

CHAPTER SEVEN

THE SYSTEMATIC BASIS OF THE REPERTOIRE

Chapters 4 to 6 have outlined a number of features characteristic of French monophonic song ca. 1500 and related repertoires of music and poetry. It was found that different aspects of the songs' rhythm and tonality were interconnected with each other and with features of prosody. The present chapter is concerned with describing a systematic basis for the observations made previously.

In order to systematize, one must, as Nelson Goodman has pointed out, economize.¹ In the present instance, this involves specifying a theoretical basis for the characteristic features of the repertoire in terms of the smallest set of "primitive" (i.e., undefined or assumed) concepts like "identity," "adjacency," etc.² Thereupon, one can define the operations by which the appropriate "constructions" (e.g. scales and meters) can be generated from the given primitives.³ These steps are followed for tonal, metrical, and

¹The Structure of Appearance, 2nd ed., New York, Bobbs-Merrill, c 1966, p. 67.

²On the notion of a basis, see Goodman, op. cit., chap. III, pp. 63-123. For an example of a specifically musical basis, see Benjamin Boretz, "Sketch of a Musical System (Meta-Variations, Part III)," Perspectives of New Music, 8 (1970, pp. 49-111).

³The term "construction" is to be distinguished from "model", in the sense that generalized geometrical figures such as circles, squares, etc. are distinct from their complete or partial appearance in a model (such as an architect's drawing).

prosodic features separately at first. As will be observed, however, the primitive concepts and constructions posited for each of these three categories are interconnected, suggesting that the songs can be interpreted according to a single, unified system.

Forms and Rhyme Schemes

With regard to forms and rhyme schemes, one finds that a number of patterns dominate the repertoire: distichs rhyming aa or ab; expansions of distichs with the schemes aaa, aab, or abb; quatrains with the following rhyme schemes: aabb, abab, or abba; and the following sequences of phrase finals for strophes: xxll, xlxl, and lxyl. One is interested in knowing what distinguishes these patterns from one another and certain sets of patterns (e.g., aabb, abab, abba) as groups or "classes" of patterns.¹

In order to define these schemes and sequences, one must compare the various contents (e.g., the syllables represented by a and b, and the tones represented by x, y, and l) according to the relationships of identity or diversity.²

¹"Class" is employed here in the sense of "a set of things which are identical in at least one respect."

²Identity (=) is reflexive (since $A=A$), symmetric (since if $A=B$, then $B=A$), and transitive (since if $A=B$ and $B=C$, then $A=C$). Diversity (\neq) is irreflexive (since a thing cannot be different from itself), symmetric (since if $A\neq B$, then $B\neq A$), and intransitive (since if $A\neq B$, and $B\neq C$, then it does not necessarily follow that $A\neq C$). To cover the case of assonance, one could posit the relationship of resemblance (\approx) which is reflexive, symmetric, and intransitive. However, such a relationship does not give rise to appropriate constructions which would not be arrived at by the relationships of identity and diversity.

Furthermore, one must specify the types of relationships which might be found between two positions in the sequence or scheme (e.g., the pairs of positions indicated by brackets in the following: \overline{abba} , \overline{xlxl}). The types of relationships include diversity (\neq) as in the case where y in the sequence \underline{lxyl} is described simply as being in a different position than x or either of the \underline{l} 's. A more specific type of relationship is adjacency (A). For example, in the sequence \underline{lxyl} , x is adjacent to \underline{l} and y . One can observe that the relationship of adjacency is a special instance of the relationship of diversity, since all pairs of positions that are adjacent are diverse, but not vice versa.¹ One can also posit the relationship of precedence. In the sequence, \underline{lxyl} , for instance, x precedes y and y precedes the final \underline{l} . Precedence is a special case of adjacency since if a given position precedes another it is also adjacent to it but not vice versa.² Thus, the three types of relationship can be ordered as follows: diversity, adjacency, precedence. From these three types of relationships, all of the appropriate distinctions bearing on sequences of phrase finals and rhyme schemes can be made.³

¹Adjacency (like diversity -- see note 5, above) is irreflexive, symmetric, and intransitive.

²Precedence is irreflexive, antisymmetric, and transitive.

³By contrast, the theorists resort to much more complex descriptions of rhyme schemes such as employing the locution "first and third" or "second and fourth" to describe the rhyming lines in abab. Terms such as "third" imply a prior assumption of the cardinal numbers. Effectively, for the following development one need count no higher than two.

