. Considering the fact that the court moved frequently among Castilian cities, and that Santa María himself might have traveled to different monasteries to teach or perform on the organ, contacts could have easily taken place between the two musicians. In his *Antología de organistas clásicos* of 1914, Luis Villalba proposed, with no documentary evidence, that Santa María resided at the monastery of San Pablo at Valladolid. This supposition has ever since been reported as a fact in all the biographical references to Santa María. Since Cabezón spent years in two palaces located in the same square as the monastery of San Pablo (the palaces of the Pimentel family and of Francisco de los Cobos), Santa María's residence at San Pablo would certainly be historically convenient. Aizpurúa accepts it as a possibility, but rejects it as a historical fact.

It is possible, with the information found in the opening pages of the treatise, to know the exact years in which Santa María worked on it. The book opens with a letter dated 1563 in which Philip II grants Santa María the license for its publication. The royal letter states that a previous license was issued in 1557, but due to a paper shortage in Spain and to "many other evident reasons" the book still had not been printed six years later. In the ensuing Prologue, Santa María declares that he spent sixteen uninterrupted years working on the treatise. Since the book was ready for publication in 1557, it is easy to deduce that it was begun

in 1541.

The place of Santa María's death has also been a source of speculation. Valladolid has often been mentioned as the city where he died, on the grounds that he probably lived at San Pablo. In his article on the theorist in the *New Grove Dictionary*, Almonte Howell states that Santa María died at the remote northwestern town of Ribadavia, with no explanation about his sources. Trying to establish some of the monasteries where Santa María might have lived, and where he died, I had a search conducted at the archives of the Spanish Dominican Province at Salamanca.<sup>19</sup> The minutes of the order's provincial chapters list some--not all--positions to which its members were assigned, and their deaths, among other information. The conclusions of the search are the following:

a. Between 1541 and 1575, five different friars with the name "Tomás de Santa María" were assigned to various positions. One of them, master in sacred theology, was the prior of San Pablo in 1541, but he certainly could not have been the music theorist. All of the other assignments were as confessors, and no mention is made of an organist.

b. Between 1571 and 1587, four different friars with the same name as the theorist are listed as having died. The first one, listed in the 1571 chapter of Santa María de Nieva, died indeed at Ribadavia. If the death year provided by Juan de Marieta (1570) is correct, this could well be our Tomás de Santa María.

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<sup>19</sup>I am deeply grateful to Father Ramón Hernández of Salamanca for his generous and valuable research of the archives on my behalf.

In the absence of any further facts about Santa María's life, we will now examine the content and organization of his treatise.

*The Arte de tañer fantasta*

Santa María clearly states the purpose of his treatise in the Prologue: the book is aimed at teaching one how to play *fantasta* (*tañer fantasta*). He also explains that the first part provides the rudiments needed before one attempts to approach the genre, while the second part deals directly with playing *fantasta*. All of it, he points out, is explained with art and in universal rules. It should be noted that Santa María always speaks of "playing *fantasta*" as a process, rather than "playing *fantastas*" as finished pieces. Even though the final result, which we--and other composers of the time--call *fantasta*, is actually an accomplished composition, Santa María always sees it as a living process of improvisation. His "improvisation," however, is completely bound by four hundred and twenty-eight pages of "universal rules" and detailed prescriptions that refer to everything from the tonal system to minute details of counterpoint, various compositional techniques, and formal growth. What Santa María sees as an improvisational process is in no way different from what we see as a compositional process. This allows us to look at the finished product as a carefully structured and crafted composition.

Part 1 of the treatise begins with a discussion of notes, accidentals, clefs, hexachords, solmization, and mutations. Next, Santa María briefly explains the metric system: measure (*compás*), note values, and rests. He reduces his metric

explanation to the minimum necessary, noting that "nowadays everyone uses common time (*compasete*)."<sup>1</sup> Thus, even though Santa María divides meter into binary and ternary, all his examples are in binary. The metric unit (measure, or *tactus*) is here the semibreve.

The long section on keyboard technique (chapters 7 to 33) starts with an explanation of the keyboard: note names, placement of accidentals, and intervals on the keyboard. There follows a discussion of the "singable" and "unsingable" semitones on the keyboard and of the problem of the division of the tone. All tones are divided into a singable and an unsingable semitone. Unsingable semitones are prohibited. The only possible semitones on the keyboard (singable) are:  $c^\sharp-d$ ,  $d-e^b$ ,  $f^\sharp-g$ ,  $g^\sharp-a$ , and  $a-b^b$ . The following are not possible:  $c-c^\sharp$ ,  $d^\sharp-e$ ,  $f-f^\sharp$ ,  $g-g^\sharp$ , and  $b^b-b$ . The fifths  $a^b-e^b$  and  $g^\sharp-d^\sharp$  are not possible either. Among other things, this tuning system implies that no leading-tone cadences are possible on *e* and *b*. In chapter 11 Santa María forbids augmented and diminished fourths, fifths, and octaves, both melodically and harmonically (*dissonancia de fa contra mi*). In chapter 12 he explains the low short octave of contemporary keyboards, and provides a technical exercise for keyboard students: they should play ascending and descending scales harmonized in four voices, starting on each of the keys.

Chapters 13 to 19 are the most often quoted of the treatise. They deal with keyboard performance practice, and give recommendations about placement of the hands, proper performance style, fingerings, and ornamentation (*redobles y quiebros*). In the following chapters Santa María advises the performer to read at



the keyboard polyphonic works by established masters. His three suggestions for quickly apprehending a work are: first, one should understand its meter (*compás*) and note values, and perform it in correct time; second, one should sing each voice separately, understanding its solmization; third, one should understand all consonances and dissonances in the work. Even more interesting are Santa María's recommendations to "make good profit of the works," because they amount to a list of elements that he believes should be analyzed: first, understand the structure of the subjects and of the imitation (interval of imitation, number of voices in the imitation, canonic writing); second, observe the relationship between the entry of a new subject and the cadence that closes the previous section--the subject can begin before the cadence, on the cadence, or after the cadence; third, study the types of cadences; fourth, study the consonances and dissonances, understand the solmization of the voices, and remember the gracious melodic turns; finally, when a subject is imitated, note if the imitation is identical to, or different from, the subject. A final recommendation to the student is that he should practice transposing subjects to many different keys, and that all of this should be done many times daily. The section on keyboard study closes with chapter 23, on the technique of *glosa* or melodic embellishment.

Chapters 24 and 25 include Santa María's presentation of the modes in polyphony. Because this section will be further discussed in chapters 2 and 4 below, I will only summarize the main points stressed by the theorist. The concepts first taken up in the treatise are finals, authentic and plagal distinctions,

*ambitus*, and *ambitus* classification. The main criteria for the recognition of mode in a polyphonic composition are the "sequence of the solfa" (*sequencia de la solfa*) and the cadences. The "sequence of the solfa" refers to the solmization of the octave segment characteristic of each mode, depending on the placement of tones and semitones within the octave. Cadential structures can be of two types: those which follow a mode's proper cadences, and those which follow the cadences of the psalm tone. Santa María provides a list of proper cadences for each mode, dividing them into final, mediant, and passing. He also lists the *seculorum*s for each mode, and their mediant and final cadences. In Santa María's opinion, the treble is the voice that determines the mode.

The other modal concepts taken up in the treatise are initial pitches, modal commixture, and modal transposition. A summary of elements to be examined to determine the mode of a composition, provided in fol. 71r, happens to be also a review of some musical genres that we have previously discussed in relation to Cabezón: first, the "sequence of the solfa"; second, the cadences; third, the *seculorum*, if the piece is based on it, as "in the case of Magnificats and Psalms"; fourth, the *cantus firmus*, if the piece is based on one, "as it happens in the hymn *Ave maris stella*." Chapter 26 closes part 1 of the treatise with a comprehensive technical discussion of cadences, in which voice-leading, consonance, and dissonance are taken into account.

Santa María opens part 2 with an introduction in which he reminds the reader that all of the previous material was aimed at the second part of the treatise, in

which the art of playing *fantasia* will be taught. Chapters 1 and 2 deal with dissonances and their proper use: as passing tones (*passando de presto en disminución*), as suspensions (*en la mitad de semibreves, en puntillo de semibreves, en sincopa*), and as suspensions or anticipations in cadences.

Chapter 3 starts the discussion of consonances. Santa María divides them into perfect (unison, fifth) and imperfect (major and minor thirds and sixths). He forbids series of equal perfect consonances, explaining that music is "variety and diversity of consonances." He allows a diminished fifth followed by a perfect fifth. In a succession of thirds or sixths, it is better to mix major and minor intervals for the sake of variety; it is even better to mix thirds and sixths together.

Chapters 6 to 10 provide a classification of consonances in three and four voices. Santa María discusses all the possible ways of filling in a given consonance between the outer voices, and calls the resulting vertical sonorities "differences of the consonances" (*diferencias de las consonancias*). The differences are defined by the intervallic content of the sonority, as reckoned from the bass.

The practical application of the classification of vertical sonorities is the compositional technique of "playing in consonances" (*tañer a consonancias*). A treble is harmonized with a bass line, and each consonance between the outer voices is filled in by the two inner voices according to the possibilities previously classified as "differences of the consonance." This technique is expounded step-by-step in chapters 11 through 30, and will be further discussed in chapter 5 of the present dissertation. The chordal settings of the psalm tones (*fabordones*) present

the problem of harmonizing the repeated note of the psalm-tone tenor. Santa María devotes chapters 15 and 16 to the harmonization of a treble that repeats notes and to its practical application in the composition of *fabordones*.

The final section of the treatise concentrates on contrapuntal techniques and their relationship to formal aspects of the *fantasia*. In chapter 31 we learn that the normal number of voices for playing *fantasia* is four, which allows for sections in two or three voices for variety. Referring to the compositional process, Santa María states that "whoever wishes to order voices well has to keep all of them in mind, in such a way that each particular voice should not move a single note without taking into consideration and respecting whatever each of the other voices does." Hence, the underlying compositional procedure in the *fantasia* is that of simultaneous voice composition.

Chapters 32 and 33 deal with duet writing, both in canonic and free imitative styles. Santa María examines the possible intervals of imitation (fourth, fifth, octave), the techniques of imitation above or below the subject, and the different number of beats that can separate subject and answer. Finally, he provides examples of double counterpoint and inverted double counterpoint (fols. 66r and 66v).

Chapter 34 examines the problems of counterpoint in a three-voice texture. Santa María studies again the vertical, intervallic possibilities of the different consonances as defined by the outer voices and reckoned from the bass. Chapters 35 and 36 deal with single and paired imitation in four voices. Finally, chapters 37

to 51 include a detailed presentation of the possible ways of connecting the different phrases of a *fantasia*. Each section, or phrase, usually opens with imitation and closes with a cadence. This cadence is the point of departure for a new phrase. Santa María discusses the contrapuntal possibilities for connections in which the cadence is omitted, and those in which the new subject starts before the cadence of the previous phrase has begun, at the same time as the cadence is being effected, or after the cadence has concluded.

Each of the technical and compositional points that Santa María takes up throughout his treatise is illustrated with a musical example. In part 2, the examples are complete short *fantasias* in which a technical problem is solved musically. Chapter 52 is a summary of recommendations for the performer of *fantasia*. Santa María's precepts first refer to having good keyboard technique, good performance style, knowing well the modes, playing works by famous composers, transposing them, and memorizing their subjects. Once these steps are mastered, the student will go on to play counterpoints and canons on given subjects, to the practice of playing in consonances on a subject placed in any of the four voices (that is, harmonizing chordally a subject with the remaining three voices), and to play counterpoints to given *cantus firmi*. The final chapter (53) deals with tuning the keyboard and the vihuela.

*Juan Bermudo and the Declaración de instrumentos musicales*

Two years before the first license allowing the publication of the *Arte de tañer fantasta* was issued, Juan Bermudo's treatise was published in Osuna, near Seville (1555). The *Declaración de instrumentos musicales* includes among its chapters almost the totality of Bermudo's two previous, shorter treatises (the *Libro primero de la declaración de instrumentos* of 1549, and the *Arte tripharia* of 1550), which Bermudo decided to gather in one expanded volume for practical purposes. The *Declaración* bears a letter by Cristóbal de Morales warmly recommending the book, and several times throughout it Bermudo himself recommends the music of Cabezón as an example to be followed. Because the *Declaración* is the other major sixteenth-century Spanish treatise that deals with instrumental performance and composition, and because it will be used in the present dissertation as an occasional source for comparison with Santa María's discussions, a brief reference to its author and contents is pertinent.<sup>20</sup>

Bermudo was born in Ecija, near Seville, and took Franciscan minor orders in

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<sup>20</sup>An excellent critical study and evaluation of the *Declaración*, including a detailed synopsis of the book, can be found in Robert Stevenson's *Juan Bermudo*. The following English translations of the treatise are available: Juan Bermudo, *Declaración de instrumentos musicales*, trans. Gordon J. Kinney (Lexington: M.I. King Library, University of Kentucky, 1977, microfilm); and Carmen Hermosillo, "Juan Bermudo's *Statement on Musical Instruments*: a translation with commentary on pedagogical significance" (M.A. thesis, San Jose State University, 1985). Bermudo's compositions included in the *Declaración* are also available in modern transcription: Juan Bermudo, *Oeuvres d'orgue*, ed. Pierre Froidebise (Paris: Editions Musicales de la Schola Cantorum, 1960).

about 1525. Except for a period as student at the University of Alcalá de Henares, near Madrid, the rest of his life was spent in his native Andalusia. He is conjectured to have died ca. 1565. The *Declaración* is arranged in five books. Book 1 contains definitions, justifications, statements concerning the purposes of music, comparisons of old and modern music, and other general considerations. Book 2 is the introduction to music for beginners, including the rudiments of theory, notation, and musical terms. Focusing first on plainsong, Bermudo treats solmization, melodic intervals, the modes in plainchant, and the psalm tones. The discussion of polyphony centers on mensural notation. The final chapter of book 2 is an introduction to the clavichord (*monachordio*), vihuela, guitar, and bandore.

Book 3 deals with the elements of vocal music, both in plainsong and polyphony, repeating with more detail some of the theoretical concepts already presented in the previous book. Thus, he discusses voice ranges, clefs, hexachordal mutations, the modes, the use of accidentals and their effect on mode, and the intervals. The theory of mensural notation is presented again and expanded. The book closes with a discussion of proportions in mensural music.

Book 4 is devoted to the art of playing musical instruments. After advising the performer to play and study music by great vocal masters, Bermudo discusses fingering and ornaments. His diagram of the keyboard with specifications of "singable" and "unsingable" semitones coincides exactly with that of Santa María. Keyboard tuning and the problem of the division of the tone is discussed in chapters 4 to 11.

The subject of chapters 18 to 40 is polyphonic modal theory. The modal concepts discussed are modal species and how they define mode; the problem of the *B<sup>b</sup>* and its effect on mode; finals, beginning and cadential pitches; modal transposition; the differences between authentic and plagal; and modal mixture and commixture. In chapter 42 Bermudo presents a keyboard tablature different from the one used in the *Libro de cifra nueva* and Cabezón's *Obras*. Chapter 47 deals with the semichromatic genus, a mixture of the chromatic and diatonic genera that justifies chromaticism at the keyboard. There follows a lengthy exposition of the characteristics and technique of the vihuela, with references to the guitar and the bandore. The topics of tuning, construction, types of vihuelas, tablatures, fretting, temperament, and other subjects related to vihuela performance engage Bermudo from chapters 54 to 86. A shorter but similar discussion of the harp is also included. At fol. 113v we learn that Bermudo's friends from the New World had been asking him to have some keyboard music printed. Bermudo included five hymns on *cantus firmi* and four *tientos* included at the end of book 4 for the sake of his friends; they were the first keyboard works ever published in Spain.

Book 5, which closes the treatise, deals with the arts of composing plainsong and polyphony. A new review of the modes opens the book, including a discussion of mode identification in plainchant, a listing of the psalm tones and their different endings, and instructions on plainsong improvisation, notation, and repertoire. The remaining chapters of the book form a little treatise on counterpoint and composition. Bermudo divides counterpoint into *forçoso* (all the notes have equal



time value) and *libertado* (using notes of varying time values). *Forçoso* counterpoint is used for pedagogical purposes, and in it he shows the student how he can place the following notes against a breve: a breve, two semibreves, four minims, eight semiminims; or three semibreves, six minims, nine semiminims. After discussing the use of consonance and dissonance in counterpoint, Bermudo devotes the final chapters of his treatise to general advice on polyphonic composition: the composer should take into account the beauty of individual lines, the mode that best suits the text, and the cadential structure of the piece in accordance to text structure. He also discusses canon, cancrizans, and his liberal criteria on the use of harmonic dissonance and melodic chromaticism.

#### *Comparative Evaluations of Santa María and Bermudo*

The *Declaración* is thus a treatise of broader scope and more speculative character than the *Arte*. Bermudo's organization, however, is less rational than that of Santa María. Subjects frequently succeed each other in illogical sequence, and the same topics are often discussed several times throughout the treatise. The *Declaración* deals with instrumental technique, notation, and construction, but Bermudo's presentations of compositional practice refer mostly to vocal composition, and focus on counterpoint. He does not introduce or develop any specific technique or genre of instrumental composition.

Macario S. Kastner has frequently expressed his opinion that Santa María is inferior to Bermudo because the compositions included in their respective treatises

show that the former was "more conservative," and hence more removed than the latter from the "progressive" instrumental practice of mid-sixteenth-century Spain. The symptoms of conservatism detected by Kastner in Santa María are that his compositions are diatonic and vocally oriented, while Bermudo's are more chromatic and "instrumental."<sup>21</sup>

Kastner's opinion does not appear to be justified if we compare Santa María and Bermudo as theorists rather than as composers. Concerning their respective pieces, one should not forget that Santa María's illustrations are pedagogical, and this explains their simplicity and clarity, while Bermudo's pieces are meant to be keyboard compositions in their own right. It should also be said that Santa María's preference for diatonic counterpoint and strict control of dissonance conforms to one of the most common styles in sixteenth-century composition, and the label "conservative" should not be applied to this practice with a derogatory meaning. Santa María's and Bermudo's reliance on vocal models has already been discussed in the introduction, and as it has been pointed out, it conforms with the general trend in the second half of the century.

As other scholars have pointed out, Santa María is interested in contemporary

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<sup>21</sup>Macario Santiago Kastner, "Orígenes y evolución del tiento para instrumentos de tecla," *Anuario musical* 28-29 (1973-74):26; idem, *Antonio und Hernando de Cabezón*, pp. 167-69; *The New Grove's Dictionary of Music and Musicians*, s.v. "Cabezón," by Macario S. Kastner; Luis Robledo, "Encuentro musicológico de la 3a Semana de Música Española del Festival de Otoño de Madrid: El Renacimiento," *Revista de musicología* 10 (January 1987):328 (see reference to Kastner's presentation, "La figura y la obra de Tomás de Santa María").

practice, and tries to codify it as rationally as possible. Innovative approaches can be found in his treatment of keyboard performance practice, his concern with updated methods of composition, and, most of all, his stress on explaining and developing the technique of "playing in consonances." Samuel Rubio considers the Dominican "more personal and experimental than Bermudo," and adds that "in the study of counterpoint [Santa María] excels all other [sixteenth-century Spanish theorists]." Rubio qualifies Kastner's comparison of Santa María and Bermudo as "exaggerated and passionate."<sup>22</sup>

Similarly, Jambou points out that Santa María clears the path for modern composition treatises in his empirical and methodical formulation, resulting in a "rationalization that leaves nothing to chance."<sup>23</sup> Finally, Harich-Schneider considers Santa María to be "the best and most exhaustive source of his time" for information on keyboard performance techniques.<sup>24</sup>

#### *The Sources of Bermudo and Santa María*

Santa María does not include in his treatise any reference to any previous theoretical source. Bermudo, however, provides references and quotations from

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<sup>22</sup>Pablo López de Osaba, gen. ed., *Historia de la música española*, 7 vols. (Madrid: Alianza Editorial, 1983), vol. 2: *Desde al "ars nova" hasta 1600*, by Samuel Rubio, pp. 257-59.

<sup>23</sup>Jambou, p. 32.

<sup>24</sup>Harich-Schneider, *The Harpsichord*, p. 20.

more than forty authorities.<sup>25</sup> Thus, even though we are unaware of Santa María's sources, the *Declaración* informs us of the treatises that were widely known at the time in Spain, and hence those which were possible references for the *Arte*. It should be said, however, that there does not seem to be a treatise prior to Santa María's that presents a complete and systematic method for instrumental composition and improvisation. Santa María's originality in this field seems to be unquestionable, and his source could only have been the observation of contemporary compositional practice.

Bermudo quotes the classical Greek and Latin authors at length. The list includes Ambrose, Aristotle, Augustine, Berno of Reichenau, Boethius, Cicero, Diogenes, Guido, Hugo of St. Victor, Isidore, Plato, Quintilian, Seneca, and Thomas Aquinas, among others. Spanish theorists are discussed in order to correct their errors: Guillermo Despuig, Juan de Espinosa, Gonzalo Martínez de Bizcargui, Domingo Marcos Durán, and Francisco Tovar, whom he quotes with a certain respect. Bermudo also draws frequently on Renaissance sources. The most often-quoted treatises are Gaffurio's *Practica musicae* (1496), Ornithoparchus's *Musicae activae micrologus* (1517), and Glarean's *Isagoge in musicen* (1516). Two contemporary encyclopedias are also quoted by Bermudo: Gregor Reisch's *Margarita philosophica* (1503), whose main musical source was Wollick's *Opus aureum* (1501), and Giorgio Valla's *De expetendis et fugiendis rebus opus* (1501).

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<sup>25</sup>For a detailed list of Bermudo's sources, see Stevenson, pp. 27-35.

The connection between Spanish and German theory is not surprising when we consider the political ties between the two countries during the first half of the century.

Our study of instrumental music and the treatises that refer to it requires that we examine the nature of the instruments for which the music was written. I will thus briefly present the characteristics of the instruments that were available to Bermudo, Santa María, and Cabezón.

### *The Instruments*

The complete titles of both the *Libro de cifra nueva* and the *Obras de música* state that their musical contents can be performed on keyboard, vihuela, or harp. The title of the *Arte de tañer fantasta* is followed by the subtitle "Assi para tecla como para vihuela, y todo instrumento en que se pudiere tañer a tres, y a quatro voces, y a mas." That is, "for keyboard, vihuela, or any instrument that can be played in three, four, or more voices." Thus, the only condition is that it be a polyphonic instrument.

The vihuela was a plucked string instrument, a close relative of the guitar--and not to the lute, as it is sometimes said. The regular vihuela had six double courses of strings, tuned to the following relative pitches: *G-c-f-a-d'-g'*. However, different tunings were frequent, as were vihuelas with five or seven courses of strings. Despite his title statement, Santa María devotes only two pages to the vihuela. Moreover, he does not refer to the organ throughout his treatise, but

rather to the "*monocordio*" (clavichord). Bermudo's references to keyboard instruments are to both the "*monachordio*" and the organ.

The question arises about the characteristics of the organs that Santa María and Cabezón must have played. The exact answer to this question is obscured by the fact that no full-sized Spanish organs from before the late-seventeenth century have reached us without restorations. The most direct sources of information about sixteenth-century organs are the contracts between churches and organ builders. There is no record of the actual organs that were played by Cabezón.<sup>26</sup>

The Spanish Gothic organs built in the fifteenth century were often large instruments with two or three manuals--at least one for the principal (*flautado*) and one for a large mixture (*lleno*). Some fifteenth-century organs also had a *Rückpositiv* (*cadireta*). Two large organs at Zaragoza were of this type (Zaragoza cathedral, 1413, and church of San Pablo, 1420). One of the last large Gothic organs is the *Organo del Emperador* at the Toledo cathedral, which Cabezón must have played. It is an old-fashioned instrument for its time, built by Gonzalo Henández de Córdoba and Juan Gaytán in 1543-49. The present organ at the Toledo cathedral is a modern restoration (1972-73) of a major modification effected in 1802. We know by the original contracts that the organ had two sounds: a large

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<sup>26</sup>Two of the most authoritative modern works on Spanish organs, used as basic sources for the present review, are: James Wyly, "The Pre-Romantic Spanish Organ: Its Structure, Literature, and Use in Performance" (D.M.A. dissertation, University of Missouri, 1964); and Rudolf Reuter, *Orgeln in Spanien* (Kassel: Bärenreiter, 1986).

mixture and a principal. A projected third sound (*chirumbelado*, or cimbel: a fifteenth of several ranks) never materialized. The organ had a single manual (C'-a"), with thirteen *tacones* or foot buttons to pull down the lowest octave.

The Spanish Renaissance organ tends to be smaller than the Gothic one, and the churches would have several organs in different locations rather than one large instrument. The large Gothic mixtures were broken up into smaller parts. Some innovations were the chorus of *nazardos*, or open metal flue pipes, and the reeds, introduced with enthusiasm by Castilian builders about 1500. *Tacones* (buttons) were used instead of pedals. Their use was limited to bass lines rather than melodic parts as *cantus firmi*. The tremulant was widely popular. Castilian builders seem to have favored contrasting colors and registers, and brilliant effects. No such organ has reached us, but we have the documentation referring to the organ built at the Lérida cathedral in 1543-45 by a Castilian builder, Matheu Téllez of Toledo. The organ, presumably in Castilian style, includes full-length reeds not usual in contemporary Catalan organs. Other features include flutes, toy stops (such as bells, drums, and nightingales), full and high mixture, and principal chorus. The principal chorus was made up of two 8' principals, one in each facade. The chair positive was based on a 4' principal. The result was an instrument that combined power and brilliance (reeds) with suavity (flue stops).

The great development of Spanish organs towards the brilliant and versatile baroque organ came about in the last decades of the sixteenth century, and thus was not known by Cabezón. The prebaroque organ was a two-manual instrument,

and each manual had two flue choruses, regals, and trumpets. An important innovation was the introduction of half-stops or divided keyboards. The best examples of this type of instrument are the four organs built by Gil Breboz of Antwerp for the monastery of El Escorial in 1579-84. The organs are highly sophisticated, and feature a lower divided keyboard (with two wind chests), an upper keyboard controlling a *Brustwerk*, and a pedalboard with two side chests. Wyly points out that at the time these organs were built Hernando de Cabezón was the court organist, and he was probably consulted about their dispositions. The foundations of the monastery were laid three years before Antonio died. Wyly suggests that Antonio might have played other organs by Breboz in the Netherlands, and this might have been an influence in the selection of the organ builder.<sup>27</sup>

Wyly also notes that a few of Cabezón's pieces require a pedal organ. As a matter of fact, some of them can be played neither on portable organs nor on the large Spanish organs of the time, as in the case of some five- and six-voice *glosas* (for instance, the *glosas* on Josquin's *Ave Maria* and Verdelot's *Ultimi mei suspiri*). Both Wyly and Hans Klotz after him believe that Cabezón had a large Dutch organ at his disposal in Spain.<sup>28</sup> Even though I do not have the answer to the problem of Cabezón's pieces with too wide a range for Spanish organs, Wyly's

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<sup>27</sup>Wyly, p. 44.

<sup>28</sup>Wyly, p. 98; Hans Klotz, *Über die Orgelkunst der Gotik, der Renaissance, und des Barock*, 2nd ed. (Kassel: Bärenreiter, 1975), pp. 151-52.



thesis is questionable. Where, and how, could a peripatetic court have a large organ? The only possible answer would be the Madrid Alcázar, but the court moved there only at the end of Cabezón's life. It is unlikely that such a large Dutch organ would have existed in one of the churches or cathedrals of the Castilian cities where the court sojourned without any record or reference to it having survived.

There is no question that Cabezón must have occasionally played on large organs both in Spain and abroad. But one should remember that he was a court musician, and music at the court was used as chamber entertainment or had a liturgical function at the private royal chapel. Small portative organs are more likely to have fulfilled such functions in a court moving so frequently. There are indeed several records of small organs being moved in some of the court's journeys. Anglés quotes a document from the National Historical Archive at Simancas which lists the carts that were needed to move the belongings of the court from Valladolid to Madrid in 1545 ("Memoria de carretas y azémilas que son menester esta partida de su Alteza desde Valladolid a Madrid"). Among the items listed, the following is found: "Para trasladar los órganos de su Alteza: dos bestias" ("to move His Highness's organs: two beasts").<sup>29</sup>

Two other documents from Simancas also refer to similar situations. Court records of the final move from Toledo to Madrid include the following statement:

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<sup>29</sup> Anglés, *La música en la corte de Carlos V*, p. 96.

"On July 8, 1561, I paid Xpoual, organist, 22 *reales* which he said it had cost him to bring the organ which was in the Queen's room, and load and unload it, from Toledo to Madrid."

When Queen Isabel of Valois became ill at Mazarambroz on one of her trips, the records contain the following item: "[Paid] to Juan de Rincón, singer, to recall the members of the chapel from Toledo to Mazarambroz: 40 *reales*. To rent a cart in which the organs were moved to Mazarambroz: 9 *reales*."<sup>30</sup>

The cases of several portative organs similar to the ones used by Cabezón have fortunately reached us. One of them is kept at the old cathedral of Salamanca, and is known as the "Salinas organ." It was probably built around 1570. It has a keyboard with divided register, ranging from *C* to *a*", with a lower short octave (a total of 41 keys). The registers are as follows: 8' stopped principal, open principal, octave, twelfth, mixture, high mixture, and regal. A positive preserved in the room of Philip II's daughter, Isabel Clara Eugenia, at El Escorial, is likely to have been built by Breboz around 1580. It has a total of 38 keys, extending from *F* to *a*", and its six registers are controlled by side slides: 4' stopped principal, 2' open principal, twelfth, fifteenth, 8' regal, 8' or 4' regal.

We have surveyed in this chapter the contents of the works by Cabezón, Santa María, and Bermudo, and the historical context that provided the background for these works. We will now examine the theoretical concepts on which Santa María

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<sup>30</sup>Agustín González de Amezúa, *Isabel de Valois*, 1:243.

and Bermudo based their expositions of modal theory.

## CHAPTER II

### MODAL THEORY IN THE SIXTEENTH CENTURY: AN OVERVIEW

#### *Modality and Tonality*

Polyphony in the sixteenth century was organized according to a system of pitch relationships whose tenets and hierarchies are outlined in theoretical treatises of the period. We refer to this system with the term "modality." The term "tonality," on the other hand, has been used with different meanings. According to one of them, tonality is a universal concept that can be applied to any system in which a collection of pitches is ordered around a tonal center, or tonic, following certain hierarchical relationships. Another definition adopted by Schenkerian theorists applies the term "tonality" to any system of pitch organization in which a tone or combination of tones is prolonged throughout a composition by contrapuntal means. Each definition stresses the idea of pitch hierarchy around a center, and each can encompass a variety of systems from a variety of cultures. Renaissance music is "tonal" by either definition.

A third meaning of the term "tonality" is more restricted. It refers to the system of pitch organization used in most Western music between the late seventeenth century and the late nineteenth century. Such a system is based on

two scale-types or key-types, the major and the minor, and on a series of pitch and chord relationships and tendencies which are usually known as tonal functions. I will use the term "tonality" in this restricted sense, thus meaning "major/minor tonality" or "functional tonality."

Thus understood, the term "tonality" refers to a system different from, and subsequent to, "modality." The main differences between the two systems lie in the intervallic relationships among the pitches of different scales, in the structural functions within the scales, and in the type of pitch collections that these functions regulate. In bimodal tonality only two basic sets of intervallic relationships apply to all possible 24 keys, and these constitute the major and the minor modes. In Renaissance modality each of the eight (or twelve) modes features a distinctive intervallic arrangement. This characteristic of the modal system is reflected in the prominence given by theorists to the species of fifth, fourth, and octave in defining mode.

The other determining difference between tonality and modality is provided by their respective structural functions. In the tonal system all keys have identical functional relationships. For instance, the dominant is always a perfect fifth above the tonic, and the subdominant a whole step below the dominant. This is not the case with modality. Each mode is characterized by a set of degree functions which varies from one mode to another. Thus, while the confinal is always a perfect fifth above the final, the *repercussa* (or psalm-tone tenor) is a minor sixth, a perfect fifth, a perfect fourth, a major third, or a minor third above the final, depending on the

mode. Finally, tonal functions in the major-minor system have a harmonic character, and their main role is to regulate chord relationships as well as long-range formal designs. Modal functions also provide the basis for formal structures, but the pitch collections they organize have a melodic, rather than a harmonic, character.

Despite their different structural orders, it should be recognized that modality and tonality have points of similarity or even identity. The most important of these points of contact are the identical structures shared by the modern major mode and *F*-Lydian with *B<sup>b</sup>* (or Ionian) on the one hand, and the minor mode and *D*-Dorian with *B<sup>b</sup>* (Aeolian) on the other. It has often been pointed out that these modes were the point of departure for modern tonality.

We will now examine the principles of chant modality, on which Renaissance modal theory was built.<sup>1</sup>

#### *Medieval Chant Modality*

Polyphonic modality is firmly rooted in medieval chant modality. Modal theory as discussed by most theorists through the first quarter of the sixteenth century is simply a transmission of the modal principles established in such medieval treatises as the *Dialogus de musica*, Guido's *Micrologus*, Hermannus Contractus's *Musica*, and

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<sup>1</sup>For a detailed historical account of Medieval and Renaissance modality, the reader may refer to *The New Grove's Dictionary of Music and Musicians*, s.v. "Mode," by Harold Powers.

Marchetto's *Lucidarium*. The medieval modal tradition is based on the eight Church modes, grouped in four pairs. Each pair includes an authentic and a plagal mode which share the same final. There are thus four finals: *d* (modes 1 and 2: Dorian and Hypodorian), *e* (modes 3 and 4: Phrygian and Hypophrygian), *f* (modes 5 and 6: Lydian and Hypolydian), and *g* (modes 7 and 8: Mixolydian and Hypomixolydian). The characteristic octave of each mode is divided into a fifth and a fourth, and the lowest pitch of the characteristic fifth is always the final of the mode. The fifth and the fourth for any pair of authentic/plagal modes are the same, and the only difference lies in their placement: authentic modes have the fourth above the fifth, plagal modes have the fourth below the fifth.

The *ambitus* is the range covered by a melody, and it determines the latter's authentic or plagal character. As a general rule, if the *ambitus* stretches from the final (or the pitch below the final) to the octave or ninth above the final, the melody is in an authentic mode. If the *ambitus* extends from the fourth (or fifth) below the final to the fifth (or sixth) above it, the melody is in a plagal mode.

Modal melodies sometimes end on pitches other than the final. The term "confinal" has been used by theorists to signify both the ending of a piece on the note a fifth above the normal final and the final of a complete piece transposed a fifth above.<sup>2</sup> The modal affinity between each of the four regular finals and the

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<sup>2</sup>Examples of Gregorian tunes ending on the confinal without there being a transposition of the whole piece are cited in Franchino Gaffurio's *Practica musicae*, trans. Irwin Young (Madison: University of Wisconsin Press, 1969), pp. 57-59, and Gioseffo Zarlino's *On the Modes*, part 4 of *Istitutioni harmoniche* (1558), trans.

degrees lying a fifth above them was recognized in early theoretical treatises. Thus, Hucbald explains that "the fifths above [i.e., *a, b, c', d'* above *d, e, f, g*] are always linked to these four [finals] by a sort of connective bond, such that most melodies may be found leaving off in them quite as though by the rule."<sup>3</sup> Guido establishes that this affinity is provided by the similar arrangements of tones and semitones above and below the degrees (*modi vocum*). Thus, he states, "degrees are alike and make similar sounds and concordant phrases only insofar as they are raised and lowered similarly with regard to the disposition of tones and semitones. So the first degree *A* and the fourth, *d*, are alike and are designated 'of a single mode' because both have tone in descent and tone-semitone-tone-tone in ascent, and this is the first similitude in degrees, that is, the first mode."<sup>4</sup>

The ending of a piece a fifth above the final is based on this affinity, regardless of whether the piece started in the untransposed mode, or whether the whole piece was transposed. I will then use the term confinal with reference to either possibility. Thus, modes 1 and 2 (the *protus* modes) can end on *d* or *a*; modes 3 and 4 (*deuterus*) can end on *e* or *b*; modes 5 and 6 (*tritius*) can end on *f* or *c'*; modes 7 and 8 (*tetrardus*) can end only on *g*, even though *d'* is still considered the confinal for the pair.

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Vered Cohen (New Haven: Yale University Press, 1983), p. 91.

<sup>3</sup>Hucbald, *De harmonica*, quoted by Powers, "Mode," p. 381.

<sup>4</sup>Guido, *De ignotu canto*. quoted by Powers, "Mode," p. 388.



Fifths and fourths are classified by species. These are differentiated by the position of the tones and the semitone within the interval. The four species of fifth are the following:

- First species (modes 1-2): T-S-T-T (*d-e-f-g-a*)
- Second species (modes 3-4): S-T-T-T (*e-f-g-a-b*)
- Third species (modes 5-6): T-T-T-S (*f-g-a-b-c'*)
- Fourth species (modes 7-8): T-T-S-T (*g-a-b-c'-d'*)

The three species of fourth are as follows:

- First species (modes 1-2 and 7-8): T-S-T  
(*d-e-f-g* or *a-b-c'-d'*)
- Second species (modes 3-4): S-T-T (*b-c'-d'-e'*)
- Third species (modes 5-6): T-T-S (*c'-d'-e'-f'*)

For each mode there is a particular melodic formula, or psalm tone, to which the verses of the Psalms are sung. Theorists came to consider the psalm tones as characteristic features of the modes, and as such psalm tones were normally included in treatises as part of modal presentations. The psalm tones are usually divided into two parts: the first part begins with an intonation (introductory formula) leading to a reciting tone, and closes with a mediant cadence. The second part may start with a second intonation followed by the same reciting tone, and closes with a final cadence.

The psalms were preceded and followed by an antiphon. In order to accommodate the end of the psalm tones to the beginnings of the different antiphons, several possible terminations were provided for each psalm tone, and these were called *differentiae*. The closing formula of the psalm tone is sung to the

final words of the lesser Doxology, "*et in secula seculorum. Amen.*" For this reason, the closing formula is often referred to as the *seculorum* of the mode. At times the designation of *seculorum* also extends to the complete psalm tone.<sup>5</sup> The formulas used for the chanting of canticles, and particularly of the Magnificat, were slight variations or elaborations of the psalm tones. The reciting tone of the psalm tones, or tenor, became an independent modal function, second in importance to the final and the confinal.

The following example summarizes the basic structural elements for each of the eight Church modes: octave, final (whole note), tenor (square note), species of fifth and fourth, and psalm tone, ending with the most frequent *differentia*.<sup>6</sup>

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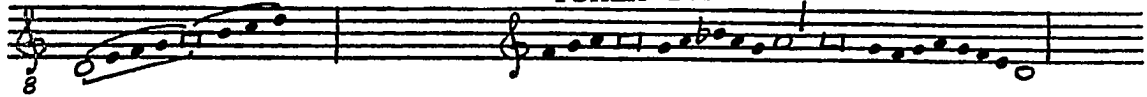
<sup>5</sup>Santa María uses the term *seculorum* with reference to the complete psalm tone (1:64r-65v), and this is also the meaning which the term will have throughout the present dissertation.

<sup>6</sup>The source for the psalm tones was the *Liber usualis* (Tournai: Desclée, 1962), pp. 112-17.

## Example 2.1

MODE 1: DORIAN - 1st species of 5th + 1st species of 4th

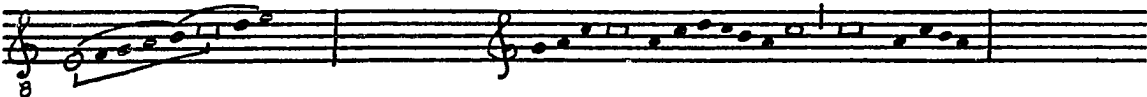
PSALM TONE:



MODE 2: HYPODORIAN - 1st sp. of 4th + 1st sp. of 5th



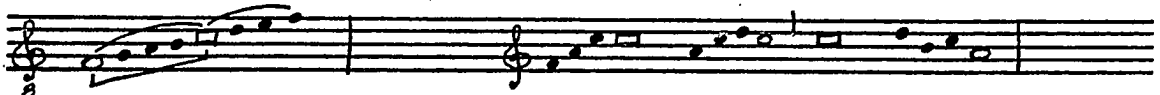
MODE 3: PHRYGIAN - 2nd sp. of 5th + 2nd sp. of 4th



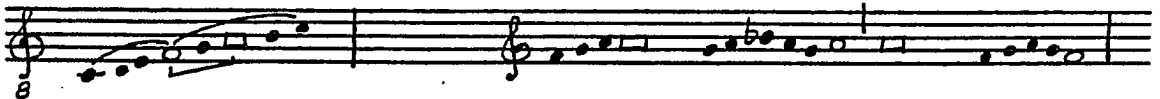
MODE 4: HYPOPHRYGIAN - 2nd sp. of 4th + 2nd sp. of 5th



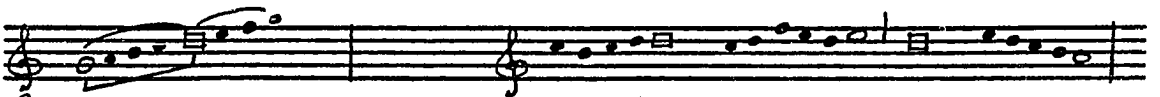
MODE 5: LYDIAN - 3rd sp. of 5th + 3rd sp. of 4th



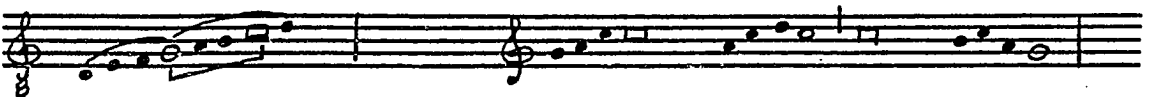
MODE 6: HYPOLYDIAN - 3rd sp. of 4th + 3rd sp. of 5th



MODE 7: MIXOLYDIAN - 4th sp. of 5th + 1st sp. of 4th



MODE 8: HYPOMIXOLYDIAN - 1st sp. of 4th + 4th sp. of 5th



The only optional accidental accepted by medieval theory was  $B^b$ , resulting from the Greek *synemmenon* tetrachord. Not until the fourteenth century did theorists recognize the possibility of an essential  $B^b$  that allowed for transposition of modal scales to the upper fourth. This resulted in *protus* modes with final on  $G$ , and *deuterus* modes with final on  $A$ .  $G$ -*protus* modes also implied that a new accidental sixth degree,  $E^b$ , had to be accepted. The essential  $B^b$  was also introduced into *tritus* modes, but without a transposition. Thus, Lydian and Hypolydian were used either with or without  $B^b$  in the signature. The *tetrardus* modes were seldom transposed.

A mode was called "mixed" when its range encompassed both the authentic and the plagal *ambitus*. Mode mixture thus referred to the combination of a mode and its plagal or authentic complement. Modal commixture, on the other hand, referred to the combination of two modes belonging to different pairs. Commixture resulted when a melody included a species of fourth or fifth which did not belong to its main mode.

The development of medieval modal theory reached a high point with Marchetto's *Lucidarium* (early fourteenth century). The core of Marchetto's modal exposition is his classification of modal *ambitus* and his definitions of species of fourth and fifth by function rather than structure. The *ambitus* can be perfect (the modal octave), imperfect (smaller than the octave), pluperfect (larger than the octave), mixed (encompassing the authentic and plagal ranges), and commixed (encompassing two ranges not related by authentic-plagal relationships). Species

of fourth and fifth are classified by Marchetto as initial (when they begin a melody), terminal (when they end a melody), common (belonging to both the authentic and plagal modes), proper (belonging to either an authentic or a plagal mode), and commixed (belonging to a mode other than the principal). The common species of fifth (from the final up to the fifth degree) is Marchetto's mark for authentic modes, while the common species of fourth (from the final up to the fourth degree) is his mark for plagal modes.<sup>7</sup>

### *Modality and Polyphony*

The integration of modal theory and polyphony in the Renaissance took place in several stages. Throughout the fifteenth century, theorists continued to deal with chant modality, without attempting to connect it with polyphonic practice. In the first half of the sixteenth century, such authors as Lampadius and Heyden began to introduce polyphonic examples within their presentations of monophonic modality. Mid-sixteenth-century treatises included discussions of modal structure in polyphonic compositions, as in the cases of those by Vicentino, Coclico, and Bermudo. Later in the century, presentations of polyphonic modality by such authors as Dressler and Pontio achieved a synthesis of all previous attempts to integrate polyphony and the theory of the eight modes. The general trend among theorists in the last quarter of the century was to follow Glarean's and Zarlino's

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<sup>7</sup>Marchetto da Padova, *Lucidarium*, trans. Jan Herlinger (Chicago: University of Chicago Press, 1985).

theory of the twelve modes in their expositions of polyphonic modality.

### Renaissance Chant Modality

Marchetto's classifications of the modes and modal functions were transmitted to the Renaissance by Ugolino of Orvieto (*Declaratio musice disciplina*, 1430), and became the basis for modal expositions in such treatises as Tinctoris's *Liber de natura et proprietate tonorum* (1476) and Gaffurio's *Practica musicae* (1496). None of these fifteenth-century treatises discusses the problem of modality in a polyphonic texture, and this is also the case with all other Renaissance sources quoted by Bermudo.<sup>8</sup> Gaffurio, quoted 42 times in the *Declaración*, focuses mainly on finals, confinals, and species of fourth, fifth, and octave. In his discussion of the individual modes he reproduces the psalm tones, pointing out the interval between the final and the reciting tone for each mode.<sup>9</sup>

Three German treatises frequently quoted by Bermudo also discuss chant modality: Gregor Reisch's *Margarita philosophica* (Freiburg in Breisgau, 1503)--a work that in turn relied on Wollick's *Opus aureum* (Cologne, 1501) for musical

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<sup>8</sup>Tinctoris' five examples in two voices refer to the need to use a *B<sup>b</sup>* in order to avoid the tritone as a contrapuntal interval. All of Tinctoris' remaining examples are for a single voice. It should be said, however, that Tinctoris acknowledges the problem of authentic or plagal definition in a polyphonic texture, and prescribes that the tenor is the voice which determines the mode of the whole composition. See Johannes Tinctoris, *Liber de natura et proprietate tonorum*, 2d ed., trans. Albert Seay (Colorado Springs: Colorado College Music Press, 1976), pp. 24-25.

<sup>9</sup>Franchino Gaffurio, *Practica musicae*, trans. Irwin Young (Madison: University of Wisconsin Press, 1969), pp. 45-63.

matters--, Glarean's *Isagoge in musicen* (Basel, 1516), and Ornithoparchus's *Musicae activae micrologus* (Leipzig, 1517). Each of the three treatises discusses the usual aspects of chant modality: finals and confinals, authentic/plagal pairs, *ambitus*, species, transposition, and initial pitches. All three include the psalm tones and the Magnificat tones for each mode, and give prominence to the interval formed by the final and the psalm-tone tenor. Ornithoparchus lists these intervals under the heading "Of the repercussions of tones" (*De repercussionibus tonorum*), and he starts his "ten precepts necessary for every singer" by ruling that "when you desire to sing anything, above all things you marke the Tone and his Repercussion."<sup>10</sup> Wollick's principle for recognizing a mode consists in looking at the final and at the note which the chant "repeatedly strikes" (*repercutiens*), and he also provides a table of intervals between final and tenor for each mode.<sup>11</sup>

Francisco Tovar's *Libro de música práctica* (Barcelona, 1510) is the Spanish Renaissance treatise most respectfully quoted by Bermudo. Tovar's presentation of the modes includes discussions of the finals, the authentic and plagal modes, the species, and the mixture of authentic and plagal *ambitus*. As a means of determining the mode of an antiphon, Tovar lists the characteristic intervals between finals and tenors. Finally, he provides the psalm intonations for each

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<sup>10</sup>Andreas Ornithoparchus, *Musicae activae micrologus*, trans. John Dowland (London: Thomas Adams, 1609), pp. 12 and 89.

