Introduction

The goal of this book is to shed light on the theory and practice of rhythm in the fifteenth and sixteenth centuries by examining them in relation to each other. The term "Renaissance" in the title is simply a label for the period from *c.* 1420 to *c.* 1600; it is not meant to imply anything about the character of the period. Part I of the book deals with theory and Part II with practice, but neither is complete without the other. Theoretical writings provide valuable information on the subject, but they are not easy to interpret. They often contain a complex mix of description, prescription, tradition, and speculation. These strands must be disentangled before the significance of any theoretical statement can be judged. Many fundamental terms and concepts, such as note value, *tactus*, diminution, proportion, etc., have different meanings in different contexts, and statements including these terms cannot be interpreted without making judgments about their meanings in each instance. It is not possible to resolve all of the ambiguities in theorists' statements, but I propose interpretations of them that seem plausible to me in light of both the traditions in which the theorists worked and the musical practices that were known to them.

Rhythmic styles and notational practices in real music are much more diverse than those described by theorists. It would be impossible to cover all of them in a single book. I have chosen a few sample repertoires to illustrate some of the possibilities and to serve as models for an approach to the issues involved. For each repertoire, I examine both the regular and the irregular aspects of rhythm and the ways in which they relate to each other and to the notated mensuration signs. The relation between signs and rhythmic styles is complex. Since there are many more styles than signs, any given sign may be associated with more than one style. Conversely, a given style may be associated with more than one sign, because the principles governing the uses of signs were never fully standardized.

Each of the repertoires that I have chosen illustrates a different issue. The songs of Du Fay include examples of all of the basic fifteenth-century mensurations, as well as some types of diminution that went out of use later on. The *L'homme armé* masses of Ockeghem, Busnoys, and Josquin display some of the most complex mensural structures of the period. The

five- and six-voice motets of Josquin extend the principles of mensural organization to relatively large temporal levels, sometimes explicitly notated and sometimes not. The verses of Isaac's *Choralis Constantinus* make use of unusual rhythmic groupings that test the limits of the meanings of the signs governing them. Some of them display bizarrely complex notation that has had a major impact on modern concepts of mensural notation, although it was probably devised by a theorist, and not by the composer. The masses of Palestrina represent the classic style of sixteenth-century sacred music, which modern scholars have often regarded as the prototype for "Renaissance rhythm" in general. The madrigals of Rore illustrate another type of sixteenth-century rhythm, one that expands the limits of traditional practice for the sake of vivid expression of poetic texts. Popular songs and dances are often based on different principles of rhythm and notation from the more serious genres considered in the preceding chapters. They extend the range of rhythmic and notational possibilities beyond what is found in more prestigious music.

The term "mensural music" (*musica mensurabilis*) means simply "measured music." In the period under consideration, it was the opposite of "plainchant" (*musica plana*). Modern scholars sometimes treat it as the opposite of "metrical music." This is a false dichotomy based on an oversimplified view of the difference between "Renaissance rhythm," in which the system of measurement is sometimes alleged to have no relation to rhythmic structure, and later styles, in which time signatures and barlines are sometimes assumed to prescribe rhythmic structures in a straightforward manner. This reductive opposition does not do justice to the music of either era.

Time measurement in music is of two types: abstract and concrete. Abstract time measurement is represented by the note symbols that prescribe durations in musical notation. These values occupy positions in relation to a hierarchical grid in which smaller values function as subdivisions of larger ones. In the fifteenth and sixteenth centuries, larger levels of measurement consist of either two or three of the next smaller level. (The same is true of most modern meters, in which a bar may consist of two or three beats and a beat may consist of two or three subdivisions.) The term "mensuration" refers to the theoretical grid that serves as the system of reference for the note symbols. It is associated with a set of principles for interpreting durations on the basis of their position on the grid. Mensural notation differs from modern notation in that the same symbol may represent different durations when it falls in different places in relation to the mensural grid.

Abstract durational signs are translated into concrete units of time in musical performance by setting one notated value equal to some quantity of time and marking the recurrences of that unit in some way. This marker of time is usually a physical motion, such as the tap of a finger or foot or a movement of the hand in the air, but it may exist only in the mind. The term "tactus" refers principally to the concrete measure of time in performance, but by extension it took on several additional meanings in music theory. Since "tactus" is a fourth-declension Latin noun, its plural form is "tactus."

Rhythm in the modern sense, in which I use it in this book, is a more complex concept than mensuration or *tactus*. It includes all aspects of the perceptible organization of musical time, especially on the relatively small scales in which durations can be directly compared in memory. Since all musical events take place in time, all of them contribute to rhythm. Note durations, melody, harmony, counterpoint, texture, and text setting all play a role in the creation of rhythm. Performance nuances, such as the emphasis on certain notes by means of dynamic accent or subtle durational inequalities, also influence the way rhythm is perceived. The concept of rhythm may, but need not, include patterns of regular and/or irregular accents generated by any of the above elements of music. Renaissance theorists wrote about many of these aspects of music and the ways in which they relate to mensuration and *tactus*, but they did not have a comprehensive term for the temporal dimension of music in general.