First, the distich schemes aa and ab can be defined as adjacent rhyme syllables which are identical or diverse, respectively. The set of three principal quatrain schemes can be defined as adjacent distichs in which: 1) the same relationship holds in both distichs (i.e., either identity as in the case of aa/bb, or diversity as in the case of ab/ab or ab/ba); 2) each rhyme syllable rhymes with one and only one of its fellows (indicated by brackets):

\overline{aabb}
 \overline{abab}
 \overline{abba}

The scheme aabb can be distinguished from the other two in that its distichs feature identity (since $a=a$ and $b=b$), whereas abab and abba have distichs that are diverse (since $a \neq b$). The latter (abba) can be distinguished from abab due to the fact that its extremities are identical (indicated by a bracket): \overline{abba} . Extremities are special, for they are the only members of a rhyme scheme (or other sequence) which are adjacent to only one (not two) other elements. For example, the l's in lxyl are adjacent to x and y, respectively, whereas the x is adjacent to both l and y. Since extremities are defined in terms of adjacency, the characteristic distich and quatrain schemes can be distinguished entirely in terms of identity, diversity, and adjacency. No recourse is required to more "refined" notions such as precedence.

Precedence does, however, play a role in defining the

tercets which represent expansions of distichs: aaa, aab, abb. In order to distinguish the latter two schemes, one must specify that the identity relationship ($a=a$) precedes the diversity relationship ($a\neq b$) in aab and identity ($b=b$) follows diversity in abb. Since precedence is a species of diversity or adjacency, this means that fewer primitive concepts are required to define the basic distich and quatrain schemes than their expansions. This is in accord with one's intuitive notion of the expansions being transformations of the basic forms. By extension, the expanded forms of quatrains (e.g., aab/ba, aab/aab, etc.) can be defined in terms of expansions of distichs.

For the principal successions of phrase finals in quatrains (xxll, xlxl, lxyl), a similar development can be posited. Each consists of adjacent distichs which are both marked either by identity ($x=x$, $l=l$) or diversity ($x\neq l$, $y\neq l$) of their phrase finals. The leonine type differs from the other two in that both of its distichs consist of identical finals, whereas the other two feature diverse finals. Of the latter two, the embraced sequence (lxyl) differs from the crossed, for its extremes are identical ($l=l$). Unlike the case with the corresponding rhyme schemes, each member need not be identical to one other member. For example, x is not the same as any other member of the embraced sequence.

Other features can be defined in terms of adjacency.

For example, imbricative¹ relationships are found in the rhyme schemes of ballades (e.g., between the bracketed rhymes in the following scheme: abab/bcbc); and in the prosodic structures of lighter forms (e.g., a1 b1/b1 c1/ c1 d1/ etc.) In the first case, only rhyme is involved; in the second type -- which is peculiar to the monophonic repertoire² -- whole lines. In some instances, the two types are combined as in Guillaume Guerson's Dévote contemplation:

Fille, qui vives en delict,	a1
Vous erre trop villainement,	b2
Las, pour offenses Jesu-Christ,	c1
Qui pour vous a mis tout Son Sang	d2]
Qui pour vous a mis tout Son Sang	d2]
Et vous a trop aymée;	e3
Mais il tendra Son Jugement,	f2
Et lors seres dampnée.	g3

A related procedure is represented by the rimes annexées, fratrisées, and enchainées of the rhetoricians, in which the last syllable or word of each line is the first of the next, as in this late example of the type provided by Thomas Sebillet (1548):³

¹For the term "imbrication", i.e. repetition of the last part of a strophe in the first of the next, see Yves Giraud, La Fleur des chansons rustiques de la Renaissance, Paris, Presses d'Ile de France, c 1965, p. 9.

²This is also a characteristic feature of the later chansons populaires.

³L'Art poétique françois (ed, Felix Gaiffe), Paris, Société Nouvelle de Librairie et d'Édition, 1910, Book II, Chap. XV, pp. 196-98. See especially p. 196, note 1 for an account of the treatment of these devices by earlier theorists such as de Croy (wrongly referred to as Molinet), L'Infortuné, and Fabri.

Plaisir n'ay plus, mais vy en desconfort
 Fortune m'a remis en grand' douleur
 L'heur que j'avoye, est tourné en malheur
 Malheureus est qui n'ha aucun confort

Fort ...

Similarly in the rimes batellées employed by courtly poets, the last syllables of the last half of one line and the first half of the next are identical:¹

Quand Neptunus/puissant dieu de la mer
 Cessa damer/Carraques et sallees, etc.

In all of these cases, there is identity of sound between adjacent extremities: the last line of the strophe and the first of the next, or the last half or syllable(s) of one line and the first of the next. Such relationships, when found in the monophonic songs, are between larger units such as whole lines and at the beginnings or endings of entire stanzas, in contrast to the courtly poems where a few syllables at the ends of half lines or the beginnings and ends of whole lines are involved. The middle ground is provided by the ballade scheme: abab/bcbc, which is common to both repertoires.