<sup>11</sup>Nicolas Wollick, *Opus aureum musicae*, ed. Klaus Niemöller (Cologne: Staufen Verlag, 1955), p. 58.

mode.<sup>12</sup>

Other German theorists of the period show concern for the same modal concepts, include a discussion of the characteristic interval for each mode, and list the psalm and Magnificat tones. For instance, Glarean's mentor at Cologne, Johannes Cochlaeus, provides a table of the usual intervals between final and tenor. He calls this function *melodia*, and defines it as "the normal progression of notes using a certain interval which is more common to one tone than to another."<sup>13</sup>

Lampadius and Heyden also focus on chant theory in their discussions on modality, but both provide polyphonic examples for each mode. Heyden does not comment on his examples, taken from various composers.<sup>14</sup> Lampadius presents his examples, presumably composed by himself, within the section on polyphonic composition. The chapter's title is *De clausulationibus et canonibus*, "On cadences and imitation." Lampadius opens the chapter by stating that when composing one should be aware of mode, and he introduces the musical fragments illustrating each mode by calling attention to the fact that Josquin was the most skilled composer in forming cadences and points of imitation. These seem thus to be the two

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<sup>12</sup>Francisco Tovar, *Libro de música practica* (Barcelona, 1510; facsimile ed., Madrid: Joyas Bibliográficas, 1976), fols. 16r-18r.

<sup>13</sup>Johannes Cochlaeus, *Tetrachordum musices* (Nuremberg, 1511), trans. Clement A. Miller, *Musicological Studies and Documents*, no. 23 (n.p.: American Institute of Musicology, 1970), p. 49.

<sup>14</sup>Sebald Heyden, *De arte canendi* (Nuremberg, 1540), trans. Clement A. Miller, *Musicological Studies and Documents*, no. 26 (n.p.: American Institute of Musicology, 1972), pp. 113-32.



compositional elements that define polyphonic modality for Lampadius. It should also be noted that his polyphonic modal examples are all built on the psalm tones.<sup>15</sup>

The term *repercutsa* will be used in the present dissertation to refer to the psalm-tone tenor, and *repercussio* will be used with reference to each mode's characteristic interval between the finai and the tenor. The distinction between the two terms has often been neglected by modern scholarship, in part because their use is not consistent in medieval and Renaissance treatises. The terms *repercutsa* and *repercussio* are rarely defined by early theorists, and their meaning is often demonstrated by examples. The concepts which these terms represent, however, are frequently included in modal presentations, and at times other terms are used to refer to them (such as tenor or *dominante* for *repercutsa*, and *melodia* or *phrasis* for *repercussio*).<sup>16</sup>

### Polyphonic Modality in the Sixteenth Century

Aaron's *Toscanello in musica* (Venice, 1523) and *Trattato della natura e cognitione di tutti gli tuoni di canto figurato* (Venice, 1525) are the first treatises to deal explicitly with the problem of mode in polyphony. By the mid-sixteenth century

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<sup>15</sup>Lampadius, *Compendius musices* (Bern: Samuel Apiarium, 1537), fols. F8vff.

<sup>16</sup>For a historical and terminological discussion of the terms *repercutsa* and *repercussio*, see Hans Heinrich Eggebrecht, ed., *Handwörterbuch der musikalischen Terminologie* (Wiesbaden: Franz Steiner Verlag), s.v. "repercussio," by Peter Cahn (1981). See also Bernhard Meier, *Die Tonarten der klassischen Vokalpolyphonie, nach den Quellen dargestellt* (Utrecht: Oosthoek, Scheltema, and Holkema, 1974), pp. 29-30.

most treatises focus on polyphonic modality, as in the case of Bermudo's *Declaración*, Vicentino's *L'antica musica ridotta alla moderna prattica* (Rome, 1555), and Adrian Petit Coclico's *Compendium musices* (Nuremberg, 1552). These authors present the usual modal principles borrowed from chant theory (final, confinal, species, *ambitus*, authentic/plagal pairs), and emphasize in their discussions an element characteristic of polyphonic modality: the cadential degrees for each mode and their hierarchical classification.

Aaron acknowledges the structural role of cadences in polyphonic modes when he states:

First, it is necessary that the composer who wishes to compose a song in the first or second tone should consider the form of these tones, because the tones are composed of various species of intervals, and it follows that different cadences or terminations must be found in them.<sup>17</sup>

Aaron provides a table of cadences for each of the modes, but he does not classify them hierarchically.<sup>18</sup>

Following the tradition of his German predecessors, Adrian Petit Coclico stresses the characteristic interval for each mode or *repercussio*, and divides polyphonic cadences into regular (on the final of the mode) and irregular (on the

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<sup>17</sup>Pietro Aaron, *Toscanello in Music*, 3 vols., trans. Peter Bergquist (Colorado Springs: Colorado College Music Press, 1970), 2:29.

<sup>18</sup>Pietro Aaron, *Trattato della natura e cognitione di tutti gli tuoni di canto figurato* (Venice, 1525; facsimile ed., New York: Broude Brothers, 1979), fol. D2v.

confinal).<sup>19</sup> Vicentino's main cadential degrees for each mode are also the extreme pitches of the fifth and the fourth--the final and the confinal.<sup>20</sup>

Bermudo's principal cadences are on the final and the confinal, although he also accepts cadences a fourth above the final. Bermudo also speaks of secondary cadences, which fall on the third degree above the final and the second degree below it, and in plagal modes also on the third below the final.<sup>21</sup>

A new modal problem was created by composers who consistently used the *B<sup>b</sup>* in *D-protus* and *F-tritus* modes, and by compositions with finals on *A* and *C*. The problem was addressed by Glarean and Zarlino with the formulation of the theory of the twelve modes.<sup>22</sup> The theory recognized the new trends in tonal organization by incorporating Ionian and Aeolian into the modal system. Zarlino's main cadential degrees become the final, the fifth above it, and the third that mediates the fifth. In this aspect Zarlino stresses a modal structure based on the triad and its components rather than on traditional modal concepts such as confinal, psalm tenor, or *repercussio*.

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<sup>19</sup>Adrian Petit Coclico, *Compendium musices* (Nuremberg, 1552; facsimile ed., ed. Manfred Bukofzer, Kassel: Bärenreiter, 1954) fols. D1-D2.

<sup>20</sup>Nicola Vicentino, *L'antica musica ridotta alla moderna prattica* (Rome, 1555; facsimile ed., ed. Edward Lowinsky, Documenta musicologica, series 1, vol. 17, Kassel: Bärenreiter, 1959), fol. 55r.

<sup>21</sup>Bermudo, *Declaración*, fol. 75r.

<sup>22</sup>Heinrich Glarean, *Dodecachordon* (Basel, 1547), trans. Clement A. Miller, *Musicological Studies and Documents*, no. 6, 2 vols. (n.p.: American Institute of Musicology, 1965); Zarlino, *On the Modes*.

The theory was adopted by many authors in the last decades of the century, but never attained widespread popularity among composers and publishers. Because Santa María and Cabezón follow the eight-mode system, a discussion of Glarean's new modal classification falls beyond the scope of the present study.

The final stage in the application of the eight-mode theory to polyphony appears in treatises published in the second half of the sixteenth century. Discussions of the modes by Gallus Dressler and Pietro Pontio are remarkable in their thoroughness and clarity. In his manuscript treatise *Praecepta musicae poeticae* of 1563, Dressler stresses the role of the final, confinal, and *repercussio* as the three functions on which polyphonic modal structure rests. Thus, the notes bounding the species of fourth and fifth (final and confinal) or the notes bounding the *repercussio* (final and psalm-tone tenor) determine the principal cadences of each mode and the intervals of imitation that regulate section openings. Other cadential degrees are classified as secondary (if they do not offend the nature of the mode) or foreign (if they properly belong to another mode).<sup>23</sup>

Pietro Pontio also argues that cadential schemes define mode in polyphony. Pontio explains that compositions based on psalm tones and free compositions (such as motets or madrigals) will differ in their cadential structures. Modal structure in psalm tones is defined, according to Pontio, by the characteristic interval between final and tenor, and cadences in polyphonic psalm tones are

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<sup>23</sup>Powers, "Mode," pp. 403-4.

determined by this interval and by the psalm-tone *differentiae*. Despite this distinction between compositions based on psalm tones and other genres, Pontio's discussion of the modes shows that he saw both structures as closely connected. For instance, the cadence on *C* is accepted by Pontio as proper to mode 3 because it mediates the psalm tone, and a cadence on *A* can properly end a piece in mode 3 because the most frequent final cadence of this mode's psalm tone is *A*. Similarly, Pontio accepts *C* as a regular closing for mode 8 because *C* is one of the possible ending pitches for the mode's psalm tone.<sup>24</sup>

The treatises by Salinas and Montanos stand out among those published in Spain during the last quarter of the sixteenth century, and show completely different orientations.<sup>25</sup> Salinas is more speculative than practical in his discussion of modality. His major concern is the scientific demonstration of intervals, tuning, and modal scales, rather than the study of compositional structures. Salinas subscribes to Glarean's twelve-mode system.

Montanos's treatise, on the other hand, is oriented towards teaching the craft of vocal ecclesiastical composition in a polyphonic style, and he adopts the system of eight modes. The cadences for each mode, which he classifies as principal,

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<sup>24</sup>Pietro Pontio, *Ragionamento di musica* (Parma, 1588; facsimile ed., Documenta musicologica, no. 16, Kassel: Bärenreiter, 1959), pp. 94-120.

<sup>25</sup>Francisco Salinas, *De musica libri septem* (Salamanca, 1577; facsimile ed., ed. Macario S. Kastner, Documenta musicologica, series 1, vol. 13, Kassel: Bärenreiter, 1958); Francisco Montanos, *Arte de música theórica y práctica* (Valladolid: Diego Fernandez de Córdoba, 1592).

secondary, and intermediate, always include one on the *repercussa*, as can be seen in the following table:<sup>26</sup>

Mode 1: <i>d-a</i>	Mode 2: <i>d-a-f</i>
Mode 3: <i>e-c-a</i>	Mode 4: <i>e-a-g</i>
Mode 5: <i>f-c</i>	Mode 6: <i>f-c-a</i>
Mode 7: <i>g-d</i>	Mode 8: <i>g-c</i>

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Sixteenth-century theorists also show concern for two other subjects in their discussion of polyphonic modality: the difference between authentic and plagal modes, and modal commixture.

#### *Authentic-Plagal Differentiation*

Theorists in the late fifteenth century and throughout the sixteenth century tend to follow the old tradition rooted in *cantus-firmus* motet composition, according to which the tenor determines the mode of a polyphonic piece. This is the case, for instance, with Tinctoris, Aaron, Coclico, Glarean, and Zarlino.<sup>27</sup> Because of their respective ranges, the four parts of vocal compositions were frequently coupled, sharing the same *ambitus* an octave apart: treble with tenor, alto with bass. When treble and tenor outlined the authentic octave, alto and bass

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<sup>26</sup>Dan M. Urquhart, "Francisco de Montanos' *Arte de música theórica y práctica*: A Translation and Commentary," 2 vols. (Ph.D. dissertation, University of Rochester, 1969), 2:119-26.

<sup>27</sup>Tinctoris, p. 25; Aaron, *Trattato*, chapter 2, fol. A2v; Coclico, chapter 8, fol. D1v; Glarean, *Dodecachordon*, 2:247; Zarlino, p. 92.

outlined the plagal octave; when treble and tenor had a plagal *ambitus*, alto and bass had an authentic *ambitus*.

However, it often happens that the *ambitus* is not clear, especially in instrumental compositions. Even though Renaissance theorists are aware of modal voice-coupling, they also discuss "mixed modes," in which the voices encompass both the authentic and the plagal ranges. This state of affairs is the origin of the controversy between Carl Dahlhaus and Bernhard Meier regarding authentic and plagal modes. According to Meier, the range shared by the treble/tenor pair an octave apart, whether authentic or plagal, determines the mode of a composition.<sup>28</sup> This conclusion is forcefully contested by Dahlhaus, who would rather speak of Renaissance mode-pairs as undifferentiated wholes (*Gesamtmodus*). Dahlhaus bases his view on the fact that the tenor *ambitus* does not always define the mode, and that tenor primacy in this period has been undermined by pervading imitation in all voices and the technique of simultaneous composition that results.<sup>29</sup>

Both Meier and Dahlhaus have good reasons to defend their opposed views. But it should be said, in favor of Meier's argument, that Renaissance theorists *do* differentiate between authentic and plagal modes. However, their criteria for

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<sup>28</sup>Meier, *Die Tonarten*, pp. 57-62.

<sup>29</sup>Carl Dahlhaus, *Untersuchungen über die Entstehung der harmonischen Tonalität* (Kassel: Bärenreiter, 1968), pp. 181-85; idem., "Zur Tonartenlehre des 16. Jahrhunderts--Eine Duplik," review of *Die Tonarten der klassischen Vokalpolyphonie*, by Bernhard Meier, *Die Musikforschung* 29 (July/September 1976):300-3.

determining the mode of a composition frequently rely not only on voice *ambitus*, but also on the examination of cadential schemes and melodic structures (such as species and *repercussio*).

For instance, Santa María's criteria for determining the mode of a polyphonic composition are the species, the cadences, and the psalm tones in those pieces that use them. Zarlino rules that mode is best determined by looking at the cadences. Bermudo discusses in detail the elements that distinguish an authentic mode from its corresponding plagal: cadences, species, presence of the psalm tone in some compositions, and interval of imitation, which is frequently determined, he says, by the interval between final and tenor (*repercussio*). Pontio's criteria are the same as Bermudo's: to distinguish authentic from plagal one must first know well the psalm tones; then, one will look at the species outlined by the opening subject, and at the starting pitches of all the voices; finally, even though the final cadences of an authentic/plagal pair are the same, their secondary cadences, determined by the psalm tone cadences, are different.<sup>30</sup>

### *Modal Commixture*

Modal commixture is discussed in most of the major treatises after Marchetto's *Lucidarium*. Commixture is usually defined as the mixing of two modes other than an authentic/plagal pair. Most theorists consider that commixture is effected by

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<sup>30</sup>Santa María, 1:62r; Zarlino, p. 90; Bermudo, fol. 79v; Pontio, pp. 119-20.



introducing among the species of a mode those of a different mode. Commixture as a mixing of species is discussed by Tinctoris, Glarean, Vicentino, Bermudo, Zarlino, and Pontio.<sup>31</sup>

Modal commixture played an important role among theorists who followed the eight-mode system as it provided an explanation for Dorian and Lydian modes with an essential  $B^b$ , and for modes ending on  $A$  or  $C$ . Following this interpretation, modes with final on  $A$  or *protus* modes on  $D$  with  $B^b$  result from a commixture of the first species of fifth (modes 1-2) and the second species of fourth (modes 3-4); modes ending on  $C$  or *tritus* modes with  $B^b$  result from a commixture of the fourth species of fifth (modes 7-8) with the third species of fourth (modes 5-6). This is the explanation put forth by Vicentino, Bermudo, and Aiguino, and illustrated in the following example.<sup>32</sup>

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<sup>31</sup>Tinctoris, p. 16; Glarean, *Dodecachordon*, 1:129-32; Vicentino, fol. 51r; Zarlino, p. 45-46; Bermudo, fol. 82r; Pontio, pp. 95-96.

<sup>32</sup>Vicentino, fol. 51; Bermudo, fols. 72v and 82r; Illuminato Aiguino, *Il tesoro illuminato di tutti i tuoni di canto figurato*, (Venice: G. Varisco, 1581), fols 76v-77v.

## Example 2.2



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Even though different treatises in the sixteenth century do not always agree on details of modal theory, most of them coincide in the structural principles they discuss, and in the modal elements that define these structural principles. These can be summarized as follows:

(a) Mode in polyphony is determined by the melodic structure of each voice and by a network of cadences proper to each mode.

(b) The main functions that rule modal structure are the final, the confinal, and the *repercussa*.

(c) The psalm tones are usually included by theorists in their discussion of modal structure. The psalm tones and their cadential pitches determine the structure of compositions based on them, but also have a direct bearing on modality in general by means of the *repercussio*.

(d) The melodic structure of each mode is determined by the species of fourth and fifth and by the *repercussio*. These same elements also determine the intervals of imitation. Theorists most often refer to the tenor, or to the treble-tenor pair, as the voice or voices that define mode by means of characteristic melodic structures.

(e) Cadences are organized hierarchically: The main cadential degree, which usually closes a composition, is the final. Structurally significant inner cadences fall on the final, the confinal, or the *repercussa*. All other degrees are of secondary importance.

*The Arte de tañer fantasía in the Context of Sixteenth-Century*

*Modal Theory*

Besides reflecting contemporary modal practice as illustrated by the works of Cabezón, the *Arte de tañer fantasía* is one of the few theoretical treatises published in the second half of the century in which we can find an elegant and systematic presentation of the theory of the eight modes applied to polyphony. Santa María can be grouped with Dressler, Aiguino, and Pontio in the way he articulates the theory, in the concepts he discusses, and in the types of modal structures he proposes. Santa María stands out from previous theorists in his stress on cadential structures as a determinant of mode. He classifies cadences according to their function within the composition (final, mediant, passing) rather than in abstract categories (such as regular or irregular, primary or secondary). He departs from

Coclico, Vicentino, and Bermudo in that his principal ("final") cadences are on the final of the mode and his secondary ("mediant") cadences are on the *repercussa* rather than the confinal. In this aspect the Dominican theorist connects with both earlier and later German theorists who stress the structural importance of the *repercussio*.

Santa María also makes a clear distinction between musical pieces based on the "propriety and nature of the modes," and pieces based on the *seculorum*. The former's structures are based on the cadential schemes proper to each mode: final cadences are on the final, mediant cadences on the *repercussa*, and a third level of cadences, called "passing cadences," is permitted on some pitches other than the final and the *repercussa*. In the case of pieces based on *seculorum*, the cadential structure is provided by the psalm-tone cadences and *differentiae*.<sup>33</sup>

Santa María does not treat the essential  $B^b$  as a problem, but rather as a fact which does not require particular discussion. For the Dominican, modes 1, 3, 4, 7, and 8 are played with  $B$  natural, while modes 2, 5, and 6 will carry a  $B^b$  in the signature, except in the case of mode 5, which will be performed with  $B$  natural in pieces based on the *seculorum*.<sup>34</sup> He also notes the fact that modes 5, 6, 7, and 8 thus have the same species of fifth (ut-re-mi-fa-sol), while their species of fourth

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<sup>33</sup>Santa María, 1:66vff.

<sup>34</sup>Ibid., fol. 61v.

is different (sol-re-mi-fa for modes 5 and 6, re-mi-fa-sol for modes 7 and 8).<sup>35</sup>

The Dominican's exposition of modal commixture focuses on three ways of mixing modes: by mixing species, by introducing cadences that do not belong to the main mode, and by changing the "propriety of the mode" from flat to natural or from natural to flat--that is, changing *B<sup>b</sup>* to *B* or *vice versa*.<sup>36</sup> In this aspect, Santa María is more specific than his contemporaries, and his attention to cadences as a means of modal commixture stands out from previous theorists. A final point that should be noted in Santa María's presentation is that he departs from the tradition that considers the tenor as the main modal voice. He recommends instead that the treble be examined in order to determine the mode of a composition, because the treble rules all the other voices.<sup>37</sup>

The polyphonic modal system was clearly articulated by mid-sixteenth century. Theorists seem to agree in considering modal structure as a set of pitch relationships which rules the melodic aspects of composition by means of the species and organizes the sections of a piece by means of predetermined imitation schemes and cadential structures.

One should not think that all music composed during the sixteenth century

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<sup>35</sup>Ibid., fol. 62r.

<sup>36</sup>Ibid., fol. 70v.

<sup>37</sup>Ibid., fols. 61r and 70r.

conforms to this system, and neither should one view the system as universal in its structures and details. Its use, however, is generally accepted by Renaissance theorists and composers, and hence it can be considered as the primary frame of reference. The following chapter will outline the analytical methodology used in the present dissertation, which is based on the structural principles expounded by Renaissance theorists. It should be noted that the problem of methodology for the analysis of Renaissance music has created a long-lasting controversy. Some scholars have opposed the idea of analysis based on historical principles, and have developed alternative analytical approaches. A review of the basic literature on the analysis of Renaissance music is thus appropriate, and it will give some insight into the problems faced by the analyst and the different solutions that have been proposed.

### CHAPTER III

#### ANALYTICAL METHODOLOGY: PROBLEMS AND ISSUES

The analysis of sixteenth-century music has been a frequent subject of scholarly controversy in the last decades. The richness and variety of compositional approaches and techniques that we find in the music of this century have fostered the controversy. Scholars have polarized around two general attitudes towards Renaissance music. Proponents of the first one, such as Edward Lowinsky, Don Randel, Peter Bergquist, and Saul Novack, stress the continuity between Renaissance modality and functional tonality. They tend to look into the music for the roots of tonal harmony, and they often focus on transitional aspects of the period and on elements that are "in crisis" as opposed to others which "emerge." Following this line of thought, it is sometimes argued that Renaissance treatises are insufficient as analytical sources, and that the use of analytical tools appropriate to later styles is fully justified.

The other attitude favors the consideration of the Renaissance as a mature musical phase. Its advocates, such as Richard Crocker, Leeman Perkins, Bernhard Meier, Putnam Aldrich, and Leo Treitler, believe that Renaissance treatises are the main sources for the theoretical premises on which composers based their craft, and

hence that they also provide the basis for an analytical methodology.

Each of these approaches has produced valuable studies and has thrown light on one aspect or another of Renaissance music. On the one hand, the fact that the sixteenth century was a turning point in Western civilization can well explain the stylistic heterogeneity and multiplicity we find in its music. Thus, one can see in the music of the period the inheritance of the fifteenth-century Flemish masters next to passages that make us think of later practices--as, for instance, the outer-voice polarity in some Spanish instrumental music, the dramatic contrasts in the madrigals of Rore or Monteverdi, or the monodic style of Cavalieri. On the other hand, the music of Palestrina, Victoria, or Cabezón shows a maturity and homogeneity of style that discourages such qualifiers as "decadent" or "emerging" often associated with transitional periods.

Unfortunately, proponents of both approaches have too often based their conclusions on one or another of the pieces that make up the mosaic of Renaissance styles, frequently ignoring--or denying--the rest of them, and arguing that the aspect they concentrate upon is the most important, characteristic, or long-lasting in the music of the period. Such partiality has hindered our full understanding of the richness and complexity of sixteenth-century music.

The controversy which began with the publication of Edward Lowinsky's *Tonality and Atonality in Sixteenth-Century Music* is still raging.<sup>1</sup> Lowinsky focused

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<sup>1</sup>Edward Lowinsky, *Tonality and Atonality in Sixteenth-Century Music* (Berkeley and Los Angeles: University of California Press, 1961).



on what he believed to be the crisis of modality and the emergence of tonality throughout the fifteenth and sixteenth centuries. The objects of his study are the homophonic genres of the Renaissance: the Italian *frottola* and the Spanish *villancico*, as well as the *laude*, *falsobordone*, and lute dances. Lowinsky succeeded in showing the links between the modal and the tonal systems: he found the principles of modern functional harmony present in Renaissance cadences--"the seeds of tonality began to sprout in the cadence"<sup>2</sup>--and stressed the fact that Ionian on *F* has the same structure as modern major.

But one should not forget that fully homophonic pieces were only a minor segment of the Renaissance repertoire, that Ionian on *F* is only one of eight (or twelve) modes, and that the rest of them have a structure which has little to do with eighteenth-century tonality. The fact that one finds pieces in which the structure is similar to modern major, or in Lowinsky's terms, that one finds "emerging tonality" in some modal compositions, is not a strong enough reason to apply tonal criteria to all Renaissance music. Lowinsky's generalizations seem to reduce two centuries of modal polyphony to a stage in the "evolution" towards a stable tonal system:

The development of tonal thinking in polyphonic art music can be seen as a chronological evolution leading from Dunstable and Dufay on the one hand and *frottola* and *villancico* on the other, to Josquin, the French *chanson*, the Italian *canzonet* and *balletto*, and finally the

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<sup>2</sup>Ibid., p. 15.

English madrigal and lute air.<sup>3</sup>

Concerning the role of the cadence in tonal music, Lowinsky asserts that "one cadence, even if repeated, does not make tonality. A net of cadences of various degrees related to the tonic and organizing a whole work into various sections comes closer to defining tonality."<sup>4</sup> This is indeed the case in tonal works, but the same principle also applies to modal works, with a different set of cadential relationships. The cadential network is also one of the elements that defines modality. Such pieces as Santa María's *fantastas* or Cabezón's *tientos* are constructed around a cadential hierarchy that gives them structural unity and coherence, while they are strictly modal in their procedure.

Hence, an ordered cadential structure does not necessarily imply functional tonality. We have seen in the previous chapter that even though Renaissance theorists did not always agree on details of modal structure or cadence classification, they thought of cadential schemes in modal terms. Renaissance authors also thought of cadential realization and vertical composition in terms other than those of functional harmony and Roman-numeral labeling, as I will demonstrate in the chapter on compositional techniques.

Analysis of Renaissance music has often been vitiated by a weak understanding of modality, by a tendency to see the modal system as an underdeveloped

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<sup>3</sup>Ibid., p. 75.

<sup>4</sup>Ibid., p. 15.

forerunner of eighteenth-century functional tonality, and by the consequent insistence upon superimposing tonal structures on compositions conceived according to a totally different set of hierarchical functions. An illustration of the contradictions between modal and tonal designs is provided by mode 8. A standard piece in mode 8 of the type composed by Cabezón will often begin with imitation at the upper fourth (initial pitches for subject and answer, respectively: *g* and *c'*), have inner cadences on *C*, and end with a cadence on *G*. Should one interpret such a structure from a tonal-functional perspective, the likely reading would be that the piece is in *C* Major ending with a half cadence on *V*. Such an interpretation distorts, or rather inverts, the actual functions of mode 8: the piece ends on its final (*G*), and the structure outlines the interval of the fourth (*g-c'*, the *repercussio*) which rules the mode, rather than a V-I relationship between *G* and *C*.

Here, then, lies the main problem in using terms and concepts borrowed from functional harmony to analyze the modal repertoire. A historical interpretation leads many scholars to say that Renaissance V-I cadences are not such because the composer did not think of them in that way. Don Randel disagrees with this idea when he argues that "operating under such a principle we would never be able to employ any new concepts in our discussion of the past. This view limits the historian's activities to a search for the composer's own analysis of his music--the

composer's intention, in one sense of the word--and this is clearly too limiting."<sup>5</sup> The question is not whether one should use new concepts, but whether these new concepts make us miss important aspects of the music that we might otherwise see. Labeling a Renaissance cadence with a V-I symbol is quite insignificant in itself if one uses the label simply as a descriptive tool. But this leads to labeling other cadences as vii<sup>o</sup>6-I, IV-I, V-vi, and furthermore to establish long-range tonal relationships based on Roman numerals, hence on principles of functional harmony. And that is questionable inasmuch as we are mixing different systems. After saying that "the historically justified interpretation, then, is the one which best helps us to make sense out of history," Randel's argument is that fifteenth-century V-I cadences are not different from eighteenth-century V-I cadences, and hence the Roman-numeral label is fully justified.<sup>6</sup> One could add that it is all a matter of what kind of sense we want to make out of history: do we want to understand a period in its own terms and its own context, or do we want to make "evolutionist sense" out of past history?

The sharpest criticism of Lowinsky's formulations has come from historically-oriented analysts. Thus, Richard Crocker attacks vigorously Lowinsky's use of modern concepts (such as "tonality" and "atonality") as "fixed conceptual entities" independent of historical processes, and his idea of "evolution" as leading to a full-

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<sup>5</sup>Don Randel, "Emerging Triadic Tonality in the Fifteenth Century," *Musical Quarterly* 57 (January 1971):76.

<sup>6</sup>Ibid., pp. 77 and 79.

fledged tonality.<sup>7</sup> Concerning Lowinsky's musical examples, Crocker remarks:

These little pieces have enough tonal order to cause Professor Lowinsky to see in them the beginnings of tonality. But the simple fact is that eighteenth-century tonality did not exist until the eighteenth century. The real problem is to show how these little frottole were produced out of their own stylistic past, not how they anticipated something that had not yet happened.<sup>8</sup>

Crocker tries to disengage the concept of tonal order from a historically restricted concept of tonality:

Tonal order is almost always present. If we could discover for each historical phase the exact way in which it is present, then we would not mistake normal specimens of one phase for astonishing anticipations of another.<sup>9</sup>

After explaining that "variety is the point of sixteenth-century music, it is the chief goal of the composer," and that fifteenth- and sixteenth-century theorists were concerned with mode in polyphony, as different from mode in the Gregorian repertoire, Crocker closes his review by saying:

The modes did not explain all of 16th-century music, precisely because they were not a basic part of the polyphonic tradition; but the real core of that tradition, when properly understood, makes it possible to understand all the many varieties of 16th-century styles as the logical derivatives of a central development, without recourse to surprising anticipations.<sup>10</sup>

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<sup>7</sup>Richard Crocker, review of *Tonality and Atonality in Sixteenth-Century Music*, by Edward Lowinsky, in *Journal of Music Theory* 6 (Spring 1962):142-52.

<sup>8</sup>Ibid., p. 146.

<sup>9</sup>Ibid., p. 148.

<sup>10</sup>Ibid., p. 152.

Harold Powers's objections to Lowinsky's methodology are based on similar counts. Powers points out that

Any evolutionist model of a historical succession from modality to tonality fails on two cardinal historical points. First, as the sixteenth century wore on interest in and evidence for modality of any kind in the polyphonic repertory increased rather than lessened. Second, the major composers of the second half of the century, notably Palestrina and Lasso, followed the old system of eight church modes when they followed any modal scheme at all, and did not even go so far as to make use of Glarean's (and soon Zarlino's) more up-to-date and systematic scheme of twelve modes.<sup>11</sup>

Thus, for Powers, "any question as to how or whether 'modality' evolved into 'tonality' is therefore really a non-question, since they are of different orders." The evidence drawn in the present dissertation from Santa María's treatise and Cabezón's compositions supports Powers's statements in that it shows a consistent modal practice of a different order than later tonal practice, and a clear consciousness of the eight modes and their structures on the part of theorist and composer.

Powers similarly objects to the musical evolutionism expressed by Carl Dahlhaus in his *Untersuchungen über die Entstehung der harmonischen Tonalität*. Dahlhaus's thesis is that sixteenth-century polyphony is built according to a closed system (*geschlossene Sozietät*) of pitch degrees (*Klangstufe*) whose cohesive force is provided by the hexachordal functions--that is, their relationships to one another--

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<sup>11</sup>Harold Powers, "Tonal Types and Modal Categories in Renaissance Polyphony," *Journal of the American Musicological Society* 34 (Fall 1981):467.

rather than their overall relation to a center in terms of mode.<sup>12</sup> For instance, *mi* and *fa* are functions within a system regardless of their modal location. Dahlhaus argues that the system of pitch degrees ruled by hexachordal functions has priority over modal organization in sixteenth-century composition. He also believes that cadential schemes in the sixteenth century are not ruled by mode, but rather by the same hexachordal functions. As an example, Dahlhaus speaks of Byrd's *Psalms, Sonnets, and Songs* of 1588, where the cadential pitches for the passages in C-Ionian are *c*, *g*, *d*, and *a*. Dahlhaus refuses a modal interpretation which would consider the *d* cadence as irregular in the mode, neither does he accept an interpretation based on functional harmony. Rather, he believes that these "cadential degrees *c*, *g*, *d*, and *a* constitute a system of interrelations, which is rooted in itself, and is related to a central mode only secondarily and 'formally,' not functionally."<sup>13</sup>

Dahlhaus's final conclusion is that "the system of cadential degrees which relate primarily to one another rather than to a center" is based neither on modality nor on functional tonality precisely because it has the function of a historical transition between the two:

The transition from modality to major-minor tonality was mediated by an in-between stage of indifference, which can be understood from the point of view of relationships among pitches and between sonorities and cadential degrees. . . . A mode was defined by

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<sup>12</sup>Carl Dahlhaus, *Untersuchungen*, pp. 214-22.

<sup>13</sup>*Ibid.*, p. 220.

melodic formulas, imitation schemes, and cadential schemes; but the compositional technique (*Klangtechnik*) could be separated from modal descriptions. Six degrees constituted a closed system. And the significance of a pitch was less based on its relation to a center than on its position in the system. . . . Analogous to the individual pitch degrees, the cadential degrees and the sections that they closed could be understood as members of a system of simple interrelations which did not refer, or referred only secondarily, to a center and a mode. The mode shrivelled into a mere label or "formal" designation, and tonal harmony was allowed to evolve out of the compositional technique, because it was now separable from modal descriptions.<sup>14</sup>

Thus, while Powers stresses the essential difference between modality and tonality, Lowinsky and Dahlhaus argue for their connections, and for the idea of an evolution from modality to tonality throughout the fifteenth and the sixteenth centuries. This evolution results, as they see it, in a transitional stage in which music is organized neither by modality nor by tonality. A third opinion concerning the relationship between modality and tonality is provided by some Schenkerian analysts, who believe that the two systems are essentially identical.

The long-range coherence of Renaissance music from the point of view of Schenkerian voice-leading and prolongation has been illustrated by such authors as Frederick Bashour, Peter Bergquist, and Saul Novack. Bashour combines the melodic principles of Gregorian chant theory and the contrapuntal principles of discant theory with the Schenkerian concepts of prolongation, structural levels, and essential voice-leading.<sup>15</sup> His approach is sensitive to modal structure and historical

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<sup>14</sup>Ibid., p. 222.

<sup>15</sup>Frederick Bashour, "A Model for the Analysis of Structural Levels and Tonal Movement in Compositions of the Fifteenth Century" (Ph.D. dissertation, Yale



techniques, but results in a problematic coupling of analytical and theoretical concepts based on disparate structural principles.

Peter Bergquist's study of modality, counterpoint, vertical sonorities, cadences, and imitation according to Aaron and other Renaissance theorists leads him to conclude that their theories are inappropriate to analyze contemporaneous music. Bergquist argues against the modality-tonality dichotomy, and concludes that "Renaissance music displays characteristics of tonal coherence and directed motion similar to those of the music of later periods."<sup>16</sup>

The strongest claim against the differentiation of modality and tonality comes from Saul Novack. He stresses the fact that modality and tonality are not opposites, and that they share the principles of organization around a central tone and tonal prolongation: "The sense of unity through an extension of tonal order is a primary matter. The whole question, 'modality vs. tonality,' is an unfortunate barrier to a clear understanding of that statement."<sup>17</sup>

The long-range organization of Renaissance music cannot be denied, and the principles of voice-leading and prolongation (though not necessarily as understood by Schenker) apply to this repertoire as well as to any other. Schenkerian analyses

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University, 1975); idem, "Towards a More Rigorous Methodology for the Analysis of the Pre-Tonal Repertory," *College Music Symposium* 19 (Fall 1979):140-53.

<sup>16</sup>Peter Bergquist, "Mode and Polyphony around 1500: Theory and Practice," *Music Forum* 1 (1967):99-161.

<sup>17</sup>Saul Novack, "Fusion of Design and Tonal Order in Mass and Motet," *Music Forum* 2 (1970):188.

of prebaroque music, however, are questionable inasmuch as they superimpose a functional, tonal structure on music which, as we have pointed out, is not necessarily organized according to the principles of bimodal tonality. The authors of these analyses also tend to ignore historical treatises as sources of information on structural elements, and to reject any analytical approach based on historical concepts as simply descriptive or focused on surface events. Novack closes one of his articles on analysis of Renaissance music stating that "we have no other recourse for understanding the music of the past but to rely upon what Schenker has taught us. Its validity is unquestionable; its limitations, none."<sup>18</sup>

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A radically opposed attitude towards Renaissance analysis informs Bernhard Meier's *Die Tonarten der klassischen Vokalpolyphonie*, the most comprehensive and systematic study of modality and the modal repertoire published to date. Meier, along with Leeman Perkins, Leo Treitler, and Putnam Aldrich, is one of the leading proponents of modal analysis based on purely historical terms and relying mainly on melodic and linear aspects. Meier is consistent in excluding from his methodology concepts, terms, or critical judgments that might proceed from later developments. His points of reference are the Renaissance theoretical treatises, with stress on such authors as Aaron, Dressler, Pontio, Schneegass, and Zarlino. Starting from these sources, Meier builds up an analytical methodology with which

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<sup>18</sup>Saul Novack, "The Analysis of Pre-Baroque Music," in *Aspects of Schenkerian Theory*, ed. David Beach (New Haven: Yale University Press, 1983), p. 133.

he approaches the music of Lasso, Rore, Palestrina, Byrd, and other Renaissance composers. Meier's analyses focus on the modal structure of the voices inasmuch as they define authentic and plagal modes by their *ambitus*, the modal role of cadences, and characteristic melodic incipits for each mode. In the second part of the book Meier studies the relationship between mode and text, focusing on how words affect irregular cadences, modal changes, and irregular incipits and final pitches.

One of Meier's strongest conclusions refers to the validity of the authentic-plagal distinction in the Renaissance repertoire. Dahlhaus's arguments against Meier's thesis have already been discussed in the preceding chapter.<sup>19</sup> Another of Meier's main contentions is that modal concepts have a virtually universal validity in polyphonic composition, and that the modes can be seen as "precompositional" structures that provide the composer with a coherent means of inner logic and unity for his composition. Powers takes issue with Meier concerning this point and thinks of the modes "more as *a posteriori* categories for grouping items in a repertoire than *a priori* pre-compositional choices or assumptions."<sup>20</sup> Powers points out that theorists do not show self-conscious assimilation of modal theory and polyphony until Aaron's *Trattato della natura et cognitione di tutti gli tuoni di canto figurato* of 1525, and that only around that time did the repertoire itself begin to

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<sup>19</sup>See pp. 78-79 above.

<sup>20</sup>Powers, p. 433.

provide evidence of a systematic interest on the part of composers in the question of modality.

Powers, then, chooses to classify modal composition by "tonal types" characterized by a particular combination of signature, clefs, and final sonority. This classification, he says, is minimally identifiable by its three markers and thus objectively observable apart from its musical or cultural context (an "etic" approach, in anthropological terms), as opposed, in Powers's view, to Meier's "emic" approach, bound up in sixteenth-century musical culture.<sup>21</sup> Unfortunately, Powers's "etic" study ignores the actual music to a great extent, since his "three markers" (signature, clefs, and final sonority) are utterly "objective" and independent of musical structure and style.

Leeman Perkins, on the other hand, agrees with Meier's methodological approach and general conclusions.<sup>22</sup> In his study of Josquin's masses from the

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<sup>21</sup>Powers, pp. 439-442.

<sup>22</sup>Leeman Perkins, review of *Die Tonarten der klassischen Vokalpolyphonie*, by Bernhard Meier, *Journal of the American Musicological Society* 31 (Spring 1978):136-48; "Mode and Structure in the Masses of Josquin," *Journal of the American Musicological Society* 26 (Summer 1973):189-239. Two other authors that use a historical approach to modal analysis are Leo Treitler and Putnam Aldrich. In his article "Tone System in the Secular Works of Guillaume Dufay," *Journal of the American Musicological Society* 18 (Summer 1965):131-69, Treitler analyzes the modal-melodic construction of sixty works by Dufay. Aldrich relies on Renaissance treatises for his outline on an analytical methodology in "An Approach to the Analysis of Renaissance Music," *Music Review* 30 (February 1969):1-21. The elements on which Aldrich focuses are melodic structure by species of fourth and fifth, the solmization system which emphasizes intervals over pitches, cadences and their relationship to text, vertical intervallic relationships among the voices, and imitation.

perspective provided by Tinctoris's treatises, Perkins concludes that modal norms deriving from theoretical and practical aspects of chant *are* operative in polyphonic composition. Because he does not find in Renaissance treatises what he calls "principles of structural order" (goals towards which the combined voices should flow, or relationships between internal divisions and final cadences in a work), Perkins turns to chant treatises in search of structural guidelines. As a result, Perkins's "anatomy of a mode" is totally based on melodic, linear principles: final and *ambitus*, melodic formulas, starting pitches, reciting tone, and differences of the psalm tones. These melodic elements, Perkins believes, regulate even the vertical components of cadences and voice-simultaneity.

Objections to Perkins's approach have been raised on the grounds that his all-pervading melodic structures lead him to ignore the vertical component which exists in Renaissance music. As Bonnie Blackburn puts it:

The insistence on the melodic and linear aspects of composition in the 15th and 16th centuries, and the desire to avoid at all costs the application of the "tenets and terminology of tonal harmony" for "fear of distorting or obfuscating to some extent the pattern of history"<sup>23</sup> runs the danger of leading to greater distortion when one ignores the clear evidence of harmonic thinking to be found in the writings of theorists as well as in the music of the time.<sup>24</sup>

The problem of vertical sonorities has also been approached from a historical point of view by Richard Crocker and Benito Rivera, among other authors. In an

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<sup>23</sup>Perkins, "Mode and Structure," p. 192.

<sup>24</sup>Bonnie J. Blackburn, "On Compositional Process in the Fifteenth Century," *Journal of the American Musicological Society* 40 (Summer 1987):223.

attempt to resolve the tension between purely linear analysis based on chant theory and chordal analysis based on functional harmony, these authors argue that Renaissance theorists were well aware of the vertical aspect of composition. Crocker states that the principle of dyadic composition prescribed by early theorists, which gives priority to the composition of a treble-tenor frame, does not imply an exclusively linear conception of the musical structure, and speaks of dyadic vertical progressions, ruled by intervallic functions. The added voices have the role of enriching the self-sufficient dyadic sonority.<sup>25</sup>

Rivera subscribes to this formulation, but establishes the end of the fifteenth century as the limit for the universal applicability of the theory of dyadic composition. The sixteenth century witnessed a trend towards bass-oriented composition, Rivera argues, and that implies a shift from dyadic to triadic composition. Sixteenth- and seventeenth-century theorists and composers were concerned with vertical sonorities, but their concern does not involve chord grammar or chord progressions, but rather intervallic progression between structural voices and the intervallic quality of the sonority that results when the other voices are added to the structural frame.<sup>26</sup> Santa María provides again a lengthy

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<sup>25</sup>Richard Crocker, "Discant, Counterpoint, and Harmony," *Journal of the American Musicological Society* 15 (Spring 1962):2 and 13-14.

<sup>26</sup>Benito Rivera, "Harmonic Theory in Musical Treatises of the Late Fifteenth and Early Sixteenth Centuries," *Music Theory Spectrum* 1 (1979):80-95. See also Dahlhaus, *Untersuchungen*, pp. 68ff. Dahlhaus' approach is notably eclectic, as he mixes historical principles from early treatises with a liberal use of Riemann's functional-harmony symbols as well as Roman numerals.

discussion on this subject, as he expounds the technique of bass-oriented vertical composition ("playing in consonances") that I will discuss in chapter 5.

The complexity and variety of Renaissance music thus allows for many different analytical approaches, depending on which musical element the analyst wishes to stress. The disparate approaches are not necessarily exclusive, and they represent different ways of showing musical coherence and unity. Their very existence testifies to the structural and stylistic wealth that Renaissance music presents for the scholar. And this challenge should be met on the analyst's part by a cautious delimitation of purposes and aims, rather than a dogmatic exclusion of any point of view that stresses a different structural or stylistic feature.

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Of the many questions that can be asked upon approaching a musical composition, the ones that generate the methodology for the present dissertation are the following: What is important in this music? What was important to its composer? What were, in the composer's view, the elements that held together the music, and how did he put it together? What were the compositional materials that the composer had at hand before and during the realization of the piece? The questions, hence, refer to the structure of the music on the one hand, and to the compositional process, details, and technique on the other.

Concerning musical structure, I start from the thesis that the polyphonic modal system was well established at the theoretical and practical levels by mid-sixteenth century. As the connection between Santa María's writings and Cabezón's

compositions will illustrate, Renaissance theory and practice moved closely together, and both show an awareness of modality as a constructive principle.

My aim is to understand the music of Cabezón from within, that is, from the same perspective that provides its structural unity. The *Arte de tañer fantasia* will be the main theoretical reference about the principles that inform the music of the blind organist.

Chapter 4 will thus deal with modality as it was practiced by sixteenth-century Spanish composers of keyboard music. For each modal concept discussed Santa María's and Bermudo's contributions will first be summarized. These will be compared to the conclusions derived from the analysis of Cabezón's works, and in each case I will point out whether the comparison shows agreement or disagreement between treatises and music, or whether the music provides more specific data than the treatises while agreeing with them.

The works of Cabezón that will be analyzed for modal structure are his 28 *tientos* (14 from *Libro de cifra nueva* and 14 from *Obras*), and all of his 53 Magnificat versets, 32 *seculorum* versets, and 32 *fabordones*. A sample of 11 *fantasias* by Santa María will be analyzed, and the 14 *tientos* by composers other than Cabezón included in the *Libro de cifra nueva* will also be examined for further evidence.

The modal concepts discussed and analyzed will be the following: basic modal functions (final, confinal, *repercussio*), the problem of accidentals and *musica ficta*, modal species, cadential structure, imitation scheme and its relationship to mode,



*ambitus*, modal voices and the problem of authentic-plagal distinctions and modal mixture, modal ambiguity and modal commixture, melodic incipits, and the role of *secularums* and Magnificat tones as sources for modal subjects.

Chapter 5 will focus on compositional techniques and stylistic elements in the music of Cabezón. The variety of compositional approaches that we find in the sixteenth century is reflected both in Santa María's treatise and in Cabezón's compositions. Santa María's compositional guidelines will be summarized, and they will be the main aspects examined in the *tientos* by Cabezón. Here again the music will provide elements that will enrich Santa María's compositional prescriptions. Thus, upon studying Cabezón's counterpoint, I will examine not only his use of consonance and dissonance, but also his handling of such devices as augmentation, diminution, inversion, and retrograde, not considered in the *Arte*. And the study of Cabezón's formal practices will throw light on his technique of relating sections by subject similarity and reprise, as well as on the wealth of developmental resources used in the *tientos*: variation and *glosa*, fragmentation of texture in duets, *stretto*, *ostinato*, and motivic break-up of the subjects.

The problem of voice priority will receive special attention. This is one of the issues that best reflects the variety of compositional approaches in the period. Did Cabezón assign compositional priority to any voice or voices? To what extent was the old practice of dyadic composition (based on a treble-tenor frame) still valid in mid-sixteenth century? The first category of compositions which will be examined for voice priority comprise the pieces built on *cantus firmi* or other

borrowed melodic material such as the psalm and Magnificat tones. As we will see, Cabezón does not confine the borrowed tune to the tenor, as was commonly done in the fifteenth century, but rather places it in any of the four voices.

A second category is represented by the *tientos*. These are freely composed pieces that generally do not use borrowed material. Pervading imitation is used in all four voices, with the result that their composition had to be approached simultaneously.

A third category is provided by the vertical bass-oriented technique known as "playing in consonances," in which the pair treble-bass has compositional priority. This technique is best illustrated in Cabezón's *fabordones* and *diferencias*. All of the different approaches are present in the *tientos*, which often feature passages "in consonances" next to passages based on a borrowed tune, all within a frame of imitative counterpoint.

While chapters 4 and 5 will present issues and concepts as seen by Santa María, and general conclusions and examples drawn from the study of Cabezón's repertoire, chapter 6 will present complete analyses of five *tientos* by Cabezón and two *fantasias* by Santa María in which all of the previous modal, technical, and formal elements will be seen together. The interaction among the different compositional elements will thus be examined, as well as their place and rôle within the general structure of the *tiento*. The analytical graphs which will be used in the following chapters have been developed with the intention of showing visually the structural and compositional elements discussed above. I have used in the graphs

symbols taken from the standard musical notation, many of which are also employed with different meaning in Schenkerian graphs. My symbols do not have any Schenkerian association, and the graphs do not imply in any way concepts of prolongation or long-range voice-leading.