Mensuration and *tactus* as such are not part of rhythm, because they are inaudible, but if composers or performers do anything to bring out the temporal units corresponding to them, they become part of the rhythm. If certain types of musical events, such as dissonances and cadences, are regularly correlated with certain positions in the mensuration, they make the mensural grid audible as a component of the rhythmic structure. Regular, perceptible time units exercise a powerful hold on the human psyche, probably because of their affinity with such things as heartbeat, breathing, walking, etc. Their effect may last for some time even if it is not continuously reinforced. The interest of most measured rhythms, including those of the fifteenth and sixteenth centuries, lies in the dynamic interaction between regular and irregular elements. Ignoring either of them robs rhythm of its complexity and vitality.

Mensural notation was not a single, unified system, but a collection of diverse practices that varied with time, place, genre, and composer. It was often inconsistent even within a narrowly defined repertoire. Theorists disagreed about important aspects of it, and they often objected to the notational practices of composers even when they agreed with each other.

The principal subjects of disagreement among theorists were the proper ways of notating certain mensurations and proportions and the relationships of different mensurations to each other. Some sixteenth-century theorists also adopted dogmatic attitudes about *tactus* that were at odds with the practices of most performers.

The issues that have occupied modern scholars are those that relate to analysis and performance, rather than notational propriety. A long-standing debate concerns the question of whether or not notated mensurations correspond to meaningful rhythmic structures in a manner analogous to that of modern time signatures. A related question is whether or not *tactus* is associated with accent. The other issue that has provoked disagreement among modern scholars is the relation between mensuration signs and tempo. Little attention has been paid to the musical significance of *tactus* beyond its putative role in setting tempos and governing tempo relationships among different mensurations.

The conclusions of this study are not simple, but they affirm the importance of *tactus* and mensuration as meaningful elements of rhythm in the fifteenth and sixteenth centuries. Although the roles of measuring systems, both abstract and concrete, in rhythmic structures and the ways in which they interact with irregular elements of rhythm vary greatly from one repertoire to another, the claim that they have no relation to rhythm cannot be sustained. Mensural theory and the notational system that it describes provide valuable information about rhythm that goes well beyond the mechanics of how note symbols represent temporal durations. Analysis of music in light of that theory reveals a boundless wealth of rhythmic ideas that equal those of any other period in complexity and expressive power.

Citations and translations of primary sources

Many of the theoretical texts cited in this book are available in a large number of sources of different types: multiple early editions, facsimile reprints, editions in the original language, translations into modern languages, and online texts. It would be unwieldy to cite all of them. To assist the reader in locating passages in any version of a text, I have identified the sources as follows: for manuscripts, the best available edition in the original language; for prints, the first published edition (unless otherwise specified) and one facsimile reprint, if any. For specific passages of text, I cite the book and chapter number and the name of the chapter, as

well as the page or folio number, in the source. This information should enable readers to locate the passages in other versions of the texts.

Translations of quoted theoretical texts are my own unless otherwise indicated. Published translations exist for many of them, but I have used my own translations in order to clarify my interpretations of the meanings of the passages.

Musical examples

I have transcribed the musical examples in this book from copies of the original sources. The caption identifies the source of each example. Variants found in other sources are noted only when they have significant bearing on the points under discussion. Minor errors in the sources are corrected without comment.

The mensuration signs, symbols for notes and rests, and ancillary symbols such as dots, are the same as those in the sources. Readers unfamiliar with the principles of mensural notation should read Chapter 2 for an explanation of it. My reason for retaining the original symbols is that they are often essential to the points that I observe about the music. Even the notation of rests can reveal ways in which composers or scribes perceived meaningful time units. Since the voices are aligned in score, notational devices that differ from modern practice, such as perfection (equating an undotted note with three of the next smaller value) and alteration (doubling the length of a note on the basis of its position), should not cause confusion.

Regular units of the notated mensuration (usually breves) are separated with barlines through the staves in the examples. When a note continues from one bar to the next, the barline is replaced by a short line at the top of the staff. An advantage of this style is that it allows for independent barring of different voices, which is often necessary to show the relationships among simultaneous contrasting mensurations. Although the barlines do not appear in the sources, they mark units of time that are prescribed by the notated mensuration. They do not imply any a priori assumptions about the musical significance of those time units.

Text underlay is problematic in much of this repertoire. Scribes are not usually meticulous about where they place the syllables, and there is little theoretical information on the subject before the mid sixteenth century. My text underlay is editorial, and unless otherwise indicated, it is not based on systematic theoretical principles.