In summary, the only concepts required to define these characteristics are identity, diversity, adjacency, and to limited extent, precedence. To define the prosodic units themselves requires, of course, the notions of syllable, set, and bisection, as outlined in chapter five. As will be seen,

¹ See Sebillet, op. cit., pp. 202-03. Also see Langlois, op. cit., pp. 97, 100 for earlier treatments of this pattern by prosodic theorists.

the latter two and all the former notions reappear among the primitives by which the basis of tonality is defined.

Tonality

The basic tonal material for the songs is diatonic. With regard to seven-tone scales, diatonicism implies that the intervals separating adjacent scale degrees are approximately equal.¹ In the scales of the repertoire, degrees are separated by one or two semitones. There are three types of pitch collections such that: 1) there are seven tones, 2) the seven tones are selected from the twelve-semitone or "chromatic" scale, and 3) each tone is one or two semitones from the next higher or lower tone.² These three can be represented as in Figure 1.

¹Willi Apel, "Diatonic," Harvard Dictionary, p. 231, defines diatonic scales as ones with five whole tones and two semitones, implying approximately equal intervals between steps. However, his further insistence on identifying diatonicism with the white-note scale gives his use of the term little generality.

²Such collections must contain five steps of two semitones and two of one. Constructing such a set is thus a matter of placing two semitone steps in the midst of seven degrees. The semitones can be adjacent (one degree apart) as in a; separated by a whole tone (two degrees apart) as in b; or separated by two whole tones (three degrees) as in c. Thus, there are only three such collections possible.

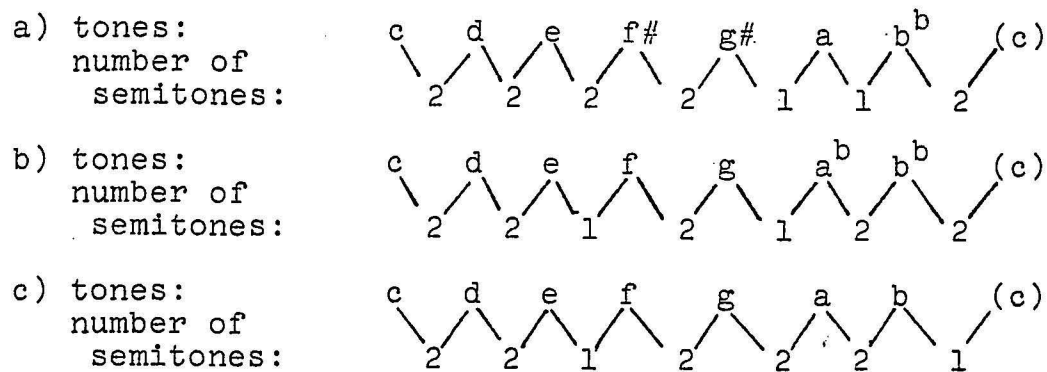


Figure 1: Three types of diatonic seven-tone scales under three conditions. (For each of these three collections, any one of the seven degrees can be chosen as a basis tone, giving rise to $3 \times 7 = 21$ "modes.")

In a scale of seven tones, there are seven intervals: unison (notated by the integer "0"), second ("1"), third ("2"), fourth ("3"), and their mod. 7 complements, the octave ("7"), seventh ("6"), sixth ("5"), and fifth ("4"), respectively. Figure 2 shows the numbers of semitones possible in the seven intervals for each of the three types of scales (cf. Figure 1: a, b, and c, respectively).¹

¹ See the present author's "Some Recurrent Features of Scales," In theory only, II, 11-12 (Feb.-Mar., 1977), pp. 43-52 for similar generations of this and other scales in terms of "cyclic bisection."

interval in scale degrees:	0	1	2	3	4	5	6	7
intervals in semitones:								
a)	(0)	(1,2)	(2,3,4)	(4,5,6)	(6,7,8)	(8,9,10)	(10,11)	(12)
b)	(0)	(1,2)	(3,4)	(4,5,6)	(6,7,8)	(8,9)	(10,11)	(12)
c)	(0)	(1,2)	(3,4)	(5,6)	(6,7)	(8,9)	(10,11)	(12)

Figure 2: Intervals of three diatonic seven-tone scales expressed in scale degrees and semitones.

As can be seen, there is a great deal of ambiguity in scales of type a. Intervals of one and two degrees can both be of two semitones; of two and three, of four semitones; of three and four, of six, etc. In scales of type b, there is less ambiguity. Intervals of two and three degrees can be of four semitones; of three and four, of six semitones, etc. In scales of type c, there is the least ambiguity of all. The only possible source of confusion is that intervals of three and four degrees can be of six semitones. (In modal theory, the tritone, an interval of six semitones, is to be avoided.) Thus, the traditional modes which belong to type c are almost completely unambiguous in their co-ordination of intervals expressed in terms of scale degrees or semitones. For example, if one hears, within the system, an interval of four semitones, it can only be an interval of two degrees (or major third). Only the interval of six semitones is ambiguous and it is this interval which is restricted by the theorists.