These "compositional graphs" show compositional materials and techniques, form, and cadential structure as related to form.<sup>27</sup> The following are the main symbols used in the compositional graphs, and their meaning: open notes (half notes) will be used for pitches in each voice that open or close a phrase; in this way, imitation and cadential pitches will be brought out. Initial and final pitches will be connected by a horizontal beam, showing the extent of a phrase. Subjects within the phrase will be shown by stemmed black notes connected by slurs. The cadential voice-leading will be graphed in the form of slurred black notes with no stems, and inner cadences by stemmed black notes.

The cadential structure will be shown below the graph. Major cadences that close a section will be represented inside a square; full cadences within phrases, but without the structural role of closing a section, will be shown in a circle; less important cadences, deceptive, and passing cadences will be shown only by the letter name with no other symbol, or enclosed in parentheses.

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<sup>27</sup>In her article, "Some Problems of Pre-Baroque Analysis: An Examination of Josquin's *Ave Maria . . . virgo serena*," *Music Analysis* 4 (October 1985):201-39, Cristle Collins Judd develops an interesting analytical methodology based on historical criteria. The division of the composition into phrases and sections delimited by imitation and cadences is made patent in Collins Judd's graphs, which she calls "cadential reductions."

Symbols above the staff provide information about the subjects (for instance,  $S_1$  for subject 1,  $S_2$  for subject 2), or about the role of a section or the main technique featured in it (as "episode on  $S_1$ ," "*stretti* on  $S_2$ ," "duets on  $S_3$ "). When a subject appears in several related forms, it will be indicated by the symbols  $S_1^a$ ,  $S_1^b$ , etc. If a subject is derived from another subject or its melodic structure is similar to that of a Magnificat or psalm tone, this will be briefly indicated in parentheses following the subject symbol. For instance, " $S_1$  (cf. Sec. 5<sup>c</sup>)" means that the structure of  $S_1$  should be compared to the *secularum* of mode 5 on C; " $S_3$  (derived from  $S_1$ )" means that  $S_3$  is motivically related to, or derived from,  $S_1$ . The subjects shown on the graphs will be those which form the opening point of imitation for each section, and occasional recurrences within the section if they have a formal, compositional, or modal significance. In *tientos* that feature pervading imitation most of the inner subject occurrences will be omitted.

The following graph, showing the analysis of the opening section of Cabezón's *Tiento 8 (Obras)* in mode 8, illustrates all of the above symbols. Measure numbers are indicated above the staff at points of interests.

## Example 3.1

The image shows a musical score for Example 3.1. It consists of three staves. The top staff is for Soprano (S.) and the middle staff is for Alto (Alto). The bottom staff is for piano accompaniment. The score is divided into sections: S. of Sec. 5c (measures 1-17) and Alto: Sec. 5c (measures 17-53). The piano part includes chord markings: (C) Dec., (C), D, and (C). The Soprano and Alto parts feature complex rhythmic patterns, including slurs and ties.

Passages which feature special compositional techniques will also be represented in the graphs. For instance, passages "in consonances" (in which a treble is accompanied by a bass and inner-voice sonorities) are defined, according to Santa María, by the intervals between the outer voices. Santa María provides examples of typical outer-voice interval patterns, normally forming groups of two to three notes. Thus, the graphs for passages "in consonances" will show the outer-voice duet in slurred black notes with no stems, with indication of the bass-treble intervals below the staff and their grouping according to Santa María's models, as seen in example 3.2a.

Other cases of compositional devices which deserve to be highlighted will be similarly indicated, as, for instance, passages in which a voice that bears a subject is accompanied by another voice in parallel tenths, and hence the second voice is totally subordinate to the first one. The following examples illustrate the techniques mentioned above.

Example 3.2a, from *Libro 7*

The image shows a musical score for two voices. The upper staff is in treble clef and the lower staff is in bass clef. Above the staves, measure numbers 16, 20, 26, 30, 36, and 44 are marked. The text "In consonances" is written above the graph. The graph shows a main range for each voice indicated by brackets and occasional extensions shown by slurs. The species indicated are F, F, 10-12/10-12/10-12-10/10-10-B, and F.

At the end of each compositional graph, the *ambitus* for each voice will be notated, and the main modal species outlined throughout the piece by each of the voices will be listed. The main range covered by each voice will be indicated by a bracket, while occasional extensions above or below the main range will be shown by slurs. The species indicated will be only those which have an important structural role, either because their extreme pitches are frequent melodic pivots, or

Example 3.2b, from *Libro 24*

The image shows a musical score for two staves. The top staff is in mensural notation with a treble clef and a key signature of one flat (B-flat). The bottom staff is in mensural notation with a bass clef and a key signature of one flat (B-flat). Measure numbers 5, 8, 13, 15, 20, and 29 are marked above the top staff. A 'C' time signature is located below the bottom staff. Chord symbols are placed below the bottom staff: 'F' at measure 13, '(F) Dec.' at measure 20, and 'A' at measure 29. A note at the bottom right of the page reads 'Ambiguity 6<sup>F</sup>/2<sup>G</sup>, to m. 56'.

because they are frequently repeated. Species that result from sequences or from an incidental melodic turn will not be considered as modally significant. The species will be indicated by symbols made up of two Arabic numerals separated by a slash. The first numeral indicates species order (first, second, third, etc.), the second numeral indicates species interval. Thus,  $1/5^d$  means first species of fifth on  $d$  (or  $d-a$ ),  $2/4^e$  means second species of fourth on  $e'$  (or  $e'-a'$ ),  $1/4^G$  means first species of fourth on  $G$  (or  $G-c$ , with a  $B^b$ ).

For fifths and fourths I have used the traditional ordering of the species, as it has been discussed in the previous chapter. According to the traditional ordering of the species of the octave, as found in *Alia musica* (ninth century) and transmitted by most medieval and Renaissance treatises, the first species is the octave  $A-a$ , the second species is the octave  $B-b$ , the third species is the octave  $C-c$ , and so on. Due to the importance of octaves in determining the authentic-plagal character of a mode, I will use for the octave species a numerical order which reflects the octave-mode relationship, and hence provides a simpler and

faster visual reference. According to this classification, which is used by Bermudo,<sup>28</sup> the first species is the octave  $d-d'$ , the second species is the octave  $A-a$ , the third species is the octave  $e-e'$ , the fourth is the octave  $B-b$ , the fifth is the octave  $f-f'$ , the sixth is  $c-c'$ , the seventh is the octave  $g-g'$ , and the eighth is  $d-d'$ .

Hence,  $1/8$  will mean octave species of mode 1 ( $d-a-d'$ , or  $g-d'-g'$  with  $b^b$ ),  $2/8$  will be the octave species of mode 2 ( $A-d-a$ , or  $d-g-d'$  with  $b^b$ ),  $3/8$  the octave species of mode 3 ( $e-b-e'$ , or  $a-e'-a'$  with  $b^b$ ),  $4/8$  the octave species of mode 4 ( $B-e-b$ , or  $e-a-e'$  with  $b^b$ ), and similarly for the remaining modes. The letter after a numerical description of a species indicates the lowest pitch of the interval on which the species is built, regardless of the final of the mode. Thus,  $2/8^A$  is the octave  $A-d-a$ ,  $1/8^d$  is the octave  $d-a-d'$ , and  $8/8^d$  is the octave  $d-g-d'$ . Finally, the letter R will be used to indicate the *repercussio*, followed by a numeral to indicate the mode. Thus, R2 means "mode-2 *repercussio*."

The methodology adopted in the present dissertation aims thus at providing an understanding of both the tonal structure and coherence seen from the perspective of the modal system, and the compositional process, materials, and techniques as seen and understood in all likelihood by the composer. This approach will provide the key to a deeper appreciation of Cabezón's masterful handling of multiple musical resources, of the compositional skills of a Renaissance composer, and of the solid underlying structural unity of Renaissance music, as provided by the

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<sup>28</sup>Bermudo, Book 4, fol. 71v.



polyphonic modal system at its mature stage. The next chapter will focus precisely on the tonal system of the sixteenth century as illustrated by the writings of Santa María and the music of both Santa María and Cabezón.

**PART II**  
**THEORY AND PRACTICE**

## CHAPTER IV

### MODALITY

The conclusions drawn from the analysis of modal organization in Cabezón's *tientos* and versets and Santa María's *fantastas* will now be presented. We will examine the individual modal elements that make up the system with specific references to their practical application in particular compositions, and the results of the analytical survey will be compared with the theoretical prescriptions provided in the *Arte* and the *Declaración*.

#### *Basic Modal Functions*

As we have seen in our previous discussions of modality, the basic single-pitch modal functions defined by Renaissance theorists are the final, the confinal, and the *repercussa*. There are no discrepancies among theorists regarding the finals of the modes and their structural significance. However, even though confinals and *repercussae* are always defined in similar terms, Renaissance authors do not always agree on their relative structural importance. Neither Bermudo nor Santa María mentions the terms "confinal" or "*repercussa*." Bermudo, however, prescribes that principal cadences fall on the final or the fifth above, and thus stresses the confinal

in cadential structures.<sup>1</sup> Santa María's classification of cadences, on the other hand, includes final cadences (on the finals of the modes) and mediant cadences (inner cadences on the "mediant" of the psalm tone, that is, the tenor or *repercussa*). His stress is thus on the *repercussa* rather than the confinal. The Dominican also mentions that sometimes pieces end on their mediant cadence instead of the final.<sup>2</sup>

The pitches on which the voices can begin also correspond with the basic modal functions. For Santa María, a voice should preferably start on the final or the *repercussa*, and also a fifth above the final. Bermudo prescribes that the main beginning pitches are the final, the fifth above, and sometimes the fourth above in plagal modes (that is, the *repercussa* in the case of modes 4 and 8).

I will discuss throughout this chapter the role of the confinal and the *repercussa* in various modal aspects of Cabezón's *tientos*: the cadential structure, the imitation schemes, and the melodic structure of subjects. Only three of Cabezón's twenty-eight *tientos* end on a confinal: *tiento* 10 (*Libro*) in mode 1<sup>G</sup> ends with a cadence on *D*, *tiento* 1 (*Obras*) in mode 2<sup>G</sup> ends on *D*, and *Obras* 14 (mode 1<sup>G</sup>) ends on *D*. Of the fourteen *tientos* by other composers in the *Libro*, the anonymous *tiento* 16 in mode 3 ends on *C* (the *repercussa*), and *tiento* 26 in mode 7 by Fernández Palero

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<sup>1</sup>Bermudo, fol. 73v. Bermudo does not explain how he determines the cadential voice in a polyphonic texture. Santa María, on the other hand, does specify that the cadential voice is the one which bears the cadential suspension. For a more detailed account of Santa María's definition of cadence, see p. 135 below.

<sup>2</sup>Santa María, 1:70v.

ends on *D*.

The structural significance of the confinal is stressed by the fact that Cabezón very often establishes two tonal levels in a piece--the level of the final, and the level of the confinal--, and that each, or either of the levels defines the mode. The *tientos* in modes 1, 2, 5, and 6 normally feature imitation at the upper fifth or lower fourth. This results in modal species being defined at the two levels. For instance, *tientos* in mode 1<sup>D</sup> often present their species of fifth, fourth, and octave on *D* and *A*. Fourths and fifths on *D* or *A* result in the same distribution of tones and semitones, a circumstance already noted by Guido in his exposition of the *modi vocum*, the "modes of the degrees," as we have already discussed in chapter 2.<sup>3</sup> It will be noted that both octaves *d-a-d'* and *a-e'-a'* often appear as characteristic octaves in mode-1 compositions, even though they do not have the same disposition of tones and semitones. Examples of species at the two levels can be found in *Libro 8* (*S*<sub>2</sub> section, mm. 41-85), *Libro 11* (opening imitative section), and *Libro 10* (*S*<sub>2</sub> section: *seculorum* at two levels).

Further evidence of Cabezón's deliberate use of either tonal level to establish a mode can be found in the *seculorum* versets. In each of the modes the *seculorum* is presented at both the levels of the final and the confinal. Each of the four versets in a mode includes the *seculorum* in a different voice as *cantus firmus*. The treble and tenor always present it at the final level, while the alto and bass

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<sup>3</sup>See above, p. 63.

normally present it at the confinal level.<sup>4</sup>

It should be noted that the practice of defining a mode with species at two different levels can often result in modal ambiguity, as it happens for instance with the octaves for mode 1 mentioned above (*d-a-d'* and *a-e'-a'*). While the former is indisputably the characteristic octave of mode 1, the latter is also often used as the characteristic octave of pieces in mode 4, resulting from the division of the Phrygian octave at *a* (*e-a-e'*) instead of *b* (*e-b-e'*). Cabezón took full advantage of this ambiguity, as we will discuss below.

#### *Modal Preferences*

The distribution of Cabezón's *tientos* by mode is shown in the following table. Mode 1, with eleven *tientos*, is the most frequently used by the blind composer, followed by mode 4 (five *tientos*), and mode 6 (four *tientos*). Modes 2, 5, and 8 include two *tientos* each, while modes 3 and 7, with only one *tiento* each, are last in order of preference.

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<sup>4</sup>For a further discussion of modality in the versets, see pp. 171-74 below.

- Mode 1: 11 *tientos*: *Libro* 1, 2, 5, 8, 9, 10, and 11  
*Obras* 3, 4, 10, and 14
- Mode 2: 2 *tientos*: *Obras* 1 and 5
- Mode 3: 1 *tiento*: *Obras* 6
- Mode 4: 5 *tientos*: *Libro* 6, 17, and 18  
*Obras* 2 and 7
- Mode 5: 2 *tientos*: *Libro* 3 and *Obras* 9
- Mode 6: 4 *tientos*: *Libro* 7 and 24  
*Obras* 11 and 13
- Mode 7: 1 *tiento*: *Obras* 12
- Mode 8: 2 *tientos*: *Libro* 4 and *Obras* 8

All of the *tientos* from the *Obras* include a modal assignment in Hernando's original edition. Six *tientos* from the *Libro* (numbers 2, 3, 4, 5, 6, and 7) were not given modal labels in the original edition. The labels provided by Anglés and Jacobs are at times conflicting or mistaken. Thus, *tiento* 6 is labeled by Jacobs as mode 6, and by Anglés as mode 1 (obviously a typographical mistake). My analysis places it in mode 5. *Tiento* 4, which I interpret as mode 8 with mode-5 ambiguity, is labeled as mode 5 by Jacobs and mode 8 by Anglés. *Tiento* 6 is in mode 4, changes to mode 3 for the second section, and ends in mode 3; Jacobs labels it as mode 3, and Anglés as mode 4. *Tiento* 7, in mode 6, is interpreted as mode 5 by Jacobs and as mode 6 by Anglés. Finally, *tientos* 2 and 5 are in mode 1, as both Anglés and Jacobs agree.

*The Species*

The species of fifth and fourth are the melodic cornerstones that define mode according to Renaissance theorists. They have to be examined in order to determine the mode of a composition, and they have to be taken into account by composers who wish to observe the principles of modality in their compositions. As Bermudo declares, "whoever wishes to play modes and not monsters, will give each mode its diapason."<sup>5</sup>

Bermudo's presentation of the species of fifth and fourth corresponds with the numbering and classification that we have discussed in chapter 2. Santa María is less specific in this subject, and instead of classifying fifths and fourths by species, he presents what he calls the "sequence of the solfa" for each mode, or solmization of the octave species. The "sequences of the solfa" are illustrated in example 4.1:<sup>6</sup>

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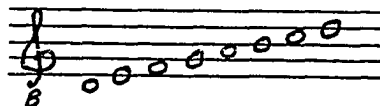
<sup>5</sup>Bermudo, fol. 72r.

<sup>6</sup>Santa María, 1:62r.

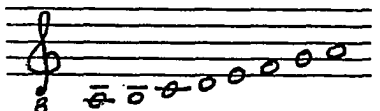


## Example 4.1

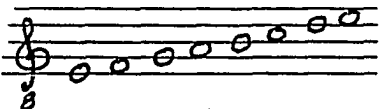
Mode 1: re-mi-fa-sol-re-mi-fa-sol



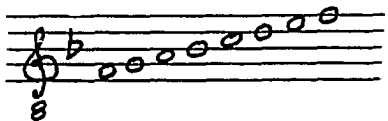
Mode 2: re-mi-fa-re-mi-fa-sol-la



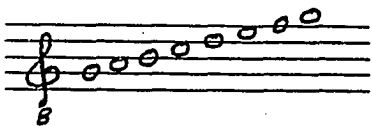
Modes 3 and 4: mi-fa-sol-re-mi-fa-sol-la



Modes 5 and 6: ut-re-mi-fa-sol-re-mi-fa



Modes 7 and 8: ut-re-mi-fa-re-mi-fa-sol



For Santa María, the sequence of the solfa is one of the two main elements that define mode, together with the cadential structure.

I have analyzed the species of octave, fifth, and fourth in all the voices of each of Cabezón's *tientos*, as well as in a sample of eleven *fantasías* by Santa María. A summary of the species structure for each of these pieces can be found in the modal charts in chapter 6 and appendix 2. The species considered are those which have a melodic significance as part of thematic material or which are frequently repeated. The problem created by the use of the  $B^b$  in the signature in modes 5 and 6 will be discussed below, as will the use of species foreign to the main mode as a result of modal commixture. The conclusions regarding the species that define each of the modes are the following:<sup>7</sup>

Mode 1: Species at two levels (mode 1<sup>D</sup>:  $D$  and  $A$ )

$1/4^D$  ( $\dot{a}-g$ ),  $1/4^A$  ( $a-d'$ )  
 $1/5^D$  ( $d-a$ ),  $1/5^A$  ( $a-e'$ )  
 $1/8^D$  ( $d-a-d'$ ),  $1/8^A$  ( $A-e-a$ )  
 $2/8^A$  ( $A-d-a$ )

Mode 2:  $1/4$ ,  $1/5$ ,  $1/8$  at final and confinal levels  
 $2/8$  at final level

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<sup>7</sup>For a discussion of the modal species and an explanation of the symbols used to refer to them in the present dissertation, the reader should see pp. 64 and 110-11 above.

- Mode 3:  $2/5^E$  (*e-b*)  
 $3/8^E$  (*e-b-e'*)  
 $3/8^E$  div. *A* (*e-a-e'*)<sup>8</sup> breaks up into  
 $2/4^E$  (*e-a*) +  $1/5^A$  (*a-e'*)  
 $4/8^A$  (*A-e-a*)
- Mode 4:  $2/4^E$  (*e-a*: R4),  $2/4^B$  (*b-e'*)  
 $2/5^E$  (*e-b*)  
 $3/8^E$  (*e-b-e'*),  $3/8^E$  div. *A* (*e-a-e'*)  
 $4/8^A$  (*A-e-a*), breaks up into  $1/5^A$  +  $2/4^E$   
Incomplete  $3/8^E$  (*e-a-d'*) breaks up into  $2/4^E$  +  $1/4^A$
- Mode 5 (with  $B^b$  in signature):<sup>9</sup>  
Species at three levels: *F*,  $B^b$ , and *C*  
 $3/4^F$  (*f-b<sup>b</sup>*),  $3/4^C$  (*c-f*)  
 $3/5^F$  (*f-c*),  $3/5^{B^b}$  (*b<sup>b</sup>-f'*),  $3/5^C$  (*c-g*)  
 $5/8^F$  (*f-c-f'*),  $5/8^{B^b}$  (*b<sup>b</sup>-f-b<sup>b</sup>'*)
- Mode 6 (with  $B^b$  in signature):  
 $3/4^F$ ,  $3/4^C$   
 $3/5$  at *F*,  $B^b$ , and *C* levels  
 $6/8^C$  (*c-f-c'*),  $5/8^F$
- Mode 7:  $4/5^G$  (*g-d'*),  $1/4^D$  (*d'-g'*)  
 $7/8^G$  (*g-d'-g'*)  
 $8/8^D$  (*d-g-d'*) and Incomplete  $8/8^D$  (*d-g-c'*)
- Mode 8: Prominent tritus species (modes  $5^C$ - $6^C$ ) because of stress on octave divided at *repercutsa*: *g-c'-g'* instead of *g-d'-g'*  
 $3/4^G$  (*g'-c'*),  $3/4^C$  (*c'-f'*)  
 $4/5^C$  (*c-g*),  $3/5^F$  (*f-c'*)  
 $5/8^C$  (*c-g-c'*),  $6/8^G$  (*g-c'-g'*),  $6/8^C$  (*c-f'-c'*)  
also:  $7/8^G$ , Incomplete  $8/8^D$ ,  $1/4^D$ , and  $4/5^G$

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<sup>8</sup>The symbol  $3/8^E$  div. *A* indicates the Phrygian octave divided at *A* (*e-a-e'*) rather than *b* (*e-b-e'*). The corresponding plagal octave is indicated by  $4/8^A$  (*A-e-a*).

<sup>9</sup>The present labeling of species for modes 5 and 6 disregards the  $B^b$  in the signature. For a discussion of how the  $B^b$  changes the species of fifth in tritus modes from  $3/5$  to  $4/5$ , see pp. 127-28 below.

*The Effect of Musica Ficta and Accidentals on Modality*

Musica Ficta

The problem of *musica ficta* in sixteenth-century Spanish instrumental music has been studied by such authors as Rubio and Jacobs.<sup>10</sup> The two major theoretical sources quoted in these studies are the *Arte* and the *Declaración*. Unfortunately, the two sources disagree to a great extent on the subject of how accidentals should be used. Here again Santa María is brief and to the point, and undoubtedly reflects at least one aspect of contemporary practice--which, however, may not necessarily have been generalized. Bermudo's arguments fill several chapters throughout his treatise, and include references to Pythagoras, Plato, and other classical authorities whose influence on sixteenth-century *musica ficta* is unlikely. For a detailed discussion of the problem as it affects performance the reader may refer to the studies mentioned above. I will briefly summarize Santa María's and Bermudo's opinions on the subject, inasmuch as they can help us determine what the effect of accidentals was on mode.

Santa María distinguishes between the role of sharps and that of flats. Sharps, he says, "were invented for the grace and beauty of natural solfa . . . and thus their

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<sup>10</sup>Samuel Rubio, *Classical Polyphony*, trans. Thomas Rive (Toronto: University of Toronto Press, 1972), pp. 39-61; Charles Jacobs, "The Performance Practice of Spanish Renaissance Keyboard Music," (Ph.D. dissertation, New York University, 1962), pp. 176ff.; idem, "Spanish Renaissance Discussion of Musica Ficta."

use is left to the choice and judgement of good sense." Flats, to the contrary, "were invented out of pure necessity, for the perfection and fulfillment of the diapente, diatessaron, and diapason."<sup>11</sup> Thus, one should interpret that sharps have an accidental character that does not affect the essence of the modal species, while flats are precisely meant to preserve the constitution of species when it is needed (as, for instance, in transposed modes such as mode 1<sup>G</sup>) or for achieving perfect fifths and fourths instead of tritones. Santa María mentions two common uses of sharps: in ascending melodic passages and in cadences (to produce a leading tone in those cadences in which the tuning of the keyboard allows for a half-step below the final). Santa María's examples of ascending lines with sharps are *G-A-B-c<sup>#</sup>-d*, *c-d-e-f<sup>#</sup>-g*, and *d-e-f<sup>#</sup>-g<sup>#</sup>-a*.<sup>12</sup>

Bermudo, on the other hand, writes a chapter "against some barbarous performers" who play sharps without necessity. For instance, he says, they play ascending lines from *d* with *f<sup>#</sup>*, thus turning mode 1 into 6, or ascending lines from *e* with *f<sup>#</sup>* and *g<sup>#</sup>*, thus turning mode 4 into 6. Such practice is unacceptable to Bermudo, because it "corrupts the composition of the modes." The fact that musicians use sharps "because it sounds better to them" is an unfounded boldness, he points out, for "perfection of knowledge and practice consists in some rules

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<sup>11</sup>Santa María, 1:16v.

<sup>12</sup>Santa María, 1:17r.

judged by reason," to which the ear should be subservient.<sup>13</sup>

When should one use accidentals, according to Bermudo? The Franciscan theorist rejects the rule that black keys should be used in ascent as opposed to white keys in descent, because he finds it to be more often false than true. A rule found in Tovar's treatise establishes that a perfect consonance closing a cadence has to be approached by a semitone in one of the voices, and by a tone in the other.<sup>14</sup> Bermudo takes issue with this rule, because it does not apply to all of the degrees of the scale. The rule for accidentals that Bermudo proposes, citing Gaffurio as a source, is the following: any perfect consonance should be preceded by the closest possible imperfect consonance.<sup>15</sup> Thus, a unison will always be preceded by a minor third, a fifth by a major third or a minor sixth, and an octave by a major sixth. Should any of the above perfect intervals be preceded by an imperfect interval other than the closest, then the situation should be corrected by means of an accidental. For instance, he remarks, if a perfect fifth is preceded by a minor third, one of the notes of the third will be altered, preferably the upper voice.<sup>16</sup>

It is not possible to determine to what extent Bermudo's prescriptions were applied in practice or were only theoretical possibilities. He refers to the practice of using sharps in ascending passages as a fact, but he stresses that the rules for

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<sup>13</sup>Bermudo, fol. 67.

<sup>14</sup>Tovar, fol. 34r.

<sup>15</sup>See Gaffurio, p. 136.

<sup>16</sup>Ibid., fols. 87vff.

intervallic succession are taken from Gaffurio (who wrote his treatise in Italy fifty years earlier) and not from contemporary practice. Hence, one should adopt it in practice with caution. The studies of *ficta* mentioned in footnote 10 above rely heavily on Bermudo's prescriptions. Jacobs applies the rule liberally in his edition of Cabezón's works, with a resulting profusion of accidentals. Unfortunately, the tablature used in Cabezón's original edition is based on a diatonic scale to which sharps and flats are added. The practice of omitting accidentals is well known, and it is also regretted by Bermudo, who remarks: "It would please God that composers should always indicate the notes that must be played on a black key, so that players of any instrument would know."<sup>17</sup> Thus, the question of *musica ficta* remains open.

I will follow Santa María's position in considering that melodic accidentals--such as sharps in ascending passages, or the  $B^b$  used to avoid the  $F-B$  tritone--do not affect mode in any way. The *tientos* by Cabezón do not display frequent written accidentals, and when they do they can be explained by Santa María's criteria. The following are some of the most notable examples of accidentals that do not affect mode in the *tientos*:

-*Obras* 3, mode 1. Different entries of  $S_1$  display different accidentals; these include  $g^\sharp$  (as lower neighbor to  $a$ ),  $f^\sharp$  (as unresolved lower neighbor to  $g$ ), and  $b^b$  (as unresolved upper neighbor to  $a$ ).

Mm. 106-109: ascending scale  $e'-f^\sharp'-g^\sharp'-a'$ .

Mm. 125 ff.:  $S_3$ , derived from Magnificat 1, is presented as  $a'-f^\sharp'-g'-a'$ , as  $a'-f^\sharp'-g^\sharp'-a$ , and as  $a'-f'-g'-a'$ . It should be noted that Cabezón introduces  $f^\sharp$  in

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<sup>17</sup>Ibid., fol 43v.

such a prototypical mode-1 tune as the Magnificat. Two of the mode-1 Magnificat versets also include an ascending  $f^\sharp-g^\sharp-a$  as part of the Magnificat subject, leading to a cadence on  $A$  (versets 5 and 6).

- Obras* 4, on *Qui la dirá*, mode 1. Mm. 36-64:  $S_2$ , treated in imitation, is a four-pitch ascending scale,  $a-b-c^\sharp-d'$ , answered by  $e'-f^\sharp-g^\sharp-a'$ .
- Obras* 1, mode 2. Mm. 83ff.:  $S_2$  features  $f^\sharp$  ascending,  $f$  natural descending.
- Obras* 2, mode 4.  $S_2$  (mm. 54ff.):  $e-f^\sharp-g^\sharp-a$  answered by  $b-c^\sharp-d'-e'$ .
- Obras* 7, mode 4. Mm 64-77: chromatic section resulting from ascending melodic turns  $f^\sharp-g^\sharp-a$  and  $e''-c^\sharp-d''$ .  $S_3$  (mm. 84ff.):  $e'-f^\sharp-g^\sharp-a'$ .
- Obras* 13, mode 6 (*Fugas a cuatro voces*), with  $B^b$  in key signature. Mm. 20-25: melodic turns  $g-f^\sharp-g-a$  and  $c-b$  natural- $c-d$  leading to cadence on  $A$ .

### The $B^b$

A problem of modal definition was produced, as we have already discussed, by the common use of the  $B^b$  in untransposed *protus* and *tritus* modes. Santa María writes all of his mode- $2^D$ , mode- $5^F$ , and mode- $6^F$  pieces with a  $B^b$  in the signature. Cabezón's pieces in modes 5 and 6 on  $F$  also include a  $B^b$  in the signature. The  $B^b$  produces a confusion of the modal species: the fifth  $f-g-a-b^b-c'$  belongs to the fourth species, and hence to the *tetrardus* modes.

The problem had long been acknowledged by theorists. Tinctoris's discussion of *tritus* modes with  $B^b$  represents one of the usual approaches to the issue:

Either of these two modes [5 and 6] can be formed from the fourth type of diapente, something that ought to be done as seldom as possible.

Since it is true that the fifth tone and the sixth . . . can be formed from this same fourth type of diapente, it is asked what difference



there is between their formation and the formation of the seventh and eighth. We can reply that, on the contrary, there is between the former and the latter a greater dissimilarity than a similarity. For although the fifth and the sixth are formed from the fourth type of diapente, the first of these requires the third type of diatessaron above and the second [requires it] below; after the fourth type of diapente from which they are also formed, the seventh takes the first type of diatessaron above and the eighth takes it below.<sup>18</sup>

Tinctoris's attitude amounts to an acceptance of two possible species of the octave for the *tritus* modes, one with  $B^b$ , and the other with  $B$ . Santa María's approach is similar, only that, unlike Tinctoris, he leaves no option for the *tritus* octave species: he simply states that the species of fifth for modes 5, 6, 7, and 8 is the same--except in pieces based on the psalm tone--, while the species of fourth varies between the *tritus* and the *tetrardus* modes.<sup>19</sup>

Rather than discussing the problem in a pragmatic way, Bermudo strongly takes sides in the controversy. His criteria are clearly expressed: musicians who play modes 5 and 6 with a  $B^b$  "break the octave" of these modes, and violate their essential structure. Mode 6 with  $B^b$ , he says, sounds like mode 8; or rather, he insists, *is* mode 8; or actually, he concludes, is neither one nor the other. "We consider very skillful he who mixed two species of horse and ass, and made the mules; greater understanding was needed to invent the music that we have

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<sup>18</sup>Tinctoris, *Concerning the Nature and Propriety of Tones*, trans. Albert Seay, pp. 12 and 14.

<sup>19</sup>Santa María, 1:62r.

nowadays," states Bermudo referring ironically to the musicians who use the  $B^b$ .<sup>20</sup>

In analyzing the species of modes 5 and 6, I have not taken into account the fact that the  $B^b$  changes the constitution of the octave. Thus, I have still referred to the fifth  $f-g-a-b^b-c'$  as  $3/5^F$ , and to the fifth  $g-a-b-c'-d'$  as  $4/5^G$ . This approach allows us to differentiate between *tritus* and *tetrardus* species, and to integrate the  $B^b$  into the *tritus* modes as an essential degree, following Santa María's attitude. However, I will take into account the built-in ambiguity between *tritus* and *tetrardus* modes in the discussion of modal commixture below. It will also be remarked that Cabezón seems to have taken deliberate advantage of this ambiguity by underlining it in different ways and by developing its potential of enriching modal structure.<sup>21</sup>

#### Transposition

Any mode, states Santa María, can be transposed to end on other finals, so long as we preserve the constitution of the "sequence of the solfa" and the cadential structure. Santa María's explanations center on how accidentals have to be changed in each transposition in order to keep the structure of the species.

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<sup>20</sup>Bermudo, fols. 72v-73r.

<sup>21</sup>It has already been mentioned above (see page 80) that commixture was indeed the explanation put forth by such theorists as Vicentino and Aiguino to account for the  $B^b$  in *tritus* modes: a mode-7 fifth was commixed with a mode-5 fourth to produce the *tritus* octave with  $B^b$ .

The finals to which each mode can be transposed are the following:<sup>22</sup>

Mode 1: *C* (two flats), *G* (one flat), noting that the transposition to *C* will sometimes require an *A<sup>b</sup>* which is not available on the keyboard.

Mode 2: *G* (two flats), *A* (no accidentals)

Modes 3 and 4: *D* (two flats), *A* (one flat)

Mode 5: *B<sup>b</sup>* (two flats), *C* (no accidentals),  
*D* (two sharps), *G* (one sharp)

Mode 6: *C* (no accidentals), *D* (two sharps), *G* (one sharp), *A* (three sharps), *B<sup>b</sup>* (two flats)

Modes 7 and 8: *C* (one flat), *D* (one sharp), *F* (two flats)

The reasons given by Santa María not to transpose the modes to other levels are that accidentals would be needed which are not available in the keyboard, or that the range of the keyboard would be insufficient for the treble or the bass.<sup>23</sup>

Bermudo's list of possible finals to which the modes can be transposed allows for more possibilities than Santa María's:<sup>24</sup>

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<sup>22</sup>Santa María notates the complete transposed octave for each of the possible transpositions, indicating flats in the signature and sharps before the affected note.

<sup>23</sup>Santa María, 1:71r-74r.

<sup>24</sup>Bermudo, fols. 74r-79r.

Modes 1-2: *G* (one flat), *A* (one sharp), *B* (three sharps), *C* (two flats), *E* (two sharps)

Modes 3-4: *A* (one flat), *B* (one sharp), *D* (two flats); also *C*<sup>#</sup> (three sharps) and *F*<sup>#</sup> (two sharps)

Modes 5-6: *C* (no accidentals), *D* (two sharps), *G* (one sharp), *B*<sup>b</sup> (two flats), *A* (three sharps)

Modes 7-8: *A* (two sharps), *C* (one flat), *D* (one sharp), *E* (three sharps), *F* (two flats)

Transposition was a frequent practical task for organists who had to adopt their playing to the range of a choir. Most of the transposition possibilities listed by Santa María and Bermudo, however, are not found in written music. The following table lists the number of the transposed and untransposed modes in Cabezón's *tientos*:

Mode 1: 6 *tientos* on *D*, 5 on *G*  
 Mode 2: 2 *tientos* on *G*  
 Mode 3: 1 *tiento* on *E*  
 Mode 4: 5 *tientos* on *E*  
 Mode 5: 2 *tientos* on *F*  
 Mode 6: 4 *tientos* on *F*  
 Mode 7: 1 *tiento* on *G*  
 Mode 8: 1 *tiento* on *G*, 1 on *C*

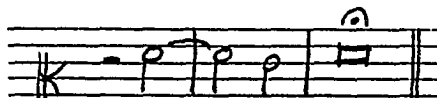
Thus, only seven of the *tientos* are transposed, and the transpositions are the closest and most usual ones: a fourth above in the case of modes 1 and 8 (which adds a

$B^b$  to the signature), and a fourth below in the case of mode 5 (which suppresses the mode-5  $B^b$  in the signature).

### *Cadential Structure*

Santa María's discussion of modal cadential structure is one of the most significant sections in the treatise.<sup>25</sup> He considers cadences as essential to mode recognition, and classifies cadential structures as (1) proper to the nature of the mode, or (2) based on the cadential structure of the *seculorum*--which, as will be remembered, does not always end on the final of the mode. A cadence (*cláusula*) is defined by a three-note melodic turn in which the first note is a semibreve and the second a minim. The semibreve will start on an upbeat (*al alçar el compás*); the minim will be a second below the semibreve, and then will ascend a second again, as in "fa, mi, fa." This cadential turn can be effected by any of the voices.

#### Example 4.2



The other condition of a cadence is that it should contain one or two dissonances

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<sup>25</sup>Santa María, 1:62v-70v.

followed by a consonance. We will examine Santa María's presentation of dissonance and counterpoint in four-voice cadences in the following chapter.

The tuning of the keyboard allows for leading-tone cadences on only certain pitches. Cadences in which a semitone below the note of resolution is possible are called *sostenidas*, and those in which only a tone is possible are called *remissas*. The *cláusula sostenida* can happen on *C, D, F, G,* and *A*; the *cláusula remissa* on *E* and *B*. The cadence on *A* in modes 2 and 6 will also be *remissa*, due to the *B<sup>b</sup>* in the key signature, as seen in example 4.3.

Example 4.3



In pieces based on the *seculorum*, mediant cadences are determined by the psalm-tone mediant, while final cadences can occur on any of the psalm-tone *differentiae*, which, Santa María says, sometimes fall outside the natural cadences of the mode. Pieces based on the nature of the mode have three types of cadences: final, mediant, and passing (*finales, medias, de passo*). Final cadences--which fall on the final-- are used at the end of the piece, and also within the piece; mediant cadences--on the *repercussa*--are used only within the piece; passing

cadences, which are not proper to the mode, are those which fall on a pitch other than the final or the mediant. Only three modes have a passing cadence: modes 2 and 6 a fifth above the final, and mode 3 a third above the final. Passing cadences should be used with caution, and should be left immediately (hence their name, "passing").

The following table shows Santa María's cadential schemes for each of the modes, including their character of *sostenida* (s) or *remissa* (r). The different *seculorum* cadences result from the different possible endings of each psalm tone.

	Final	Mediant	Passing	Seculorum
Mode 1.....	D (s).....	A (s).....	.....	D-F-G-A
Mode 2.....	D (s).....	F (s).....	A (r).....	D
Mode 3.....	E (r).....	C (s).....	G (s).....	G-A-B-E
Mode 4.....	E (r).....	A (s).....	.....	F-G-A
Mode 5.....	F (s).....	C (s).....	.....	A
Mode 6.....	F (s).....	A (r).....	C (s).....	F
Mode 7.....	G (s).....	D (s).....	.....	A-B-C-D
Mode 8.....	G (s).....	C (s).....	.....	G

Santa María mentions another type of passing cadence which can be effected on any of the degrees of a mode, on two conditions: first, the interval between the outer voices must be a tenth, and not an octave; second, one should leave the cadence as soon as it is effected.<sup>26</sup> Santa María provides an example of a treble line in mode 1 harmonized in four voices, with a cadence on each scale degree.

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<sup>26</sup>Santa María, 1:67.

The example is significant in that it illustrates the theorist's conception of cadences and of harmony: the cadential voice is the one which bears the suspension (in this example always the treble); the cadence is named after the pitch on which the suspension resolves, regardless of the root of the chord below it (for instance, the first cadence is a melodic cadence on *E*, despite the fact that *E* is the third of a harmonic triad on *C*).

What matters to Santa María is the cadential pitch in the treble, and the interval between treble and bass. The following example reproduces Santa María's illustration, in which I have marked the passing cadences, and their interval of resolution. A Roman numeral analysis of the cadences, added in parentheses, shows the contrast between Santa María's interpretation--and his melodic labeling of cadences--and an interpretation based on functional harmony. It will also be noted that the short example provides an excellent sample of "Dorian harmony," as opposed to major-minor harmony: two of the cadences are on natural-VII, and another one is a v (minor)-i cadence.

Santa María closes the section on cadential modal structure with some observations about the licenses which the masters allow themselves. His rules, he says, are rigorously true, and the best and safest procedure is to observe them. However, composers at times act otherwise. For instance, works sometimes end on the mediant cadence rather than the final; sometimes the cadences of a mode mix with those of another mode, as in Verdelot's *Gabriel Arcangelus* or Josquin's *Miserere Deus*; at other times, the cadences of authentic and plagal modes mix;



## Example 4.4: Santa María, fol. 1:67

The image shows two systems of musical notation for Example 4.4. Each system consists of a treble and bass staff. The first system has three measures, each with a bracket above it labeled "on E", "on F", and "on G". Below the first measure is the cadence  $(\frac{vii^{\circ}_6 - I}{VII})$  with a '10' above it. Below the second measure is the cadence  $(v - i)$  with a '10' above it. Below the third measure is the cadence  $(\frac{V - vi}{IV})$ . The second system has three measures, each with a bracket above it labeled "on A (mediant)", "on B", and "on C". Below the first measure is a box labeled 'A'. Below the second measure is the cadence  $(\frac{vii^{\circ}_6 - I}{IV})$  with a '10' above it. Below the third measure is the cadence  $(\frac{V - vi}{VII})$  with a '10' above it. A box labeled 'D' is at the end of the second system.

finally, it also happens that composers write cadences that fall out of the mode, and some works are not even in a specific mode, as in the case of Verdelot's *Si bona suscepimus*. However, masters have always good reasons to act thus, they do so with great consideration and with a purpose, and they should not be followed by students in these aspects.

Bermudo classifies cadences into principal and secondary, but he is less specific than Santa María in listing the cadential degrees for each mode. Principal cadences fall on the final or on the fifth above. Sometimes plagal modes have their cadences a fourth above the final (modes 4 and 8). Secondary cadences are often a third above the final, and a second below it in modes 1, 2, 7, and 8. Some plagal

modes have secondary cadences a third or a fifth below the final.<sup>27</sup>

The cadential structure of Cabezón's *tientos* shows consistent agreement with Santa María's cadential prescriptions "according to the nature and propriety of the modes." The detailed cadential structure of all the *tientos* can be seen in the compositional graphs reproduced in chapter 6 and appendix 2. The following table presents a summary of all the cadential structures of the twenty-eight *tientos*. Major cadences closing formal sections have been considered for this summary. Major inner cadences fall on the final or the *repercussa*, with the only exceptions being *Obras* 1 in mode 2 (with inner cadences on final and confinal) and *Obras* 6 in mode 3 (which includes cadences a third and a fourth above the final besides those on the *repercussa*). All of the final cadences fall on the final, except for three *tientos* (*Obras* 1 and 14, and *Libro* 10, already mentioned above) which end on the confinal. A few cases of major cadences on degrees other than the basic modal functions are due to sections in which a complete modal change has been effected (as in *Libro* 5 in mode 1, where a commixture with mode 5<sup>Bb</sup> results in a cadence on B<sup>b</sup>, or in *Libro* 6 in mode 4, where a section in mode 3 has a cadence on C). These cadences have not been included in the present summary, but, rather, will be discussed in the section on commixture. The case of *Obras* 4 on *Qui la dirá* (mode 1) is also unusual: the *seculorum* 1 ending on the *differentia* F generates the thematic structure of the *tiento*. As a result, the *tiento* includes major cadences on

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<sup>27</sup>Bermudo, fols. 73v and 124r.

*F* and *G*, two of Santa María's possible *seculorum* cadences for mode 1. The summary of cadences in the 14 *tientos* from other composers in the *Libro* is also included in the table, and shows similar results except for minor variants.

Mode	<u>Tientos by Cabezón</u>		<u>Tientos by Other Composers</u>	
	Inner Cadences	Final Cadences	Inner Cadences	Final Cadences
1 <sup>D</sup> .....	<i>D-A</i> .....	<i>D</i> .....	<i>D-A-F</i> .....	<i>D</i>
1 <sup>G</sup> .....	<i>G-D</i> .....	<i>G</i> (one on <i>D</i> )	.....	
2 <sup>D</sup> .....	.....	.....	<i>D-A</i> .....	<i>D</i>
2 <sup>G</sup> .....	<i>B flat</i> .....	<i>G</i> .....	.....	
	<i>G-D</i> .....	<i>D</i> .....	.....	
3 .....	<i>G-A-C-E</i> .....	<i>E</i> .....	<i>A-C</i> .....	<i>C</i>
4 .....	<i>E-A</i> .....	<i>E</i> .....	<i>E-A</i> .....	<i>E</i>
5 <sup>F</sup> .....	<i>F-C</i> .....	<i>F</i> .....	<i>F-C-A</i> .....	<i>F</i>
5 <sup>C</sup> .....	<i>C-G</i> .....	<i>C</i> .....	.....	
6 .....	<i>F-A</i> .....	<i>F</i> .....	<i>F-C-A</i> .....	<i>F</i>
7 .....	<i>G-D</i> .....	<i>G</i> .....	<i>G-D</i> .....	<i>G</i> or <i>D</i>
8 <sup>G</sup> .....	<i>G-C</i> .....	<i>G</i> .....	<i>G-C</i> .....	<i>G</i>
8 <sup>C</sup> .....	<i>C-F</i> .....	<i>C</i> .....	.....	

*Beginning Pitches and Intervals of Imitation*

If finals and cadential schemes reflect mode in a consistent way, how do initial pitches and imitation patterns relate to mode? Santa María's prescriptions for initial pitches are the following: voices can start on the final, on the mediant (*repercussa*), or a fifth above the final, except in mode 3, which should not begin on *B* in order not to be confused with mode 4. His list of permissible initial pitches is the following:<sup>28</sup>

Mode 1: <i>D, A</i>	Mode 5: <i>F, C</i>
Mode 2: <i>D, F, A</i>	Mode 6: <i>F, A, C</i>
Mode 3: <i>E, G, A, C</i>	Mode 7: <i>G, D</i>
Mode 4: <i>E, A, B</i>	Mode 8: <i>G, C, D</i>

Santa María does not link imitation to modality. The allowed intervals of imitation are the fourth, the fifth, and the octave, all three above or below, with no specific prescriptions for each mode.<sup>29</sup>

Bermudo deals with modal beginnings in two different chapters of his treatise. His prescriptions in fol. 73v are general: the modes can begin on the final, the fifth above, or the octave above; sometimes plagal modes start a fourth above the final; less regular initial pitches would be the third above the final, and the second below

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<sup>28</sup>Santa María, 1:70v.

<sup>29</sup>Ibid., fol. 64r.

it (the latter not possible in modes 5 and 6). His list of initial pitches is the following:

- Mode 1: *C, D, F, A*, also *E, G*
- Mode 2: *A, C, D, F, G*, seldom *E*
- Mode 3: *E, F, G, C*, sometimes *A*
- Mode 4: *C, D, E, F, G*, seldom *A*
- Mode 5: *F, A, C*, seldom *G*
- Mode 6: *C, D, F, A*, sometimes *G*
- Mode 7: *G, A, B, C, D*, sometimes *E*
- Mode 8: *D, F, G, A, C*, sometimes *E*

A survey of all the imitative beginnings in Cabezón's *tientos* and Santa María's *fantastas* (including beginnings of inner sections) shows agreement with the latter's prescriptions. These compositions use a limited number of principal starting pitches for each of the modes, which basically correspond with Santa María's listing. Additional initial pitches of secondary importance can be found in Bermudo's larger listing, with very few exceptions. The most frequent initial pitches are the final, the confinal, the *repercussa*, and the fifth above the confinal (scale degree 2). The following table provides a summary of initial pitches and most frequent imitative patterns for each of the modes, drawn from a total of 105 imitative beginnings by both Cabezón and Santa María.

## Mode 1: 22 imitative beginnings

Initial pitches: final (*D*), confinal (*A*), fifth above the confinal (*E*). [A subject which starts on the confinal and moves down to the final (*a'-d'*), for instance, will be answered by a melodic motion from scale degree 2 (the fifth above the confinal) down to the confinal (*e''-a'*), hence such imitation patterns as *A-E-A-E* or *A-E-E-A*]

Imitative patterns: *G-D-G-D* (or *D-A-D-A* in mode 1<sup>D</sup>)

*G-D-D-G* (or *D-A-A-D*)

*G-G-G-G* (1<sup>G</sup>)

*G-G-G-D* (1<sup>G</sup>)

*A-A-D-D* (1<sup>D</sup>)

*D-D-G-D* (1<sup>G</sup>)

*G-G-D-D* (1<sup>G</sup>)

also *A-E-A-E*

*A-E-E-A*

Mode 2: 5 beginnings. No difference from mode 1: final and confinal as initial pitches.