Specialized terminology

The technical terms in this book are explained in Chapters 2 and 3. I have relied on standard terminology as much as possible, but I have invented my own terms for two concepts for which there are no standard terms. They are:

(1) Different meanings of "tactus": I distinguish the three fundamental meanings of the term "tactus" as "performance *tactus*" (the time unit by which music is measured in performance), "compositional *tactus*" (the time unit governing compositional principles such as dissonance treatment), and "theoretical *tactus*" (the time unit traditionally associated with a mensuration sign in music theory). These terms are explained in Chapter 3.

(2) Positions within a mensural structure: I identify the beginnings of time units within a mensural structure as "initia" (a term invented by Graeme Boone). To designate the largest level of mensuration to which an *initium* applies, I qualify it as "-max" (e.g., "semibreve-max," "minim-max," etc.). This terminology is explained in Chapter 2.[1]

[1] The term is explained and discussed in Graeme M. Boone, "Marking Mensural Time," *Music Theory Spectrum* 22 (2000), 1–43. The suffix "-max" is my own.

PART I

Theory

1 Sources of information

The theoretical sources that discuss time measurement in fifteenth- and sixteenth-century music are extremely diverse (see Table 1.1). They range from simple instructional manuals for beginners to sophisticated philosophical works aimed more at humanistic scholars than at practicing musicians. Some are loosely organized manuscripts intended only for the use of the authors; others are tightly structured, formal treatises. Some transmit only conventional information, while others aim to reform common practices. The significance of the views they express must be evaluated in light of the training and professional identity of the authors (to the extent that this information is known) and the nature, purpose, and intended audience of the works.

Mensural notation was not a static system, but a set of practices that developed and changed continuously throughout the fifteenth and sixteenth centuries. Changing practices led to frequent tensions between inherited theories and current realities. Composers stopped using the more complex aspects of the system around 1520 except in occasional demonstrations of theoretical erudition, but theorists continued to discuss and debate them for several more decades, in part because the music of earlier generations remained in the active performance repertoire in some places until quite late in the sixteenth century. The relation between theory and practice is quite different when theorists focus on a historical repertoire than it is when they discuss the music of their own time.

Fifteenth-century sources present different interpretive problems from sixteenth-century sources. All writings on mensuration before the 1480s are manuscripts. Many are anonymous and difficult to date. Even when the surviving copies can be dated, the dates of the contents are often unknown. Manuscript writings on music are often informal and unsystematic. Printed books that address issues of mensuration began to appear in small numbers in the 1480s and 1490s, and after *c.* 1500, nearly all significant writings on the subject were printed. Prints are almost always attributed to named authors. Their places and dates of publication are generally known, and their contents are systematically organized in ways that the print medium naturally requires. As a result, fifteenth-century writings are typically more

Table 1.1 Principal sources of theoretical information about mensuration and *tactus*

Author	Title	Date
Johannes de Muris	*Ars practica mensurabilis cantus*	Mid–late 14th century
Anonymous 5	*Ars cantus mensurabilis mensurata per modos iuris*	Late 14th century
Anonymous 10	*De minimis notulis*	Late 14th century
Prosdocimo de' Beldomandi	*Expositiones tractatus practice cantus mensurabilis magistri Johannis de Muris*	1404
Prosdocimo de' Beldomandi	*Tractatus pratice de musica mensurabili*	1408
Prosdocimo de' Beldomandi	*Tractatus practice cantus mensurabilis ad modum ytalicorum*	1412
Ugolino of Orvieto	*Declaratio musicae disciplinae*	1430s
Giorgio Anselmi	*De musica*	1434
Antonius de Luca	*Ars cantus figurati*	Mid 15th century
Anonymous	*Capitulum de quattuor mensuris, Tractatulus mensurationum, Compendium breve de proportionibus*, and *Tractatulus prolationum cum tabulis*	Mid 15th century
Anonymous 11	*Tractatus de musica plana et mensurabili*	Mid 15th century
Anonymous	*Compendium breve artis musicae*	Mid 15th century
Anonymous	*Exposition of the Proportions, According to the Teaching of "Mestre Joan Violant" [Vaillant]*	Mid 15th century
Anonymous	*Sequuntur proportiones*	Mid 15th century; copied 1460
John Hothby	Various titles	Late 15th century
Anonymous 12	*Tractatus et compendium cantus figurati*	1460–71
Johannes Tinctoris	*Proportionale musices*	1472–75
Johannes Tinctoris	*Liber de arte contrapuncti*	1476
Johannes Tinctoris	*Terminorum musicae diffinitorium*	1470s; printed *c.* 1495
Franchino Gaffurio	*Musices practicabilis libellum*	1480
Bartolomeo Ramis de Pareja	*Musica practica*	1482
Guilielmus Monachus	*De preceptis artis musice*	Late 15th century
Adam von Fulda	*Musica*	1490