One feature of the three types of scales is that individual tones can be considered bisectors of intervals formed by other tones. Intervals of two degrees can be two, three or four semitones apart. When they are two semitones apart (e.g., $\underline{g\#}$ to $\underline{b^b}$ of Figure 1 a), the tone between them (in this case \underline{a}) divides the interval into halves: 1 + 1; when four semitones apart (as in $\underline{c} - \underline{e}$ of Figure 1 a, b, and c), the divider (in this case, \underline{d}) again divides the interval into halves: 2 + 2; when three semitones apart (as in $\underline{f\#} - \underline{a}$ and $\underline{a} - \underline{c}$ of Figure 1 a, etc.), the divider divides the interval intervallically into approximations of halves: 1+ 2 or 2 + 1. In all three types, fifths (intervals of four degrees) have dividers which are as close as possible to equal halves. In types a and b, sevenths do not. (For example, in Figure 1 a, the interval of ten semitones, $\underline{c} - \underline{b^b}$, is divided by $\underline{f\#}$ into six and four semitones, rather than five and five.) A similar case holds for the mod. 14 complements. Thus, scales of type c are the only ones of the three types in which intervals are consistently divided either precisely or as closely as possible into halves. In this amplified sense, the scales of type c have not only equal steps, but all other intervals are approximately equal as well.

The scales of type c represent a selection of seven tones from twelve arranged in a cycle such that each tone is

seven or six semitones from the adjacent members of the set:

tone:	f	c	g	d	a	a	e	b	(f)
interval in semitones:	7	7	7	7	7	7	7	7	6

In order to carry out such a selection (or "generation") recourse need only be made to the notions of pitch, interval, identity, adjacency, and set.¹ What unites the intervals of seven and six semitones is their common function as bisectors of the octave. Thus one can assert that apart from "pitch" and "interval", the generation and description of the seven-tone scale on which the songs are based does not require the addition of any concepts to those already discussed with regard to rhyme schemes and sequences of phrase finals.

Polyphonic Functions

A misconception which frequently arises when dealing with monophonic music² is that harmony, chords,

¹ One might also add the concept of "pitch function" to accommodate the possibility of variable intonation in performance. However, not enough is known about this aspect of the songs' performance. For the notions of pitch, interval, and pitch function, see Boretz, loc. cit.

² For a system of describing monophony as melody "pure and simple" see Joseph Smits van Waesberghe, A Textbook of melody; A course in functional analysis (trans. W. A. G. Doyle-Davidson), Niemegeen, Netherlands, American Institute of Musicology, 1955.

and other features of multi-part music are irrelevant to the discussion. However, if such polyphonic notions are reduced to their essentials, one is left with such concepts as resolution and voice-leading, which do not depend on the presence of explicitly presented simultaneities. There is a great aesthetic gain to be had if monophony is not considered merely as "pure melody",¹ but also as embodying harmonic implications. Monophonic music can be functionalized more fully by recourse to a single concept, that of "voice".

Within a register there can be sub-registers termed "voices" (i.e. sets of adjacent scale degrees). As will be seen, in major-minor music, for instance, scale degrees 2, 3, and 4 (or 1, 2, and 3) all belong to one voice, that of degree 3 (or 2). Since voices depend on the degrees involved rather than on registral position, pitches which are one or more octaves apart can be considered to belong to the same "voice-class."² Any piece can be considered to embody one, two or three such sub-registers or voice-classes. The aim of the following development is to determine how each pitch in a piece can be assigned to one of the voice-classes. In this

¹ The "purely melodic" conception of monophony would seem to lay great stress on foreground relationships at the expense of background functions.

² These are not "classes" in the sense of partitions, since a single degree can belong to two voice-classes, as is the case with degree 3 (or 2) in the model construction developed below.

way, all pitches of the piece will be said to be functionalized in terms of voice-leading.

In one-voice music, the tonic voice-class constitutes the sonority, usually, of an octave. In two-voice music, the sonority consists of a dyad, two pitch classes, usually a perfect fifth apart. In three-voice music, the sonority consists of a triad, three pitch classes, usually corresponding to a perfect triad, major or minor, in the usual sense. These sonorities constitute defined relations of simultaneity or consonances.¹

In any voice, there is a pitch class belonging to the tonic sonority. All other voices are foreign to it and, in a sense, dissonant. They are said to be in a defined relation of succession.² In order to be resolved, they must "move" to the consonant pitch of the original sonority, that is, the dissonance precedes -- in the sense of the section on rhyme schemes -- the consonance to which it is resolved. A neighbor tone is a pitch which belongs to a voice, but is foreign and adjacent to its consonant "core".