Mode 3: 5 beginnings. Pitches: final, fourth and third above, *repercussa* (*E, A, G, C*). No confinal.

Patterns: *E-A-E-A*

*G-E-G-E-A*

*C-E-A*

*C-C-G-G*

*E-E-E-E*

Mode 4: 18 beginnings. Pitches: final, confinal, *repercussa*, second below final (*E, B, A, D*)

Patterns: *B-E-B-E*

*E-A-A-D*

*B-B-E-E*

*A-E-A-E*

*E-B-E-B*

*E-E-A-E*

*B-E-E-B*

*E-A-A-E*

*B-E-E-A*

*A-E-A-D*

*E-B-A-E*

*E-A-E-A*

Mode 5: 14 beginnings. Pitches: final, confinal, fifth above confinal, fifth below final (*F, C, G, B<sup>b</sup>*)

Patterns: <i>C-F-C-F</i>	<i>C-F-F-B<sup>b</sup></i>
<i>C-F-F-C</i>	<i>F-C-F-C</i>
<i>C-C-F-C</i>	<i>G-C-F-C</i>
<i>C-C-C-F</i>	

Mode 6: 18 beginnings. Pitches: final, confinal, *repercussa* (*F, C, A*), fifth below final (*B<sup>b</sup>*), second below and above final (*E* and *G*)

Patterns: <i>F-C-F-C</i>	<i>F-C-F-A</i>
<i>F-C-B<sup>b</sup></i>	<i>F-C-C-F</i>
<i>C-F-C-F</i>	<i>C-F-F-C</i>
<i>F-F-C-F</i>	<i>C-C-C-F</i>
<i>F-C-F-F</i>	<i>E-E-G-A</i>

Mode 7: 12 beginnings. Pitches: final and confinal (*G, D*), also fifth above confinal (*A*), third below final (*E*), fourth above final (*C*)

Patterns: <i>D-G-D-G</i>	<i>A-D-A-D</i>
<i>D-D-G-G</i>	<i>D-D-A-E</i>
<i>G-D-G-D</i>	<i>C-G-C-G</i>

Mode 8: 11 beginnings. Pitches: final and *repercussa* (*G, C*), confinal, fifth above confinal (*D, A*)

Patterns: <i>G-D-D-G</i>	Mode 8 <sup>C</sup> : <i>F-F-C-C</i>
<i>A-D-A-D</i>	<i>F-C-F-C</i>
<i>D-G-D-G</i>	<i>C-F-F-B<sup>b</sup></i>
<i>G-C-G-C</i>	
<i>C-G-C-G</i>	

Considering the modes by pairs, it will be noticed that modes 1 and 2 show no discrepancies in their initial pitches and patterns of imitation, and neither do modes 5 and 6. Modes 3 and 4 feature different patterns and pitches, and so do modes 7 and 8. Irregular imitative openings in the *tientos* also result from modal

commixture. For instance, the  $S_3$  section in *Libro 24* (mode  $6^F$ ) opens with a *G-D-G-D* pattern, resulting from a  $6^F/2^G$  commixture; and the  $S_3$  section in *Libro 25* (mode  $5^F$ ) reflects the ambiguity  $5^F/2^G$  in the pattern *G-D-D-D*.

#### *Authentic/Plagal Differentiation*

The traditional criterion for determining the authentic or plagal character of a chant melody was its *ambitus*: if the modal fourth was above the modal fifth, the tune was in an authentic mode; if the fourth was below the fifth, the tune was in a plagal mode. The issue of the authentic-plagal differentiation in polyphonic music, however, presented some difficulties. While most sixteenth-century theorists continued to regard the tenor as the main modal voice, they also had to acknowledge the fact that voices in a polyphonic texture were grouped in pairs; treble and tenor usually shared the same range an octave apart, and so did alto and bass. If the treble-tenor range was authentic, the alto-bass range was plagal, and *vice versa*. Thus, if one considers the ensemble of the voices, modal mixture (the combination of an authentic and plagal pair) is a fact in polyphonic music, and Dahlhaus's arguments in favor of mode-pairs (*maneria*, or, as he calls them, *Gesamtmodus*) as undifferentiated wholes would be justified.<sup>30</sup>

The problem, however, is more complex. Bermudo is a good example of the contradiction that sixteenth-century theorists faced in this subject. In book 1,

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<sup>30</sup>See p. 78 above.



chapter 28 of the *Declaración*, he asserts: "There are four differences of modes as they are commonly practiced in polyphony, and these are the first, fourth, sixth, and eighth. Beginners should not differentiate between first and second, fourth and third, sixth and fifth, or eighth and seventh, because they have the same final and almost the same cadences. This is what performers practice: very seldom do they compose in modes 2, 3, 5, or 7."<sup>31</sup> Cabezón's modal preferences as shown in the *tientos* support Bermudo's statement: modes 1, 4, and 6 have the largest number of pieces, while modes 2, 3, 5, 7, and 8 have the lowest.

However, Bermudo returns later to the subject with a completely different attitude. In book 4, chapter 36 (entitled "Is There a Difference Between Authentic and Plagal Modes?"), he rules that there is a difference between the two members of a pair, and that it lies in their respective octaves.<sup>32</sup> He proposes four ways of distinguishing an authentic from a plagal mode. First, one should look at the final and inner cadences, because each mode has a distinctive set of possible cadential pitches. Upon examining the cadences, Bermudo remarks, one should realize that the voices sometimes end on disparate pitches because of the consonances. Thus, one should examine the tenor, or the treble, or both voices. Sometimes the bass bears the final, as for instance, when in mode 1 the bass ends on *d*, the tenor on *a*, the alto on *d'*, and the treble on *f#'*.

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<sup>31</sup>Bermudo, fol 27r.

<sup>32</sup>Ibid., fols. 79r-79v.

The second way of recognizing a mode is by looking at the melodic composition of the subjects, and how they outline the modal species ("en su prosecución y contextura y artificio de composición traen [los modos] los dichos diatessarones"). Third, one should look for the psalm-tone formulas if they are present in the composition, or for the characteristic interval of the modes as usually reflected in the interval of imitation:

The third way of distinguishing authentic from plagal is by the psalm tones (*sequencias*) which some composers include in the texture of their compositions. . . . Not all composers follow formally this practice of using the psalm tones, that is, they do not include all the pitches of the psalm tone of the mode in which they are composing, because it is not a requirement of good music to do so. However, they will indicate it by the beginnings of the imitations. If a mode ends on *D* and the imitations start on *A*, we will call it first mode and not second, because imitation in mode 2 should normally begin on *F*. If the mode ends on *E* and imitations start on *A*, it will be the fourth mode and not the third, because imitation in the third mode should begin on *C*.<sup>33</sup>

We have seen that imitation does not necessarily indicate mode in such an accurate way; Bermudo himself adds: "Notice that what I say of imitation is the normal and common procedure, but composers are not restrained and can start on other pitches." However, Bermudo's passage shows clearly the significance he attributed to imitative patterns, and how the ideal pattern was expected to reflect the interval of the *repercussio*.

The fourth and last criterion for differentiating between authentic and plagal is the range of the voices, that is, the placement of the fifth and the fourth in the

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<sup>33</sup>Ibid., fol. 79v.

modal octave. It will be noticed that even though Bermudo still considers range as modally determinant, it takes the last place in his list of criteria.

Santa María does not address specifically the problem of authentic-plagal differentiation. His presentation of the modes begins with the usual exposition of authentic and plagal octave and their different composition depending on the placement of the fifth and the fourth. His *ambitus* prescriptions are the usual ones: the modal octave plus a step above and one below. And he reminds the reader that the voice which should be examined for the *ambitus* is the treble, because the treble rules all of the remaining voices.<sup>34</sup> Santa María's four criteria for determining the mode of a composition apply to both authentic and plagal modes. The four elements that have to be examined are the "sequence of the solfa," the cadences, the *seculorum* if there is one, and the *cantus firmus* if there is one. Since the "sequence of the solfa," the cadences, and the *seculorums* are different for each of the eight modes, it is obvious that the Dominican takes for granted that authentic and plagal modes are distinct entities.

An analysis of Cabezón's *tientos* and Santa María's *fantasías* from the point of view of differentiation between authentic and plagal characteristics shows the following results:

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<sup>34</sup>Santa María, 1:60v-61v.

- Mode 1: Authentic range:  $1/8^D$**   
 -in treble/tenor in 8 pieces (*Libro* 2, 9, 10, 11, *Obras* 3, 4, 10, Santa María 3)  
 -in alto/bass in 3 pieces (*Libro* 1, 5, 8)  
 Plagal range:  $1/8^A$  or  $2/8^A$  (authentic octave at confinal level, or plagal octave)  
 -alto/bass in 8 pieces, treble/tenor in 3 pieces
- Mode 2: Authentic range, mode  $1^G$ :  $1/8^G$**   
 -alto/bass in *Obras* 1, 5; treble/tenor in SM 4  
 Plagal range:  $2/8^D$  or  $1/8^D$  (plagal octave or confinal octave)  
 -treble/tenor in *Obras* 1, 5; alto/bass in SM 4
- Mode 3: Authentic range:  $3/8^E$ , in treb./ten. (*Obras* 6, SM 8)**  
 Plagal range:  $4/8^A$ , in alto/bass
- Mode 4: Authentic range:  $3/8^E$ , in treble/tenor in all 6 pieces (*Libro* 6, 17, 18, *Obras* 2, 7, SM 8)**  
 Plagal range:  $4/8^A$ , in alto/bass in all 6 pieces
- Mode 5: Authentic range:  $5/8^F$ , in treble/tenor (*Libro* 3), treble/alto (SM 12), alto/bass (*Obras* 9)**  
 Plagal range:  $6/8^C$ , in alto/bass (*Libro* 3), bass--with short range (SM 12), treb./ten. (*Obras* 9)
- Mode 6: Authentic range:  $5/8^F$**   
 -alto/bass in 3 pieces (*Libro* 7, 24, *Obras* 11), treb./ten. with short ranges (*Obras*, 13), ten./bass (SM 14)  
 Plagal range:  $6/8^C$   
 -treble/tenor (*Libro* 7, 24, *Obras* 11), alto/bass (*Obras* 13)
- Mode 7: Authentic range:  $7/8^G$**   
 -treb./ten. (SM 16), alto/bass (SM 20), treb./ten./bass (SM 23), alto/ten./bass (*Obras* 12)  
 -No consistency in modal voice pairing
- Mode 8: Authentic range:  $7/8^G$  (octave at *G* level)**  
 -treble/tenor in all 4 pieces (*Libro* 4, *Obras* 8, SM 17 and 21)  
 Plagal range:  $6/8^C$ ,  $5/8^C$  (octave at *C* level)  
 -alto/bass in all 4 pieces

I have underlined in each mode the pair that most often defines by its *ambitus* the authentic or plagal quality, except in the modes in which there is no dominant pair. The pair treble/tenor frequently has this function (in eighteen pieces), but not in a consistent way. Modal determination also falls on the alto/bass pair (seventeen pieces, including all of those in modes 4 and 8), and on other voice combinations. It should also be noted that some of the voice *ambitus* that I have listed as authentic or plagal (because the voices stay within the octave for most of the piece) are technically mixed *ambitus* (covering both the authentic and the plagal ranges). Voice ranges in instrumental music are not subject to vocal ranges, and they frequently span the entire authentic/plagal *ambitus*.

It can be observed, however, that plagal voices often outline species of fifth and octave at the level of the confinal, rather than simply stressing the plagal octave. This is especially patent in the *protus* modes, where the plagal voices often move within the limits of the *A-E-A* octave, rather than the *A-D-A* octave. In the *deuterus* modes, the division of the octave *E-E* at *A* rather than *B* produces the plagal octave *A-E-A* rather than *B-E-B*. Because of the stress on the pitch *C* in mode 8, the plagal octave is usually the octave at the *C* level: *C-F-C* ( $6/8^C$ ) or *C-G-C* ( $5/8^C$ ) rather than *D-G-D* ( $8/8^D$ ). Finally, it should be said that in plagal compositions, voice *ambitus* are often smaller than the octave, especially in the treble. This voice moves for long spans within the limits of smaller species (fourth, fifth, or even third) in such plagal pieces as *Obras* 5 (mode 2), *Obras* 2 and 7

(mode 4), Santa María 14, *Libro 24* and *Obras 13* (mode 6).

Even though voice *ambitus* does not appear to be a reliable criterion for determining the authentic or plagal quality of an instrumental composition, other modal elements do contribute to the structural differentiation between authentic and plagal pieces. Thus, we have already seen that the cadential structures of the eight modes stress their respective *repercusiones*. Even though imitation schemes are not always different between an authentic mode and its corresponding plagal, the *repercussa* is often stressed melodically throughout the composition. This is true especially in plagal compositions, such as *Obras 5* (mode 2); *Libro 17* and 18, *Obras 7* (mode 4); *Libro 24*, *Obras 11* (mode 6); and *Libro 4*, *Obras 8* (mode 8).

Finally, Cabezón frequently uses the *seculorum* and Magnificat in a particular mode as sources for subjects to be used in pieces in that same mode, or includes literal quotations of the *seculorum* or Magnificat, as we will discuss below. For instance, the *seculorum 1* or Magnificat 1 appear in six of the mode-1 *tientos*, and Magnificat 2 is used in one mode-2 *tiento*. The *seculorum 3* and Magnificat 3 can be found in Cabezón's only *tiento* in mode 3, and Magnificat 4 is present in four *tientos* in mode 4.

None of these practices is consistently used as a mark for authentic and plagal modes, and hence their differentiation relies more on likely, or possible, stylistic and structural characteristics, rather than on essential modal structure. However, the existence of all these distinctive stylistic elements between authentic and plagal seems to show that Cabezón's modal labels were not meaningless, and that he did

think of the two members of a modal pair as being distinct, rather than being, as Dahlhaus says, an "undifferentiated whole." Thus, the criteria that both Bermudo and Santa María stress to determine mode and to distinguish authentic from plagal appear to be in agreement with Cabezón's practice.

### *Mode and Subject Structure*

There are no references in the *Arte* and the *Declaración* to the relationship between the melodic structure of subjects and mode. However, an examination of all of Cabezón's and Santa María's subjects shows that certain characteristic melodic shapes are often associated with each of the modes, and that subjects frequently outline one of the characteristic species of their mode. A brief commentary on the most frequent melodic types for each mode is presented in the following table, and Ex. 4.5 shows some characteristic subjects for each mode. Even though thematic criteria are not determinant or exclusive as regards mode, they can be an element of confirmation, as will be seen in the discussion of modal mixture.

- Mode 1: Subjects normally outline 1/5, 1/4, or 1/8.  
Another characteristic type of subject spans a seventh upwards from the final (incomplete 1/8): *d'-a'-c''*.
- Mode 2: No apparent difference from mode 1.
- Mode 3: Subjects outline R3 (*e-c'*), or 2/5, or stress the pitch *C* and its neighbor notes.
- Mode 4: Subjects outline R4, 2/4, or pitches *E* and *B* and their neighbor notes.
- Mode 5: Subjects outline 3/5 and 3/4.
- Mode 6: Subjects outline 3/4; also 3/5 and R6.
- Mode 7: Subjects outline 1/4, 4/5, or stress pitches *D* or *G* and their neighbor notes.
- Mode 8: Subjects outline 4/5 and R8, also 1/4.



Example 4.5: Characteristic subjects

The image displays four musical modes, each with two staves of music. The notation includes various note values, rests, and dynamic markings. Labels such as 'Libro', 'Obras', 'SM', 'R', and 'Around' are placed above the staves to identify specific sections or movements. Brackets and arrows indicate the duration and structure of these sections.

**MODE 1**  
Libro 1  $\frac{1}{4}$  Libro 2  $\frac{1}{4}$  Libro 5  $\frac{1}{5}$  Libro 5  $\frac{1}{4}$  Libro 5  $\frac{1}{4}$   
Libro 8  $\frac{1}{4}$  Libro 11  $\frac{1}{5}$  Libro 9  $\frac{1}{5}$  Libro 10  $\frac{1}{5}$

**MODE 2**  
SM 4  $\frac{1}{5}$  SM 4  $\frac{1}{4}$  Obras 1  $\frac{1}{5}$  Obras 4  $\frac{1}{4}$

**MODE 3**  
SM 8 R3 SM 8 Around E Obras 6  $\frac{2}{5}$

**MODE 4**  
Around B Obras 2 R4 Obras 7 Around E  
Obras 7 Around B  $\frac{2}{4}$  Obras 7 R4 Obras 6 R4

**MODE 5**

S.M. 13  $\frac{3}{5}$   $\frac{3}{4}$

Obra 9  $\frac{3}{5}$  Libro 3  $\frac{3}{5}$

**MODE 6**

S.M. 14  $\frac{3}{5}$  Libro 7  $\frac{3}{4}$  Libro 7  $\frac{3}{4}$

Libro 24  $\frac{3}{4}$  Libro 24  $\frac{3}{4}$  Obra 11  $\frac{3}{4}$  Obra 11  $\frac{3}{4}$

**MODE 7**

S.M. 16  $\frac{4}{5}$  Around D  $\frac{4}{5}$  S.M. 16  $\frac{1}{4}$  S.M. 20  $\frac{4}{5}$  Around D  $\frac{4}{5}$

Obra 12  $\frac{1}{4}$  Around D  $\frac{1}{4}$  0.12  $\frac{1}{4}$  0.12  $\frac{4}{5}$

**MODE 8**

S.M. 17  $\frac{4}{5}$  R8  $\frac{4}{5}$  S.M. 17  $\frac{4}{5}$  R8  $\frac{4}{5}$  Obra 8  $\frac{4}{5}$  Obra 8  $\frac{4}{5}$

0.8  $\frac{1}{4}$  R8  $\frac{1}{4}$  R8  $\frac{1}{4}$  Libro 4  $\frac{1}{4}$  R8  $\frac{1}{4}$

*Seculorum and Magnificat Tones in the Tientos*

The inclusion of the psalm tones in theoretical presentations of the modes suggests that the tones were considered one of the musical elements that define modal structure. This idea is reinforced by Bermudo's and Santa María's specific references to the *seculorum* as an element to be examined in determining the mode of a composition. The structural role of the *seculorums* in the versets based on them is evident, and will be discussed below. The question that arises at this point refers to the use of *seculorums* and Magnificats in the *tientos*. We have already seen how the *repercussio*, the main structural interval of the psalm tones, affects cadential structures and imitation patterns, but Cabezón goes farther in using the *seculorums* as a support of modal structure. The psalm or Magnificat tones can be found in twenty-one of Cabezón's *tientos*, either as literal quotations (presented as *cantus-firmi* or as subjects in imitative textures) or as a source for thematic material. In this latter case, one can observe that some subjects are derived from the *seculorum* in that they use some characteristic melodic turn of the psalm tone, either literally or with some kind of diminution.

Cabezón normally uses the psalm tone of the mode in which the *tiento* is written. Very often, however, a modal commixture or ambiguity which can be detected by other means (cadences, species, accidentals) is confirmed by the use of the psalm tone from the mode producing the ambiguity or commixture. The role of psalm tones in confirming modal commixture will be discussed in the following

section. The conclusion concerning *seculorum*s is that even though they cannot be used as a definitive criterion for modal determination, they appear to have been used by Cabezón as a conscious means of modal confirmation and modal commixture. Hence, the analyst should be alert to their presence and be able to interpret their role in modal structure.<sup>35</sup> The following table presents all of the cases of *seculorum*s that I have found in Cabezón's *tientos*, with an explanation of their melodic role and their modal significance in the cases where it is needed. Following Cabezón's *tientos*, I have also listed the instances of *seculorum*s in the *tientos* from the *Libro* by other composers.<sup>36</sup>

- Mode 1: *Libro* 1: Mm. 75-86, sec. 1, literal quotation in treble and tenor  
mm. 103-108, sec. 1 in treble harmonized in consonances  
*Libro* 2: Sec. 1 used as  $S_2$  (tenor-treble, mm. 30-39): generates the  
thematic structure of the *tiento* after m. 30.  
*Libro* 8: Tenor, mm. 28-36, outlines sec. 6, in a context of ambiguity  
between modes 1 and 6.<sup>37</sup>

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<sup>35</sup>In his article, "Cabezón: An Essay in Structural Analysis," Howell points out the presence of *seculorum* 4 in *Libro* 18 and suggests the possibility of other *seculorum*s being present in other *tientos*. Merino takes up the suggestion, and points out the presence of *seculorum*s in seven other *tientos* (Merino, pp. 55-62). Merino's observations are correct except for his confusion of *seculorum* 1 for the *tonus peregrinus* in *Libro* 2, and his reading of the treble's mm. 76-80 in *Libro* 4 as *seculorum* 3.

<sup>36</sup>For a chart of the *seculorum* and Magnificat tones as used by Cabezón, see example 4.8 below.

<sup>37</sup>Merino also thinks that the tenor in this *tiento* ends with two statements of sec. 8<sup>G</sup>. This would add more confusion to the already confusing modal structure of this *tiento*. Moreover, the  $B^b$  in what Merino reads as sec. 8<sup>G</sup> makes his interpretation questionable. While an  $F^\#$  in mode 1 is a possibility found at times

*Libro 9:* Beginning at m. 53, closing of sec. 7 in bass (descending scale *d-C-B-A-G*) repeated seven times, stresses commixture of modes 1 and 7.

*Libro 10:*  $S_2$  (mm. 51ff.) is a slight elaboration of sec. 1. Final development section (mm. 107-124) uses melodic material derived from Mag. 1: treble, mm. 111-116; tenor, 108-112; alto, 120-124.

*Libro 11:* Reference to sec. 1 at closing: treble, mm. 72-75.

*Obras 3:*  $S_3$  (mm. 125-152), slight elaboration of complete Mag.1.

*Obras 4:*  $S_1$  and cadential structure based on sec. 1 with ending on *F*.

*Obras 10:* Middle section in mode 3 quotes sec. 3 (bass, mm. 31-42).

Mode 2: *Obras 5:* Thematic structure totally based on Mag. 2. Modal structure determined by Mag. 2.<sup>38</sup>

Mode 3: *Obras 6:*  $S_1$  related to Mag. 3.  
 $S_3$  derived from melodic turn in sec. 3.

Mode 4: *Libro 6:* Opens with Mag. 4 (mm. 7-17).  
*Ostinato* section (mm. 60-119) derived from Mag. 3.

*Libro 17:* closing: tenor, mm 98-114, phrase in long notes (*cantus firmus* style) very close to Mag. 4.

*Libro 18:* Sec. 4 quoted literally as long-note *cantus firmus* (tenor, 155-182).

*Obras 7:*  $S_1$  derived from sec. 4; sec. 4 quoted in bass, mm. 26-31.

Mode 5: *Obras 9:*  $S_2$  (mm. 33-42) and  $S_3$  (62-71) derived from Mag. 8<sup>C</sup> (*tiento* establishes ambiguity 5<sup>F</sup>/8<sup>C</sup>).

Mode 6: *Libro 7:* Merino points out that the tenor phrase at mm. 57-68 has an outline closely related to Mag. 8<sup>F</sup>.<sup>39</sup> Did Cabezón mean to stress the ambiguity between modes 6 and 8 created by the *B* flat in the signature?

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in Cabezón's music, a *B<sup>b</sup>* in modes 7 and 8 is a very unlikely occurrence.

<sup>38</sup>The *tiento* is based on Mag. 2 and not on Mag. 8 as Kastner says in his notes to his edition of the *tientos* (*Tientos und Fugen*, p. 51). Kastner missed the fact that this is mode 1 transposed to *G*, and hence the pitches look like Mag. 8<sup>G</sup>, except for the very important fact that the *B* and the *E* are flat.

<sup>39</sup>Merino, p. 56, n. 57.

*Obras* 11:  $S_1$  derived from sec. 6; sec. 6 closes *tiento* as  $S_7$  (m. 224).

*Obras* 13: Melodic cells A (treble, mm. 1-4), B (treble, 6-10), and K (treble, 45-49) are related to sec. 6 (see compositional chart for this *tiento*).

Mode 8: *Libro* 4: Mm. 70-85, development on themes derived from sec.  $5^F$  and sec.  $8^C$ .

Mm. 130-159,  $S_3$  derived from sec.  $5^F$  (subject related to sec.  $5^F$ , answer related to sec.  $8^C$ : *tiento* establishes ambiguity between modes  $8^C$  and  $5^F$ ).

*Obras* 8: Also stresses ambiguity  $5^C$ - $8^G$  by means of subject-answer relationship between sec.  $5^C$  and sec.  $8^G$ :  $S_1$  derived from sec. 5-8; alto, mm. 24-32, sec.  $5^C$ ; transition, mm. 117-127, derived from sec. 5.

#### Other *tientos* in the *Libro*:

*Tiento* 13, mode 1, by Vila:  $S_1$  related to sec. 1 (tenor, mm. 1-6 and 16-23).

*Tiento* 16, mode 3, anonymous: Sec. 3, tenor, mm. 53-59 and 68-71.

*Tiento* 19, mode 4, by Julius de Modena: tenor repeats several times two prominent melodic turns of sec. 4, mm. 29-32, 42-47, 72-75, 87-92, and 49-53, 82-87.

*Tiento* 22, mode 6, anon.: Sec. 6, treble, mm. 31-37.

*Tiento* 23, mode 6, by Soto: Sec. 6, tenor, mm. 97-103.

*Tiento* 25, mode 5, by Modena:<sup>40</sup> Ambiguity modes  $5^F$ - $8^C$ ; prominent and repeated bass turns derived from Mag.  $8^C$ , mm. 20-23, 44-52, 75-77.  $S_4$  derived from Mag.  $8^C$ , mm. 83-113.

*Tiento* 26, mode 7, by Fernández Palero: Sec. 7, tenor, mm. 44-55.

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<sup>40</sup>This *tiento* is attributed to Cabezón in the *Libro*, and to Modena in two other collections (see chap. 1, n. 8 above). The mode-6 label which the *tiento* bears in the *Libro* does not seem to be justified. This is rather a piece in mode  $5^F$  featuring a modal ambiguity with  $8^C$  similar to the one found in *Obras* 9, and discussed in p. 163 below.

*Tiento* 28, mode 8, by Palero: Sec. 8, tenor, mm. 47-54; treble, 53-59. Tenor, opening measures (1-9), based on sec. 8.

Two conclusions can be drawn from the lists above. First, composers very frequently used the *secularums* as sources for thematic material or as literal quotations. Second, their employment normally seems to have a purpose: either to confirm and stress the main mode of a composition, or to confirm and stress a modal commixture which is established by other means. We will now examine the complex subject of modal commixture and the means to achieve it.

#### *Modal Ambiguity and Commixture*

Seventeen of Cabezón's twenty-eight *tientos* feature modal commixture. We will distinguish between two major types of commixture. The first one happens when in a passage or a complete piece two or more different modes can be traced because of simultaneous presentation of their respective characteristic elements. I will refer to this type of commixture as "modal ambiguity." On the other hand, some pieces include sections in which a complete change of mode takes place. The characteristics of the new mode are presented unambiguously, and very often the transition from the original mode to the new mode is effected by means of an ambiguous passage in which elements common to both modes act as "pivots" between them. Such a procedure is analogous to modern harmonic modulation, and I will refer to it as "modal change."

Both Bermudo and Santa María recognize commixture at the theoretical level, without establishing, however, a distinction between modal ambiguity and change.

Bermudo's acknowledgement of commixture is expressed in the following passage:

Some performers doubt whether it is legitimate in music, when playing a first mode, to give it a diapente, a diatessaron, a beginning, or a cadence of the fourth mode. . . . Let the answer be that one thing is the essential in a mode, and another the accidental. Let us take mode 1 as an example. The diapason of this mode is re mi fa sol la, re mi fa sol. For it to be mode 1, whether it is played on *D* or any other final, it should have this diapason. The essence and nature of mode 1 is this diapason, and if it is absent, it cannot be mode 1. The same can be said of beginnings and cadences. . . . I add to all of this that the essential in a mode does not proscribe the accidental when the latter is appropriate. Including a diapente of another mode in the first mode results in ornament and beauty if one properly prepares it ("si primero le hazen lugar o assiento"). Great skill is needed to effect the mentioned mixture.<sup>41</sup>

However, his chapter on mixture and commixture (fol. 81v) shows that Bermudo's attitude towards modal changes is not as liberal as the above quotation seems to suggest. All of the examples of commonly practiced commixtures that he provides result either from ambiguity produced by a *B<sup>b</sup>* in the signature or from accidentals in ascending passages or leading tones. Bermudo discourages the performer from practicing any of these commixtures. His examples are as follows:<sup>42</sup>

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<sup>41</sup>Bermudo, fol. 113r, incorrectly printed as 121.

<sup>42</sup>Ibid., fol 82r.



- Mode 1 mixed with 4:  $1/5 + 2/4$  produced by  $B^b$  in  $d-d'$  octave.  
 Mode 1 mixed with 6:  $1/5 + 3/4$  produced by  $C^\#$  in  $d-d'$  octave.  
 Mode 1 mixed with 8:  $4/5 + 1/4$  produced by  $F^\#$  in  $d-d'$  octave.  
 Mode 4 mixed with 1:  $2/5 + 1/4$  produced by  $C^\#$  in  $e-e'$  octave.  
 Mode 4 mixed with 8:  $4/5 + 2/4$  produced by  $F^\#$  and  $G^\#$  in  $e-e'$  octave.  
 Mode 6 mixed with 8:  $4/5 + 3/4$  produced by  $B^b$  in  $f-f'$  octave.  
 Mode 8 mixed with 6:  $4/5 + 3/4$  produced by  $F^\#$  in  $g-g'$  octave.

As we have seen in our discussion of the  $B^b$  and *musica ficta*, none of the above cases would be considered as commixture by Santa María. The Dominican refers instead to the type of commixture that implies a complete change of mode (*salir del tono*).<sup>43</sup> The two reasons he provides to leave the original mode are: first, in order to fulfill the perfection of a diapente or diatessaron or to avoid a dissonance of fa against mi (and this is done by changing  $B^b$  to  $B$  or *vice versa*); second, if one is playing on a *cantus firmus* and the *cantus firmus* itself leaves the original mode. In any case, he says, one should not think that one absolutely leaves the original mode, but rather that one leaves it momentarily to return to it as soon as possible. The three ways of leaving a mode considered by Santa María are: first, by introducing accidentals that change the species of the octave (for instance, introducing an  $E^b$  in a  $c-c'$  scale); second, by effecting cadences that do not belong to the original mode; and third, by changing  $B$  to  $B^b$  or *vice versa*.

We will now examine the cases of ambiguity and commixture in Cabezón's *tientos*, dividing them into three categories: local ambiguity created by a passage in

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<sup>43</sup>Santa María, 1:70v-71r.

which two or more modes can be traced, ambiguity in complete pieces created by some essential features of particular modes, and modal change.

### Local Ambiguity

Cases of local modal ambiguity can be found in *tientos* 1, 3, 7, 8, 9, and 24 from the *Libro*. The  $S_3$  area (mm. 37-75) in *Libro 1* in mode  $1^G$  presents a case of ambiguity between modes  $1D$  and  $3A$ . The ambiguity is based on the following elements: the octaves  $3/8^A$  div. at  $D$  ( $A-d-a$ ) and  $2/8^A$  with  $B^b$  are the same; the treble outlines  $2/5^A$  (mm. 47-56); the cadences on  $A$  and  $D$  are common to both modes; the section is based on a motivic turn prominent in both *seculorum* 1 and *seculorum* 3 ( $g-b^b-a-g$ ); the ambiguity is prepared by a duet phrase (mm. 25-29) in which the tenor outlines  $2/4^A$  and the bass  $1/4^D$ .

*Libro 8* (mode  $1^G$ ) features one of the most complex cases of ambiguity. At mm. 23-41, a  $1^G/6^F$  ambiguity is caused by the tenor, which outlines  $3/5^F$  and *seculorum* 6 (mm. 28-36), while the rest of the voices outline the mode-1 species ( $1/8^G$ ,  $1/5^D$ ,  $1/5^G$ ). The  $S_3$  section (mm. 85-110) presents a  $1^G/7^C$  ambiguity: bass and alto repeatedly stress  $4/5^C$  ( $g-f-e-d-c$ ) along with  $1/5^G$  ( $d-C-B^b-A-G$ ). Finally, the closing section (mm. 110-151) features elements of modes  $1^G$ ,  $3^A$ , and  $7^C$ : the treble, alto, and tenor outline  $1/5^G$  and  $1/4^D$ ; the treble also stresses  $2/4^A$ ; and the bass outlines  $4/5^C$  and  $1/4^D$ . The section has cadences on  $G$  and  $D$ . Cadences on  $D$  are common to all three modes (in the case of mode  $7^C$ , the *seculorum* cadence is on  $D$ ); cadences on  $G$  are common to modes  $1^G$  and  $7^C$ . Finally, *seculorum*  $7^C$

closes with a descending  $1/4^D$  (*g-f-e-d*), prominent throughout the section. The same elements also create a strong ambiguity between modes  $1^D$  and  $7^G$  in *Libro* 9 (mode 1): the bass, alto, and treble repeat  $4/5^G$ ; the bass also repeats a descending  $1/5^A$ , which is the same as the closing gesture of *seculorum*  $7^G$ ; finally, the cadence on *A* is common to both modes (mediant cadence in mode  $1^D$ , *seculorum* cadence in  $7^G$ ). The ambiguity  $5^C/1^D$  in *Libro* 3 (mode  $5^C$ ), at mm. 65-82, is caused by the presence of mode-1 species and by the cadence on *D* at m. 80. *Libro* 7 (mode  $6^F$ ) opens with a  $6^F/2^G$  ambiguity produced by the *protus* species and a cadence on *G* at m. 8. Finally, *Libro* 24 (mode  $6^F$ ) presents a  $6^F/2^G$  ambiguity throughout due to the prominence of the species of both modes, and to an unfulfilled tendency to cadence on *G* and *D*.

#### Modal Ambiguity in Complete *Tientos*

The cases of modal ambiguity affecting complete *tientos* are due to essential modal characteristics, rather than local events which introduce a foreign mode. For instance, the consistent division of the Phrygian octave at *A* rather than *B* (*e-a-e'*) and the resulting Hypophrygian octave *A-e-a* create ambiguity between *protus* and *deuterus* modes, because the prominent species *A-e* is the first species of fifth. Cadences on *A*, common to *protus* and *deuterus* modes, contribute to the ambiguity. This is the case in *Obras*, 2 (mode 4), where the bass outlines the *A-e-a* octave, the tenor moves within the *e-e'* octave divided at both *a* and *b*, the alto stresses the

species  $2/4^b$ ,  $1/5^a$ , and  $4/8^a$ , and the treble stresses the incomplete Phrygian octave,  $e'-a'-d''$  (made up of  $2/4^e$  and  $1/4^a$ ). A similar type of ambiguity between modes 4 and 1 can be found in *Libro 18*.

Ambiguity between modes  $5^F$  and  $8^C$  is produced by the  $B^b$  in the mode-5 signature: we have already noted that, with the  $B^b$ , *tritus* and *tetrardus* modes have the same species of fifth and different species of fourth. Cabezón seems to take advantage of this built-in ambiguity by stressing it in different ways, as in *Obras 9*. A first imitative exposition is presented at the  $F$  tonal level: the opening  $c''-f'$  interval is answered by  $f'-b^b$ , and the section closes with a cadence on  $F$ . A second exposition follows, at the  $C$  level:  $g-c$  is answered by  $c-F$ , followed by a cadence on  $C$ . The  $C$  level with  $B^b$  features the characteristics of a transposed mode 8. The main cadences in this *tiento*, on  $F$  and  $C$ , are common to modes  $5^F$  and  $8^C$ . The ambiguity is confirmed by the fact that  $S_2$  (mm. 33-37) and  $S_3$  (62-71) are derived from Magnificat  $8^C$  (see example 4.6). *Libro 25* by Modena (attributed to Antonio in the *Libro*) shows the same ambiguous modal characteristics as the ones discussed for *Obras 9*.

Cabezón's two *tientos* in mode 8 (*Obras 8* and *Libro 4*) present the same modal ambiguity that we have just discussed between modes 8 and 5. The ambiguity in these cases also relies on the similarity between *secularums* 5 and 8. Since the psalm-tone tenor in mode  $5^F$  is a fifth above the tenor in mode  $8^C$ , the two *secularums* can be presented in a subject-answer relationship. The cadences

of both modes are the same, only with inverted functions: while in mode  $8^C$  the final cadence is on  $C$  and the mediant cadence on  $F$ , in mode  $5^F$  the final is on  $F$  and the mediant on  $C$ . The species in *Libro 4* are also presented at two levels, which further stress the ambiguity: the mode-8 level is represented by the octave  $c-g-c'$ , while imitations at the level of the *repercussio* ( $F$ ) produce answers in mode 5 (octave  $f-c-f'$ ). Example 4.6 presents a summary of the relationships between subjects and *seculariums* in *tientos Obras 9* (mode 5), and *Obras 8* and *Libro 4* (mode 8).

Sec. 5<sup>f</sup>                      Sec. 5<sup>c</sup>                      Magnificat 8<sup>c</sup>  
 Sec. 8<sup>c</sup>                      Sec. 8<sup>g</sup>                      Obras 9: S<sub>2</sub> (m. 34)                      S<sub>3</sub> (m. 67)

Obras 8, mode 8<sup>g</sup>

S<sub>1</sub> (cf. sec. 5<sup>c</sup>)                      Answer: cf. sec. 8<sup>g</sup>  
 Alto, m. 24ff: cf. sec. 5<sup>c</sup>

Libro 4, mode 8<sup>c</sup>

S<sub>1</sub> (cf. end of sec. 8<sup>c</sup>)                      Tenor/treble, mm. 70/80 (cf. sec. 5<sup>f</sup>)  
 Alto, mm. 75-82 (cf. sec. 8<sup>c</sup>)

S<sub>3</sub>, tenor, mm. 138-145 (cf. sec. 5<sup>f</sup>)                      Answer, bass (cf. sec. 8<sup>c</sup>)  
 Tenor, mm. 150-160 (cf. sec. 5<sup>f</sup>)

A final example of modal ambiguity is provided by *Obras* 12 (mode 7<sup>G</sup>). The common species of fourth between modes 7 and 1, and their common cadence on *D* are the basis for an essential ambiguity between these modes. Cabezón stresses it by introducing other prominent species of mode 1 ( $1/4^A$  and  $1/5^D$ , besides  $1/4^D$ ), by introducing the  $B^b$  (m. 35, mm. 62-63, and m. 96) and, in the closing section, by cadences on *D* and *A* (mm. 78 and 85 respectively) as well as a *D-D-A-E* imitative pattern. The ambiguity is prefigured by  $S_1$ , which outlines  $1/4^A$  (a characteristic species of mode 1), answered by  $1/4^D$  (common to modes 1 and 7).

#### Modal Change

We will examine in this section some examples of modal commixture in which the original mode is completely abandoned and a new mode is unambiguously established. The most interesting case of modal change in Cabezón's *tientos* is provided by *Obras* 10 in mode 1<sup>D</sup>. The opening section (mm. 1-26) is in mode 1, with cadences on *D* (m. 15) and *A* (m. 26). The middle section (mm. 26-43) is in mode 3<sup>A</sup>: the species outlined in this section are  $2/4^E$ , R3,  $3/8^E$  div. *A*, and  $4/8^A$ , and the cadences are on *A* (mm. 36 and 43) and *C* (deceptive, m. 30). The subject for the middle section ( $S_2$ ) is the characteristic mode-3 subject that outlines R3:  $e'-g'-a'-b'-g'-c''$  as presented by the treble, or  $e-g-a-c'$  as presented by the tenor. The bass phrase in this section is a simplified version of *secularum* 3, presented twice at the *A* and *E* levels respectively. It should also be noted that the cadence on *A* is the main *secularum* cadence for mode 3.

This modal change is thus based on two common elements between modes 1 and 3: the cadences on *A*, and the octave *A-e-a* ( $4/8^A$ , which includes  $1/5^A$ ). The  $S_2$  section is preceded by a passage of ambiguity between modes 1 and 3 which prepares the establishment of mode 3 (mm. 15-26): the pitch *c''* (*repercussa* 3) is stressed in the treble, and  $1/5^A$  (tenor, mm. 23-26) is superimposed to  $4/8^A$  in the bass (*a-e-A*). The opening subject ( $S_1$ ) and imitation announce the ambiguity at the very outset of the *tiento*:  $S_1$  outlines  $2/4^E$ , answered by  $2/4^B$ , and the pattern of imitation is *A-E-A-E*, proper of a *deuterus* mode rather than mode 1. Example 4.7 reproduces the score of the complete *tiento*, on which I have marked the elements brought up in the present discussion.<sup>44</sup>

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<sup>44</sup>All the complete or partial scores of pieces by Cabezón and Santa María used as examples in the present dissertation are reproduced by written permission of the publishers (Instituto Español de Musicología for Cabezón, and Editions Musicales de la Schola Cantorum for Santa María).



Example 4.7

LXVII  
Tiento X  
Primer tono

The musical score consists of eight systems of piano accompaniment and one system for a vocal line. The piano accompaniment is written in treble and bass clefs. The vocal line is written in a single staff with a soprano clef. The score includes various markings such as *S<sub>1</sub>*, *S<sub>2</sub>: R3*, *R3*, *1/5<sup>o</sup>*, *1/5<sup>a</sup>*, *35*, *40*, *50*, *55*, *(C) Dec.*, *Sec. 3*, *A*, *(A)*, and *(B)*. The vocal line includes the instruction *Bass: 4/8A (A-e-a) - Tenor: 3/8e (e-a-e')*. The score is divided into sections, with *Sec. 3* starting at measure 35. The piano accompaniment features a variety of rhythmic patterns and chordal textures, including some complex figures like *1/5<sup>o</sup>* and *1/5<sup>a</sup>*. The vocal line is primarily melodic, with some rests and specific articulation marks.

A change from mode  $1^G$  to mode  $5^{Bb}$  can be found in *Libro 5*. The  $S_4$  section in this *tiento* (mm. 78-100) is based on the subject  $d-e^b-f-B^b$ , which outlines  $3/5^{Bb}$  in all the voices. The bass also stresses  $5/8^{Bb}$ , and the cadences are on  $B^b$ . The change is prefigured by the treble and alto at mm. 48-55, which outline  $3/4^F$  and  $3/5^{Bb}$  while the bass outlines  $1/8^G$ . Before the first statement of  $S^4$  at m. 80, mode 5 is introduced by the alto's repeated statements of  $3/5^{Bb}$  at mm. 75-82.

The two cases of modal change discussed above involved a complete section of a *tiento*, after which the original mode was reestablished. *Tiento Libro 6* presents an example of modal change in which the original mode does not return. The first part of the *tiento*, in mode 4 (mm. 1-59), is based on Magnificat 4 stated in long notes by the treble. The main cadences are on  $A$  (mm. 25 and 39) and  $E$  (mm. 45 and 59), and the usual ambiguity between modes 1 and 4 is present due to the stress on  $1/5^A$ ,  $1/5^D$ , and  $2/8^A$  in the bass. The second part of the *tiento* (mm. 59 to end) is generated by an ostinato-like repetition of short melodic cells. The outline of the cells presented by the treble is derived from Magnificat 3. The melodic stress of the treble is on pitch  $c''$  (R3) rather than  $a'$  (R4) as in section 1. Finally, the cadences of this section are on  $E$  (mm. 66 and 119) and  $C$  (m. 100). A structural reduction of this *tiento* and all other *tientos* discussed in this section on modal commixture can be found in appendix 2.

\* \* \*

The conclusions about the analysis of ambiguities and modal changes in the *tientos* by Cabezón are the following: Modal commixture is preferably effected

between modes that have some important structural elements in common; these usually involve common structural cadences or common species. In the cases of modal ambiguity, the common elements are presented simultaneously with elements proper to each of the modes. In the cases of modal change, a transitional passage often stresses the common elements or introduces the new mode, leading into the section in which the new mode is established. The *seculorums* are used as a means of emphasizing ambiguity or as a means of confirming the new mode (in the case of modal change). Subject structure is also indicative of both ambiguity and change: ambiguity is often introduced by a subject which includes species of the two modes, and modal change is confirmed by a subject with a structure typical of the newly established mode.

The following is a summary of the most frequent commixtures among the eight modes, based on their common elements:

Mode 1<sup>D</sup>--Commixture with 3<sup>E</sup> based on common cadences on *A*, and on common octave species: 1/8<sup>A</sup> (*A-E-A*)--the mode-1 octave at the confinal level--is the same as 4/8<sup>A</sup>--which results from the division of the Phrygian octave at *A*.  
--Commixture with 7<sup>G</sup> based on common species of fourth, on common cadences on *A*, on pitch *D* (final in mode 1, *repercussa* in mode 7).

Mode 4<sup>E</sup>--Commixture with modes 1<sup>D</sup> and 2<sup>D</sup>, based on Hypophrygian octave *A-E-A*, and on common cadences on *A*.

Mode 5<sup>F</sup>--Commixture with 8<sup>C</sup> based on common species of fifth that result from *B<sup>b</sup>* in mode 5, on imitative answers at the *C* tonal level in mode 5, on common cadences on *F* and *C*, on similar structures of respective *seculorums*.

Mode 6<sup>F</sup>--Commixture with 1<sup>D</sup> based on common cadences on *A*, and on the mode-

6 tendency to effect cadences on *D*.

Mode 7<sup>G</sup>--Commixture with 1<sup>D</sup> based on cadence on *D* and common species of fourth.

Mode 8<sup>G</sup>--Commixture with 5<sup>C</sup> based on common cadences on *G* and *C*, on species at levels *G* and *C* in mode 8 (octaves *g-d'-g'* and *c-g-c'*), on similar structures of respective *seculorums*.

### *Modality in Versets and Fabordones*

Santa María considers the pieces based on the *seculorums* or Magnificats to form a special category of modal structure. Neither the species nor the final cadence of a *seculorum* necessarily follow the characteristic structure of the corresponding mode. With reference to *seculorum* 7<sup>C</sup> in example 4.8, for instance, it will be noticed that it closes with a descending 1/5<sup>D</sup> and a cadence on *D*, neither of which defines mode 7<sup>C</sup>. The versets and *fabordones* do not behave according to the "nature and propriety of the modes," but rather according to the structure of the *seculorums*. Since cadential schemes and species in these pieces are misleading, they should not be applied as mode-defining criteria. The *seculorum* should instead be identified, and this will provide the main element of modal recognition.<sup>45</sup>

A feature that should be remarked in these pieces is that the *seculorum* can be presented at either the final or the confinal level, without the piece being

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<sup>45</sup>It should be noted that the presence of *seculorums* in the *tientos* helps determine mode inasmuch as *seculorums* are characteristic melodic formulas which are in themselves associated with each mode, but not necessarily because of their species structure.

transposed. That is, each of the two levels can define a mode, as we have already seen in our discussion of the species. The following example reproduces the *secularums* and Magnificats as used by Cabezón in his versets. It will be noticed that even though the closing formulas are the same for the *secularums* and Magnificats, the latter present some slight variations with respect to the former; moreover, several of the Magnificats include the opening intonation, while none of the *secularums* does.