The octaves of the tonic can be considered to define a single "voice". All pitches can be functionalized depend-

¹ See Boretz, loc. cit.

² The reader familiar with Boretz's generations of the tonal system (ibid., Part III, "Musical Syntax") will note a divergence from his scheme in the present work. Boretz generates his systems in terms of the twelve-semitone system, whereas I do this in terms of a mod. 7 system which in turn is generated from the twelve-semitone system.

ing on whether they belong to the tonic degree-class or a non-tonic degree-class. A second voice can be defined by bisecting the octave (interval 7) between two adjacent members of the tonic degree-class. The interval 7 can be bisected intervallically into 4 + 3: 0 4 7. This gives rise to a two-voice interpretation according to which each pitch corresponds to the tonic or the dominant, or neither. In order further to functionalize pitches not yet belonging to the tonic or dominant voices, the following procedure is possible: bisect the octave (7) of the dominant by the interval 4 just as was done with the octave of the tonic: 4 1 4. In the tonic dyad: 0 4 7, 0 and 7 belong to the tonic, 4 to the dominant. In the dominant dyad, 4 1 4, 4 belongs to the dominant, 1 to the tonic. All seven dyads can be functionalized following the model for tonic and dominant (Figure 3).

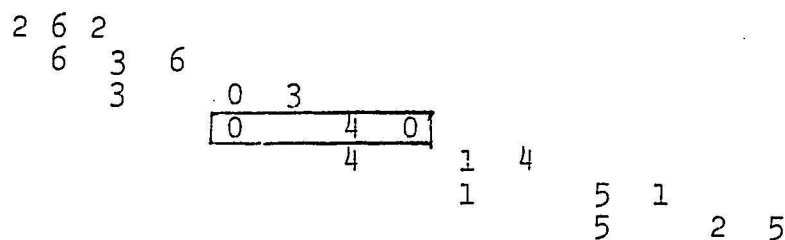
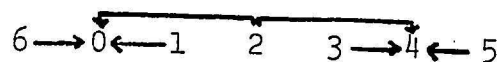


Figure 3: Functionalizing of all seven degrees in a modal, two-voice system.

When these are brought together in one octave, the following two-voice scheme results:



where arrows join pitches, to their respective voices' consonant cores i.e., their resolutions.

Such a two-voice model for a mod. 7 system corresponds to the tonal system for modal music of the late Middle Ages and Renaissance. It possesses a number of outstanding features. First, the generation of the voice functions is symmetrical about the tonic dyad. Three dyads (on 4, 1, and 5) are the result of transposition upward by 4 degrees; three dyads (on 3, 6, and 2) are the result of inversion downward by 4 degrees. Secondly, the interval of 7 in the modal system corresponds to the octave, and the interval 4 corresponds usually to the perfect fifth which bisects the octave. Transposition and inversion are by the interval 4. Thirdly, two of the non-tonic degrees in the tonic voice (1 and 6) are adjacent to the tonic (0). And two of the non-dominant degrees in the dominant voice (3 and 5) are adjacent to the dominant (4). They, therefore, function as neighbor tones to their resolutions (0 and 4, respectively).

Thus, the cadences 1 - 0/6 - 0, and 1 - 0/3 - 4/6 - 0 (or 2 - 1/7 - 8, and 2 - 1/4 - 5/7 - 8), which are basic to polyphony of the late Middle Ages and Renaissance, can be viewed as the result of multiple neighbor-tone relations. And the tenor cadence 1 - 0 (or 2 - 1) and the superius cadence 6 - 0 (or 7 - 8) can thus be seen to arise from the

system of voice-leading. Finally, degree 2 occupies a special place in the system. It is in the voices of both the tonic and the dominant, but is adjacent to neither. If the interval 4 (a fifth) is considered consonant, and the interval 1 (a second) dissonant, interval 2 is in a special position, neither fully consonant nor fully dissonant. Indeed, in the triadic system to be discussed next, it occupies a similarly special position.

If the 0 - 4 dyad is bisected by the interval 2, a three-voice system results. This system is typical of major-minor music from the late Renaissance through the Common Practice period. From the triad 0 - 2 - 4, can be generated a triad of triads as in Figure 4.

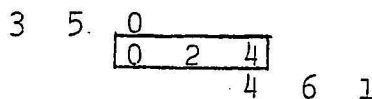


Figure 4: Generation of major-minor system.

Once again all seven degrees are functionalized and the scheme is symmetrical about the tonic sonority. The resulting voice-leading scheme is as follows:

$$6 \longrightarrow 0 \quad 1 \longrightarrow 2 \longleftarrow 3 \quad 4 \longleftarrow 5$$

Links with the dyadic system include the voice-leading progressions 6 - 0 and 5 - 4. Here, however, degree 2 occupies a special place. It is fully "consonant" and has two neighbor tones (1 and 3). Once again, the interval 4 is conson-

ant (usually corresponding to a perfect fifth), and transposition of the referential sonority (the tonic triad) is by the interval 4. Degree 2, as has been stated, is consonant. Further, it has two neighbor tones (1 and 3).