Example 4.8: The *secularums* and Magnificats used by Cabezón

Sec. 1<sup>D</sup> or Mag. 1<sup>D</sup> or

Sec. 2<sup>G</sup> or Mag. 2 or

Sec. 3<sup>E</sup> or Mag. 3<sup>A</sup> or

Sec. 4<sup>E</sup> or Mag. 4<sup>E</sup>

Sec. 5<sup>F</sup> or Mag. 5<sup>F</sup>

Sec. 6<sup>F</sup> or Mag. 6<sup>F</sup> or

Sec. 7<sup>C</sup> or Mag. 7<sup>C</sup>

Sec. 8<sup>G</sup> or Mag. 8<sup>G</sup>

Misleading species structures can be found, for instance, in the mode-2<sup>G</sup> *seculorum* versets: as a result of the opening pitch, *B<sup>b</sup>*, and the mediant cadences on *B<sup>b</sup>*, 3/5<sup>B<sup>b</sup></sup> is frequently outlined, producing melodic structures typical of mode 5<sup>B<sup>b</sup></sup>. Two versets in mode 5<sup>F</sup> present the *seculorum* in the alto and bass respectively at the confinal level (in which the pitch *G* is the reciting tone). The interval of imitation (*G-D*), the mediant cadences on *G*, and the consequent stress on 4/5<sup>G</sup> result in a mode-7<sup>G</sup> structure. Other cases of misleading modal structures can be found in modes 3, 4, and 7.

The following table compares the cadential degrees proposed by Santa María for the pieces based on the *seculorum*, with Cabezón's cadential degrees (the comparison disregards Cabezón's transpositions for the sake of clarity).

	<u>Santa María</u>		<u>Cabezón</u>			
	Final	Mediant	Secularums		Magnificats	
	Final	Mediant	Final	Mediant	Final	Mediant
Mode 1	... D-F-G-A	.. A	.... D	..... A-E	... D	.... A-D-F
Mode 2	... D	..... F	.... F	..... F	... D	... F-D-(B <sup>b</sup> )
Mode 3	... G-A-B-E	.. C	.... A	..... C-G	... A	... C-D-A-(F)
Mode 4	... E-F-G-A	.. A	.... E	..... A-E	... E	... A-(E)-(D)
Mode 5	... A	..... C	.... A	..... C-G	... A	... C-A-(F)
Mode 6	... F	..... A	.... F	..... A	... F	... A-(F)-(C)
Mode 7	... A-B-C-D	.. E	.... A	..... A-E	... A	... E-(B)-(D)
Mode 8	... G	..... C	.... G	..... C	... G	... C-(F)

*Conclusions: Modal Compositional Paradigms*

The study of modality as expounded by Santa María and Bermudo and illustrated in the works by Cabezón shows the existence of a consistent set of criteria and modal elements that define the system, and an awareness on the part of theorists and authors of the basic modal structures that characterize each mode. These criteria and structures are largely consistent between the *Arte* and the *Declaración*, as well as in Cabezón's compositions. Their disagreements or different emphases do not affect the structural principles of modality.

The basic structure of each mode is made up of the characteristic *ambitus* and species at the melodic level, and by imitation patterns and cadential schemes at the formal level. The modes are further established by such secondary elements as subject structure and deployment of the *secularums* and Magnificats as literal quotations or as sources for thematic material.

The existence of formal structures for each mode based on imitation and cadences suggests that Santa María and Cabezón thought of mode as a precompositional entity which provided a mold for their compositions. The mold did not have to be, and was not, restrictive, but its presence can be traced in most of the *tientos* and *fantastas* by the two authors, and the specific structures of these works can be viewed as variations or elaborations of the eight formal paradigms provided by the modes.

Variety within the paradigms is effected by alteration of the imitative or



cadential schemes, by use of accidentals that do not affect the structure of the mode, and, most of all, by a skillful handling of modal conmmixture. The latter, in the form of ambiguity or modal change, provides an element of tonal tension or contrast within the frame of cohesiveness and unity which so strongly strikes both the analyst and the listener.

The following graphs summarize the modal/formal structures of the *tientos* and *fantasias* by Cabezón and Santa María. The graphs show the imitation scheme and main cadences for each of the major sections of a piece. The pitches that start and end the composition are represented as half notes; beginning and ending pitches within the compositions are represented as quarter notes; the voice that bears the cadential suspension (and hence defines the cadence) is indicated by the leading-tone suspension figure in stemless notes; finally, cadences of secondary importance, but which nevertheless need to be indicated on these graphs, are also represented by stemless notes. Even though the graphs are not meant to be voice-leading reductions in the contrapuntal sense of the term, they show the long-range cohesiveness and logic of modal voice-structure as determined by beginning and cadential pitches.

The set of graphs closes with one or two sample compositional paradigms for each mode. These ideal modal structures sum up the graphs from the specific pieces in each mode, and represent an approximation of the precompositional modal molds that Santa María and Cabezón seem to have had in mind in designing the form of their compositions.

SUMMARIES OF VOICE STRUCTURE: MODE 1

OBRAS 3 56 78 125 26 43

LIBRO 1 37 71 86 41 63

LIBRO 8 41 85 110 51 65

LIBRO 9 23/27 45 23 11

SANTA MARIA 3

SUMMARIES OF VOICE STRUCTURE: MODE 2

OBRAS 1 02 OBRAS 5 (based on Mag. 2) 32 53 64 76 SANTA MARIA 4 12

G D (B<sup>b</sup>) G (B<sup>b</sup>) G D D

MODE 3

MODE 4

OBRAS 6 41 103 204 SANTA MARIA 8 23 SANTA MARIA 9 12 22

G A C E C E A E F

(MODE 4)

OBRAS 2 53 77 OBRAS 7 40 84 102

A E E A E A E

LIBRO 17

LIBRO 18

26 54 93 12 23 46 134

A A A E

SUMMARIES OF VOICE STRUCTURE: MODE 5

OBRAS 9 34 62 81 102 119 125 133 145 154 162 171

SANTA MARIA 1 (5<sup>c</sup>)

Summary of voice structure for Santa Maria 1 (5<sup>c</sup>). The score consists of two staves. The upper staff contains a melodic line with various note values and rests, and the lower staff contains a corresponding bass line. Measure numbers are indicated above the staff at intervals of 28, 34, 62, 81, 102, 119, 125, 133, 145, 154, 162, and 171. The piece is identified as Santa Maria 1 (5<sup>c</sup>).

LIBRO 3 (5<sup>c</sup>) 38 56 65 12 26

LIBRO 25 (MODENA)

SANTA MARIA 13

Summary of voice structure for Libro 3 (5<sup>c</sup>) and Santa Maria 13. The score consists of two staves. The upper staff contains a melodic line with various note values and rests, and the lower staff contains a corresponding bass line. Measure numbers are indicated above the staff at intervals of 38, 56, 65, 12, and 26. The piece is identified as Libro 25 (MODENA) and Santa Maria 13.

MODE 6

OBRAS 11 48 67 101 145 176 194 204/END 214/END

LIBRO 7

Summary of voice structure for Libro 7. The score consists of two staves. The upper staff contains a melodic line with various note values and rests, and the lower staff contains a corresponding bass line. Measure numbers are indicated above the staff at intervals of 48, 67, 101, 145, 176, 194, 204/END, and 214/END. The piece is identified as Libro 7.

LIBRO 24 20 36 40 74 15 23 40

SANTA MARIA 14

Summary of voice structure for Libro 24 and Santa Maria 14. The score consists of two staves. The upper staff contains a melodic line with various note values and rests, and the lower staff contains a corresponding bass line. Measure numbers are indicated above the staff at intervals of 20, 36, 40, 74, 15, 23, and 40. The piece is identified as Libro 24 and Santa Maria 14.

SUMMARIES OF VOICE STRUCTURE: MODE 7

Musical score for Mode 7, Obras 12-16. The score consists of two staves. The first staff is labeled 'OBRAS 12' and the second 'SANTA MARIA 16'. Measure numbers 43, 53-56, 70, 78, 16, 27, and 32 are indicated. The notes are primarily G, D, and C, with some (P) markings.

SANTA MARIA 20 17 34 32 23 24 30 37

Musical score for Mode 7, Santa Maria 20-37. The score consists of two staves. The first staff is labeled 'SANTA MARIA 20' and the second 'SANTA MARIA 23'. Measure numbers 17, 34, 32, 23, 24, 30, and 37 are indicated. The notes are primarily G, D, and C, with some (D) and (P) markings.

MODE 8

Musical score for Mode 8, Obras 8-19. The score consists of two staves. The first staff is labeled 'OBRAS 8' and the second 'LIBRO 4 (8<sup>c</sup>)'. Measure numbers 43, 127, 160, 70, 100, 130, and 189 are indicated. The notes are primarily C, F, and G, with some (F) and (C) markings.

SANTA MARIA 17 21 15 17 28 44

Musical score for Mode 8, Santa Maria 17-44. The score consists of two staves. The first staff is labeled 'SANTA MARIA 17' and the second 'SANTA MARIA 21'. Measure numbers 17, 21, 15, 17, 28, and 44 are indicated. The notes are primarily C, G, and F, with some (C) and (G) markings.

SAMPLE COMPOSITIONAL PARADIGMS

Mode 1 (a) Mode 1 (b) Mode 2

A D F A D F (A) D F A D F G B<sup>b</sup> D G B<sup>b</sup> D

Mode 3 Mode 4 (a) Mode 4 (b)

A C E A C E A A A A A E E E E E E

Mode 5 Mode 6

F C F C F C F A F A F A

Mode 7 Mode 8

G D G D G D C C C C C C

## CHAPTER V

### COMPOSITIONAL TECHNIQUES

The central focus of the *Arte de tañer fantasta* is the description of the compositional techniques and formal processes which the performer must master in order to improvise *fantasta*. No other treatise of the period provides such a detailed account of the craft of instrumental composition, and this is the aspect which best shows the connection between Santa María and Cabezón. Not all aspects of the craft, however, are stressed equally by Santa María. The *Arte* is most valuable for its expositions on vertical composition ("playing in consonances"), cadences, paired imitation, and the connection of sections in the *fantasta*. Santa María's discussion of counterpoint and contrapuntal techniques, on the other hand, is brief and superficial, and it does not reflect contemporary practice as it can be observed in the works of Cabezón. The Dominican's criteria regarding the use of consonance and dissonance in counterpoint seem rather to be rooted in late fifteenth-century treatises such as Gaffurio's.<sup>1</sup>

Following the approach used in the preceding chapter, we will compare in the present chapter the compositional techniques described by Santa Maria with those

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<sup>1</sup>See Gaffurio, pp. 123-62.

used by Cabezón in his compositions.

How did the Renaissance composer of instrumental music approach the composition of a piece? In order to answer this question, we must examine the compositional techniques which were common practice to the Renaissance composer, and we must consider the possible order followed by the composer in putting together his composition. In other words, what elements, or what voices, had priority in the compositional process? The question of voice priority was frequently touched upon by medieval and Renaissance theorists, and it has often generated controversy among modern scholars. Does one of the voices have structural priority by being composed first? Is there a structural duet which constitutes the frame of the composition, while the other voices are subordinate to the duet?<sup>2</sup>

In the old practice of motet composition as outlined in late medieval treatises, the tenor was composed first, or it was the voice which bore the borrowed tune.<sup>3</sup> The principle of discant composition prescribed that a second voice above the tenor, called discant, was composed next, providing the self-sufficient frame (the tenor-discant duet) to which one or two subordinate voices could be added. We have already seen that treatises in the sixteenth century frequently attributed a

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<sup>2</sup>See pp. 101-102 above.

<sup>3</sup>Descriptions of such a compositional procedure can be found in such thirteenth-century treatises as *Discantu positio vulgaris*, Franco of Cologne's *Ars cantus mensurabilis*, Anonymous IV, and Grocheo's early-fourteenth-century *De musica*.



structural role to the tenor, while the role of the bass as a foundation of the sonorities above it was also starting to be acknowledged. The end of the fifteenth century seems to be the limit for the universal applicability of the theory of dyadic composition, and the emerging role of the bass is indicated in such treatises as Simon de Quercu's *Opusculum musices* of 1516--in which vertical consonances are counted from the bass upwards--, or Johannes Singer's *Ein kurtzer Auszug der Music* of 1531--which gives priority to the tenor-bass duet instead of the customary discant-tenor.<sup>4</sup>

On the other hand, the practice of imitative counterpoint involving the four voices implied their simultaneous composition, as both Aaron and Santa María clearly point out. And, furthermore, the practice of accompanying a singer or instrumental soloist with vertical sonorities at the keyboard favored a texture based on outer-voice polarity, which in the seventeenth century would become a most widespread technique in the form of thoroughbass.

In our examination of Santa María's presentations and Cabezón's compositions we will keep in mind the question of voice priority, which will thus be answered throughout the chapter. As we will see, the variety of compositional techniques available to the mid-sixteenth-century composer implied a variety of approaches to voice priority, among which the old procedure of dyadic composition seems to be practiced only occasionally. The role of the outer-voice pair, on the other hand,

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<sup>4</sup>Rivera, "Harmonic Theory," pp. 85-88.

is frequently stressed in different types of mid-century compositions, and this pair was indeed the acknowledged structural frame for some of the techniques and genres to be discussed in the present chapter.

### *a.-Contrapuntal Techniques*

#### Canonic Imitation

Santa María starts his discussion of polyphonic composition with a section on duet improvisation (*tañer a duo*, chapters 32-33), in which he deals with canonic writing (*Del modo de hazer fugas*) in two voices. Duets can be, we learn, imitative (or canonic) or non-imitative, of which the former is preferable. The possible intervals of imitation that Santa María accepts are the fourth, the fifth, or the octave, all of them above or below the initial subject. The Dominican's ten-page discussion of canon, which includes thirty short examples, focuses on the different possible intervals of imitation with subjects that ascend or descend, specifying in each case the number of beats that separate the subject from the answer. For instance, he says,

For one voice to follow another in canon at minims a fourth above the low voice, with an ascending melody we need to keep half a measure, and if it is a fifth above we need to keep a full measure. Similarly, a canon a fourth below with a melody that ascends needs to keep a full measure, and if it is a fifth below it will keep half a measure . . .<sup>5</sup>

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<sup>5</sup>Santa María, 2:65v.

Santa María's example for the first case mentioned above is transcribed in example 5.1. It should also be mentioned that fols. 66r-67v include examples of double counterpoint and double counterpoint in inversion, without any commentary by Santa María.

Example 5.1 (Santa María, fols. 65r-v)

Fourth above



Two of Cabezón's *tientos* are based on canonic imitation. *Obras 13* in mode 6 (*Fuga a cuatro: Todas las voces por una*) is a strict canon at the lower fourth in four paired voices (treble/alto, tenor/bass). The *tiento* features an uninterrupted flow of melody, constantly spinning out, and without clear cadential articulations. *Obras 14, Ad Dominum cum tribularer* (mode 1<sup>G</sup>), bears the subtitle *Fuga en cuarta con el tiple*. The piece is in five voices, of which the upper two are in strict canon at the lower fourth throughout, while the remaining three voices are free. The most notable feature of the *tiento* is that, like *Obras 13*, it presents a continuous

flow of counterpoint without any well-delimited sections, with hardly any imitation among the three free voices, and without any clear subject structure except for the recurrence of certain melodic cells, all of which are characteristic of mode 1<sup>G</sup> (the opening melodic gesture by the first tenor is, indeed, *seculorum* 1<sup>G</sup>).

Two other *tientos* include sections based on canon. The S<sub>3</sub> section of *Libro 8* in mode 1 (mm. 84-110) is presented in the form of canonic duets: a canon at the lower fifth by the two lower voices is answered canonically by the two upper voices. In the case of *Libro 9* in mode 1, a canon at the lower fifth is presented between the treble and the alto (mm. 53-63), while the two lower voices follow the upper voices in parallel tenths (tenor with treble, bass with alto). The passage is reproduced as example 5.2.<sup>6</sup>

It will be noticed that none of the above examples features a treble/tenor duet. In two cases the canon is presented by the treble/alto pair while the lower voices are free or subordinate to the upper pair (*Obras 14* and *Libro 1*). The remaining *tientos* establish a polarity between the upper and lower pairs while giving all voices equal structural status.

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<sup>6</sup>In the edition of the *Libro* used for the musical examples of the present dissertation measure numbers refer to the previous measure, while in the edition of the *Obras* they refer to the following measure.

Example 5.2 (*Libro 9*)

## Imitation and Paired Imitation

In part 2, chapter 35, *Del modo de tañer los passos a concierto a quatro voces* ("On the way of playing polyphonic subjects in four voices"), Santa María discusses the common practice of imitative subject presentation. The chapter opens with a clear enumeration of possibilities:

There are three ways of playing polyphonic subjects in four voices, namely in duet, in three, or in four voices. Duets, as has already been said, can be played in two ways: with imitation or without imitation. There are two types of imitation: paired imitation and single imitation (*passos travados y passos sueltos*).<sup>7</sup>

When subjects are played in single imitation, Santa María explains, the voice

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<sup>7</sup>Ibid., 72r.

which first states the subject will continue playing an accompaniment to the voice which enters next with the answer. When subjects are played in paired imitation, the bass is most frequently paired with the tenor, and the alto with the treble, that is, "the art of polyphony is founded on a low duet and a high duet." However, he adds, there are exceptions, and very often the duets are formed by the pairs bass-alto and tenor-treble respectively.

It should be noted that this pairing does not imply structural duets or voice priority. As has already been mentioned, in the introduction to his section on polyphonic imitation (fol. 2:63r) Santa María stresses that "each particular voice should not move a single note without taking into account and respecting whatever each of the other voices does." The principle that the Dominican has in mind here is, then, that of simultaneous composition.

Santa María explains that paired imitation, whether it happens at the beginning or in the process of a composition, implies that the two duets have to correspond literally. The first duet usually closes with a cadence, on which the subject of the second duet starts. One of the two voices of the first duet, however, should accompany the entry of the first voice of the second duet (the third voice) at least until the fourth voice comes in.

In his ensuing discussion of specific imitative possibilities (fols. 72v-75v), the items that Santa María considers are the following: whether each of the duets is imitative or non-imitative, whether the answer within an imitative duet follows the subject closely or is instead widely separated from it; the order of the voice-

entries, the intervals of imitation, and the interval between the bass and treble entries. Concerning the relationship among different entries, the Dominican points out that the entries by the bass and alto are normally an octave apart, and so are those by the tenor and treble. The following is one of the thirty-three examples provided by Santa María in chapter 35, in which I have marked all of the elements that are considered important by the theorist.

Example 5.3 (Santa María, fol. 74v)

*S*<sub>1</sub>: imitative duets: Tenor/Bass  
Treble/Alto

Duet 2 (same as duet 1)

C Duet 1

*S*<sub>1</sub>: Answer follows subject at distance of semibreve  
Interval of imitation: 4<sup>th</sup> below  
Interval between bass/treble entries: 11<sup>th</sup>

[G]: Cadence closes Duet 1 and begins Duet 2.

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*S*<sub>2</sub>: Imit. duets: Bass/Tenor  
Alto/Treble

Duet 1

Duet 2

(D), Deceptive

*S*<sub>2</sub>: Answer at distance of semibreve  
Imitation: 4<sup>th</sup> above  
bass/treble entries: 11<sup>th</sup>

---

Closing in 4 voices

(D)

[G]

The image displays three systems of handwritten musical notation. The first system shows two staves with a treble clef on the top and a bass clef on the bottom. A dashed line separates the first part from the second. Annotations include 'S1: imitative duets: Tenor/Bass Treble/Alto', 'Duet 2 (same as duet 1)', 'C Duet 1', and 'S1: Answer follows subject at distance of semibreve Interval of imitation: 4th below Interval between bass/treble entries: 11th'. A boxed 'G' indicates a cadence. The second system also has two staves, with a treble clef on top and a bass clef on bottom. Annotations include 'S2: Imit. duets: Bass/Tenor Alto/Treble', 'Duet 1', 'Duet 2', '(D), Deceptive', and 'S2: Answer at distance of semibreve Imitation: 4th above bass/treble entries: 11th'. A boxed 'G' is at the end. The third system shows two staves with a treble clef on top and a bass clef on bottom. The annotation 'Closing in 4 voices' is above the staves. A boxed 'D' is below the first staff, and a boxed 'G' is below the second staff.



A survey of eighty imitative beginnings in Cabezón's *tientos* shows that forty-five of them are paired and thirty-five are single. The coupled voices in the cases of paired imitation are the following: in thirty-five instances, the treble is coupled with the alto and the tenor with the bass; there are only four cases of treble/tenor and alto/bass pairing, and two of treble/bass and alto/tenor; the remaining four instances of paired beginnings present duets which do not correspond imitatively, or only one duet followed by free single entries in the remaining voices. As in the case of Santa María, such a strong preference on the part of Cabezón to polarize high against low voices in his imitative expositions shows that the composer was not preoccupied with the treble/tenor duet, but rather with a textural grouping of the voices which stems naturally from the technical demands of the keyboard (in which the right hand implies "high" and the left hand "low"), and with an equal status of all four voices in presenting the thematic material.

The intervals of imitation in Cabezón are for the most part those that Santa María prescribes: fourth, fifth, or octave, above or below. The following table presents the most usual intervals of imitation found in the *tientos*, with the exception of irregular imitation resulting from modal commixture or ambiguity. I have indicated the usual starting scale degrees for each of the intervals (that is, the scale degrees on which subject and answer start respectively).

Modes 1-2, 5-6, and 7-8

Fifth above or fourth below: scale degrees 1-5  
 also 5-2 (level of confinal)  
 Octave above or below: 5-5, 1-1  
 Fifth below: 5-1, also 2-5

Mode 3

Fifth below: 1-4 (*E-A*)  
 Fourth below: 4-1 (*A-E*), 6-3 (*C-G*)  
 Third below: 3-1 (*G-E*)

Mode 4

Fifth above or fourth below: 1-5, 4-1 (*A-E*)  
 Octave: 1-1  
 Fourth above: 1-4 (*E-A*, *repercussio*)

Example 5.4 reproduces the opening of *Obras 8* (mode 8), which features the style of paired imitation described by Santa María, as can be seen by a comparison with example 5.3. The *tiento* presents the usual coupling of high and low voices. Both the bass and the tenor enter on the resolution of deceptive cadences--on *G* and *C* respectively, as befits mode 8. Before the second duet concludes on an authentic cadence on *C* (m. 29), the alto begins its prominent statement of *seculorum* 5<sup>c</sup> (m. 24). It will be noticed that both duets correspond literally except in their approach to their respective cadences on *C*.

Example 5.4 (*Obras 8*)

LXV  
Tiento VIII  
Octavo tono

## Treatment of Consonance and Dissonance

Santa María presents his prescriptions for the treatment of consonance and dissonance in two sections of his treatise: part 2 opens with two chapters on dissonance and its use in composition, followed by one chapter on consonance; and chapter 32, on polyphonic duet composition, lays out the basic principles of counterpoint in two voices.

The dissonances, we learn, are three: the second, the fourth, and the seventh,

and their compounds.<sup>8</sup> The fourth is dissonant only if it happens by itself, or if it involves the bass.<sup>9</sup> Santa María considers that the two lowest voices are the foundation for any sonority in three or more voices. This foundation, he states, needs to be firm and solid, and hence the two lowest voices should never form a dissonance, except in a cadential suspension. Moreover, neither the treble nor the alto should be dissonant with the bass except in cadential suspensions.<sup>10</sup>

As we have already seen above, Santa María allows the following uses of dissonance: 1) in fast passages in diminution (*passando de presto en diminución*), that is, as passing notes; 2) as suspensions which fall in the second half of the semibreve (*en la mitad de semibreves*); 3) as suspensions which fall in the last third of a dotted semibreve or minim (*en puntillo de semibreves y de mínimas*); 4) in cadences (as cadential suspensions or anticipations); and 5) in syncopations (for all purposes, this case is identical to numbers 2 and 3).<sup>11</sup>

Santa María's presentation of polyphonic cadences focuses precisely on the treatment of the cadential dissonance, and his approach to suspension is the same that we are familiar with in modern treatises of harmony: the dissonance is computed from the bass, and the three possible dissonances are the second, the

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<sup>8</sup>At fol. 7r, Santa María also speaks of the diminished fifth as a dissonance: "La quinta menor, como sea fa contra mi, es dissonancia."

<sup>9</sup>Ibid., 2r.

<sup>10</sup>Ibid., 2v-3r.

<sup>11</sup>Ibid., 3v-4v.

fourth, and the seventh or their compounds. Thus, the use of the familiar numerical labels to refer to suspensions is fully justified (9-8, 7-6, 4-3, 2-3).<sup>12</sup> The Dominican's treatment of dissonance in his *fantasias* is restrained and always conforms to his prescriptions. Example 5.5 reproduces the approach to the final cadence, by means of a series of double and single suspensions, in Santa María's *fantasia* 13.

Example 5.5 (Santa María, fol. 1:68)

The image shows a musical score for two staves. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of a series of notes and rests. Below the bottom staff, there are numerical labels indicating intervals: 7-6, 4-3, 4-3, and 4-3. The notes are mostly quarter and eighth notes, with some rests. The overall structure is a series of suspensions.

The consonances are the unison, third, fifth, and sixth, and their compounds. The unison and the fifth are perfect consonances, and the third and the sixth are imperfect, and can in turn be major or minor.<sup>13</sup> A succession of as many imperfect

<sup>12</sup>Ibid., 1:74v-89r. For a further discussion of cadences, see pp. 225-234 below.

<sup>13</sup>Ibid., 2:5r-5v.

consonances as one wishes is permissible, while perfect consonances can follow each other only if they are of different kinds (a fifth and an octave, for instance), or when they are of the same kind but the voices move by contrary motion.

Santa María's reason for proscribing successive perfect consonances of the same kind is that "music is variety and diversity of consonances".<sup>14</sup> According to the same principle, Santa María recommends that, when using imperfect consonances, one should mix thirds with sixths, and one should not play more than two or three consecutive thirds or sixths.<sup>15</sup> The chapter on duet composition is a confirmation of the above criteria.

Although a thorough study of Cabezón's counterpoint falls beyond the limits of the present dissertation, the reader interested in this aspect of his music may refer to Hoyle Carpenter's study of Cabezón's style as a point of departure. Carpenter finds that the Castilian composer employs all of the types of controlled dissonance normally listed in treatises: accented and unaccented passing tones, double passing tones, neighbor notes and double neighbor notes, suspensions, *cambiate*, escape tones, and anticipations.<sup>16</sup> I will refer only to some specific examples of treatment of dissonance in three of Cabezón's *tientos*. It will be seen

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<sup>14</sup>Ibid, 2:7r.

<sup>15</sup>Ibid., 6r and 7r-8v.

<sup>16</sup>Carpenter, pp. 63-69, 77-81, 91-92, 128-31, and 152-54.

that his use of dissonance in counterpoint is indeed much more liberal than Santa María's, and that he does not always conform to what later counterpoint treatises would consider normative.

Example 5.6a reproduces the opening phrase of *Obras* 10. This is a short *tiento* in an austere *ricercare* style, which might have been appropriate for liturgical purposes. The opening fifteen measures include eight with suspensions. Six of these are 4-3, one is 2-3, and one is an unusual 4-5. Example 5.6b reproduces the opening of *Obras* 2, which illustrates Cabezón's imaginative use of dissonance in an imitative exposition. The entry of the alto on *e'* produces a six-five sonority in m. 10, resulting from a 2-3 suspension between alto and tenor; and the two sonorities in m. 11 include a diminished fifth, together with a sixth in the case of the first one.<sup>17</sup>

*Libro* 24 includes several instances of unusual contrapuntal writing. Parallel octaves and parallel fifths can be found at mm. 46 and 54 respectively; example 5.7a

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<sup>17</sup>In the summary of rules concerning *musica ficta* and dissonance in Spanish sixteenth-century music which closes his article "Spanish Renaissance Discussion of Musica Ficta," Jacobs writes: "The same intervals [diminished fourth, diminished fifth, augmented fifth], and also the augmented fourth, may be used in their harmonic form, in passing, if they are approached and left by step in both the parts involved—even if one of the parts is the bass; however, these intervals may also be quitted with only one of the two parts moving by step. Diminished triads in root position that result from such a use of the diminished fifth are acceptable." (p. 279).

Santa María acknowledges the fact that some authors write parallel fifths in which one is diminished (*menor*) and the other perfect (*perfecta*). However, he recommends that "the best and safest is not to use [such a succession of fifths], since the diminished fifth, which is fa against mi, is a dissonance, and as such it will necessarily offend the ears" (fol. 2:7r). Bermudo, on the other hand, allows the free use of parallel fifths in which one is diminished (fols. 131v and 137v).

## Example 5.6

## a. Obras 10

4 - 3    4 - 5    4 - 3    2 - 3

4 - 3    4 - 3    4 - 3    4 - 3

## b. Obras 2

LIX  
Tiento II  
Cuarto tono

2 - 3

P    2 - 5    6/5    6/5    5/3    P    4 - 3

presents a case of double accented passing tones; and 5.7b includes prominent open fifths in a two-voice texture, and two cases of appoggiaturas, both preceded by dissonances, resulting in the successions 9-9 and 4-9.



Example 5.7

a.

Musical notation for Example 5.7a, measures 62-63. The notation is in treble and bass clefs. Measure 62 has an 'x' above it. The music consists of chords and single notes in both staves.

b.

Musical notation for Example 5.7b, measures 65-80. The notation is in treble and bass clefs. Measure 65 has an 'x' above it. The music consists of chords and single notes in both staves. Measure 70 has an 'x' above it. Measure 80 has '80 f. 31 v' and an 'x' above it. The music consists of chords and single notes in both staves.

### Other Contrapuntal Techniques

There are no explicit references in the *Arte* to devices such as augmentation, diminution, inversion, and retrograde. There are, however, frequent instances of these devices in the works of Cabezón. In the case of *Obras 6* (*Fugas al contrario*, or "inverted fugues") in mode 3, inversion is a constructive principle. This is a dense contrapuntal *tiento* based on three subjects, all of which can be combined contrapuntally. The answer to  $S_1$  is presented in inversion (mm. 1ff.), and so is the answer to  $S_2$  (mm. 49ff., see examples 5.8a and c).

$S_2$  first appears, in inversion, as a counterpoint to  $S_1$  (mm. 6-8, example 5.8a); before the entrance of the upper-voice duet with  $S_1$ , an episode in three voices (treble, tenor, and bass) features a simultaneous presentation of  $S_2$  and  $S_2I$  in very close imitation (mm. 13-15, example 5.8b). Finally,  $S_2$  is also treated in retrograde inversion (mm. 104-105 and 114ff., example 5.8d).  $S_3$  (m. 143), which is not treated in inversion or retrograde, is, however, repeatedly presented in augmentation in the closing section of the *tiento*, in some cases together with metric variation or metric displacement (mm. 203-end, see example 5.8e).

The technique of *stretto* is widely used by Cabezón, often as a means of formal extension, as in the case of *Obras 12*. After closing the imitative exposition of  $S_1$  with a cadence, Cabezón includes a development of  $S_1$  which opens with *stretti*, leading to the major cadence which closes the  $S_1$  section (example 5.9a). In the case of *Obras 5* in mode 2 and *Obras 3* in mode 1, *stretto* is used as a

Example 5.8 (*Obras 6*)

a. b.

c. d.

e.  $S_3$  (treble, m. 150) | treble, m. 175 | tenór, m. 180

developmental technique within the *tiento*. All of the middle section of *Obras 5* (mm. 32-690) is based on the treatment of  $S_1$  in *stretto* with *glosas* (example 5.9b).

### *Cantus-firmus* Compositions

A special category of contrapuntal pieces is represented by the hymns on plainchant tunes. These pieces are similar in structure to the *tientos*: they are sectional and the sections are determined by the phrases of the *cantus firmus*. Each of the sections usually opens with an imitative presentation of a subject, and closes with a full cadence. The preexisting tune is stated in long notes, and each piece has




10, 11, 12, and 13 respectively. Each of the four settings bears the long-note *cantus firmus* in a different voice (tenor, treble, alto, and bass respectively).

Subjects which are treated imitatively are usually derived from the *cantus firmus*. Example 5.10 reproduces the Gregorian tune *Ave maris stella* (*Liber usualis*, pp. 1259-60), and compares it with the subjects used by Cabezón in hymn 13. The piece features four subjects, one for each of the four phrases of the *cantus firmus*. Each of the subjects is directly derived from the opening of the corresponding *cantus-firmus* phrase, either with no pitch modifications, or transformed by means of inversion and retrograde. Cabezón achieves in these pieces a sweeping tonal, rhythmic, and thematic unity, patent not only in each of the individual settings, but also in the group of four settings as a whole.

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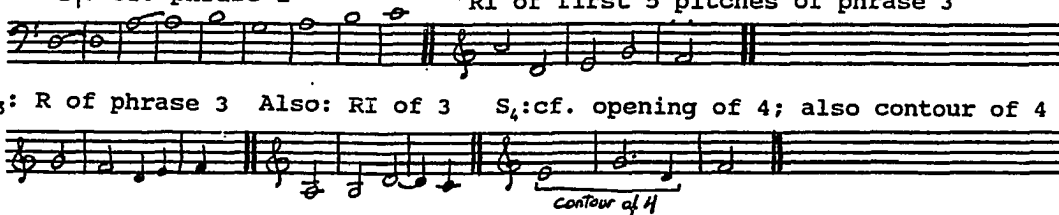
Example 5.10 (*Ave maris stella*)

a.



b. Hymn 13

$S_1$ : cf. phrase 1       $S_2$ : cf. phrase 2; also:  
RI of first 5 pitches of phrase 3



$S_3$ : R of phrase 3    Also: RI of 3     $S_4$ : cf. opening of 4; also contour of 4

Cabezón's *tientos* feature a wealth of contrapuntal techniques, some of which are considered by Santa María (canon and paired imitation), while others are not reported in the *Arte* (*stretto*, inversion, and retrograde). Cabezón's treatment of contrapuntal dissonance is fully within the mainstream of sixteenth-century practice, and it is also richer and more imaginative than what we find in Santa María's prescriptions and examples. Regarding voice priority in the *tientos*, there is no evidence of a treble/tenor structural frame except in occasional passages (such as mm. 75-86 in *Libro 1*, where *seculorum* 1 is presented by the treble and the tenor). Even the oldest genre practiced by Cabezón, the hymns on a plain-chant *cantus firmus*, does not show that the composer thought of the tenor as a more important voice than the rest, because the *cantus firmus* is placed in any of the four voices.

The most frequent voice grouping opposes high against low voices, and

corresponds with the natural opposition of right and left hands at the keyboard. Otherwise, Cabezón's imitative pieces feature an equal distribution of subjects in the various voices. Both Santa María and Cabezón seem thus to have approached the composition of contrapuntal music thinking of all voices as having equal structural status, and thus applying the principle of "simultaneous composition," which considers all voices at the same time, giving priority to the one that bears the subject in any specific moment.

*b.-A Technique of Vertical Composition:*

*Playing in Consonances*

One of the central focuses of the *Arte* is the technique of vertical composition which Santa María refers to as "playing in consonances" (*tañer a consonancias*). Its presentation covers a total of 24 chapters laid out through 102 pages (part 2, chapters 6-30, fols. 12r-63r). The basic compositional principle is the same that in the seventeenth century would result in the familiar thoroughbass technique: a bass line is added to an existing treble line, thus creating an outer-voice structural duet; the two inner voices are added, taking into account the quality of the resulting vertical sonorities, which in turn are defined by the intervals counted from the bass upwards. The importance attributed by Santa María to "playing in consonances" testifies to the significant role of the technique in the sixteenth century, and to the continuity in this sense between the Renaissance and the Baroque. It also supports

the idea that Renaissance composers and theorists did take into consideration the vertical, chordal component of music, albeit from a completely different point of view than Rameau's functional harmony.

The technique of playing in consonances seems to have been commonly used by Spanish composers of the period. Luys Milán, Luys de Narváez, Enríquez de Valderrábano, and Miguel de Fuenllana refer to "playing in consonances" in the introductions to their collected works for *vihuela*, and some of their pieces are titled *fantasia de consonancias* or *diferencias de consonancias y contrapunto*. In all of these cases, the term *consonancias* is used as a synonym for the modern term "chord," and undifferentiated from the term for "consonance" as an interval. Jacobs chooses indeed to use "chord" for *consonancia* in the translation of Fuenllana's Introduction to *Orphénica lyra* for his modern edition of this work.<sup>18</sup> Santa María's discussion, however, is the earliest systematic presentation that I have found of a compositional technique based on treble-bass supremacy and vertical sonorities.

Santa María states the compositional principle and the supremacy of the treble-bass pair early in part 2:

It has to be known that any consonance, whether given in three, four, or more voices, is understood and counted from the bass to the discant, which are the outer voices, because the middle parts, tenor and alto, are used only for the accompanying consonances and

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<sup>18</sup>Miguel de Fuenllana, *Orphénica lyra*, ed. Charles Jacobs (Oxford: Clarendon Press, 1978).



to fill in the void between the outer parts.<sup>19</sup>

Next, Santa María introduces the concept of "the differences of every consonance" (chapter 7, *De las diferencias que hay en cada consonancia*). Any consonance in three, four, or more voices can be divided in many diverse ways if we move the inner voices to different notes, while the outer voices hold the frame of the given consonance. The differences of a consonance which sound best according to the Dominican are those which do not have many octaves, but only one (in other words, those in which only one note is doubled, and hence are made up of a complete triad), and those in which the octave does not involve the discant, but rather the bass and tenor or the bass and alto (that is, the bass should preferably be doubled).<sup>20</sup>

Using these criteria, Santa María classifies the differences of each sonority by degrees. Differences of the first degree are to be used when possible, and only when one cannot use a certain degree should one move to the next. Example 5.11 reproduces Santa María's table of the differences for the octave, the tenth, the twelfth, and the thirteenth, with their respective degrees listed below every sonority. Since first degrees are to be used the most, Santa María summarizes all of them at the end of his tables (example 5.11e).<sup>21</sup> Thus, the quality of vertical sonorities

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<sup>19</sup>Santa María, 2:13v.

<sup>20</sup>Ibid., fol. 15r.

<sup>21</sup>Ibid., fol. 19r.

is determined, according to Santa María, by the arrangement of outer consonances filled in with inner consonance (regardless of which triadic arrangement results), and by the voice doubling: it is best to double the bass, regardless of its function within the triad. Looking at his classification by degrees, it will also be noticed that sonorities with larger intervals at the bottom are more desirable than those with smaller intervals at the bottom.

Example 5.11 (Santa María, 2:125v-16v)

a. Differences of the 8ve      b. Diff. of the 10th      c. Of the 12th      d. Of the 13th      e. Diff. of the 1st degree

Degree of the diff. :  
 a. 1 2      b. 1 2 3 4 4      c. 1 2 2 3 3 4      d. 1 2 3 3 4 4      e. 1 1 1 1

In chapters 11 to 30 Santa María expounds the next step in his method. All practical music, we learn, is made up of three movements: repeated notes, ascending motion, and descending motion (*unisonar, subir, y baxar*). Upward and downward motion can be effected by steps or by leaps (*subir y baxar de arreo o de salto*). All of these movements refer to the treble line, and if one learns how to

play in consonances with the remaining three voices on given trebles which follow these motions, then one should be able to deal in a similar manner with all practical music. Santa María thus sets out to study in detail all the ways in which treble lines can be harmonized when they ascend or descend by steps in different note values, when they repeat notes, and when they ascend or descend by leaps of thirds, fourths, fifths, or octaves. The following procedure is used for the harmonization of the given treble lines: first, Santa María establishes the consonances which the bass will define with the treble; then, the two inner voices result from the application of the differences of the consonances. In other words, the treble-bass frame is established and then filled in with the "best" possible sonorities, avoiding parallel perfect consonances.

Santa María starts by providing ten different ways of ascending and descending in consonances by steps in minims, and illustrates the chapter with fifty-three musical examples, of which our example 5.12 reproduces four. Examples 5.12a and b illustrate the ascent and descent by steps in tenths (the treble moves by steps, and the bass follows it by tenths). Example 5.12c shows the ascent by a repeating pattern in tenths and twelfths, and 5.12d ascends by twelfths, thirteenth, and tenths.

How does Santa María apply the differences of the consonances to this outer-voice frame? We have included our analysis of the "degrees of the differences" below examples 5.12a, c, and d. In the first case, first- and third-degree sonorities are alternated in order to avoid parallel fifths. In triadic terms, the alternation produces a succession of root-position and first-inversion chords. Examples 12c and

Example 5.12

a. Ascending by 10ths (21r)                      b. Descending by 10ths (21r)

Consonance: 8 10 10 10 10 10 10 10 10 cadence                      10 10 10 10 10 10 10 10 cadence  
 Degree: 1 3 1 3 1 3 1 3 1    10 10 10 10 10 10 10 10 cadence  
 Triad: 5 6 5 6 5 6 5 6 5

c. Ascending by 10ths and 12ths (22r)                      d. By 12th, 13th, and 10th (22v)

10 12 10 12 10 12 10 12 cadence    12 13 10/12 13 10 / 12 13 10 / cadence  
 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1  
 5 5 5 5 5 5 5 5    5 6 5 / 5 6 5 / 5 6 5

d are completely made up of first-degree sonorities, all in root position in 12c, and with the repeating pattern root position/first inversion/root position in 12d.

The ten different ways of ascending and descending must be mixed together for the sake of the necessary variety in the consonances. In order to teach the beginner how to effect these ascents and descents with diversity, Santa María provides eight pages of examples with "the most gracious ways of ascending and

descending eight degrees (*ocho puntos*) with variety, each closing with a cadence."<sup>22</sup> This "rule of the octave," or different harmonizations of a treble covering an octave by steps, is preceded by several ways of harmonizing ascending and descending three-note fragments. Then, the complete octave is harmonized using different combinations of the smaller fragments. Thus, example 5.13a shows the four proposed ascending three-note fragments, harmonized with the following consonances: 8-10-10; 8-13-10; 10-13-10; 10-13-15; and 13-10-10. Examples 5.13b, c, and d reproduce three complete harmonizations of the octave, starting at the consonances of octave, tenth, and twelfth respectively. I have outlined the different segments which are combined in these examples, together with the consonances which constitute them.

Example 5.14 illustrates the same procedure applied to the harmonization of descending scales. The three-note fragments are formed by the consonances of 8-10-13; 10-10-8; 10-13-8; and 10-10-10. A whole octave is provided to illustrate the harmonization of a three-note fragment by 13-10-10. Examples 5.14b and c reproduce three of Santa María's examples of harmonization of complete descending octaves by steps, below which I indicate the different fragments which constitute them.

A similar treatment is applied to treble lines which repeat notes, which leap by thirds, by fourths, by fifths, or by octaves, in semibreves, semiminims, or fusas.

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<sup>22</sup>Ibid., fols. 35r-39v.

Example 5.13

a. fols. 35v-36r

b. From the octave (fol 36r)

c. From the tenth (fol. 37r)

d. From the twelfth (fol. 37r)

Example 5.14

a. Fol. 37r

b. From the 8ve (fol. 38r)

c. From the 17th (fol. 38v)

The compositional technique known as "playing in consonances" can thus be summarized as follows: a bass is added to a given treble, and the inner voices result by filling in the outer-voice frame with the best possible sonority. This best sonority is to be chosen from the differences of the consonances, and Santa María uses mostly first-degree sonorities, in which the bass note is doubled. The contour of the resulting independent bass--frequent leaps of thirds, fourths, and fifths--reveals its harmonic role of supporting the consonant sonorities above it.

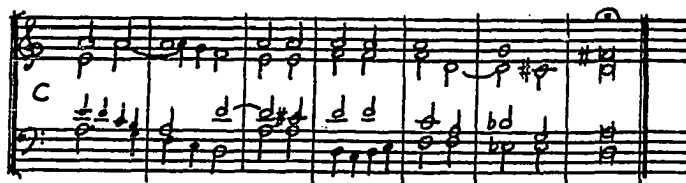
Santa María mentions two applications of the technique. Within his presentation of the harmonization of repeated notes (*unisonar*), the Dominican includes a chapter (fois. 42r-48r) with examples of *fabordones* in the eight modes. The *fabordones*, or chordal harmonizations of the psalm tones, "usually begin with repeated notes, and for this reason we include them here," Santa María declares.<sup>23</sup> The chapter provides only musical examples without explanations. Example 5.15 reproduces the opening phrase of a *fabordón* in mode 1.

Passages in consonances can also be included, Santa María points out, in the process of a *fantasta*. In the *fantasta* which he provides as an example of this practice, a first passage in consonances follows the imitative beginning and leads to the first cadence. The closing section features a second passage in consonances (parallel tenths) which precedes the final cadence. Example 5.16 reproduces the opening and closing phrases of the *fantasta*, in which I have indicated the patterns

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<sup>23</sup>Ibid., fol. 42v.

## Example 5.15 (Santa María, 2:43r)



of consonances used by Santa María.<sup>24</sup>

We should refer at this point to the practice of melodic diminution known as *glosar*. *Glosas* were used either to elaborate existing contrapuntal textures or to enrich passages in consonances with lively rhythmic figurations in one or more voices. In both cases the *glosa* is the most common means of melodic variation used by Spanish Renaissance composers. The *glosa* must also have been a standard improvisational resource, especially when the performer improvised on a preexisting composition. The *Arte's* part 1, chapter 34, provides a three-page table of *glosa* formulas, organized by intervals. That is, Santa María illustrates possible ways of filling in melodically all of the different intervals. Example 5.17a reproduces the formulas to ascend a fourth.<sup>25</sup>

Examples of *glosas* can be found throughout Cabezón's works. The blind

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<sup>24</sup>Ibid., fol. 78v.

<sup>25</sup>Ibid., 1:58v-59r.



## Example 5.16 (Santa María, 2:79r)

## a. Opening phrase

## b. Closing phrase

composer's intabulations of existing compositions are based on this technique, and so are to a great extent his variations. Passages with *glosas* are frequently found in the *tientos*, both as a means of contrapuntal variation or as a way of providing inner motion in a chordal texture. Example 5.17b shows a passage in consonances from *Libro 1*, in which the bass is *glosado*. Finally, example 5.17c shows the opening measures of Cabezón's *fabordón* in mode 4, presented first in plain

consonances, and then with a *glosado* in the treble.

## Example 5.17

a. Santa María, 1:58v - To ascend a fourth



b. Libro 1, mm. 34-39



c. Fabordón, mode 4

*Llano**Glosado en el tiple*

Our examination of Cabezón's works confirms fully Santa María's prescriptions for playing in consonances. Among Cabezón's compositions, prominent passages in consonances can be found in six *tientos*. All of the *fabordones* are in chordal style, and some of the *versets* and *diferencias* are also totally written in consonances. The following are the instances of passages in consonances in the *tientos*:

*Libro 1* (mode 1).- Mm. 33-37, consonances: 10-13/8-10-8/12-10; treble-tenor in parallel sixths; *glosado* in the bass. Mm. 56-61, in three voices (alto-tenor-bass), in parallel tenths.

Mm. 63-68, consonances: 12-10/12-10/12-10/10-10/12-10.

*Libro 11* (mode 1).- Closing, mm. 72-75: *seculorum* in treble, in consonances: 12-10/12-10/10-13/10-8.

*Libro 3* (mode 5).- Mm. 83-88, closing in consonances: 8-12/8-12/8-10.

*Libro 7* (mode 6).- Mm. 36-44, S<sub>1</sub> section closes in consonances: 10-12/10-12/10-12-10/10-10-8.

Closing, mm. 132-141, in consonances: 8-10/8-10/8-10/ 13-12-10/8-12/10-8-12/10-8-12/8-13-10 (see example 5.18a).

*Obras 3* (mode 1).- Closing section in consonances, mm. 158-177: treble melody accompanied by a harmonic bass with *glosas* and consonances in inner voices. For a complete analysis, see chapter 6.

*Obras 9* (mode 5).- Closing section, mm. 110-end, treble-bass by leaps of third in parallel tenths, followed by 10-10-8/12-10/8-10/8-10 (see example 5.18b).

It will be noticed that the passages in consonances are normally used to close a piece or a major section. The bass is frequently played with diminutions (*glosado*), and other voices may also carry melodic elaboration of the sonorities. Example 5.18 reproduces two of the passages mentioned above. Example 5.18a

shows the closing of *Libro 7*, with the consonance pattern indicated below the staves. Example 5.18b reproduces in part the closing of *Obras 9*, in which a phrase in parallel tenths is elaborated by a sequential dialogue between treble and alto, and is followed by a second passage in consonances with a *glosado* in the bass.