Tonal systems and the music of the repertoire

Many of the tonal features of the songs can be accounted for by invoking the tonal systems described here. First, the ranges of the songs can be described in modal terms. Tinctoris's system of classification of ranges reflects a two-voice model for the music. Normal ranges include both voices (0 and 4, or 1 and 5) as well as an octave duplication of one of them (8 (or 7) in authentic modes, and V (or IV) in plagal modes). Tinctoris allows a degree (VII or (VI)) below the finalis in authentic modes and a degree (6 (or 5)) above the finalis in plagal modes. Neither of these degrees truly extends the range, if the latter is expressed in terms of a two-voice model, because the degrees belong to the voices of the finalis and confinalis, respectively. VII (or VI) is the lower neighbor of 1 (or 0), and 6 (or 5) is the upper neighbor of 5 (or 4). By license, degree VI (or V) can appear in authentic modes and degree 7 (or 6) in plagal modes. Degree VI (or V) represents a movement into the voice of the lower octave of the confinalis without directly landing on the confinalis. The confinalis is implied but not presented. Similarly, degree 7 (or 6)

represents a move into the voice of the upper octave of the finalis, and, again, the finalis is implied but not explicitly presented. Such modes are perfect. They present two voices (1 (or 0) and 5 (or 4)) and the octave of one voice (8 (or 7) or V (or IV)).

If degree 9 (or 8) is presented in the authentic mode, it merely represents the upper neighbor of the finalis' upper octave. Similarly, IV (or III) only represents a lower neighbor of the confinalis' lower octave. Thus, pluperfect modes are mere extensions of perfect modes without the implication of a new voice.

Imperfect modes imply two voices and the octave of one voice, but the degree (7 (or 6) or VI (or V)), which implies the octave of one of the voices is not resolved. In this sense, they are "imperfect". Due to their presentation of more material than is required for the resolution of all voices, pluperfect modes are truly "more than perfect".

The songs put this theory into practice. The lowest tones of the majority are to be found in the tetrachord below the finalis (V - 1 (or IV - 0)), and the highest tones in the tetrachord above the finalis (5 - 8 (or 4 - 7)). The basic range type for the repertoire involves three voices; occasionally, the range is contracted to the two basic voices, and never is it expanded to four. In extreme cases, the songs reach III (or II) or 10 (or 9), in other words, from the voice of the confinal's lower octave to the voice of the

finalis' upper octave. By contrast the tenors of polyphonic rondeaux extend from III (or II) to 12 (or 11), that is, as high as the confinal's upper octave.

The choice of maneriae reflects a pairing of the two- and three-voiced systems. All modes used in the songs can be described in terms of a triad of triads, just as major-minor music is best described. However, the true major-minor system features consistency among the three triads, which are referential for the piece. All three triads are either major or minor. In the songs, all four possibilities for combining major or minor triads in the same system are to be found. Thus, overlap between major-minor and modal systems is presented in the songs.

Among the four triadic modes used in the songs (Ionian, Dorian, Mixolydian, and Aeolian), two predominate: Ionian and Dorian. These two modes have the special property that the species of fifth on the tonic and dominant are identical:

	species of fifth on tonic					species of fifth on dominant				
Ionian	c	d	e	f	g	g	a	b	c	d
No. of semitones	2	2	1	2		2	2	1	2	
Dorian	d	e	f	g	a	a	b	c	d	e
No. of semitones	2	1	2	2		2	1	2	2	

Figure 4: Species of fifths in Ionian and Dorian modes.

The empirical importance of such species of fifth shows that the link between the twelve- and seven-tone systems is exploited in the repertoire. That transposition is up a fifth shows that what otherwise appears to be a symmetrical system is, in the repertoire, skewed toward the dominant side.

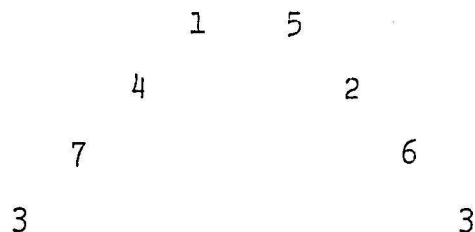
The choices of initials of the songs and phrase finals within the songs are best expressed in terms of a tonic triad and a triad of triads, respectively. This, again, is symptomatic of triadic tonality. The order of triads in the empirical model for phrase finals is I, V, IV. Important here is the fact that V precedes IV. This demonstrates again, that an otherwise symmetrical system (this time, of three triads) is, in practice, skewed towards the dominant side rather than the subdominant side. By contrast, however, the polyphonic rondeaux eschew 2 (or 3) as an initial, reflecting thereby a dyadic rather than triadic approach.)

The prevalence of the 2 - 1 (or 1 - 0) tenor-style cadence reflects the dyadic system, where 2 (or 1), the upper neighbor of 1 (or 0), is resolved at the end of the piece. At the ends of internal phrases, transpositions of this progression serve to tonicize the phrase finals. The preference for 3 - 2 - 1 (2 - 1 - 0) cadences (and their transpositions) is also symptomatic of the dyadic system, where 3 (or 2) belongs to the voice of 1 (or 0). After the tenor cadence, the superius type appears most frequently. In the dyadic and triadic systems, it represents a move from the lower

neighbor of the finalis or phrase final to its resolution.

The presence of chords made up of chains of thirds reflects a basic feature of the diatonic white-note scale type, namely, that all intervals have a bisector within the system. For chains of thirds, it is significant that all fifths and ninths are divided by tones within the system into intervallically or rationally equal thirds and fifths.

With regard to leaps, both the monophonic and polyphonic songs considered here reflect the symmetrical arrangement of fifths by which the dyadic voice-leading model was generated. As Table 42 shows, the frequencies with which various degrees are involved in leaps are quite similar in both repertoires. One can also observe that degrees 1 and 5 (or 0 and 4) are approximately equally frequently involved in leaps: a similar case holds for degrees 4 and 2 (or 3 and 1) and 7 and 6 (or 6 and 5). As Figure 5 illustrates, these pairs occupy parallel positions in the symmetrical arrangement.



Furthermore, as can be seen in Table 43, the frequencies with which these degrees appear in leaps follows the order of the symmetrical arrangement: leaps involving 1 or 5 (or 0 or 4) are about twice as frequent as those involving 2 or 4 (or 1

or 3), which in turn are about twice as frequent as those involving 7 or 6 (or 6 or 5). The latter, finally, are about twice as frequent as leaps involving 3 (or 2).

Frequency and percentage in:

		<u>Monophonic chansons</u>	<u>Polyphonic rondeaux</u>
Leaps involving degrees:	1	238 (28)	304 (27)
	5	249 (29)	318 (28)
	4	95 (11)	158 (14)
	2	102 (12)	126 (11)
	7	52 (6)	104 (9)
	6	55 (6)	43 (4)
	3	67 (8)	73 (6)

Table 42: Frequencies and percentages of leaps involving various degrees in monophonic and polyphonic songs ca. 1500.

Frequency and percentage in:

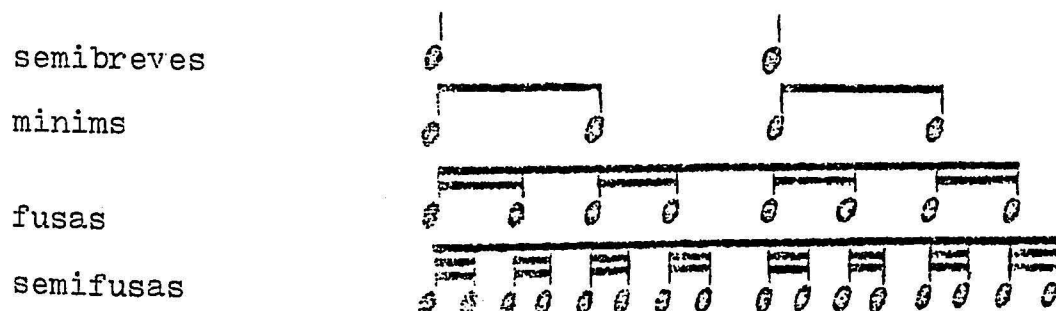
		<u>Monophonic chansons</u>	<u>Polyphonic rondeaux</u>
Leaps involving degrees:	1 or 5	487 (57)	622 (55)
	2 or 4	197 (23)	284 (25)
	7 or 6	107 (13)	147 (13)
	3	67 (8)	73 (6)

Table 43: Frequencies and percentages of leaps involving degrees -- grouped according to the symmetrical arrangement of dyads -- in monophonic and polyphonic songs.

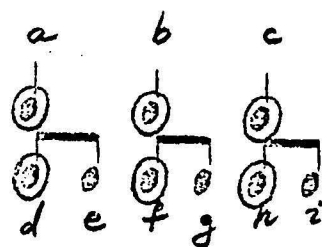
In summary, the tonal system of the songs is basically dyadic, and most phenomena can be explained in terms of the two-voice system developed above. At the same time, there are phenomena which seem best described in terms of a triadic system. Both systems can be described in terms of the concepts invoked to generate the seven-tone scale: pitch, interval, identity, adjacency, set, and bisection, as well as the notion of reference (or orientation) by which the tonic is considered "0".