## Example 5.18

## a. Libro 7

120

135

140

$B - 10 / B - 10 / 8 -$

$10 / 13 - 12 - 10 / B - 12 / 10 - 8 - 12 / 10 - 8 - 12 / 10 - 8 - 12 / B - 13 - 10 /$

## b. Obras 9

110

115

$10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -$

$10 - 10 - 8 / 12 - 10 / B - 10 / 8 - 10 - 13$

As we have already seen, the *Obras* include four *fabordones* for each mode. The first of each group is a *fabordón llano*, or unornamented, the second presents a *glosado* in the treble, the third in the bass, and the fourth in both of the inner voices. The style of all of the thirty-two *fabordones* is in consonances, in accordance with Santa María's prescriptions for the harmonization of repeated notes. Example 5.19 reproduces the opening of the first *fabordón llano* in mode 1, with my indication of consonances and their grouping.

Example 5.19: *Obras, fabordón* in mode 1

Among Cabezón's ten sets of variations (nine from the *Obras* and one from the *Libro*), eight are based on the principle of *consonancias*: the three sets on *Guárdame las vacas*, the three sets on the *Pavana italiana* (including the *Pavana con su glosa* from the *Libro*), and the sets on the *Gallarda milanese* and *La dama le demanda*. Of the remaining sets, the one on the *villancico, Quién te me enojó, Isabel?* is contrapuntal, and the *diferencias* on the *Canto llano del caballero* present the theme in consonances, even though the variations are contrapuntal. We will comment briefly on three of the sets fully based on vertical sonorities.

Example 5.20a reproduces the theme of the *Diferencias sobre la vacas*.<sup>26</sup> The basic frame of this piece is provided by the *romanesca* bass (*f-c-d-A/f-c-B<sup>b</sup>-A-D*) and the Spanish popular tune *Guárdame las vacas* in the treble (*f'-e'-d'-c#'*). The harmonization of the treble is an application of the criteria expounded by Santa María to harmonize lines descending by steps, according to the basic pattern 8-10/8-10/8-10/10-10-8, indicated by circled numerals on the score (compare to Santa María's harmonization of descending treble lines in example 5.14). Between these consonances, repeated notes are harmonized with the consonances 8-12-10, 8-13-12-13, and 10-12 respectively. The passage is elaborated by *glosas* in the tenor and bass.

The *Diferencias sobre la pavana italiana*,<sup>27</sup> whose theme is reproduced as example 5.20b, is similarly based on a pre-existing treble-bass duet harmonized in consonances, and ornamented by *glosas* in the treble and tenor. The bass is a variant of the *folia* bass (which, in its most frequent form, is *d-A-d-C/f-C-d-A-d*), and the treble is a well-known Renaissance tune popular in Spain as *La dama le demanda*, or, in a French version, as Arbeau's pavane *Belle qui tiens ma vie*. The resulting consonances open with the pattern 8-10/8-10-8 for the first phrase, which is extended by the consonances 10-8-10-8; the second phrase results from the consonances 10-12-10/12-10-8/10-10-10-8.

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<sup>26</sup>Anglés, vol. 29, p. 79.

<sup>27</sup>Ibid., p. 63.



Example 5.20a

*f. 1897*  
*Descending by steps*  
 Diferencias sobre las Vacas

*Repeated notes*      *Cadence | Repeated notes*

(12 - 10)      B - 11 - 10 - B      (13 - 12 - 13)

10      (12)      10      (12)      11 - 10      B

4      1

Example 5.20b

*f. 1907*  
 Diferencias sobre la Pavana Italiana

*Extension*

B - 10 / B - 10 - 8

(12 - 10 - 8 - 10 - 8)      || 10 - 12 - 10 / 12 - 10 -

B / 10 - 10 - 10 - 10 - 8

## The Cadences

The importance attributed by Santa María to the correct part-writing of cadences can be measured by the space which he devotes to the subject: a total of thirty-three pages (part 1, fols. 74v-90r), which are laid out in the Dominican's systematic and comprehensive style. Such stress should not come as a surprise if we remember that cadences are among the main structural elements that define modality, as well as the main points of articulation for formal divisions.

We have already pointed out that a cadence is defined by the voice which bears the cadential suspension. For instance, if the suspension figure is *a-g<sup>#</sup>-a*, the cadence is said to be "on *a*," regardless of the note in the bass. Santa María's concerns regarding cadences are their rhythmic values, the number of dissonances, and the vertical intervallic content of the dissonant sonority.

Considering their rhythmic values, cadences can be short or long (*cláusula corta y cláusula larga*, fol. 64r), as illustrated by example 5.21a. If we consider the number of dissonances, cadences can either be approached by one or two successive suspensions, as shown in example 5.21b (fol. 63r).

The body of Santa María's study of cadences focuses on their intervallic content, with special emphasis on the treatment of dissonance. Santa María considers first the voice that bears the cadential suspension; then, he lists the possibilities for the treble and the bass, which finally determine the other voice or voices.

For example, when in four-voice cadences the discant bears the cadential

suspension (*haziendo el tiple la cláusula*), the bass will define with the treble one of the three following dissonances on the suspension (or, as Santa María puts it, "in the second half of the cadential suspension"): a seventh, a ninth, or an eleventh. The cadence with a seventh (producing what we know as a 7-6 suspension) can be *remissa* (without a raised seventh degree) or *sostenida* (with a raised seventh degree); the cadence with the ninth (a 9-8 suspension) can only be *remissa*; and the cadence with the eleventh, the most common one according to Santa María (a 4-3 suspension) can only be *sostenida*.

Next, the Dominican examines the possible placement of the other two voices in relation to the treble and the bass. Thus, if the bass is a seventh from the treble, the intervallic content of the sonority will be: a third at the bottom, a third at the top, and a third in the middle. If the bass is a ninth from the treble, there will be a third at the bottom, a fifth at the top, and a third in the middle. If the bass is an eleventh from the treble, the intervals will be a fifth at the bottom, a fourth at the top, and a fourth in the middle. Example 5.21c reproduces four of Santa María's illustrations for these three types of cadence.<sup>28</sup> Finally, example 5.21d illustrates a case of treble cadence in which the bass does not produce a dissonance in the suspension, but a twelfth. The dissonance in this case, Santa María notes, is present between the tenor and the treble.<sup>29</sup>

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<sup>28</sup>Santa María, 1:77v-78r.

<sup>29</sup>Ibid., fol. 79v.

Example 5.21: Santa María, cadences

a. Short Long

b. One dissonance Two dissonances

c. Treble cadences

With a 7th - sostenida With a 7th - remissa

With a 9th (only remissa) With an 11th (only sostenida)

d. Cadence with a 12th

The same procedure is followed by Santa María to account for the possibilities in the cases of cadential suspensions placed in the alto, tenor, or bass. Santa María's main concern in these cases is the intervallic relationship of the treble-bass pair with the voice that bears the suspension.

Santa María's approach to cadences is thus based on four main elements: the voice which bears the suspension, the interval between the bass and the treble, the dissonance counted from the bass, and the total intervallic content of the sonority. There is no trace in the *Arte* of the old concept of dyadic cadences, in which the interval major sixth-octave defined the structural duet, which was normally the treble-tenor pair. The treble-tenor pair is of no significance to Santa María. Even though the treble and tenor display the old motion from a major sixth to an octave in the cadences which feature a 4-3 suspension between treble and bass, what matters to Santa María is precisely the 4-3 suspension between the outer voices, and not the "dyadic" 7-6-8 intervallic succession between the treble and the tenor. The Dominican's approach is thus based on the outer-voice pair and on vertical sonorities rather than linear voice-leading.

The following is a summary of possible bass motions in cadential resolutions as found in Santa María's examples: the bass moves downward a second when the suspension is 7-6, down a fifth (or up a fourth) with a 4-3 suspension, and up a fifth (or down a fourth) with a 9-8 suspension. When the suspension is in the bass, it will be a 2-3 suspension which implies a cadential resolution up a second. Among these possibilities, illustrated in example 5.21 above, the second (down a

fifth) is the most common in Santa María's examples, while the third (up a fifth) is seldom used, and the fourth (up a second) is not used to close a composition, but rather within a phrase.<sup>30</sup>

A final type of cadence described in the *Arte* is the deceptive or elided cadence (*cláusula hurtada*, literally "stolen cadence"). The following is Santa María's description of *cláusula hurtada*:

To steal the cadence is to start it and not to complete it. This is done by singing or playing the first two notes of the cadence--the semibreve which begins at the upbeat and the minim which follows it. After this, instead of the following note--which should ascend a second--, the voice ascends a third or a fourth. Or at other times the minim which follows the semibreve, instead of descending a second, descends a third, all according to the composer's will.<sup>31</sup>

Example 5.22 reproduces four of Santa María's examples of three-voice *cláusulas hurtadas*. It will be noticed that the irregular resolution of the cadence allows for diverse intervals of resolution in the bass.

All of the categories of cadences described by Santa María can be found in the works of Cabezón, together with other types not discussed in the *Arte*. Example 5.27 illustrates and classifies cadential types in Cabezón. The most frequent cadence by far is, as Santa María points out, the authentic cadence with a 4-3 suspension--most often in the treble--and a bass motion down a fifth or up

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<sup>30</sup>A concise but valuable summary of cadential possibilities according to Santa María can be found in Samuel Rubio's *Classical Polyphony*, pp. 51-52.

<sup>31</sup>Santa María, 2:118r.

## Example 5.22

fol. 118v

a fourth (example 5.23a). The cadence with a 7-6 suspension and a bass motion down a step is also frequent (example 5.23b), while 9-8 and 2-3 suspensions are rare. Example 5.23c illustrates a "plagal" cadence (bass motion down a fourth) with a 9-8 suspension, and 5.23d a case of a 2-3 suspension in the bass. Long cadences (*cláusulas largas*) are present in Cabezón's works, even though they are infrequent (example 5.23e). Example 5.23f reproduces an example of Santa María's "cadence with two dissonances"--that is, with two successive suspensions--as found in Cabezón. A variant of the cadence with two suspensions, which we could call "double cadence," is illustrated by example 5.23g. In this case, a raised scale degree 4 produces a cadence on *G* which precedes the real cadence on *C*, thus creating what in harmonic terms would be a "secondary function." Example 5.27h reproduces a case of Santa María's "cadence with a twelfth instead of a dissonance," in which, as the Dominican noted, the dissonance is between the tenor and the treble. Deceptive cadences are very frequent in the *tientos*, used in the course of the composition to achieve a point of articulation without breaking the musical flow.

Example 5.23i reproduces two of them, the second of which is a double cadence resolved deceptively.

Final cadences in modes 3 and 4 feature special characteristics which make them a category by themselves, as illustrated by example 5.23j. The bass motion is down a fourth, from *A* to *E*, and this "plagal" cadence is frequently preceded by an "authentic" cadence (with a 4-3 suspension) on *A*.

Some instances of archaic cadences using the "Landini sixth" can be found in the *tientos* (example 5.23k), as well as the procedure of having one or more voices drop at the cadential resolution ("hocket cadence," example 5.23l). The reason for the latter is usually that the voice which drops momentarily will immediately come in with a new subject. Santa María provides for this eventuality when, in his discussion of subjects, he states: "In a four-voice cadence which is done by the treble, the voice which presents the new subject must keep at least a rest of a minim."<sup>32</sup> This is the case of the bass in example 5.23l, *Obras* 10. The cadence from *Libro* 10 closes the  $S_1$  section, and the alto enters with  $S_2$ , a slight elaboration of *secularum* 1. Cabezón's resolution of the cadence to an open octave in only two voices effectively prepares and stresses the entry of the alto on scale degree 5, thus highlighting the new subject based on the *secularum*. A final type of cadence, illustrated in example 5.23m, lacks the usual voice-leading signs which define a cadence, including the suspension. It sometimes happens that points of tonal

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<sup>32</sup>Ibid., 2:93r.



repose or points of formal articulation are marked by an arrival at a prominent consonant sonority, which is on one of the cadential pitches that define the structure of the mode. Such "points of arrival" can be considered as cadences, even though they do not feature the elements which characterize formal cadences.

## Example 5.23

a. 4-3

Obras 1, final cad.

b. 7-6

Obras 5, mm. 67-69

c. "Plagal cad.," with 9-8

Libro 8, final cad.

d. 2-3

Libro 9, 43-46

e. Larga

Libro 1, 18-21

f. With two dissonances

Obras 8, 49-52

g. Double cad.

Obras 8, 157-160

h. "Without dissonance"

Libro 1, 35-37

## i. Deceptive

Libro 8, 33-35

Obras 8, 173-75

Musical notation for 'Deceptive' in G major, 3/4 time. The piece consists of two systems of two staves each. The first system shows a deceptive cadence from the dominant (D) to the tonic (G). The second system shows a similar deceptive cadence from the dominant (D) to the tonic (G).

## j. Modes 3 and 4

Obras 6, final cad.

## k. Archaic (Landini)

Libro 3, 14-16

Musical notation for 'Modes 3 and 4' and 'Archaic (Landini)'. The first system shows a final cadence in G major. The second system shows an archaic cadence in G major, characterized by a chromatic descent in the bass line.

## l. Hocket

Obras 10, 40-44

Libro 10, 49-53 (entry of  $S_2$  = sec. 1)

Musical notation for 'Hocket' in G major, 3/4 time. The piece consists of two systems of two staves each. The first system shows a hocket pattern with alternating notes between the two staves. The second system shows a hocket pattern with a chromatic descent in the bass line.

## m. "Arrival" consonance

Obras 13, 23-25

Idem, 47-50

Musical notation for 'Arrival' consonance in G major, 3/4 time. The piece consists of two systems of two staves each. The first system shows a consonance with a chromatic descent in the bass line, labeled (A). The second system shows a consonance with a chromatic descent in the bass line, labeled (F).

Santa María's Harmonic Theory:

An Evaluation

Referring to such *ostinato* bass patterns as the *passamezzo*, the *Romanesca*, and the *folia*, Lowinsky asserts: "If the cadence may be regarded as the cradle of tonality, the *ostinato* patterns can be considered the playground in which it grew strong and self-confident."<sup>33</sup> Following Lowinsky's approach to Renaissance analysis, Murray Bradshaw analyzes the chordal patterns in this genre by means of Roman numerals in his study of the *falsobordone* in Spain and Italy.<sup>34</sup>

Looking back at the initial phrase of Cabezón's *fabordón* in mode 4 reproduced in example 5.17c, and should we assume that the key is *A* minor (it is not: the *fabordón* is in mode 4, and *A* is the *repercussa* and not the tonic), the resulting Roman-numeral progression would be i-VI-III-<sup>b</sup>VII-VI<sub>6</sub>-iv<sub>6</sub>-V-I. And example 5.24 shows a reduction of the basic harmonic pattern used by Cabezón in his *Diferencias sobre las vacas* (see example 5.20a above) on the *Romanesca* bass, under which I have added a possible Roman-numeral interpretation (or should we think, with

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<sup>33</sup>Lowinsky, p. 5.

<sup>34</sup>Murray Bradshaw, *The Falsobordone*, American Institute of Musicology, Musicological Studies and Documents, no. 34 (Stuttgart: Hänssler-Verlag, 1978). Bernhard Meier takes issue with Bradshaw's methodology of "interpreting the succession of bass notes as tonal in the sense of later harmonic theories" in n. 24 of his article, "Die Modi der Toccateen Claudio Merulos," *Archiv für Musikwissenschaft* 34, no. 3 (1977):180-98.

Lowinsky, of a "constant modulation from *F* major to *D* minor"?).<sup>35</sup>

Example 5.24: *Romanesca, Guárdame las vacas*

Dm: III (b)VII i V i (b)VII III (b)VII iv V I

(or: V/III III)

One cannot deny that some of the chordal passages which we have discussed can be successfully analyzed with Roman numerals, and these passages characteristically belong to *tritus* modes with  $B^b$ , as in the case of the excerpts from *Libro 7* (mode 6) and *Obras 9* (mode 5) reproduced in example 5.18. The application of the harmonic system symbolized by Roman numerals to our chordal examples, however, often produces functionally abnormal progressions such as, for instance, V-IV (example 5.11d), V-ii<sub>6</sub> (5.13c), V-vi<sub>6</sub> (5.13d and 5.16, m. 13 of closing phrase), or III-<sup>b</sup>VII-I (5.17b). Among our examples of deceptive cadences, 5.22 includes a case of v-ii and one of v-ii<sub>6</sub>, while 5.23i features an example of V-IV<sub>6</sub>.

And, with respect to Lowinsky's and Bradshaw's interpretations, the

<sup>35</sup>See Lowinsky, p. 93, note 10.

progressions which result from the *fabordón* and the *diferencias* do not seem to support the idea of a "strong and self-confident tonality." As Rivera has written referring to a progression of this type, "this chordal succession could not easily have sprouted from the cultured tonality of the preclassical period. During the seventeenth century, however, progressions such as this thrived like perennial weeds in seemingly tonal gardens."<sup>36</sup> In the sixteenth century the gardens were not even seemingly tonal, but modal. And even though Renaissance composers undoubtedly thought in vertical terms, at least for some specific passages or genres, their harmonic system was far from that expounded by Rameau.

The harmonic system set forth by Santa María is based on the following criteria: structural priority is given to the outer-voice pair; the added inner voices fill in the outer-voice consonance with one of several possible consonant arrangements; these arrangements are classified by their intervallic content as reckoned from the bass. The concern of the theorist lies in the quality of the resulting sonorities--driven by the melodic motion of the treble--and not in the progression of the bass. The elements examined to determine the quality of a sonority are the note which is doubled (the bass is preferred) and the fullness of the sonority (complete "triads" are preferred, although the term is not mentioned in the *Arte*). Finally, we should note that Santa María's classification of sonorities

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<sup>36</sup>Benito Rivera, "The Seventeenth-Century Theory of Triadic Generation and Invertibility and its Application in Contemporaneous Rules of Composition," *Music Theory Spectrum* 6 (1984):63.

also shows his preference for root-position triads, and within these, for sonorities with larger intervals at the bottom (although neither of these two categories is explicitly stated by Santa María).

The significance of such an approach to harmony will be apparent if we compare it with some seventeenth-century harmonic formulations. Speculative harmony in the seventeenth century relied largely on the science of numerical proportions. The concepts of triad (*trias harmonica*) and triadic inversion, unknown to Santa María, were generally acknowledged after their unequivocal presentation by Lippius.<sup>37</sup> But otherwise, the common practical approach to vertical composition was based, until well into the eighteenth century, on the same concepts found in the *Arte*. And their theoretical tenets were not superseded until Rameau's *Traité* of 1722.

Lippius advocates the harmonization of an outer-voice structure using root-position triads exclusively--only occasionally should first or second inversions be used. The triads should always be complete, the root should be doubled most of the time--sometimes the fifth, rarely the third--, and larger intervals should be placed at the bottom of the sonority.<sup>38</sup>

Pietro Cerone borrows Santa María's presentation of the "differences of the

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<sup>37</sup>Johannes Lippius, *Synopsis musicae novae*, trans. Benito Rivera (Colorado Springs: Colorado College Music Press, 1977). See Rivera, "Seventeenth-Century," pp. 63-65.

<sup>38</sup>Rivera, pp. 65 and 72.

consonances" almost literally and without acknowledgement. He also summarizes Santa María's technique of "playing in consonances," referring to it as "accompaniment of the treble" (*acompañamiento del tiple*) when it repeats notes, or it ascends or descends by steps, by leaps of third, fourth, or fifth.<sup>39</sup> Mersenne also establishes the primacy of the treble/bass pair, and lists all the possible ways in which octaves and tenths can be filled in with two inner voices, in charts similar to Santa María's "differences of the consonances." Considering the frequent references to Cerone which can be found in Mersenne's *Harmonie universelle*, the influence of Santa María's classification of sonorities on Mersenne seems to be likely.<sup>40</sup>

As late as 1702, Andreas Werckmeister classifies all possible arrangements of a C-major triad in four voices following the criteria of triad position (root position is best), doubling (the root should be doubled), disposition of the voices (closed positions are better than open positions), and fullness of sound (triads should be complete).<sup>41</sup>

The prevailing approach to chordal composition in the seventeenth century can

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<sup>39</sup>Pietro Cerone, *El melopeo y maestro* (Naples: I.B. Gargano and L. Nucci, 1613; facsimile ed., Ann Arbor: UMI Research Press, 1978), pp. 730-37 and 829-32.

<sup>40</sup>Marin Mersenne, *Harmonie universelle* (Paris, 1636; facsimile ed., Paris: Centre National de la Recherche Scientifique, 1965), pp. 95 and 207.

<sup>41</sup>Andreas Werckmeister, *Harmonologia musica* (Frankfurt/Leipzig, 1702), p. 5. See Rivera, pp. 66-67.



be found in thoroughbass treatises, and these rely frequently on the same principles outlined in the *Arte*. In chapter 14 of *Li primi albori musicali* (Bologna, 1672), Lorenzo Penna discusses the accompaniment of a solo melody. Penna's examples provide the melody and the bass, leaving the chords to be supplied by the performer, according to the rules stated in the treatise's first chapter. The first rule is: "the harmony is to be replete with consonances, namely the Prime, Third, Fifth, or Sixth, Octave, and their compounds."<sup>42</sup>

Matthew Locke's directions for chordal composition are all based on intervals counted from the bass. Locke considers first the bass motion (by steps, or by leaps of any interval), then lists the possible intervals between the bass and the discant with each particular bass motion, and finally instructs the performer to fill in the structure with consonances unless the figures indicate otherwise.<sup>43</sup> The same approach is found in Gasparini's *L'armonico pratico al cimbalo* (Venice, 1708). Gasparini starts from the motion of the bass (by step, or by leap of different intervals), and determines what intervallic arrangements can be used to harmonize each particular motion.<sup>44</sup> Some of Gasparini's other major concerns are dissonances and cadences (all discussed according to their vertical intervallic

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<sup>42</sup>Frank T. Arnold, *The Art of Accompaniment from a Thorough-Bass* (London: Oxford University Press, 1931), pp. 135 and 148.

<sup>43</sup>Matthew Locke, *Melothesia* (London, 1673; facsimile ed., New York: Broude Brothers, 1975), p. 7.

<sup>44</sup>Francesco Gasparini, *L'armonico pratico al cimbalo* (Venice, 1708; facsimile ed., New York: Broude Brothers, 1967), pp. 30-45.

content), and diminutions. Gasparini's examples for the latter are made up of a melody and a bass, and he instructs the performer to play the bass "and consonances" with the left hand, while the right hand plays the embellished melody.<sup>45</sup>

The basic difference between the approach to vertical composition in the *Arte* and in figured-bass treatises is that the former starts from the treble and then adds the bass, while the latter always start from the bass. This difference of stress between the treble and the bass is also apparent in their harmonizations of octave segments. Santa María harmonizes treble octave segments, while the later "rules of the octave" refer to the harmonization of a bass octave.<sup>46</sup> Otherwise, the elements, procedures, and criteria presented in the *Arte* are virtually the same as those found in seventeenth- and early-eighteenth-century harmonic treatises. And, in all cases, the main concern lies in the intervallic content and connection of the vertical sonorities, rather than the linear progression of the bass. The *Arte* thus contains an early exposition of a theory of harmony which would be in effect for almost two centuries, and which would provide musicians of the Renaissance and Baroque periods with the means for understanding and rationalizing their practice of vertical composition.

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<sup>45</sup>Ibid., pp. 98-104.

<sup>46</sup>"Rules of the octave" first appeared in print in early eighteenth-century French treatises. According to Rousseau (*Dictionnaire de musique*, 1768), the "rule" was first published by Delaire in 1700 (see Arnold, p. 280).

*c.-A review of Compositional Techniques:*

*The Magnificat Versets*

All of the compositional techniques that we have described in the present chapter are represented in the Magnificat versets of Cabezón. Due to their short length, the versets are concise and clear illustrations of these techniques, and thus epitomize the richness and variety of compositional resources used by sixteenth-century composers. Because the techniques have already been described, I will only comment briefly on some of the most characteristic versets in the form of a summary for the present discussion of Cabezón's compositional craft.<sup>47</sup>

The Magnificat in mode 1, number 2, illustrates one of the most frequent types of verset structure: a single fugal exposition based on one subject is followed by a short closing in consonances with one voice in *glosa*--in this case the treble. The single subject is derived from the opening of Magnificat 1 (example 5.25). Mode 1, number 4, is an example of an imitative verset in which a single motive is present throughout. In other versets, such as mode 3, number 1, the Magnificat is broken up in its two phrases, and each half is used as subject for one of the two imitative sections of the verset.

The *cantus-firmus* technique is frequently used in the Magnificats. The verset in mode 3, number 4, presents a case of a *cantus firmus* in the tenor supporting an

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<sup>47</sup>The Magnificat versets can be found in Anglés' edition of the *Obras, Monumentos de la música española*, vol. 28.

Example 5.25: *Obras*, Magnificat verset, mode 1, no. 2

imitative exposition on one single subject in the other three voices. Mode 7, number 1, is a non-imitative piece based on a *cantus firmus* in the treble. And mode 3, number 5, is an illustration of a *cantus firmus* in the bass on which the other voices present three different subjects in imitation (example 5.26).

The technique of playing in consonances is widely represented in the versets. Mode 2, number 5 presents the Magnificat in the treble, harmonized in consonances in the other three voices, with a *glosa* in the bass (example 5.27a). Mode 5, number 6, opens with paired imitation (mm. 1-4), and continues in consonances with *glosas* in the bass (mm. 5-6), alto (mm. 7-8), and treble/alto (mm. 9-12) respectively. Mm. 5-6 outline the pattern 10-8/10-8/10-10-8, which begins with a circle of fifths. The pattern in mm. 7-8 is 8-10/10-10-10/8-10 (example 5.27b).

## Example 5.26: Magnificat verset, mode 3, no. 5

Musical score for Example 5.26: Magnificat verset, mode 3, no. 5. The score consists of three systems of two staves each (treble and bass clef). The first system is marked with a 'v' (vibrato) in the treble clef. The music is in a minor key and features a mix of eighth and sixteenth notes, with some rests and dynamic markings like 'p' (piano). The second system continues the melodic line with similar rhythmic patterns. The third system concludes the piece with a final cadence, marked with a sharp sign and a 'C' time signature.

## Example 5.27a (Magnificat verset, mode 2 no. 5)

Musical score for Example 5.27a (Magnificat verset, mode 2 no. 5). The score consists of two systems of two staves each (treble and bass clef). The first system is marked with a 'v' (vibrato) in the treble clef. The music is in a minor key and features a mix of eighth and sixteenth notes, with some rests and dynamic markings like 'f' (forte) and 'p' (piano). The second system continues the melodic line with similar rhythmic patterns, ending with a final cadence marked with a sharp sign and a 'C' time signature.

## 5.27b (Mode 5 no. 6)

The image shows a musical score for a piece titled "5.27b (Mode 5 no. 6)". The score is written for a six-stringed instrument, indicated by the Roman numeral "VI" on the left. It consists of two systems of staves. The first system has a treble clef on the top staff and a bass clef on the bottom staff. The second system also has a treble clef on the top staff and a bass clef on the bottom staff. The music is written in a single system, with a key signature of one sharp (F#) and a time signature of 3/4. The notation includes various rhythmic values, including eighth and sixteenth notes, and rests. The piece concludes with a double bar line and a final cadence.

The Magnificat versets also provide a clear insight into Cabezón's technique of thematic transformation and his method of deriving subjects from the Magnificat tones. Example 5.28 reproduces five subjects from the Magnificat versets and compares each of them with the canticle tone from which it was derived.

### *Conclusions*

The *Arte de tañer fantasta* bears witness to the variety of compositional techniques practiced by mid-sixteenth-century composers of instrumental music. Our analysis of Cabezón's music illustrates this variety, and shows how old and new methods often intertwine in the same piece or are even present simultaneously. The prevailing compositional approach is contrapuntal, and is founded on pervading imitation involving all the voices as having equal structural significance. The old technique of *cantus-firmus* composition is present in Cabezón, but it does not imply a priority of the tenor, nor is it based on a treble-tenor duet. Cabezón places the borrowed tune in any of the four voices, thus showing again their equal status. Some exceptional passages in the *tientos*, however, still feature a treble-tenor structural frame, as do some of the versets.

The technique which was bound to have the strongest impact on seventeenth-century composers was the bass-oriented method of "playing in consonances." This is a chordal, rather than contrapuntal, technique, and priority is given in it to the treble-bass pair.

The problem of voice priority is thus totally dependent on the particular

## Example 5.28: Magnificat versets, subjects

Mode 1, no. 5

Mode 1, no. 7

Mode 3, no. 2

Mode 5, no. 2

Mode 8, no. 4

technique used in a particular passage or piece. Imitative textures imply simultaneous composition of all the voices, *cantus-firmus* composition implies priority of the voice which bears the borrowed tune, chordal compositions are based on an outer-voice frame, while traces of the old dyadic frame, the treble-tenor duet,



can still be detected in some pieces. All of them coexist in this century so rich in musical resources, and all of them can often be found side-by-side, or even simultaneously, in the same piece. Herein lies the complexity and richness of sixteenth-century music, which has sparked many a controversy, and herein lie as well all the roots of the compositional techniques later used by Baroque composers.

## CHAPTER VI

### COMPLETE ANALYSES

In the two previous chapters we have considered the modal and technical elements which constitute the basis for the composition of *tientos* and *fantastas*. Individual *tientos* have been used to illustrate isolated compositional procedures or instances of specific tonal behaviors. The purpose of the present chapter is to analyze and compare some of Cabezón's and Santa María's most representative compositions as gestalts, and to examine how all of the isolated aspects previously discussed interact to make up a unified whole. This purpose requires the introduction of two further analytical categories, both of which refer to the composition as a unit: form and thematic organicity.

#### *Form and Formal Growth*

The *fantasia* as envisioned by Santa María is a sectional genre, in which the sections are delimited by an opening imitative exposition and a closing cadence. Santa María's concern in the *Arte's* part 2, chapters 37 to 50, is to provide detailed contrapuntal instructions on how to effect the connection between successive sections. The Dominican's instructions concentrate on the overlapping relationships

between the cadence which closes a section and the imitative beginning of the following section. Such a formal description, which applies also to Cabezón's *tientos*, opens the question of continuity. How are continuity and unity achieved in a genre which is sectional by definition and which makes use of diverse techniques and several different subjects? Continuity is solved by means of frequent deceptive cadences--which do not interrupt the musical flow--and by overlapping sections: the end of a section is at the same time the beginning of the new section. Unity results from long-range tonal designs--as they have been discussed in the chapter on modality--, rhythmic uniformity, and inner connections among sections by means of subject relationships.

A device frequently used by Cabezón to achieve a sense of completeness in his *tientos* is that of subject reprise: the opening subject of a multi-subject *tiento* is presented again at the end of the piece. Such a procedure can be found in *Libro* 1, 9, 10, 11, and 24, and *Obras* 4, 6, and 10.<sup>1</sup>

Some of Cabezón's *tientos* feature sections which are not based on a new subject, but rather on the contrapuntal development of one or more subjects presented in previous sections. Examples of such a procedure can be found in *Libro* 10 and 24.

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<sup>1</sup>The case of *Obras* 10 has already been discussed in chapter 4, pp. 166-67: after an initial section in which S<sub>1</sub> is presented and mode 1 established, a middle section presents S<sub>2</sub> and features a complete change to mode 3, and in the final section both mode 1 and S<sub>1</sub> return, thus producing a form rounded both modally and thematically.

### Techniques of Formal Growth

The most salient stylistic features of the *tientos* are the imitative treatment of the subjects and their contrapuntal elaboration by means of free counterpoint, *stretto*, and melodic processes such as inversion and retrograde. These contrapuntal techniques are used as a means of extending sections, and also as developmental procedures in sections which do not introduce any new subject, but rather develop previously presented material. Examples of *stretto* as a means of development can be found in *Obras 5* (mm. 32-53 and 53-69) and *Obras 2* (mm. 23-32).

Besides the contrapuntal means of formal growth, other developmental techniques used by Cabezón are thematic fragmentation, *glosa* and variation, textural and registral contrasts by means of duets, and *ostinato*.

Cabezón's approach to the technique of variation in the *tientos* is mainly contrapuntal, frequently combining the treatment of subjects as *cantus firmi* with the technique of melodic diminution or *glosa*. Examples of such a means of developing or extending a section can be found in *Obras 1* (mm. 56-66), *Obras 5* (mm. 32-53, in which *stretto* and *glosa* are used simultaneously), and *Obras 7* (mm. 21-40). An example of a *tiento* making ample use of *glosa* in a context unrelated to the technique of variation is provided by *Libro 1*. The *glosa* is used here to ornament passages of connection between major sections (mm. 34-38, 68-75, and 95-103) and as a counterpoint to *seculorum 1* (mm. 75-86).

Developments are often effected by means of registral contrasts, or antiphonal

effects, between upper-voice and lower-voice duets. Development sections based on duets can be found in *Libro 1* (mm. 38-61, duet alternation on *seculorum 1*), *Libro 8* (mm. 14-30, duets on  $S_1$ ; mm. 100-110, duets on  $S_3$ ), besides *Libro 10*, *Obras 3*, and *Obras 11*, as we will see below.

A final device occasionally used by Cabezón with great effect in generating developmental sections is the *ostinato*. The *ostinato* sections in *Libro 10* and *18* will be discussed in the analyses of these two *tientos* below. The second half of *Libro 6* (mm. 59-119) is based on the repetition in all the voices of a melodic figure along with occasional free contrapuntal material in some of the voices. The melodic figure is subject to slight pitch and rhythmic variations, extension, and contractions, and its occurrence in the different voices does not follow a regular contrapuntal pattern, but rather stresses different vertical relationships at each repetition. Example 6.1a illustrates the melodic cell and some of its variations, and 6.1b reproduces a passage in which its use in all the voices can be observed.

Example 6.1 (*Libro 6*)

a.

Three staves of musical notation. The first staff is a single melodic line. The second staff is a two-staff system with a treble and bass clef. The third staff is a single melodic line.

b.

Three systems of two staves each. The notation includes measure numbers 75, 80, 85, 90, 95, and f. 20 100.

*Thematic Organicity in the Tientos:**Subject Derivation*

The question of thematic relationships among different sections of a *fantasia* is not addressed by Santa María. However, thematic organicity as a means of achieving overall musical unity is one of the most striking features of Cabezón's

*tientos*. The procedure of deriving subjects from other subjects becomes an elaborate craft in the hands of the blind master, and thus deserves special attention.

A first type of thematic derivation in Cabezón is that in which a subject is derived from the second part, or second motivic gesture, of the opening subject. Examples of such procedure can be found in *Libro 1*, 5, 8, and 11. Example 6.2a reproduces  $S_1$ ,  $S_2$ , and  $S_3$  of *Libro 1*.  $S_1$  is broken up into two halves; the first half generates  $S_2$ , which is presented by the alto accompanied by an inversion of its opening gesture in the treble (mm. 21-25); the second half of  $S_1$  generates  $S_3$  (alto, mm. 38-43).

In other cases the initial counterpoint to  $S_1$  later becomes a subject on its own right. Illustrations of this practice can be found in *Obras 2* ( $S_4$  is the counterpoint to  $S_1$ , see example 6.2b), *Obras 6* ( $S_2$  is the counterpoint to  $S_1$ ), and *Obras 9* ( $S_2$  and  $S_4$  are derived from the counterpoint to  $S_1$ ).

A group of *tientos* features multiple relationships among several of their subjects. Three of these *tientos* will be fully analyzed below (*Libro 18* and *Obras 11* and 8). We will now refer to *Obras 7* and 12 as examples of thematic organicity involving several subjects. Example 6.3 reproduces the four *subjects* of *Obras 7*. The two most characteristic gestures of  $S_1$ --a neighbor-note figure and a descending fourth--are also characteristic gestures of *seculorum 4*, and are present in  $S_2$ ,  $S_3$  (as an ascending fourth), and  $S_4$ , while a third motive (see gesture c in example) also connects  $S_2$  and  $S_4$ .

Example 6.2

a. *Libro 1*

b. *Obras 2*

Example 6.3 (*Obras 7*)



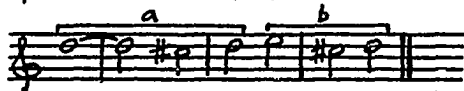
Our second example of multiple-subject relationships in the *tientos* provides at the same time insight into thematic organicity in Josquin, and stresses the connection between the two Renaissance masters. *Obras 12*, on the *Cum Sancto Spiritu* from Josquin's *Missa Beata Virgine*, is a *tiento* in which Cabezón borrows the thematic material from Josquin's Mass movement, combining and rearranging the different subjects into a new composition which takes full advantage of Josquin's masterful thematic unity.<sup>2</sup> Example 6.4 reproduces all of the subjects in the *tiento*, showing the role of the motive *E-C#-D* and its variation *F-E-C#-D* in unifying the thematic material of the whole composition.

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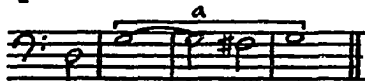
<sup>2</sup>References to this *tiento* can be found in Merino, pp. 40-45, and Ward, "Borrowed Material," p. 94. For my comparison with Josquin's original version, I have used A. Smijers' edition of Josquin's *Works*, vol. 4, no. 3 (Amsterdam: G. Alsbach, 1952), pp. 137-38.

Example 6.4 (*Obras 12*)

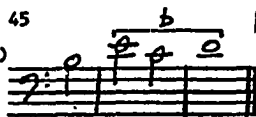
S<sub>1</sub>, treble, m. 1 (Josquin, m. 223)



S<sub>2</sub><sup>a</sup>, bass, m. 40 (J. 230, treb.)



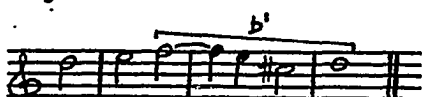
S<sub>2</sub><sup>b</sup>, tenor, m. 45  
(J. 229, tenor)



S<sub>2</sub><sup>c</sup>, treble, m. 43 (J. 231, alto)



S<sub>3</sub>, treble, m. 56 (J. 231, treb.)



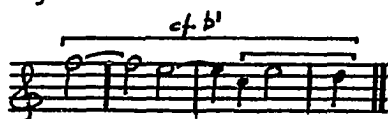
S<sub>4</sub><sup>a</sup>, ten., m. 67 (J. 237, alto)



S<sub>4</sub><sup>b</sup>, bass, 67  
(J. 237, treb.)



S<sub>5</sub><sup>a</sup>, treb., 78 (J. 242, treb.)



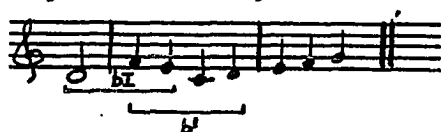
also: bass, 92



alto, 87



S<sub>5</sub><sup>b</sup>, alto, 78 (from S<sub>5</sub><sup>a</sup>)



*Analyses*1. *Libro* 10, mode 1

*Form.* The *tiento* is divided into four major sections:  $S_1$  (mm. 1-51),  $S_2$  (51-85), a development (85-124), and a closing (125-150). The  $S_1$  section is in turn divided into the exposition of  $S_1^a$  (1-19) and a development based on a subject ( $S_1^b$ ) derived from the opening gesture of  $S_1^a$  (19-51, see example 6.5a).  $S_2$  is an elaboration of *secularum* 1 (example 6.5b), and its entry is stressed by a *hocket* cadence which resolves into an open octave. The development section is based on  $S_1^a$  and  $S_1^b$ , which are treated in free imitation and with the use of such devices as inversion and diminutions or *glosas* (example 6.5c). The texture is based on the opposition between the high-voice and low-voice duets. *Magnificat* 1 is outlined in the second part of the development (tenor, 108-112; treble, 112-116; and alto, 120-124; see example 6.5d).

The closing section is based on a double *ostinato*. The two repeated figures are presented by the bass and the tenor/treble respectively. The bass figure is derived from  $S_1^a$ , and the tenor/treble figure from  $S_1^b$ . Thus, the closing *ostinato* also represents a return to the opening thematic material, and in this way rounds off the form of the *tiento* (example 6.5e). The occurrences of the two figures are not synchronized, thus producing rhythmic displacements at each repetition, and hence minimizing the effect of monotony which might result from repetition. Example 6.5f presents a metric reduction of the *ostinato* section, leaving out the

freely composed alto and the passages of the treble which are also freely composed (mm. 125-132 and 141-150).

The main techniques of formal growth used by Cabezón in this piece are thematic variation (as in the case of the thematic relationship between  $S_1^a$  and  $S_1^b$ ); contrapuntal development of a subject using diminutions, *stretto*, and inversion (development section on  $S_1^a$  and  $S_1^b$ ); textural contrast between duets (development section); and *ostinato* (closing section). Example 6.5 presents the main thematic material in the piece, and illustrates the relationships among different thematic elements.

## Example 6.5

a.

b. Seculorum 1<sup>o</sup> S<sub>2</sub>

c. Dev. on S<sub>1</sub><sup>b</sup>, opening measures: reduction

d.

Magnificat 1<sup>o</sup> Tenor, mm. 108-112

Treble, 112-116 Alto, 120-124

e.

S<sub>1</sub><sup>a</sup> bass ostinato

S<sub>1</sub><sup>b</sup> treble/ten. ostinato

f.

*Mode.* The *tiento* is unambiguously in mode  $1^G$ . The main species outlined throughout the piece are  $1/5$  and  $1/4$  on  $G$  and  $D$ . The structural cadences are all on  $D$  and  $G$ . The piece closes with a cadence on the confinal ( $D$ ). Mode  $1^G$  is confirmed by *seculorum* 1 and Magnificat 1, both presented at the  $G$  and  $D$  levels. Both  $S_1^a$  and  $S_1^b$  are typical mode-1 subjects.

A passage of modal ambiguity between modes  $1^G$  and  $7^C$  can be observed at mm. 34-41. The dominant species are  $3/4^C$  and  $1/4^G$ . Mode  $7^C$  results from these species, from the interval of imitation ( $C-G$ ), and from the cadence on  $G$ , common to both modes.

*Commentary.* This *tiento* is an example of a composition using a minimal amount of material, all of which contribute to modal unity: only two subjects, both of which are mode-1 stereotypes (the second one is actually *seculorum* 1), and Magnificat 1. The opening subject ( $S_1^a$ ) generates a subordinate subject ( $S_1^b$ ), and both generate the development section.  $S_1^a$  and  $S_1^b$ --the former presented in a stylized version which preserves only its contour--come together in the closing section, thus rounding out this self-contained form, and stressing again the thematic and tonal unity of the piece. The elements of tonal variety introduced by Cabezón are the passage in mode  $7^C$  which has been mentioned above and the ending on the confinal rather than the final.

Example 6.6: *Libro 10*, compositional chart

**LIBRO 10, mode 1**

The score is divided into several sections:

- Section 1 (Measures 1-51):** Features Soprano (S<sub>1</sub>) and Soprano II (S<sub>2</sub>) parts. A circled 'D' is placed below the S<sub>1</sub> line. Measure numbers 28, 42, and 51 are indicated.
- Section 2 (Measures 52-107):** Labeled "S<sub>1</sub>+Magnificat 1". Includes a "Dix on S<sub>1</sub> (in duets)" annotation. Measure numbers 70, 99, 104, and 107 are shown.
- Section 3 (Measures 108-133):** Labeled "S<sub>2</sub>: Secularum 1". Includes a circled 'D' and a "Closing: *ostinato*" annotation. Measure numbers 127 and 133 are shown.
- Section 4 (Measures 134-189):** Labeled "SUMMARY OF VOICE STRUCTURES:". Includes a circled 'D' and a "(D) *deceptive*" annotation. Measure numbers 153, 169, and 189 are shown.
- Section 5 (Measures 190-249):** Labeled "AMBITUS:". Includes a circled 'D' and a "(D) *deceptive*" annotation. Measure numbers 213, 229, and 249 are shown.

**MAIN SERIES OUTLINED:**

- Treble: 1/58' 1/89' 1/50(89) 1/40(89) + 1/40'
- Alto: 1/50' 1/49' 1/89' 2/80(89)
- Tenor: 1/49' 1/89'
- Bass: 1/50' 1/49'

Example 6.7: Libro 10

XXXVI  
TIENTO X  
1.  
Antonio

Musical score for Example 6.7: Libro 10, Tiento X. The score is divided into two systems, each containing seven staves. The first system includes a key signature change to one flat (S1b) and a circled 'D' marking. The second system includes a key signature change to two flats (S2) and a circled 'C' marking. The score contains various musical notations such as notes, rests, and dynamic markings like 'Der. on S1b f. 22v'. Measure numbers 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 108, 110, and 115 are indicated throughout the score.



|| *Closing*

Musical score for piano, measures 120-150. The score is written in treble and bass clefs. Measure numbers 120, 125, 130, 135, 140, 145, and 150 are indicated above the staff. A dynamic marking *(D)* is present below the first system. The piece concludes with a double bar line and a fermata over the final note.

2. *Libro* 18, mode 4

*Form.*<sup>3</sup> The *tiento* includes six themes, distributed in five major sections. The S<sub>1</sub> section (mm. 1-24) is divided into the exposition in paired imitation (1-12) and an episode on S<sub>1</sub>, at the end of which S<sub>2</sub> is introduced in *vorimitation* (bass, m. 17; alto, m. 19; and tenor, m. 20). The S<sub>2</sub> section opens with S<sub>2</sub> presented in paired imitation, and is connected to the S<sub>3</sub> section by an alto/treble duet which introduces an inversion of S<sub>3</sub>, later to become S<sub>6</sub>. S<sub>3</sub> is also prefigured by the bass at mm. 29-32.

The S<sub>3</sub>/S<sub>4</sub> section (mm. 50-109) opens with the imitative presentation of S<sub>3</sub> (50-61), in which the last entry by the treble is delayed by a repeated *e*" supported by repeated figures in the remaining voices (mm. 61-70). This passage acts as a bridge to an extension of the S<sub>3</sub> section by means of an *ostinato*, in which the treble repeats S<sub>3</sub> seven times (mm. 70-95). The section closes with the presentation of a new subject, S<sub>4</sub> (mm. 94-109), first stated by the alto at mm. 94-97.

The S<sub>5</sub> section (mm. 109-134) opens with the bass entry at mm. 109-112, while the statement of S<sub>6</sub> by the alto at mm. 132-134 opens the S<sub>6</sub> section (132-182) which ends the piece.

The section is extended by an *ostinato* in which the bass repeats S<sub>6</sub> eleven times

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<sup>3</sup>The form and thematic content of this *tiento* was satisfactorily analyzed in Howell's "Cabezón: An Essay in Structural Analysis." The compositional mastery deployed by Cabezón in this piece justifies its inclusion in the present chapter, even though my analysis covers much of the same ground as Howell's.

with slight rhythmic variations (mm. 146-182). The *tiento* closes with a statement of *seculorum* 4 by the tenor in *cantus-firmus* style (mm. 155-182). The principal techniques of formal growth used in the piece are contrapuntal episodes (in the extensions of the  $S_1$  and  $S_2$  sections) and repetition (as in the *ostinato* passages in the  $S_3$  and  $S_6$  sections).

*Mode.* This is a standard mode-4 composition. Mode is defined by the cadential structure (cadences are on *A* and *E*), by imitation patterns ( $S_1$ : *E-B-E-B*;  $S_2$ : *A-E-A-E*;  $S_3$ : *E-E-A-E*;  $S_4$ : *E-A-E-A*;  $S_5$ : *A-E-A-A*), and by the mode-4 species ( $3/8^E$  div. *A* in treble/tenor, and  $4/8^A$  in alto/bass). Other prominent species are  $2/4^B$  and  $2/4^E$ . The mode is confirmed by *seculorum* 4 (tenor, mm. 155-182).

As usual in mode 4, the species  $4/8^A$  (*A-E-A*) produces a built-in ambiguity with mode 1. The incomplete  $3/8^E$  (*E-A-D*) includes  $1/4^A$  (*A-D*) which also contributes to the same ambiguity (see tenor, mm. 8-39). Examples of ambiguity can be observed in the  $S_3$  section:  $1/5^A$  and  $1/5^D$  are stressed at mm. 50-59, and  $1/5^D$ ,  $1/5^A$ , and  $1/4^A$  are featured in the *ostinato* passage (74-90). In the  $S_6$  *ostinato* section (mm. 132-182), the bass and alto outline  $1/5^A$  as part of  $4/8^A$ , and the treble and tenor outline  $3/8^E$  div. *A* (*E-A-E*).

*Thematic Organicity.* *Libro* 18 is one of Cabezón's most striking examples of a multi-subject *tiento* in which thematic organicity is achieved by means of melodic relationships. The main melodic features of  $S_1$  are two neighbor-note figures

followed by a descending fourth. The contour of the opening subject, on the other hand, outlines the triad *E-C-A*.  $S_2$  is directly derived from  $S_1$ , as can be seen in example 6.6.  $S_3$  is derived from  $S_2$ , and its contour outlines the same triad as  $S_1$  (*E-C-A*), which we find again as the melodic structure of  $S_4$ .  $S_5$ , directly related to the pitch content of  $S_4$ , is also the retrograde inversion of  $S_3$ , while  $S_6$  is the inversion of  $S_3$ --and hence also results from the *A-C-E* triad. The melodic features of *seculorum* 4, which closes the *tiento*, appear to summarize (and generate) the characteristics of the above subjects: the *seculorum* opens with two neighbor-note figures, and closes with a descending fourth. It is thus directly related to  $S_1$  and to the contours of both  $S_2$  and  $S_5$ , which outline a descending fourth. All of the above relationships are illustrated in the following example.

*Commentary.* *Libro* 18 is marked by its complex form and the multiplicity and variety of its subjects. Underlying the apparent diversity we find the sweeping unity so characteristic of Cabezón, effected by means of modal and thematic organicity. Further inner relationships among sections are achieved by anticipating subjects in the previous section; each formal division thus appears as a logical outgrowth of the preceding one. The procedure results in a sense of formal growth which is deeply coherent in its continuity. Using Howell's words, "it is hard to imagine a stronger or more esthetically satisfying example of abstract musical structure."<sup>4</sup>

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<sup>4</sup>Howell, p. 29.

## Example 6.8

$S_1$  -see  $S_2$

$S_2$ : derived from  $S_1$

$S_3$ : derived from  $S_2$ ; same triadic contour as  $S_1$  (E-C-A)

$S_4$ : same triadic contour as  $S_1$  and  $S_3$  - and: answer, see  $S_5$

$S_5$ : RI of  $S_3$

$S_6$ : I of  $S_3$ ; same triadic contour  
as  $S_1$ ,  $S_3$ , and  $S_4$

Seculorum 4



Libro 18, cont.

**MAIN SPECIES OUTLINED:**

Treble: 2/4e' 2/5e' 1/4a' 1/5a' 3/8e' div. a' 1/5a' 2/4e' 2/4e' 4/8a'

Tenor: 2/4e' 1/4a' 1/5a' 3/8e' div. a'

Bass: 1/4a' 1/5a' 4/8a' 2/4e'

**AMBITUS:**

**SUMMARY OF VOICE STRUCTURE:**

Example 6.10: Libro 18

XLIV  
TIENTO XVIII  
4.  
Antonio

*f* 27 61 64  
*p* *ritinto* 70 80 85  
S4 90 95  
100 105  
S5 110 115  
(A) 120



122 130 *S<sub>6</sub>*

123 140

145 *Ostinato* *f. 21 v.*

150 *Secularum* 155 (*Tensi*)

160 165

170

175 180

Detailed description: This page contains a piano score for measures 122 through 180. The score is written on seven systems of grand staff notation (treble and bass clefs). Measure numbers are indicated at the beginning of each system. The piece is marked with a dynamic of *f. 21 v.* and includes the instruction *Ostinato* starting at measure 145. A section titled *Secularum* begins at measure 150, with a sub-section *(Tensi)* starting at measure 155. A double bar line is present at the start of measure 123. A bracket labeled 'A' spans measures 123 to 140. The notation includes various rhythmic values, including eighth and sixteenth notes, and rests.

3. *Obras 3*, mode 1

*Form.* This *tiento* is divided into three major sections and a conclusion. The  $S_1$  section (mm. 1-78) contains the exposition of  $S_1$  (1-26) and two variations on  $S_1$  in which *glosa* and imitation are combined (24-56). The theme presented in duets at mm. 57-78 ( $S_1^b$ ) is a rhythmic diminution of  $S_1$ .  $S_1$  is stated two final times by the tenor and bass (64 and 70), while  $S_2$  is prefigured by the treble (69-71). The  $S_2$  section (77-125) opens with the exposition of  $S_2$  (77-92) followed by an episode on the same subject (93-106). The section is extended by a passage in *stretto* (108-117) and a passage in which a rhythmic variation of  $S_2$ , also treated in *stretto*, produces an apparent "chordal" texture (117-125).

The  $S_3$  section (125-158) features a subject derived from Magnificat 1. The first half of the Magnificat is stated imitatively at mm. 125-144, and closes with a cadence on *A*. The second half (144-158) is presented in duets with *glosas*. The closing section is a powerful passage in consonances based on a treble melody accompanied by a bass in *glosas* and consonances in the inner voices. A reduction of this passage in consonances can be seen in example 6.11a. The following features should be remarked: the treble melody breaks up into parallel, almost sequential phrases; the melodic units can be reduced to Santa María's categories of "ascending or descending by steps" or "by leaps of third," and hence can be harmonized following his criteria; the harmonization follows the grouping of the melody in four-note fragments; the bass has a harmonic (rather than melodic) nature, including frequent leaps of fourth and fifth, and typical harmonic bass-

patterns which I have labeled a, b, and c in the reduction. Example 6.11b illustrates the melodic relationships among subjects:  $S_3$  is derived from Magnificat 1, to which  $S_2$  is also related, while  $S_1$  is in turn related to  $S_2$ .

### Example 6.11

a.

8-10-B-10   5-10-10-B   8-10-12-B   10-10-10-B   10-13-10-9   10-10-10-B   8-10-8-10   5-10-10-B   10-13-8-11-10-9

a   b   a   c   b   c   a   b

b.

Magnificat 1    $S_3$ /Magnificat

$S_2$ /Magnificat    $S_2/S_1$

The main techniques of formal growth used in the *tiento* are variation and *glosa* (extension of the  $S_1$  section), *stretto* (extension of the  $S_2$  section) and textural contrasts between duets ( $S_1^b$  and  $S_3$ ).

*Mode.* The *tiento* is unambiguously in mode 1. The mode is established by cadences on *D* and *A*, and by the mode-1 species on *D* and *A*. The treble and

tenor mostly outline  $1/8^D$  and  $1/5^D$ , the alto  $2/8^A$  and  $1/5^A$ , and the bass  $1/8^D$ ,  $2/8^A$ , and  $1/5^D$ . There are no passages of modal ambiguity or commixture. Mode 1 is confirmed by the presence of Magnificat 1 in the closing section.

*Commentary.* This is one of Cabezón's most brilliant *tientos* from the point of view of idiomatic writing. The piece is composed in virtuoso organ style, and takes advantage of the registral resources possible in the instrument.<sup>5</sup> Diversity is provided by clearly delimited and contrasting sections, by a variety of techniques and textures, and by a wealth of different rhythmic figurations. Unity is present again in the form of modal uniformity and connections among subjects.

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<sup>5</sup>A discussion of the registration style suitable for the performance of Cabezón, along with an analysis of the appropriate registration for this particular *tiento* (*Obras 3*) can be found in Wyly, pp. 116ff.

Example 6.12: Obras 3, compositional chart

**OBRAS 3, mode 1**

The musical score is divided into four systems, each with two staves. The first system is labeled 'S1' and includes 'Glosa on S1' at measures 17, 24, 30, and 43. The second system is labeled '(S2)' and includes 'Spindwels' at measure 56. The third system is labeled 'Shetti' and includes 'S3: from Magnificat 1' at measure 117. The fourth system is labeled '2nd. half Magnificat: Duet's, glosado' and includes 'Closing in consonances, glosado in bass' at measure 147. Various annotations like (A), (B), and (C) are placed throughout the score. Bar numbers 17, 24, 30, 43, 49, 56, 70, 78, 88, 92, 108, 117, 123, 129, 135, 147, 153, 159, and 165 are marked.

Obras 3, cont.

MAIN SPECIES OUTLINED:

TRIBLE:  $1/5^d$   $1/4^a$   $1/8^d$   $1/5^a$   $2/8^a$

ALTO:  $1/5^a$   $2/8^a$

TENOR:  $1/5^d$   $1/8^d$

BASS:  $1/4^a$   $1/5^a$   $1/8^d$   $2/8^a$

AMBIVUS:

SUMMARY OF VOICE STRUCTURE:

56 78 125

A B D

Example 6.13: Obras 3

LX  
Tiento III  
Primer tono

The musical score is written for piano in a single system with two staves (treble and bass clef). It consists of eight lines of music, each containing measures 1 through 60. The score includes various musical notations such as notes, rests, and accidentals. Key features include:

- Measure 1: Starts with a treble clef, a key signature of one sharp (F#), and a common time signature (C). The first measure contains a treble clef, a key signature of one sharp, and a common time signature. The first measure contains a treble clef, a key signature of one sharp, and a common time signature.
- Measure 5: Marked with a fermata and the number '5' above the staff.
- Measure 10: Marked with the number '10' above the staff.
- Measure 15: Marked with the number '15' above the staff.
- Measure 20: Marked with the number '20' above the staff.
- Measure 25: Marked with 'Var. 1' above the staff and the number '25' above the staff.
- Measure 30: Marked with the number '30' above the staff.
- Measure 35: Marked with the number '35' above the staff.
- Measure 40: Marked with the number '40' above the staff.
- Measure 45: Marked with the number '45' above the staff.
- Measure 50: Marked with the number '50' above the staff.
- Measure 55: Marked with the number '55' above the staff.
- Measure 60: Marked with the number '60' above the staff.

There are also several circled letters: 'S1' at the beginning, 'D' below measure 20, 'A' below measure 30, 'A' below measure 45, and 'A' below measure 60. The piece concludes with a double bar line at measure 60.

Handwritten musical score for piano, consisting of eight systems of staves. The score includes various annotations and markings:

- System 1: Measure 65.
- System 2: Measure 70, marked with *(S2)*.
- System 3: Measures 75 and 80, marked with *S2* and *D*.
- System 4: Measure 85.
- System 5: Measure 90, marked with *Episode*.
- System 6: Measures 95 and 100.
- System 7: Measures 105 and 110, marked with *Stretti* and *A*.
- System 8: Measures 115 and 110, marked with *Stretti* and *D*.



120 125 || 53

D

Detailed description: This system contains measures 120 through 125. The music is written for piano on a grand staff. Measure 125 ends with a double bar line and the number 53. A chord symbol 'D' is written below the bass staff at the end of the system.

130 135

Detailed description: This system contains measures 130 through 135. The music continues on the grand staff.

140 145

*r.s.v.*

A

Detailed description: This system contains measures 140 through 145. Measure 145 features a section marked 'r.s.v.' (ritardando) with a fermata over a series of sixteenth notes. A circled letter 'A' is written below the bass staff.

150

Detailed description: This system contains measures 150 through 155. The music continues on the grand staff.

155 160

*Closing*

D

Detailed description: This system contains measures 155 through 160. Measure 160 is marked with a double bar line and the word 'Closing'. A chord symbol 'D' is written below the bass staff.

165

Detailed description: This system contains measures 165 through 170. The music continues on the grand staff.

170 175

Detailed description: This system contains measures 170 through 175. The music continues on the grand staff.

180

D

Detailed description: This system contains measures 180 through 185. A chord symbol 'D' is written below the bass staff at the end of the system.

## 4. A Comparison of Two Mode-6 Compositions:

Cabezón's *Obras* 11 and Santa María's *fantasia* 14

Upon comparing compositions by Cabezón and Santa María one should keep in mind that Cabezón was one of the leading European composers of instrumental music, while Santa María was an organist and theorist who used his own pieces, unpretentious from the compositional point of view, to illustrate specific aspects developed in his treatise. The comparison, however, is useful inasmuch as it allows us to see how similar modal structures, formal outlines, and approaches to subject connections can produce disparate results depending on whether they are handled by an artist of genius or by a more modest performer and pedagogue.

*Form.* *Obras* 11 is the longest *tiento* by Cabezón. It is structured in two parts (specified as such by the composer), and its form is notably complex, including a total of seven different subjects. Mm. 1-67 constitute the  $S_1$  section, which includes the exposition of  $S_1$  (1-25), two contrapuntal variations on  $S_1$  (26-44), and an episode on  $S_1$  in duets (44-67). The most remarkable feature in the  $S_2$  section (67-101) is the approach to the final cadence by a long-range circle of fifths (see m. 83, cadence on  $G$ ; m. 87, cadence on  $C$ ; and m. 91, cadence on  $F$ ). The  $S_3$  section (102-145) includes two subjects:  $S_3^a$  (102-111) and  $S_3^b$  (111-123), followed by a contrapuntal episode (123-145) which closes with a statement of  $S_3^b$  and of the retrograde of  $S_3^a$  (bass, 136-140). The  $S_4$  section (145-182) closes part 1. The section is extended by means of a canonic sequence on  $S_4$  which creates an effect

of a *quasi-ostinato* (tenor/bass, mm. 149-167), accompanied by a free treble/alto. At mm. 163-170, the tenor states four of the subjects previously presented in part 1, in the form of a closing recapitulation:  $S_4$  (163-165),  $S_3^b$  (166-167),  $S_2$  (168-169), and  $S_3^a$  (170).

Part 2 opens with a change to triple meter. A brief  $S_5$  section (mm. 183-193) is connected to  $S_6$  by means of an inversion of  $S_1$  (mm. 193-194). After the  $S_6$  section (206-209), an episode on  $S_1$  closes the passage in triple meter (mm. 206-224). Duple meter returns at m. 224 with the statement of  $S_7$  (*seculorum* 6), followed by a brilliant virtuoso closing in highly-diminuted contrapuntal style.

The techniques of section extension used in this *tiento* are variation ( $S_1$  section), texture fragmentation in duets ( $S_1$  section), free contrapuntal episodes ( $S_2$ ,  $S_3$ , development on  $S_1$  in part 2, and closing), and imitative sequence ( $S_4$ ).

Santa María's *fantasia* 14 comprises four subjects, each of which determines a section:  $S_1$ , in paired imitation (1-15);  $S_2$  (14-23);  $S_3$ , in paired imitation (23-40);  $S_4$ , also paired, and briefly extended in duets (40-56); and a closing section in four voices (56-64). The sections are short, including only the imitative exposition and the closing cadence, except for the brief extension of  $S_4$  in duets.

*Mode.* *Obras* 11 is an unambiguous example of mode 6 with  $B^b$  in the signature. The total *ambitus* is mixed (including both the authentic and plagal ranges), but the treble and tenor frequently stress the plagal range. The melodic emphasis on the pitch  $A$  and the interval  $F-A$  (*repercussio* 6) is notable, as for

instance in  $S_1$ ,  $S_2$  (treble/alto entries, mm. 69-72),  $S_5$ ,  $S_6$ , and  $S_7$ . The main cadences of the opening section are on  $A$ , and all the remaining main cadences throughout the piece are on  $F$ . There are no structural cadences on  $C$  in the whole *tiento*.

The cadences on  $A$  are, however, "pseudo-cadences": the tenor/bass at mm. 47-48 behave as if the cadence were on  $A$ , but actually this cadence leads to the cadence on  $D$  in the following measure. Similarly, the cadence "on  $A$ " which closes the  $S_1$  section (m. 67) is simulated by the treble/alto, but the strong bass resolution on  $F$  results in a cadence sounding on  $F$ . However, the role of the pitch  $A$  is stressed by the suspensions on  $A$  and by the fact that all the voices in the  $S_1$  section end on  $A$ . Finally, the presence of *seculorum* 6 as  $S_7$  confirms the mode.

The *fantasia* 14 is Santa María's example for mode 6, and it includes a  $B^b$  in the signature. The main species in the piece is  $3/5$ , presented at three levels:  $F$ ,  $C$ , and  $B^b$ . The plagal range is mostly covered by the alto/bass ( $C$  and  $B^b$  levels). The total ranges are limited: the treble does not cover a full octave, but only the fifth  $f'-c''$  with the neighbor notes  $e'$  and  $d''$ . Cadences are on  $F$  and  $A$ . The most important cadence on  $A$  closes the  $S_3$  section (m. 40). Although it is technically a modal cadence on  $A$  (with the suspension on  $A$ , and the major-sixth/octave progression resolving on  $A$ ), it sounds like a plagal cadence on  $D$  with the pitches  $D$  and  $F$  omitted at the resolution. A complete cadence of this type can be seen at m. 60. The  $S_4$  section is actually in mode 1: the species are  $1/8^D$  (treble) and

1/4<sup>A</sup> (bass/tenor), the pattern of imitation is *D-A-D-A*, and the cadences are technically on *A*.

The basic modal structures of both compositions are thus similar. Their most remarkable features are that there are no structural cadences on *C*, that cadences are on *F* and *A*, and that the latter behave as if they were on *A* in their voice-leading, but are actually on *D* or *F*.

*Thematic Organicity.* *Obras 11* presents a case of multiple relationships among its subjects. The pitch structure of  $S_1$ ,  $S_2$ , and  $S_6$  can be referred to, and derived from, *seculorum 6*, which closes the *tiento* as  $S_7$ .  $S_1$  breaks up into two parts to generate  $S_3^a$  and  $S_3^b$ : the former is a retrograde inversion of the opening gesture of  $S_1$ , while the latter is derived from the second half of  $S_1$ , with a slight intervallic alteration (the ascending third becomes an ascending fourth).  $S_5$  presents the same triadic contour as  $S_1$ , in inversion. Finally,  $S_6$  not only can be read as a combination of  $S_4$  and  $S_1$ , but its retrograde also results in *seculorum 6*.

In the case of the *fantasia 14*, the second part of  $S_1$  generates  $S_2$  and  $S_3$ . Both  $S_2$  and  $S_3$  preserve the rhythmic gesture of  $S_1$  (dotted minim), while their pitch content is an inversion of the second half of  $S_1$ .  $S_4$  in turn is derived from  $S_3$ . Example 6.8 presents a reduced melodic analysis of the subjects from *Obras 11*, and reproduces the subjects from *fantasia 14*.

## Example 6.14

$S_1$                        $S_3^a: S_1RI$      $S_3^b: \text{See } S_1$                        $S_4: \text{See } S_7$   
 $S_5: \text{See contour of } S_1$      $S_6: S_4+S_1; S_6R: \text{sec. 6}$      $S_7: \text{sec. 6; see } S_1, S_4, S_6R$

## Fantasia 14:

$S_1$                        $S_2$   
 $S_3$                        $S_4$

*Commentary.* *Obras 11* is the longest and most brilliant *tiento* by Cabezón. It is written in idiomatic, virtuoso organ style. The complex sectional form of this piece is unified by its tonal design and its thematic organicity. The opening subject is directly derived from *seculorum 6*, which closes the piece. The *seculorum* also contains two other previous subjects, while  $S_1$  in turn breaks up to generate the  $S_3$  section, and relates also to  $S_5$  and  $S_6$ . The rounded form is further emphasized by the return of  $S_1$  in part 2, both as connection between  $S_5$  and  $S_6$ , and as main thematic material for the developmental episode which precedes the *seculorum*. The recapitulation of four previous subjects at the end of part 1 also emphasizes Cabezón's deliberate preoccupation with thematic and formal unity. Variety is provided by contrasting rhythmic figurations, by the diversity of extension

techniques, and by the middle section in triple meter.

Santa María's *fantasia* 14, which pales in comparison with Cabezón's great *tiento*, is however one of the Dominican's best compositions, and displays some of the abstract qualities which lie behind the structures of Cabezón's *tientos*. Variety is provided by four subjects, which on the other hand are closely related by their melodic content. Unity is assured, as in Cabezón, by thematic and tonal coherence. The sections are short and each contains only an unextended imitative exposition. No compositional techniques are used other than free or imitative counterpoint, frequently presented in duets. The *fantasia* 14 thus proves to be poorer than *Obras* 11 in compositional resources and variety, as well as in formal and instrumental breadth.

Example 6.15: Cabezón, *Obras 11*, compositional chart

**OBRAS 11, mode 6**  
*S<sub>1</sub> (cf. Sec. 6)*

Variant on  $S_1$  25 34  
 Episode in duets on  $S_1$  41 47  
 Dec. on A (EI)  
 $S_3a$  (2nd half of  $S_1$ ) 115  
 $S_5$  (2nd half of  $S_1$ ) 176  
 $S_4$  (2nd half of  $S_1$ ) 208  
 $S_7$ : Secularum 6 249 closing

base/tenor: canon, ostinato-like sequence



Obras 11, cont.

MAIN SPECIES OUTLINED

TREBLE: 3/5f 5/8f 6/8c

TENOR: 3/5f 5/8f 6/8c

ALTO: 3/4c 5/8f

BASS: 3/5f 5/8f 6/8c

AMBITUS:

SUMMARY OF VOICE STRUCTURE:

48 67 101 145 176 195/206 224/end

(A) (A)

Example 6.16: Santa María, *fantasia* 14, compositional chart

**SANTA MARIA 14, mode 6\***

*S<sub>1</sub>* (from 2nd half of S<sub>1</sub>)

*S<sub>2</sub>* (from 2nd half of S<sub>1</sub>)

*S<sub>3</sub>* (from 2nd half of S<sub>1</sub>)

*S<sub>4</sub>* (paired subject)

self-closing *S<sub>5</sub>*

**MAIN SERIES OUTLINED:**

**TREBLE:** 3/4f 3/5f A70: 3/4c' 3/5c' R4

**TIENOR:** 3/5f 3/8f 3/5c 3/5c<sup>b</sup> 3/5f

**BASS:**

**MIRIUS:** \* Santa Maria's example for mode 6.

**Ym. 40-58:** outline 1/4, 1/8d', 1/8d' (mode 10)

**SUMMARY OF WICE STRUCTURE:**

F (A) (B)?

F (C) Ac. (D)?

F (A) (B)?

F (A) (B)?

F (A) (B)?

Example 6.17: Cabezón, *Obras 11*

Si

*Primera parte*  
LXV

LXVIII  
Tiento XI  
Sexto tono

5

10

15 20

25 *Variation 1*

30 *Variation 2* 35

40

45 *Episodo... in duets*

50 55

F

F

(A)

D

Handwritten musical score for piano, measures 60-115. The score is written on eight systems of two staves each (treble and bass clef). Measure numbers 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, and 115 are indicated at the beginning of their respective systems. The notation includes various rhythmic values, accidentals, and dynamic markings. Key markings include  $S_2$  at measure 65,  $(A), Dec.$  and  $(F?)$  below measure 65,  $G$  and  $C$  below measure 85,  $S_{3A}$  above measure 100,  $S_{3B}$  above measure 110, and  $F$  in a box below measure 100. A double bar line is present at measure 65 and measure 100.

120  
125  
130  
135 (S<sub>3b</sub> - S<sub>3a</sub>)  
140  
145 S<sub>4</sub>  
D → F  
Canonic sequence on S<sub>4</sub>  
150  
155  
160 (S<sub>4</sub>)  
165  
170 (S<sub>3a</sub>)  
175  
180  
F

*S<sub>5</sub>*  
*Segunda parte*

185

190

*f. mf*

(*S<sub>1</sub>*)

*S<sub>6</sub>*

*F* *F*

196

200

205

*Episodo en S<sub>1</sub>*

*F*

210

215

220

224

*Treble: S<sub>7</sub> = Sec. 6*

*f. mf*

230

235

240

Handwritten musical score for measures 245-260. The score is written on four systems of staves, each system containing a treble and bass staff. Measure 245 is labeled with the number '245' above the staff and the word 'Closing' to its right. A circled 'F' is written below the bass staff at the end of measure 245. Measure 250 is labeled with the number '250' above the staff. Measure 255 is labeled with the number '255' above the staff. Measure 260 is labeled with the number '260' above the staff and a boxed 'F' below the bass staff. The notation includes various rhythmic values, accidentals, and dynamic markings.

Example 6.18: Santa María, *fantasía* 1420  
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14

20  $S_1$

10 15 ||  $S_2$

23 ||  $S_3$

29 33 (C)

36 40 ||  $S_4$  (A)

49 (A)

56 60 (G)



## 5. A comparison of Two Mode-8 Compositions:

Cabezón's *Obras 8* and Santa María's *fantasia 17*

*Form.* *Obras 8* is divided into three major sections. The  $S_1$  section (mm.1-53) includes the exposition of  $S_1$  (1-29), and a free contrapuntal episode (29-53). Connecting the two subsections, the alto presents a prominent statement of *seculorum 5<sup>C</sup>* (mm. 24-32). The central  $S_2$  section (53-127) opens with the exposition of  $S_2$  (53-74). A related subject is presented at mm. 74-83 ( $S_2^b$ ) and treated in *stretto* at mm. 83-94. A development on  $S_1$  at mm. 94-117 closes the section, and uses such devices as inversion and motivic break-up of the subject. A bridge based on a turn from *seculorum 5* leads into the final  $S_3$  section (117-127).

The final section includes the exposition of  $S_3$  (127-160) and a closing passage based on a series of double cadences on *C* which lead to a final plagal cadence on *G*. The techniques of formal growth used by Cabezón are episodes in free contrapuntal style ( $S_1$  and closing), *stretto* ( $S_2^b$ ), and thematic development using motivic break-up and inversion.

Santa María's *fantasia 17* is divided into two sections. The  $S_1$  section (1-27) contains the exposition of  $S_1$  in duets (1-13) and a second exposition (11-27) in *stretto* in four voices, including a closing passage in consonances (19-24). The counterpoint to  $S_1$  becomes a subject on its own ( $S_2$ ), presented in duets at mm. 26-37. The second exposition of  $S_2$ , also in duets, is an almost literal repetition of the first one (mm. 36-47). The closing in consonances (47-54) is also a literal repetition of the closing for the  $S_1$  section.

*Mode.* Since the mode of *Obras 8* has already been discussed in the chapter on modality (see p. 173-74), it will suffice at present to summarize its most salient features. This is a case of an essential ambiguity between modes 8<sup>G</sup> and 5<sup>C</sup>, based on the following aspects: the cadences of both modes are on *G* and *C*; the mode-8 species are presented at two levels (*G* and *C*) in such a way that the resulting species, *g-d-g'* and *c-g-c'* (transposed mode 5) generate the ambiguity; and the thematic material in the *tiento* is derived from *seculorum 5<sup>C</sup>*, which has a similar structure to *seculorum 8<sup>G</sup>*. Because they are a fifth apart, the two *seculorums* can be presented in the form of subject-answer, as in the case of the opening subject: the alto entry is related to *seculorum 5<sup>C</sup>*, while the answer by the treble is related to *seculorum 8<sup>G</sup>*. The prominent statement of *seculorum 5<sup>C</sup>* by the alto at mm. 24-32 stresses Cabezón's intentional handling of the ambiguity between the two modes and the two *seculorums*.

Otherwise, some clear landmarks of mode 8 in the *tiento* are the cadences on *G* and *C* (there are no structural cadences on *D*); the patterns of imitation for *S*<sub>1</sub> and *S*<sub>2</sub> (*G-C-G-C* and *C-G-C-G* respectively); the melodic stress on the *repercussio 8 (G-C)*, as in *S*<sub>1</sub>, *S*<sub>2</sub>, and *S*<sub>2</sub><sup>b</sup>; and the closing plagal cadence on *G*, after a series of cadences on *C* in the closing section, which produce the effect, to ears schooled in harmonic tonality, of a final "half cadence in *C* major."

The *fantasia 17* is Santa María's example for mode 8. The treble moves within

a short range, mostly outlining  $3/4^{\flat}$  ( $g'-c''$ ) and  $4/5^{\flat}$  ( $g'-d''$ ). The other voices stress the *tritus* octaves, suggesting mode  $6^{\text{C}}$ : the alto outlines  $5/8^{\text{c}}$  ( $c'-g'-c''$ ), the tenor  $6/8^{\flat}$  ( $g-c'-g'$ ) along with  $4/5^{\flat}$ , and the bass  $6/8^{\text{c}}$  ( $c-f-c'$ ). The *fantasia* thus presents the same built-in ambiguity between mode 8 and the *tritus* modes which we have found in *Obras 8*. The cadences, as pertains to mode 8, are all on C and G. The opening subject outlines the *repercussio 8*.

*Thematic Organicity.* *Obras 8* presents a case of inner relationships among all of its subjects. The three main motivic cells in the *tiento*, labeled a, b, and c in example 6.9, together with the variants a' and b' resulting from the answer to  $S_1$ , are combined by Cabezón in their original forms and in inversion and retrograde forms to generate all of the thematic material in the *tiento*. The example also illustrates how all three cells are derived from *seculorum 8^G*, which thus becomes the ultimate melodic source for the piece. It should also be remarked that  $S_2$  results from a combination of  $S_2$  (cell c) and  $S_1$  (cell a), and that  $S_3$  is directly derived from  $S_1$ : the closing descending fourth in  $S_1$  (cell b) becomes an opening ascending fourth in  $S_3$ , followed by the overlapping cells a' and a in retrograde and inversion respectively. This connection between  $S_1$  and  $S_3$  provides the *tiento* with a sense of formal symmetry and further stresses its architectural unity.

*Commentary.* *Obras 8* is one of Cabezón's compositional masterpieces. A



And, paradoxically, this ambiguity is stressed by the same element which contributes to the *tiento's* unity: *seculorum* 8, due to its similarity with *seculorum* 5. When Howell remarked that it was "hard to imagine a stronger or more esthetically satisfying example of abstract musical structure" with reference to *Libro* 18, one could have suggested *Obras* 8 as another of the peaks of Cabezón's compositional genius.

Santa María's *fantasia* 17 features a similar modal structure similar to *Obras* 8, but its formal and compositional approaches are simpler and less imaginative. The two sections are related by their thematic material ( $S_2$  is the counterpoint to the answer of  $S_1$ ); both include a double exposition, and both close with a passage in consonances. Except for the second exposition of  $S_1$ , which uses *stretto*, the piece's formal growth is based on almost literal repetition rather than variation or development.

Example 6.20: Cabezón, *Obras 8*, compositional chart

**OBRAS 8, mode 8**

*S<sub>1</sub>: cf. Sec. 5<sup>c</sup> Answer: cf. Sec. 8<sup>c</sup>*

*Alto: Sec. 5<sup>c</sup>*

*S<sub>2</sub> (= S<sub>2</sub> Libro 4)*

*S<sub>2</sub><sup>b</sup>: combines RS<sub>2</sub> + S<sub>1</sub>*

*S<sub>1</sub>: strettò on S<sub>1</sub><sup>b</sup> Der. on S<sub>1</sub> (S<sub>1</sub>) (I.S.)*

*Transition: cf. Sec. 5*

*S<sub>3</sub> (derived from S<sub>1</sub>)*

*Closing*

*(Double Cad.)*

**MAIN SPECIES OUTLINED: (AMBIGUITY B<sup>6</sup>/5<sup>c</sup>)**

*Treble: 3/4<sup>d</sup> 3/4<sup>c</sup> 6/8<sup>d</sup> 7/8<sup>d</sup> Inc. 6/8<sup>d</sup> Alto: 1/4<sup>d</sup> 3/4<sup>d</sup> 5/8<sup>c</sup> 6/8<sup>c</sup> Inc. 8/8<sup>d</sup>*

*Tenor: 5/4<sup>c</sup> 3/4<sup>d</sup> 4/5<sup>d</sup> 6/8<sup>d</sup> Bass: 5/8<sup>c</sup> 6/8<sup>c</sup> 7/8<sup>c</sup> Inc. 8/8<sup>d</sup>*

**AMBITUS**

The image displays a musical score for 'Obras 8, mode 8' by Cabezón. It features a compositional chart with five staves. The top staff is labeled 'S<sub>1</sub>: cf. Sec. 5<sup>c</sup> Answer: cf. Sec. 8<sup>c</sup>'. The second staff is 'Alto: Sec. 5<sup>c</sup>'. The third staff is 'S<sub>2</sub> (= S<sub>2</sub> Libro 4)'. The fourth staff is 'S<sub>2</sub><sup>b</sup>: combines RS<sub>2</sub> + S<sub>1</sub>'. The fifth staff is 'S<sub>1</sub>: strettò on S<sub>1</sub><sup>b</sup> Der. on S<sub>1</sub> (S<sub>1</sub>) (I.S.)'. Below the staves, there are various annotations including 'Transition: cf. Sec. 5', 'S<sub>3</sub> (derived from S<sub>1</sub>)', 'Closing', and '(Double Cad.)'. At the bottom, there is a section titled 'MAIN SPECIES OUTLINED: (AMBIGUITY B<sup>6</sup>/5<sup>c</sup>)' with rhythmic patterns for Treble, Alto, and Tenor/Bass. The word 'AMBITUS' is written vertically on the right side of the score.

*Obras 8, cont.*

*SUMMARY OF VOICE STRUCTURE:*

Handwritten musical notation on two staves. The top staff is in treble clef and contains a melodic line with notes and rests. The bottom staff is in bass clef and contains a bass line with notes and rests. Above the top staff, the numbers 53, 127, and 160 are written, corresponding to specific measures. Below the bottom staff, the letters C, G, C, and G are written, corresponding to specific notes or chords. The notation is a summary of the voice structure, showing the relationship between the vocal line and the harmonic accompaniment.

Example 6.21: Santa María, *fantasia* 17, compositional chart

SANTA MARIA 17, mode  $\theta^*$

\* S. María's example for mode  $\theta$ .  
 MAIN SPECIES OBTAINED:  
 TREBLE:  $3/4^c$   $4/5^c$   $4/5^c$   $5/8^c$   
 TENOR:  $4/5^c$   $6/8^c$   $4/5^c$   $9/8^c$   
 BASS:  $4/5^c$   $6/8^c$   $4/5^c$   $9/8^c$

SUMMARY OF VOICE STRUCTURE:



Example 6.22: Obras 8

LXV  
Tiento VIII  
Octavo tono

*S<sub>1</sub>*

5

10

15

*Sec. 5<sup>c</sup>*

25

30

35

40

45

50

*S<sub>2</sub>*

55

60

65

70

*S<sub>2b</sub>*

75

80

*Siretto*

85

90

92 *Dev. on S<sub>1</sub>* 100

105 110 115

*Transition* 120 125. || S<sub>3</sub>

130 135

140 145 150

155 160 *Closing*

165 170

175 180

Example 6.23: Santa María, *fantasia* 17

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17

The musical score is presented in six systems, each consisting of a grand staff (treble and bass clefs). The first system is marked with a handwritten *S<sub>1</sub>* above the treble clef. The second system begins at measure 10 and is marked with *S<sub>1</sub> (stretto)* above the treble clef. The third system has measure numbers 24 and 27 above the treble clef, and a circled *C* below the bass clef. The fourth system has measure number 32 above the treble clef. The fifth system begins at measure 37 and is marked with *S<sub>2</sub>* above the treble clef, and a circled *C* below the bass clef. The sixth system begins at measure 47 and is marked with *Closing* above the treble clef, and a circled *G* below the bass clef. The score concludes with a double bar line and a circled *G* below the bass clef.

*Conclusions*

Each of the *tientos* by Cabezón analyzed in the present chapter is a masterpiece of instrumental composition. The formal coherence and organicity result from Cabezón's careful planning of formal growth, highlighted by the subtle melodic relationships which provide each piece with tight thematic unity. Each of these *tientos* illustrates as well the role of mode and modal elements as unifying principles, and in particular each piece shows how the *secularums* act as modal and thematic points of reference. The compositions from the *Obras* which we have analyzed display a greater variety of textures, rhythmic figurations, and keyboard techniques than those from the *Libro*. They are brilliant examples of idiomatic virtuosity, and represent a definite technical challenge for the performer.

The *fantastas* by Santa María fulfill their purpose of illustrating a particular compositional problem. In the case of the two pieces which we have examined in the present chapter, the *fantastas* typify modal structures in a correct, sufficient, and clear fashion. Santa María's pieces use the same structures and approaches to composition as Cabezón's *tientos*, although the Dominican's compositional resources are remarkably poorer than those of the blind organist.

APPENDIX I

A CONCORDANCE OF THE NUMBERING OF CABEZON'S *TIENTOS*

The numbering of the *tientos* in the editions of the *Libro* by Anglés and Jacobs is the same. The numbering of the *tientos* from the *Obras*, however, is different in each of the three editions by Anglés, Jacobs, and Kastner respectively. The following table provides a concordance of the numbering of the *tientos* from the *Obras*, with indication of the volume and page numbers where the pieces are located in each edition.

	ANGLES	JACOBS	KASTNER
<i>Tiento</i> 1, 28:70	15, 2:35	4, p. 9	
2, 28:74	16, 2:37	7, p. 19	
3, 28:78	17, 2:40	2, p. 2	
4, 28:84	18, 2:45	3, p. 7	
5, 28:87	19, 2:48	5, p. 12	
6, 28:90	20, 2:50	6, p. 14	
7, 29: 1	21, 2:54	8, p. 22	
8, 29: 5	22, 2:57	13, p. 42	
9, 29: 9	23, 2:61	9, p. 25	
10, 29:13	24, 2:65	1, p. 1	
11, 29:15	25, 2:66	10, p. 29	
12, 29:24	26, 2:73	12, p. 40	
13, 29:27	17, 3:36	11, p. 38	
14, 29:38	18, 3:38	14, p. 45	

**APPENDIX II**  
**ANALYTICAL GRAPHS**

## ANALYTICAL GRAPHS

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**LIBRO 1, mode 1**

*S<sub>1</sub>*

15 21 24 35 37

*S<sub>2</sub> indlets (1st half of S<sub>1</sub>)*

In consonances

glosado (bass)

10-13/8-10-8/12-10

G D C

*S<sub>3</sub> (2nd half S<sub>1</sub>)*

38 47 50 56 68 75

In consonances (3 voices)

In consonances (4 voices) glosado

glosado

(A) 8-75/8-75/8-75/8-75 (A) (A) 12-10/12-10/12-10/10-10/12-10

Dec. 10-10/10-10/10-10/8-10 Dec. Dec.

D G C

*Scalorum: Treble/Tenor*

75 80 89 95 98 100 103

Closing: cf. S<sub>1</sub>

103 Scalorum 1, in consonances

AMBITUS:

G D A

**MAIN SPECIES OUTLINED (MODES 1/6/3<sup>A</sup>):**

**TREBLE:** 1/5<sup>b</sup> 1/5<sup>a</sup> 2/5<sup>a</sup> 1/8<sup>d</sup> (8<sup>b</sup>)

**TENOR:** 1/5<sup>b</sup> 1/4<sup>d</sup> 2/5<sup>a</sup> 1/8<sup>d</sup> (8<sup>b</sup>)

**ALTO:** 1/5<sup>b</sup> 1/5<sup>a</sup> 1/8<sup>d</sup> 2/8<sup>b</sup> (8<sup>b</sup>) = 3/8<sup>a</sup> dir. d

**BASS:** 1/8<sup>d</sup> 2/8<sup>b</sup> (8<sup>b</sup>) = 3/8<sup>a</sup> dir. d

103 106 109

G D A

LIBRO 2, mode 1 \*

Si (paired imit.)

15 21 30 31 36 39 45 50 57

Treble/Tenor: secalorum 1

Duetts on sec.

(cf. sec.) (sec.)

(A) (D) Rec.

54 56 58 closing

54 56 58 closing

(S1) (D) Rec.

AMBITUS:

\* No model assignment in Libro 2

MAIN SPECIES OUTLINED:  
 TREBLE: 1/5 d' ALTO: 1/4 A 1/5 A  
 TENOR: 1/5 d' BASS: 1/4 A

LIBRO 9, mode 1

MAIN SPECIES OUTLINED:  
(AMBIGUITY 1<sup>o</sup>/76)

13 episode on Si 21 Dev: S1 and 4/56 31 Dev: S1 and 4/56 33 Dev: S1 and 4/56 39 Dev: S1 and 4/56 45 Dev: S1 and 4/56 49 Dev: S1 and 4/56

TREBLE: 1/5 d' 1/8 d' 3/4 g' 4/5 g' ALTO: 1/5 A 4/5 g' 7/8 g' AMBITUS

TENOR: 1/5 d' 1/8 d' 3/4 g' 4/5 g' BASS: 1/5 A 1/4 d 4/5 g

Closing: Treble/Alto cacon Treb/Ten 63/75 Alt/Bass

Mm. 65-75 = 53-63

Si

13 episode on Si 21 Dev: S1 and 4/56 31 Dev: S1 and 4/56 33 Dev: S1 and 4/56 39 Dev: S1 and 4/56 45 Dev: S1 and 4/56 49 Dev: S1 and 4/56 51 Voice pairs in 2/10ths 51-63 Closing: Treble/Alto cacon Treb/Ten 63/75 Alt/Bass

TREBLE: 1/5 d' 1/8 d' 3/4 g' 4/5 g' ALTO: 1/5 A 4/5 g' 7/8 g' AMBITUS

TENOR: 1/5 d' 1/8 d' 3/4 g' 4/5 g' BASS: 1/5 A 1/4 d 4/5 g

Closing: Treble/Alto cacon Treb/Ten 63/75 Alt/Bass

LIBRO 5, mode 1\*

AMBITUS

MAIN SPECIES OUTLINED: (COMMIXTURE 16/5BB)

TREBLE: 1/4d' 1/5d' 1/4b' 3/5bb' 3/4f'

TENOR: 1/4g 1/5g 1/4d 1/5d 2/8d 3/5bb' 1/4g

\*No modal assignment in Libro

LIBRO 8, mode 1

14 Duets on S1 21 23 26 35 41 S2  
 (G) (D) Dec. (G)  
 S3: Canonic duets 42 Same 43 Same 40 Same 105  
 (D) Dec. (D) Dec. (D) Dec. (D) Dec. (G)

106 110 128 130 135 137 145  
 S3: S3 in augm. - cf. 2nd half S1  
 (D) Dec. (D) Dec. (D) Dec. (D) Dec. (G)  
 ANBITUS (G) Dec. (G)

MAIN SPECIES OUTLINED:

TREBLE: 1/48' 1/58' 1/5d' 2/4d' ALTO: 1/4d' 1/58'  
 TENOR: 1/48' 1/59' 1/50' 1/80' (Bb) BASS: 1/4d' 1/50' 1/80' 1/5c  
 ANBITUS (D) Dec. (D) Dec. (D) Dec. (G)

LIBRO 11, mode 1

S1  
A1b

13 19 23 26 30 31 35 38 42

S<sub>2</sub> (cf. 2nd half S<sub>1</sub>)

A

48 50 58 59 62 65 67

Bridge (S<sub>2b</sub>)

S<sub>3</sub> (cf. end of S<sub>1</sub>)

Closing: S<sub>1</sub> contour + Secularum motive in consonances

(Cres.)

D

12-10-11-10/10-11-10-8

MAIN SPECIES OUTLINED

TREBLE: 1/5 d' 1/4 a' 1/8 d' 1/4 d' 1/5 a' 1/8 d'

TENOR: 1/4 a 1/5 d 1/8 d 1/4 a 1/5 a 1/8 a

AMBIBUS:

OBRAS 4, on "Qui la dira" - mode 1

69 S<sub>1</sub>

64

F A A D

Return of S<sub>1</sub> and closing (cadences: circle of fifths)

90

69 S<sub>3</sub>

103 105 107 109

F → (c) → (G) → D → (A) Dec.

D

Theme (S<sub>1</sub>) and modal structure based on *Scaorum 1* with differentia ending on F:

Sec. 1(F)

OBRAS 10, mode 1

15 20 26 30 31 33 37 43 51

S1 S2 S3

10-10-10 10-10-10

Seculum 3 A (C) Dec. A D

AMBITUS

ALTO: 1/5-A

BASS: 1/5a 1/8a 2/4a 1/8a (=4/8a)

MAIN SPECIES OUTLINED: (COMMIXTURE 10/35)

TREBLE: 1/5d' 2/4e' R3

TENOR: 1/5d

SANTA MARIA 3, mode 1\*

17 24 33 34

S1 S2

(A) (A)

AMBITUS

TREBLE: 1/5d' 1/4d' 1/8d'

TENOR: 1/5a 1/4a 1/8a

MAIN SPECIES OUTLINED:

TREBLE: 1/5d' 1/4d' 1/8d'

TENOR: 1/5a 1/4a 1/8a

\* Santa Maria's example for mode 1.

OBRAS 14, Ad Dominum cum tribulatione, mode 1

NOTE: 5 voices - Non-imitative - Non-sectional - Two upper-voices: Strict canon at the fourth throughout - Mode 1<sup>st</sup> ending on confinal - Recurring motivic cells (a), (b), (c), (d), and (e): all confirm mode 1<sup>st</sup> - Cell (a): Derived from secularum 1.



# OBRAS 1, mode 2

S<sub>1</sub>: 1<sup>st</sup> expo. | S<sub>1</sub>: 2<sup>nd</sup> expo. | Variation (glasade) on S<sub>1</sub>

62 | 66 | 70 | 74 | 78 | 82 || S<sub>2</sub>

113 | Closing

MAIN SPECIES OUTLINED: (MODE 1<sup>st</sup> ENDING BY CONFINAL)

TREBLE: 1/5 d' 2/4 a' [= 1/4 a' (eb)] 1/8 d' (eb) 2/8 d' ALTO: 1/8 B

TENOR: Same as treble, octave lower.

BASS: Same as alto, ~~increase tempo~~

AMBITUS:

**OBRAS 5, mode 2**  
*S<sub>1</sub>: 1st half Magnificat 2*

*2nd half Mag. 2*

**SANTA MARIA 4, mode 2 \***  
*S<sub>1</sub>*

**MAIN SPECIES OUTLINED:**

**TRIBLE:**  $\frac{1}{5}d^1$   $\frac{2}{4}e^1$   $\frac{1}{5}a^1(B^b)$   $\frac{1}{4}a^1(B^b)$

**TENOR:**  $\frac{1}{5}d$   $\frac{1}{4}a(B^b)$   $\frac{1}{8}d(B^b)$   $\frac{1}{5}a(B^b)$   $\frac{1}{4}a(B^b)$

**AUTO:**  $\frac{1}{5}a(B^b)$   $\frac{1}{4}a(B^b)$

**BASS:**  $\frac{1}{5}a(B^b)$   $\frac{1}{4}a(B^b)$

\* Santa Maria's example for mode 2.



SANTA MARIA 8, mode 3 \*

MAIN SPECIES OUTLINED:

TREBLE:  $2/4e'$   $3/8e'$  R3

TENOR:  $2/4e$   $3/8e$

ALTO:  $2/4b$   $1/5a$   $2/4b + 2/4e'$

BASS:  $4/8a$

AMBITUS:

S1: Cf. Obras 6 (S1) and Obras 10 (S2)

\* Santa Maria's example for mode 3.

SANTA MARIA 9, mode 4 \*

MAIN SPECIES OUTLINED: (AMBIGUITY 4E/1P)

TREBLE:  $1/5d'$   $2/4e'$

TENOR:  $1/4a$   $4/5g$   $2/4e$

ALTO:  $1/5a$

BASS:  $4/8a$   $1/5a$

AMBITUS:

\* S. Maria's example for mode 4.

LIBRO 6, mode 4\*

Magnificat 4

Var. on Mag 4

Magnificat 3

MAN SPECIES OUTLINED:

(A) (G)  
 Dec. (archaic) pass.

AMBIBUS:

TREBLE: mm. 1-59: 2/4e (R1) 2/5e' R3 mm. 59-end: R4 R3 1/4a' ALTO: 1-59: 2/4e' n 1/5a 59-end: 1/4 a + 1/4 d'

59-end: 1/4 a' 1/5a 2/4e' 1/4 a'

BASS: 1-59: 1/5a 1/5d 2/4a 1/4a 1/4d

59-end: 1/4 a' 1/5a 2/4e' 1/4 a'

MODE: mm. 1-59: Ambiguity 4E/1D  
 bit: Magnificat 4 - Stress on R4 - Cadences: mode 4

mm. 59-end: Ambiguity 3E/1D  
 bit: Magnificat 3 - Stress on R3 - Cadences: mode 3

Magnificat 4:

Magnificat 3:

\* No modal assignment in the Libro

LIBRO 17, mode 4 (On "Malheur me bat")

Chorale on mm. 1-8 from Chanson 15

26

Imitation on main subject (S)

35

49

54

59

63

Dev. on S' descending 4th

60

73

75

76

85

93

Closing: Tenor, cf. Nag. 4

(Nag. 4)

Later: sequence (E) dec.

A

C

E

MAIN SPECIES OUTLINED:

TREBLE: 2/4e(R) 2/5e 3/4d 1/4a 2/4b A10: 1/5a

TENOR:

2/4e 2/5e 1/5d 2/4b 1/5a 2/4e 4/8a

ANBITUS:

Delegem's "Malheur me bat". See *Harmonice musices collocation A*, ed. Helen Hewitt and Isabel Pope (Cambridge, MA: The Musical Academy of America, 1912), pp. 353-4. For a comparison with the chanson: See Morino, pp. 37-39

OBRAS 2, mode 4

71 | S<sub>1</sub> | 24 | Stretti on S<sub>1</sub> | 53 | S<sub>2</sub> | 77 ||

77 | S<sub>3</sub> | 84 | Closing: S<sub>4</sub> (counterpoint to S<sub>1</sub> in expo.) | 117 ||

MAIN SPECIES OUTLINED:

TREBLE: 2/4e' 2/5e' 4/8a 3/8a 3/8a' 4/8a' 1/5a 4/8a' 4/8a' AMBITUS:

TENOR: 2/4e 2/5e 3/8e 3/8e dir. a 4/8a

**OBRAS 7, mode 4**  
*S<sub>1</sub> paired - Derived from Sec. 4*

21 Variation on *S<sub>1</sub>* 25

40

47 Der. on *S<sub>2</sub>*

84

102 *S<sub>1</sub>*: cf. *S<sub>1</sub>*, *S<sub>2</sub>*, *S<sub>3</sub>*

110 Closing: *S<sub>2</sub>*, *S<sub>3</sub>*, *S<sub>4</sub>*

Secularium 4 (E)

AMBITUS:

MAIN SPECIES OUTLINED: (AMBIGUITY 4<sup>E</sup>/1<sup>B</sup>)

TREBLE: 2/4<sup>e</sup> 2/5<sup>e</sup> 2/4<sup>b</sup> 1/5<sup>a</sup> 3/8<sup>e</sup> div. a ALTO: 2/4<sup>e</sup> 1/5<sup>a</sup> 4/8<sup>a</sup>

TENOR: 2/4<sup>e</sup> 2/5<sup>e</sup> 2/4<sup>b</sup> 3/8<sup>e</sup> div. a BASS: 2/4<sup>e</sup> 1/4<sup>a</sup> 1/5<sup>a</sup> 3/8<sup>e</sup> div. a 4/8<sup>a</sup>



LIBRO 3, mode 5<sup>c</sup> \*

Musical score for Soprano (S1) and Alto (S2) parts, measures 10-44. The score includes various rhythmic notations and accidentals. Measure numbers 10, 15, 19, 24, 27, 31, 38, and 44 are indicated. A double bar line is present at measure 38. Circled letters (c), (e), and (d) are placed below the staff, along with a circled 'c' and 'Dec.'.

Musical score for Tenor (S3) and Bass (S4) parts, measures 49-87. The score includes various rhythmic notations and accidentals. Measure numbers 49, 53, 56, 62, 65, 71, 80, 83, and 87 are indicated. A double bar line is present at measure 56. A note below measure 62 reads "S3 (counting to S1)". Circled letters (e), (d), and (c) are placed below the staff, along with "Dec." and "Closing in consonances".

Musical score for Treble and Bass parts, measures 88-100. The score includes various rhythmic notations and accidentals. Measure numbers 88, 92, 96, and 100 are indicated. A double bar line is present at measure 92. The word "AMBIGUUS" is written above the staff. A note below measure 92 reads "No modal assignment in the Libro".

MAIN SPECIES OUTLINED:

TREBLE:  $\frac{5}{8}c'$ , Inc.  $\frac{5}{8}c' = \frac{1}{4}d' + \frac{3}{4}g'$  ALT:  $\frac{6}{8}g$  Inc.  $\frac{6}{8}g = \frac{3}{4}f + \frac{3}{4}c'$

TENOR:  $\frac{3}{4}c'$ ,  $\frac{3}{4}g$   $\frac{5}{8}c'$   $\frac{5}{8}g$   $\frac{5}{8}f$   $\frac{5}{8}g$  Inc.  $\frac{6}{8}g$

BASS:  $\frac{3}{4}c'$ ,  $\frac{3}{4}g$   $\frac{5}{8}c'$   $\frac{5}{8}g$   $\frac{5}{8}f$   $\frac{5}{8}g$  Inc.  $\frac{6}{8}g$

Min. 65-82: Ambiguity  $5^c/1^d: \frac{1}{4}a - \frac{1}{4}d - \frac{1}{5}d$



**SANTA MARIA 13, mode 5\***  
*S<sub>1</sub>: from Magnificat 5*

**MAIN SPECIES OUTLINED:**  
**TREBLE:** 3/5<sup>f</sup> 5/8<sup>f</sup> 3/5<sup>b</sup> 3/4<sup>c</sup>  
**TENOR:** 3/4<sup>f</sup> 3/5<sup>b</sup> 3/4<sup>c</sup>  
**BASS:** 3/5<sup>b</sup> 3/4<sup>c</sup>

**AMENUS:** Magnificat 5:  
*\* Santa Maria's example for mode 5.*

**LIBRO 7, mode 6\***  
S<sub>1</sub> aobvts

11 18 20 26 30/31 36 In consonances 44 45 54 57 60

6 (c) Dec

74 76 80 86 Dec on S<sub>3</sub> 98 104 108 117 124 132

S<sub>3</sub> 67 (c) Dec (F) Dec (A) Dec (F) Dec

Magis

132 Closing in consonances, based on S<sub>3</sub>

138

**MAIN SPECIES OUTLINED:**

TREBLE: 3/4f 3/5f 6/8c' ALTO: 3/5f 3/4c' 5/8f AMBITUS:  
TENOR: 3/4c 6/8c BASS: 3/5f 5/8f

\* No modal assignment in the Libro

LIBRO 24, mode 6

13 15 20 29 47

Episode on S1

S2, paired

Ambiguity of 2/26, to m. 36

Dev. on S2 + S3

Amb. 6/2, to end.

99 118

S2 (+orbis factor?)

L. Menzies of Tenor mms. 105-111 and bass III-118, to choriste of Nissa orbis factor. LU, p. 116.

MAIN SPECIES OBTAINED: (AMBIGUITY 6F/26)

119 156

Ambitus:

BASS: (6th basson)

TREBLE: 3/4c 3/4f 3/5f 1/4g' 1/4a' (b)

BASS: 3/4c 3/4f 3/5f 1/5g 1/5a 1/5d 1/5e 1/5f 1/5g 1/5a (b)

OBRAS 13, Fugas a 4 voces, mode 6

16 (c) 23 (a) 36 (f) 50 (k) 64 (a)

b+k 160 b+k (f)

Notes: - Strict canon in four voices  
 - Continuous flow of melody  
 - No apparent cadences.  
 Only points where motion stops momentarily: C-A-F

- Structure of melody: 2 large sections, mm 1-50 and 50-end.  
 4 melodic cells at opening (a-b-c-d), one cell out closing (k).  
 Cell e leads to "cadence" on c; cell d leads to "cadence" on a.  
 Cells a, b, and k: cf. Saculorum 6 and Mag. 6.

VOICE ENTRIES:

Saculorum 6: Mag. 6 (Catezan):

MAIN SPECIES: (MODES 6F/16)

AMBITUS

TREBLE (+TENOR):  $3/4f'$   $3/5f'$   $1/5a'$   $1/4d'$   
 ALTO (+BASS):  $3/4c'$   $3/5c'$   $1/5d'$   $1/4a$

OBRAS 12, on "cum Sancto Spiritu" from Josquin Despres' "Missa Beata Virgine", mode 7

24 29 33 39 43 47 50 53

Stretti on S1 (S1)

(D) → Unresolved 6 cadence

54 59 62 67 70 73 75 76

S14+S44

S14+S44 - Treble borrowed to end.

77 81 85

Inc. 8/8 d'

See Josquin Despres, Works, ed. A. Smijers, vol. 4/3 (Amsterdam: G. Alsbach, 1952) pp. 137-8.  
See also Marino, pp. 40-45.

MAN SPECIES OBTAINED: (AMBIGUITY 7<sup>6</sup>/1P)

AMBITUS

86 90 93 94

TREBLE: 1/4 d' 7/8 d' 8/8 d' ALTO: 1/4 d' 7/8 d' Inc. 8/8 d'

TENOR: 1/4 d' 7/8 d' 8/8 d' 1/4 d' 1/5 d' 7/8 d' 1/4 d' 1/3 d'

BASS: 1/4 d' 7/8 d' 8/8 d' 1/4 d' 1/5 d' 7/8 d' 1/4 d' 1/3 d'

SANTA MARIA 16, mode 7\*

MAIN SPECIES OUTLINED:

\* Santa Maria's example for mode 7.



SANTA MARIA 20, mode 7 \*

MAIN SPECIES OUTLINED:

TREBLE:  $4/5g$  ALTO: Inc.  $4/5g$   $1/4d'$

TENOR:  $4/5g$   $1/4d$   $4/5c$   $7/8b$

BASS:

AMBITUS:

\* No modal assignment in the Arto.

SANTA MARIA 23, mode 7 \*

MAIN SPECIES OUTLINED:

TREBLE: Inc.  $4/5g$   $1/4a'$   $1/4a'$

TENOR:  $1/4a$  Inc.  $4/5g$  Inc.  $8/8d$   $7/8g$

ALTO:  $1/4d'$  Inc.  $8/8d'$   $1/4a + 1/4d'$

BASS:  $1/4d$   $7/8c$  Inc.  $8/8d$

AMBITUS:

\* No modal assignment in the Arto.

**LIBRO 4, mode B<sup>c</sup> \***  
*(cf. closing of sec. B)*

Der. 2 on S<sub>1</sub> + themes derived from sec. 5<sup>f</sup> and sec. B<sup>c  
*(cf. obras B, answer to S<sub>1</sub>)*</sup>

S<sub>3</sub>: cf. sec. 5<sup>f</sup>. Answer: cf. sec. B<sup>c  
*(cf. obras B, answer to S<sub>1</sub>)*</sup>

closing (on 2nd half of S<sub>3</sub>)

\* No modal assignment in Libro

Seculum 5<sup>f</sup>:

Seculum B<sup>c</sup>:

Libro 4, cont.  
 MAIN SPECIES OUTLINED:  
 (mode 8c combined with 5f  
 with elements of mode 1)

TREBLE: 1/4g' 6/8c'  
 ALTO: 1/4g' 1/4d' 3/4c' 5/8f 8/8g  
 TENOR: 1/5g 3/4c' 3/5f 6/8c'  
 BASS: 1/5g 3/4c' 3/5f 6/8c'

ARBITRUS

SANTA MARIA 21, mode 8 \*

TREBLE: 7/8b'  
 ALTO: 5/8c'  
 TENOR: 3/4b, 7/8g  
 BASS: 4/5c'

ARBITRUS:

15 17 26 28

4/4 Closing

\*No modal assignment in the *Arte*

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**Bass Emancipation in Sixteenth-Century  
Spanish Instrumental Music:  
The *Libro llamado arte de tañer fantasía*  
by Tomás de Santa María**

**Miguel A. Roig-Francolí**

The transition from the contrapuntal orientation of composition during the late Middle Ages and early Renaissance to the harmonically conceived figured-bass style in the mature baroque was a slow one. The variety of compositional approaches which coexisted during the sixteenth and seventeenth centuries has often hindered our interpretation of musical structure in this period. Thus, scholars in the last decades have often disagreed over the best way to analyze the music produced in these centuries. Some authors do not hesitate to apply the analytical tools of functional harmony to the study of medieval and Renaissance polyphony.<sup>1</sup> Others believe instead that this repertoire is eminently linear in

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<sup>1</sup>The following is a sampling of scholarly studies which use concepts of functional harmony for the analysis of Renaissance music: Heinrich Besseler, *Bourdon und Fauxbourdon* (Leipzig: Breitkopf & Härtel, 1950); Manfred Bukofzer, *Studies in Medieval and Renaissance Music* (New York: Norton, 1950), 273-74; Edward Lowinsky, *Tonality and Atonality in Sixteenth-Century Music* (Berkeley: University of California Press, 1961); Don Randel, "Emerging Triadic Tonality in the Fifteenth Century," *Musical Quarterly* 57 (1971): 73-86; Ernest Sanders, "Die Rolle der englischen Mehrstimmigkeit des Mittelalters in der Entwicklung von Cantus-firmus-Satz und Tonalitätsstruktur," *Archiv für Musikwissenschaft* 24 (1967): 37.

conception, and that the rules of modal counterpoint are its main constructive criteria.<sup>2</sup>

It has been pointed out, however, that each of these approaches is inadequate for a full understanding of Renaissance music. Researchers such as Richard Crocker, Benito Rivera, and Sarah Fuller<sup>3</sup> have demonstrated convincingly that polyphony from the fourteenth through the sixteenth centuries includes a vertical component for which a purely linear analysis is unable to account. On the other hand, an analysis from the point of view of tonal harmony is inadequate to explain many of the successions of sonorities that we find in the prebaroque repertoire.

What then would be a more suitable way of approaching Renaissance music? The theorists of the period often describe contemporaneous compositional procedures, and a historically oriented analysis should take their conception of music into account. The central focus of the present paper is the treatise *Libro llamado arte de tañer fantasía* (literally, "Book named art of playing fantasia," Valladolid, 1565) by the Spanish theorist and composer Tomás de Santa María (ca. 1515-1570).<sup>4</sup> Our study of

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<sup>2</sup>Some advocates of the analysis according to melodic and modal criteria are: Putnam Aldrich, "An Approach to the Analysis of Renaissance Music," *Music Review* 30 (February 1969): 1-21; Ernst Apfel, "Der klangliche Satz und der freie Diskantsatz im 15 Jahrhundert," *Archiv für Musikwissenschaft* 12 (1955): 297-313; Carl Dahlhaus, *Untersuchungen über die Entstehung der harmonischen Tonalität* (Kassel: Bärenreiter, 1968); Bernhard Meier, *Die Tonarten der klassischen Vokalpolyphonie, nach den Quellen dargestellt* (Utrecht: Oosthoek, Scheltema, und Holkema, 1974); Leeman L. Perkins, "Mode and Structure in the Masses of Josquin," *Journal of the American Musicological Society* 26 (Summer 1973): 189-239.

<sup>3</sup>Richard Crocker, "Discant, Counterpoint and Harmony," *Journal of the American Musicological Society* 15 (1962): 1-22; Sarah Fuller, "On Sonority in Fourteenth-Century Polyphony: Some Preliminary Reflections," *Journal of Music Theory* 30 (Spring 1986): 35-70; Benito Rivera, "Harmonic Theory in Musical Treatises of the Late Fifteenth and Early Sixteenth Centuries," *Music Theory Spectrum* 1 (1979): 80-95.

<sup>4</sup>Tomás de Santa María, *Libro llamado arte de tañer fantasía* (Valladolid: Francisco Fernández de Córdova, 1565; facsimile ed., n.p.: Gregg International

this work leads to the conclusion that Spanish instrumental music in the sixteenth century shows a strong trend towards bass-supported vertical constructions which are not controlled by the rules of functional harmony. Santa María expounds the technique of “playing in consonances” (*tañer a consonancias*), a practice of vertical composition or improvisation which was commonly used by the Spanish composers of the period.<sup>5</sup> This compositional technique starts from the discant. A bass is added to the top voice, and the inner voices result by filling in the outer-voice frame with vertical sonorities, defined mainly by their intervallic content. The practice of “playing in consonances” is thus founded on the same premises as the seventeenth-century thorough-bass precepts. This approach, which represents an interim procedure between modal linearity and fully developed functional harmony, is one of the characteristics of the musical conception in both the sixteenth and the seventeenth centuries.<sup>6</sup>

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Publishers, 1972). The following dissertation contains an extensive English paraphrase of Santa María's treatise: Warren E. Hultberg, “Sancta María's *Libro llamado arte de tañer fantasia*: A Critical Evaluation” (Ph.D. dissertation, University of Southern California, 1964).

<sup>5</sup>Luis Milán (*El Maestro*, 1536), Luis de Narváez (*Los seys libros del delphín*, 1538), Enriquez de Valderrábano (*Silva de sirenas*, 1547), and Miguel de Fuenllana (*Orphénica lyra*, 1554) frequently refer to “playing in consonances” in the Introductions to their respective collected works for the *vihuela de mano*, and some of their pieces are titled *Fantasia de consonancias* or *Diferencias de consonancias y contrapunto*. In all of these cases, the term *consonancias* is used as a synonym for the modern term “chord,” and Charles Jacobs chooses indeed to use “chord” for *consonancia* in the translation of Fuenllana's Introduction to *Orphénica lyra* for his modern edition of this work (Oxford: Clarendon Press, 1978).

<sup>6</sup>Santa María's technique of “playing in consonances” and its significance have not gone completely unnoticed. John Ward states, in his dissertation “The *Vihuela de Mano* and its Music” (Ph.D. dissertation, New York University, 1953), that “Santa María's recognition of the *consonancia* as a chord to be reckoned from the bass, both in his writing and in the illustrative musical examples, is far more clearly expressed than similar ideas tentatively voiced in other 16th-century treatises” (283). In his dissertation, “*Fantasia and Ricercare* in the Sixteenth Century” (Ph.D. dissertation, Yale University, 1954) Richard Murphy points out, referring to Santa

Before examining the state of affairs in sixteenth-century Spanish instrumental music, and in order to understand the relevance of Santa María's treatise, the main structural elements in the music composed during the fifteenth through the seventeenth centuries, according to the theoretical treatises of the period, should be identified. The most convincing answer to the controversial issues of musical structure in the fifteenth century is the principle of dyadic composition. This procedure prescribed by early theorists gave priority to the composition of a discant-tenor frame, to which the alto and the bass were added in their subordinate role of harmonic fillers. Apfel and Dahlhaus hold this view<sup>7</sup> and so does Crocker, pointing out, however, that the two part framework does not imply an exclusively linear conception. Crocker advocates the concept of dyadic vertical progressions, ruled by intervallic functions. The added voices have the role of enriching the self-sufficient dyadic sonority.<sup>8</sup>

The tenor is usually considered as the starting point for dyadic composition, and the tenor is indeed the voice that traditionally bears the *cantus firmus* in compositions that make use of a borrowed tune, while the role of the bass is a dependent one.

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María's technique, that "the harmonies are regulated by the highest and lowest voices, a concept which foreshadows baroque methods" (46).

A precise summary of the treatise's Book 2, accompanied by a brief but discerning evaluation of its contents, is provided by Max Schneider in his book *Die Anfänge des Basso continuo und seiner Bezifferung* (Leipzig: Breitkopf und Härtel, 1918; reprint ed., Westmead: Gregg International Publishers, 1971), 30-46. Schneider notices that Santa María's approach is based on the same principles that would later become the foundation for thorough-bass playing, stresses Santa María's use of vertical sonorities and of a soprano-bass structure filled in by inner voices, and outlines the technique of "playing in consonances." Citing Schneider's discussion of Santa María, Carl Dahlhaus similarly calls attention to Santa María's discant-bass structures (*Untersuchungen*, 89). Even though all of the previous authors stress the significance of Santa María's technique, none of them provides a detailed account of the procedure as presented in the *Arte de tañer fantasia*.

<sup>7</sup>Apfel, 305-6; Dahlhaus, 82 and 86-88.

<sup>8</sup>Crocker, 2 and 13-14.

Quite to the contrary, the harmonically conceived baroque music presupposes a free and independent bass that could act as the foundation for the sonorities above it. And this emancipation of the bass implies a shift from dyadic to triadic composition.

Benito Rivera establishes the end of the fifteenth century as the limit for the universal applicability of the theory of dyadic composition, and argues convincingly that the sixteenth century witnessed a trend towards triadic orientation. This trend can be perceived in the progressive emancipation of the bass, in a general awareness of the qualities of different vertical sonorities, and in the mention by several authors of intervallic invertibility and the formation of triads by mediation (that is, the recognition of triads as unified entities: fifths or sixths with mediating thirds).<sup>9</sup>

Rivera has demonstrated clearly that some early sixteenth-century treatises begin to stress the role of the bass, either by postulating that vertical consonances are to be counted from the bass upwards (Simon de Quercu, *Opusculum musices*, Landshut, 1516) or by giving structural priority to the tenor-bass duet instead of the customary discant-tenor (Johannes Singer, *Ein kurtzer Auszug der Music*, Nuremberg, 1531). The usual practice among theorists, however, was either to follow the old norm of giving priority to the discant-tenor duet, or to show ambivalence in assigning priority to one or another structural duet (as in the cases of Cochlaeus, Ornithoparchus, Lampadius, and Aaron).<sup>10</sup>

The controversy regarding voice priority continued well into the seventeenth century, reflecting the coexistence of two different musical styles: the old imitative techniques for motet composition, and the new homophonic style that stressed the polarity of the

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<sup>9</sup>Rivera, "Harmonic Theory," 81. Two other articles tracing the growth of triadic awareness in the Renaissance are: Benito Rivera, "The *Isagoge* (1581) of Johannes Avianus: An Early Formulation of Triadic Theory," *Journal of Music Theory* 22 (1978): 43-63; and Joel Lester, "Root-Position and Inverted Triads in Theory around 1600," *Journal of the American Musicological Society* 27 (1974): 110-119.

<sup>10</sup>Rivera, "Harmonic Theory," 85-88.



outer voices. Thus, Lippius (1610-12) and Crüger (1654) tend to give a certain primacy to the bass while Nucius (1613) advocates the old dyadic system. This duality is stressed by Printz (1676-77) when he reports the modern approach to composition from a soprano-bass framework, while mentioning that fugal pieces require a different procedure.

The other concern of seventeenth-century theorists regarding methods of composition was the quality of vertical sonorities. The idea of the triad as a unified entity can be traced back to late fifteenth-century theorists (Podio, 1495, and Gafori, 1496) and was further stressed by Zarlino (1558) and Avianius (1581). Seventeenth-century theorists show special concern for the different possible triadic arrangements, but even though triadic invertibility was firmly established by Lippius (1610-12), they did not regard inversions as highly as root-position triads, which were superior to any other position. The equal status of the inversions was not accepted until Rameau's *Traité* (1722), and meanwhile the main concern of the theorists was to study the different possible arrangements of the root-position triad in four voices. This approach can be found as late as 1702 in Werckmeister's *Harmonologia*, where a chart of ten arrangements of the C major triad is provided, including only one sonority in first inversion (the last one in order of preference) and none in second inversion.<sup>11</sup>

The significance of these two trends—bass emancipation and awareness of vertical sonorities—is twofold. On the one hand, they represent a transitional phase between the theories of dyadic composition and Rameau's harmonic and chordal theory. On the other hand, they are the foundation for a conception of music which defines by itself a whole period of music history, and which exists in its own right and independently of later harmonic theories. In other words, if linear dyadic composition was starting to be set aside in the early sixteenth century, but triadic invertibility and

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<sup>11</sup>Benito Rivera, "The Seventeenth-Century Theory of Triadic Generation and Invertibility and its Application in Contemporaneous Rules of Composition," *Music Theory Spectrum* 6 (1984): 63-78.

chord functions were not fully established until Rameau, how did the musicians in the intervening period approach the composition of homophonic music?

We find one answer to this question in the form of an early formulation of a bass-oriented method of composition, in Santa María's *Arte de tañer fantasía*. The treatise is one of several that were written in the vernacular on performance practice and improvisation during the flourishing of instrumental music in sixteenth-century Spain. The significance of such treatises is that their close association with actual practice makes them valuable documents about contemporaneous musical procedures. Santa María lets us know in his Prologue that he often consulted with Antonio de Cabezón, the most eminent Spanish instrumental composer of the period, about the matters he takes up in his treatise. His title page states that its contents had been fully checked and approved by Antonio de Cabezón and by his brother Juan de Cabezón.

One should also keep in mind that Spain's prominent political position during the sixteenth century meant that its musicians were anything but isolated. This was a period when Flanders, Milan, and Naples belonged to the Spanish crown, and Spain and Germany were ruled by the same Emperor, Charles V—by whom Cabezón had been employed since 1526. Later, Cabezón traveled with Charles V's son and successor, the future King Philip II, to the Netherlands, Italy, France, and England (1548-56). The cultural cross-fertilization that this situation undoubtedly produced would make us think that a treatise such as Santa María's was likely to mirror a universal state of affairs, rather than merely a local practice.

It may be objected that Santa María's treatise is devoted to instrumental music, and that his procedures do not necessarily tell us anything about vocal composition. We need, however, to keep in mind that vocal and instrumental styles were intimately connected during the sixteenth century, and thus one should not view them as isolated approaches to composition. This close association between vocal and instrumental structures is apparent in Santa

María's treatise, as the following arguments illustrate: (1) Santa María's rules on dissonance and consonance at the opening of Book 2 follow the customary prescriptions for vocal counterpoint, (2) all of the treatise's references to music by other composers belong to vocal genres,<sup>12</sup> and (3) the style and structure of Santa María's own keyboard *fantasías*, included in the treatise to illustrate compositional techniques, virtually coincide with those of the vocal motet.<sup>13</sup> The *fantasías* are presented in open score notation, and no effort has been made to align the voices. The character of each of the lines as notated is eminently vocal. The performer is instructed in the technique of melodic ornamentation (Book 1, chapter 19, "De los redobles y quiebros") and in that of *glosa* or melodic variation and elaboration (Book 1, chapter 23, "Del glosar las obras"). By means of these embellishing devices the performer will then introduce typically instrumental traits into the basic vocal structure.

Before discussing the contents of Santa María's treatise, we should briefly consider the practical and theoretical environment which encouraged its composition. The significance of the treatise lies in that, at an early date, it develops a systematic approach to music writing based on outer-voice priority and vertical sonorities. But Santa María was not alone in giving priority to the bass or in thinking in terms of vertical sonorities. One of the most popular genres among Spanish instrumental composers of the period was the variation, often coupled with improvisation. The *tientos* written for *vihuela* by Luis Milán have improvisational qualities, as do the *diferencias* (variations), also for *vihuela*, by Narváez and Mudarra,

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<sup>12</sup>Santa María's references to vocal music by other composers are the following: Motets by Josquin: *Ave Maria* (Book 2, fol. 6v), *Inviolata* (1:61v), *Stabat Mater Dolorosa* (1:61v), *Miserere mei Deus* (1:70v); Masses by Josquin: *Ossana* from *Missa fa re mi re* (2:6v), *Missa Beata Virgine* (1:61v); Motets by Verdelot: *Gabriel archangelus* (1:70v), *Si bona suscepimus* (1:70v).

<sup>13</sup>The relationship between the sixteenth-century instrumental *fantasia* and *ricercare* and their vocal model, the motet, has been thoroughly studied by Richard Murphy ("*Fantasia and Ricercare* in the Sixteenth Century").

and those written by Cabezón for the organ, as well as the *recercadas* composed for the viol by Diego Ortiz. Many of these pieces are often constructed on a bass phrase which is repeated, allowing for the variation or the improvisation to unfold above this given foundation, a situation which thus favors bass supremacy and outer-voice polarity.

Two other major sixteenth-century Spanish treatises besides the *Arte de tañer fantasía* highlight the structural role of the bass. Francisco Tovar, in his *Libro de musica practica* of 1510,<sup>14</sup> builds his vertical sonorities starting from the tenor-bass frame, and counts the consonances of the upper voices from both the tenor and the bass.

The strongest argument for a bass-supported texture comes from the practical treatise on improvisation by Diego Ortiz, *Trattado de glosas sobre cláusulas y otros géneros de puntos en la música de violones* (1553).<sup>15</sup> Ortiz explicitly designates the bass as the main support of his compositions and improvisations for viol and harpsichord, even in the case of variations on the more polyphonic Italian madrigal. Moreover, he establishes an outer voice frame which has to be “accompanied,” that is, filled in by the cembalist.

The opening pages of the *Arte de tañer fantasía* provide information about the author and the circumstances surrounding the publication of the work. Tomás de Santa María was a member of the Dominican Order, and he wrote the treatise with a pedagogical purpose. The book opens with a letter dated 1563 by which Philip II grants Santa María the license for its publication. This royal letter states that a previous license was issued in 1557, but due to paper shortage in Spain and to “many other evident reasons,” the book still had not been printed six years

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<sup>14</sup>Francisco Tovar, *Libro de música práctica* (Barcelona: Joan Rosenbach, 1510; facsimile ed., Madrid: Joyas Bibliográficas, 1976).

<sup>15</sup>Diego de Ortiz, *Tratado de glosas sobre cláusulas y otros géneros de puntos en la música de violones* (Rome, 1553), ed. Max Schneider (Kassel: Bärenreiter, 1936).

later. In the ensuing Prologue addressed to "the pious reader," Santa María declares that he spent sixteen uninterrupted years working on the treatise. Since the work was ready for publication in 1557, we can deduce that it was begun in 1541. It was finally published in 1565. The treatise is divided into two parts. Book 1 deals with melodic notation, instrumental technique, and the eight modes, including a detailed thirty page account of polyphonic cadences. Book 2 applies the theoretical principles of Book 1 to the art of improvising or composing *fantasías*.

We will first concentrate on chapters three to thirty of Book 2, in which Santa María develops his method for "playing in consonances." The section begins by defining the four consonances: unison, third, fifth, and sixth and their compounds. Simple consonances (that is, not compound) cannot be used in four voices, since only one voice can be inserted into the interval, thereby limiting their use to two- or three-part writing. Here Santa María specifies which of these simple consonances can be used in three voices, and how they are used: the fifth can be mediated by a third, and the sixth by a third and a fourth with the third below the fourth.<sup>16</sup>

The bass is the point of reference from which the consonances have to be counted and, as we will discuss in the following pages, the discant-bass pair constitutes the compositional frame, as Santa María already announces early in Book 2:

It has to be known that any consonance, whether given in three, four, or more voices, is understood and counted from the bass to the discant, which are the outer voices, since the middle parts, tenor and alto, are

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<sup>16</sup>"Es de saber que dentro de las [consonancias] simples no caben quatro voces, que sean diferentes, esto es, de diferentes nombres de signos, y de diferente entonación, que puedan hazer consonancia, sino solamente tres voces, las quales pueden hazer solas dos consonancias conviene a saber, quinta con terçera en medio y sexta con terçera y quarta en medio, dando la terçera a la parte inferior, y la quarta a la parte superior." Santa María, 2, fol. 12v.

used only for the accompanying consonances and to fill in the void between the outer parts.<sup>17</sup>

Next, Santa María introduces the concept of “the differences of every consonance” (Chapter 7: “De las diferencias que hay en cada consonancia.”) Any consonance in three, four, or more voices can be divided in many diverse ways if we move the inner voices to different notes, while the outer voices hold the frame of the given consonance. The inner-voice movement produces the different sound of every arrangement in such a way that some of them sound “better” than others. In Santa María’s own example, when in a four-part tenth one of the inner voices is a third from the discant and the other is a fifth from the bass, we have an arrangement of the tenth which is better sounding than any other.<sup>18</sup>

Santa María has thus made clear that he is aware of the qualities of vertical sonorities. What is it that makes one sonority sound better than another? The treatise gives two conditions for “the perfection of good sound.” It should not have many octaves, but only one—that is, only one note should be doubled. Secondly, the octave should not involve the discant, but should occur instead between bass and tenor or bass and alto, except when the given consonance between bass and discant is the octave.<sup>19</sup> The first

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<sup>17</sup>“Es de saber que aunque qualquiera consonancia se dé a tres, o a quatro voces, o a más, con todo eso siempre la consonancia se entiende y se quenta desde el contrabaxo al tiple, que son las voces extremas, porque las voces intermedias, que son tenor y contralto, solamente sirven en las consonancias de acompañamiento y de hinchir el vazio que ay entre las extremas...” Ibid., fol. 13v.

<sup>18</sup>“Esta mudança, causa en cada diferencia diverso sonido (esto es) que puestas las voces intermedias en unos signos, suena mejor la consonancia, que puestas en otros. Como parece claramente, quando en la dezena, la una voz intermedia está terçera del tiple, y la otra quinta del contrabaxo, que entonces la dezena suena mejor y da más contentamiento a los oydos que si las sobredichas dos voces intermedias hiriessen en otros signos.” Ibid., fol. 14v.

<sup>19</sup>Ibid., fol. 15.

rule implies that complete triads are best; the second one gives preference to the doubling of the bass.

Example 1. The differences of the consonances, Book 2, fols. 15v-16v.

a) Differences of the octave	b) Diff. of the tenth	c) Diff. of the twelfth	d) Diff. of the thirteenth	e) Diff. of the first degrees
				
Degree of the difference: 1 2	1 2 3 4 4	1 2 2 3 3 4	1 2 3 3 4 4	1 1 1

The differences are classified by degrees (*grados*). Santa María does not explain what the rule is for every degree, but states that differences of the first degree (“las diferencias del primero grado”) are to be used when possible, and only when one cannot use a certain degree, should one move to the next. Example 1 reproduces Santa María’s table of the differences for the octave, the tenth, the twelfth, and the thirteenth, with their respective degrees listed below every sonority. Since first degrees are to be used the most, Santa María summarizes all of them at the end of his tables (Example 1e).<sup>20</sup> As we can see, Santa María does not think in terms of triads or triad members (root, third, fifth), but in terms of outer consonance filled in with inner consonance, regardless of which triadic sonority results. Neither is he concerned with which member of the triad is doubled, but with which voice is doubled (it is best to double the bass whether or not it is the root), and this seems to be his first criterion for assigning degrees. The other criterion seems to be voice distribution: the sonorities with smaller intervals at the bottom are less desirable than the sonorities with larger intervals at the bottom. After giving similar tables of differences for the compound consonances, Santa María advises the beginner to learn all of them

<sup>20</sup>Ibid., fol. 19r.

by memory, so that he can freely use them when he plays in consonances. Without the proper use of the differences, playing in consonances and avoiding forbidden parallel fifths and octaves would not be possible.<sup>21</sup>

In chapters eleven to thirty Santa María expounds the next step in his method. All practical music, we learn, is made up of three movements: repeated notes, ascending motion, and descending motion (“unisonar, subir, y baxar”). Upward and downward motion can be effected by steps or by leaps (“subir y baxar arreo o de salto”).<sup>22</sup> All of these movements refer to the discant line, and if one learns how to play in consonances with the remaining three voices on given discants that follow these motions, then one should be able to deal in a similar manner with all practical music. Santa María thus sets out to study in detail all the ways in which discant lines can be harmonized when they ascend or descend by steps in different note values, when they repeat notes, and when they ascend or descend by leaps of thirds, fourths, fifths, or octaves. The following procedure is used for the harmonization of the given discant lines: first, Santa María establishes the consonances which the bass will define with the discant; then, the two inner voices result from the application of the differences of the consonances. In other words, the frame discant-bass is established and then filled in with the “best” possible sonorities, avoiding parallel perfect consonances. These are exactly the same principles that would later define the ideal texture of the baroque: outer-voice polarity and filling-in sonorities supported by a figured bass.

Santa María begins by providing ten different ways of ascending and descending in consonances by steps in minims, and illustrates the chapter with fifty-three musical examples, of which our Example 2 reproduces four. Examples 2a and 2b illustrate the ascent and descent by steps in tenths (the discant moves by steps,

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<sup>21</sup>Ibid., fols. 15r and 19v.

<sup>22</sup>Ibid., fol. 20v.



and the bass follows it by tenths). Example 2c shows the ascent by a repeating pattern in tenths and twelfths, and 2d ascends by twelfths, thirteenthths, and tenths.

Example 2. Santa María: Ascending and descending in consonances by steps.

a) Ascending by tenths (fol. 21)      b) Descending by tenths (fol. 21)

Consonance: 8 10 10 10 10 10 10 10 10 CARENCE  
Degree: 1 3 1 3 1 3 1 3 1  
Triad position: 5 6 5 6 5 6 5 6 5

c) Ascending by tenths and twelfths (fol. 22)      d) By 12th, 13th, and 10th (fol. 22v)

Consonance: 10 12 10 12 10 12 10 12 10 CARENCE  
Degree: 1 1 1 1 1 1 1 1 1  
Triad pos.: 5 5 5 5 5 5 5 5 5

Conson: 12 13 10-12 12 10-12 13 10 - CARENCE  
Degree: 1 1 1 1 1 1 1 1  
Position: 5 6 5-5 6 5-5 6 5

How does Santa María apply the differences of the consonances to this outer-voice frame? I have included my analysis of the “degrees of the differences” below Examples 2a, 2c, and 2d. In the first case, first- and third-degree sonorities are alternated in order to avoid parallel fifths. In triadic terms, the alternation produces a succession of root-position and first-inversion chords. Examples 2c and 2d are completely made up of first-degree sonorities, all in root position in 2c, and with the repeating pattern root position—first inversion—root position in 2d.

The ten different ways of ascending and descending have to be mixed together for the sake of the necessary variety in the

consonances. In order to teach the beginner how to effect these ascents and descents with diversity, Santa María provides eight pages of examples with “the most gracious ways of ascending and descending eight degrees (*ocho puntos*) with variety, each closing with a cadence.”<sup>23</sup> This “rule of the octave,” or different harmonizations of a discant covering an octave by steps, is preceded by several ways of harmonizing ascending and descending three-note fragments. Then, the complete octave is harmonized using different combinations of the smaller fragments. Thus, Example 3a shows the four proposed ascending three-note fragments with their respective harmonizations. Examples 3c and d reproduce two complete harmonizations of the octave, starting at the consonances of tenth and twelfth. I have outlined the different segments that are combined in these examples, together with the consonances that constitute them. Examples 3b, e, and f illustrate the same procedure applied to the harmonization of descending scales.<sup>24</sup>

In his treatise so far, Santa María has set forth a method of composition which starts from the discant. A bass is added to the top line, and the inner voices result by filling in the outer-voice frame with the best possible sonority. This best sonority is to be chosen from the differences of the consonances, and Santa María uses mostly first-degree sonorities, in which the bass note is doubled. The bass is thus independent, and its contour—frequent leaps of thirds, fourths, and fifths—reveals its harmonic role of supporting the consonant sonorities above it, which are mainly in root position.

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<sup>23</sup>Ibid., fols. 35 to 39v.

<sup>24</sup>Santa María's octave harmonizations foreshadow the familiar “rule of the octave,” or harmonization of a bass covering an octave by steps, of eighteenth-century treatises.

Example 3. Ascending and descending eight degrees with a variety of consonances.

a) Fols. 35v-36

b) Fol. 37v

Example a) consists of two systems of musical notation. The first system has two staves with notes and rests. Below the first staff are the numbers 8, 10, 10. Below the second staff are the numbers 8, 10, 10. The second system also has two staves. Below the first staff are the numbers 8, 13, 10, 40, 13, 10, 10, 13, 15, 13, 10, 40. Below the second staff are the numbers 8, 10, 13, 10, 10, 8, 40, 13, 8, 10, 10, 10.

Example b) consists of a single system of musical notation with two staves. Below the first staff are the numbers 8, 10, 13, 10, 10, 8, 40, 13, 8, 10, 10, 10.

c) From the tenth (fol. 37)

d) From the twelfth (fol. 37)

Example c) shows two staves of musical notation. Below the first staff are the numbers 10, 12, 10, 13, 15, 10, 10. Below the second staff are the numbers 10, 12, 10, 13, 15, 10, 10. The word "CADENCE" is written at the end of the second staff.

Example d) shows two staves of musical notation. Below the first staff are the numbers 12, 13, 10, 13, 15, 13, 10. Below the second staff are the numbers 12, 13, 10, 13, 15, 13, 10. The word "CADENCE" is written at the end of the second staff.

e) From the octave (fol. 38)

f) From the tenth (fol. 38)

Example e) shows two staves of musical notation. Below the first staff are the numbers 8, 10, 13, 10, 8, 10, 13, 10, (11), 10. Below the second staff are the numbers 8, 10, 13, 10, (11), 10. The word "CADENCE" is written at the end of the second staff.

Example f) shows two staves of musical notation. Below the first staff are the numbers 10, 10, 10, 13, 8, 10, 13, 10, (11), 10. Below the second staff are the numbers 10, 10, 10, 13, 8, 10, 13, 10, (11), 10. The word "CADENCE" is written at the end of the second staff.

Consonances: 8 10 13 10 8 10 13 10 (11) 10  
 Degree: 1 1 1 1 1 1 1 1 CADENCE  
 Tonal pos.: 8 9 6 5 5 6 6

Conc. 1 10 10 10 13 8 10 13 10 (11) 10  
 Degree: 1 3 1 1 1 1 1 CADENCE  
 Position: 8 6 5 6 5 5 6

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Santa María's study of four-voice cadences<sup>25</sup> is systematic and comprehensive, and also stresses the structural role of the discant-bass pair. He considers first the voice that bears the cadential suspension; then, he lists the possibilities for the discant and the bass, which finally determine the other voice or voices.

When the discant bears the cadential suspension ("haziendo el tiple la Cláusula"), the bass will define with the discant one of the three following dissonances in the second half of the cadential semibreve ("en la segunda mitad del semibreve de la cláusula"): a seventh, a ninth, or an eleventh. Next, our author examines the placement of the other two voices in each of these three possibilities. For example, if the bass is an eleventh below the discant in the second half of the cadential semibreve, then the tenor will be a fifth above the bass, and the alto a fourth below the discant.<sup>26</sup> Santa María explains that this cadence is the most frequently used in music (Examples 4a and b).

#### Example 4. Cadences.

If the alto bears the cadential suspension, Santa María considers all the possibilities for the discant-bass pair, without any mention of the tenor. The same procedure is followed when the

<sup>25</sup>Santa María, 1, fols. 77v-90v.

<sup>26</sup>*Ibid.*, fol. 78.

tenor bears the cadential suspension (the discant-bass possibilities are then discussed) and when the bass is the cadential voice.

If the tenor is no longer the original structural voice, which voice then defines the mode, and by what properties? According to Santa María, the modes (*tonos*) are mainly defined by two elements: the “sequence of the *solfa*” and the cadences.<sup>27</sup> The “sequence of the *solfa*,” (“*sequencia dela solfa*”) which today is usually designated as “octave species,” refers to the distribution of the tones and semitones within the characteristic octave of every mode.

By cadence (*cláusula*) Santa María refers here to a three-note melodic formula (as, in his own example, D–C-sharp–D) in which the first note is a semibreve and the second a minim. In other words, this is what we have been referring to as “cadential suspension.”

Santa María indicates that the “sequences” (or species) of the fifth and the fourth which define a mode, as well as the cadential suspensions, are mainly effected by the discant, and thus the modes can best be identified by this voice.<sup>28</sup> This designation of the discant as the most important voice from the modal point of view represents a major departure from fifteenth and early sixteenth century theories. Santa María does not provide in the entire treatise any further information concerning the tonal criteria which control the composition of the structural discant-bass pair.

All of the previous expositions on theoretical matters and technical procedures reach their practical application in the last section of the treatise, which deals with the composition of *fantasías* on the instrument (“del modo de tañer a concierto”). To illustrate the techniques that he discusses, Santa María uses his own *fantasías*. These are made up of several phrases that start

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<sup>27</sup>Ibid., fol. 62.

<sup>28</sup>“Téngase aviso que las sequencias del diapente y diatessaron, y cláusulas de todos los ocho tonos, se hazen principalmente con el Tiple, y assí todos los tonos se conocen más por el Tiple que por ninguna de las otras voces.” Ibid., fol 70r.

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with imitation and close with a cadence which is at the same time the point of departure for a new imitative phrase.

Example 5. *Fantasia*, Book 2, fol. 79

a) Opening phrase

Conson.: 12	10	13	15	10	13	10	11	10
Degrees: 1	1	3	1	4	1	3	CADENCE	
Position: 5	5	6	5	3	6	6		

b) Closing phrase

Conson.: 10	10	10	10	10
Degrees: 2	4	2	4	2
Pos.: 5	6	5	6	5

After all four voices have entered, and before reaching the cadence that will begin the next point of imitation, Santa María often writes in his *fantasías* a section in four voices according to his rules of “playing in consonances.” The opening and closing phrases of the *fantasia* that Santa María includes in Book 2, fol. 79, and which are reproduced in Example 5, are an illustration of such a procedure. After the imitative opening measures, a three-note ascending melodic segment in the discant (B–C-sharp–D) is harmonized with the consonances of tenth, thirteenth, fifteenth, and the descending segment B–A–G is supported by a bass at

the tenth, thirteenth, tenth. Both patterns have been listed in our previous Examples 3a and e. The cadence is of the type that Santa María calls the most usual, with the cadential suspension in the discant, and the bass placed an eleventh below the discant in the second half of the suspension. The consonances that result from these segments are mostly of the first degree, with only one case of incomplete triad (of the fourth degree).

The closing phrase features a longer imitative opening, in which the bass is paired with the tenor and the alto with the discant. Both the imitation and the piece end with the standard discant cadence with an eleventh in the bass. Between both cadences, Santa María writes a descending passage in leaps of a third by parallel tenths, of the exact type that he had previously listed in his section about playing in consonances (fol. 57). The sonorities that result in this type of passage are an alternation of the second and fourth degrees.

Thus, even though Santa María's *fantasías* are basically imitative, they draw together the two different styles that would continue to coexist through the seventeenth century: the imitative style and a more homophonic style based on vertical sonorities.

At the beginning of the present paper we pointed out that composers of instrumental music in Spain during the sixteenth century favored the emancipation of the bass and the construction of vertical triadic sonorities above it. In the treatise of Santa María, a technique for playing in consonances is developed, which consists of accompanying a given treble line with an independent bass and added vertical sonorities. This style is not based on chord grammar or chord progressions, but rather on a succession of consonant sonorities which mainly takes into account the intervals defined by the outer voices, the quality of the sonorities, and the voice doubling.

There is no reference in the *Arte de tañer fantasía* to the earlier practice of a discant-tenor framework. Instead, the outer voice duet is established as the structure of the passages which are "played in consonances." Such an approach to composition would continue to be utilized throughout the sixteenth and

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seventeenth centuries, and would not be superseded at the theoretical level until Rameau's *Traite* of 1722.

Santa María's treatise represents an early and unambiguous prefiguration of the thorough-bass technique, and, as such, reflects the high development attained by instrumental composition in sixteenth-century Spain. From an analytical point of view, the treatise implies that the dyadic and linear approaches to sixteenth-century music are insufficient by themselves, and that the vertical triadic component of this repertoire has to be taken into consideration as one of its principal constructive elements. The *Arte de tañer fantasía* thus proves to be a valuable document for the understanding of the compositional practice of the period, and its long-range significance comes from its fusion of three elements: the vocal tradition of the old Flemish masters, the contemporaneous advanced instrumental practice in the Castilian Court, and the forward-looking procedures that herald the seventeenth century.