Meter

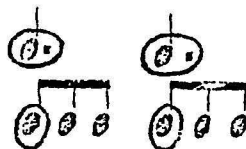
The metrical organization of the songs can be defined in terms of the concepts of moment, interval, adjacency, set, bisection, and precedence. The songs' metrical structures are characterized by periodic successions which can be defined as sets of adjacent moments separated by a given interval. In the songs, the inferred periodic successions are coordinated hierarchically from the level of the semibreve downward:



The moments in each level of the hierarchy coincide with some of those in the next lower level (indicated by circles):



Those with which it does not coincide bisect its unit interval. For example, moment e (above) bisects the interval between a and b, g bisects b-c, and so forth. Such a hierarchy is true only of duple and triple meters. In by far the majority of cases, the meters of the songs are organized duple below the level of semibreves. In such cases, the bisection is rational. There are a few instances of triple organization below the level of semibreves as in the following scheme:



But below the level of minims, all songs are organized in duple.

Interestingly, the songs' meters are only intermittently hierarchized above the level of semibreves. In most -- but not all -- cases, phrases correspond to an even number of semibreves, suggesting that semibreves are to be considered paired to form a hierarchical level corresponding to the breve. Similarly the inferred system of text underlay seems to articulate levels corresponding to breves and longs intermittently. An instance where higher levels of the

metrical hierarchy are implied is the following song:

Hel- [Hel-] las O- li- vier Bas- se- lin
 Or- tens- neus point de vos nou- vel- les

In this piece, pairs of syllables articulate pairs of minims (Hel-las O-livier) and pairs of semibreves (O-li-vier, Bas-se-lin, etc.). Furthermore, the first line as a whole extends for the period of a duplex longa.

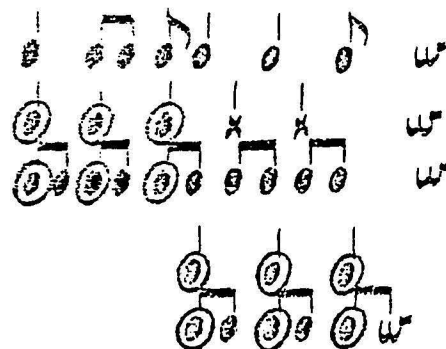
By and large, the songs are organized commetrically in that all tones which correspond to a given level of the hierarchy either a) coincide with a member of the next higher level (as in the case of the circled tones in the illustration, above), or b) are immediately followed by a tone corresponding to a member of the next level of the hierarchy (for example, a tone corresponding to e in the illustration would be followed by one corresponding to b). The exceptional instances involve a special type of syncopation in which this type of "resolution" is interrupted and a periodic succession is introduced which consists of moments separated by the unit interval for the upper level, but corresponding to the bisectors rather than the coincident tones at the lower level. This type of syncopation represents a shift of the

hierarchy such that coincident tones (i.e., accented beats) become bisectors (i.e., unaccented beats) and vice versa (the symbol * indicates the moments at which the original hierarchy is interrupted):

observed durations:

original hierarchy { semibreves
minims

temporary hierarchy { semibreves
minims



Interestingly, syncopation, which represents an extension of the basic hierarchical construction for meters requires the notion of precedence in order to be defined, as do the tercet forms, which also represent extensions of a basic scheme.

Summary

As has been shown the basic stylistic distinctions which are found in the songs and poems considered here can be defined in terms of a limited number of concepts. Some of these are peculiar to various parameters. For example, the notion of syllable is special to prosody, as pitch and moment are to tonal and metrical aspects, respectively. By far the majority of concepts which constitute a basis for

analyzing the songs are applicable to several parameters: identity, adjacency, precedence, set, and interval. In this sense, the songs can be interpreted individually or as a group in terms of a single paradigm, and as the theorists state, "prosody" can be considered "a type of music",¹ for many of the basic concepts required to describe recurrent melodic and textual types in the songs are common to versification and musical analysis.

¹"Rétorique vulgaire est une espèce de musique appelée richmique [i.e., rythmique]", Langlois, op. cit., p. 216.

CHAPTER EIGHT

SUMMARY AND CONCLUSIONS

The central problems of this study have been to determine the extent to which the songs are similar to, or different from, contemporary courtly poems and polyphonic songs, and the extent to which they constitute a genre. By and large, the songs have been found to overlap pieces produced at court both stylistically and socially. But despite this overlap, they reveal strong individuality and unity as a group. In order to review the solutions to these problems, a summary of the songs' social background and overall style is offered presently. Thereupon, the validity of the findings and conclusions that arise is tested with regard to a closely related repertoire: the monophonic songs preserved in MS Dijon, Bib. mun. 517. Finally some suggestions for further research based directly on the present study are offered.

Social background of the songs

One can conclude a certain amount about the people directly involved in the songs: the composers, performers, and listeners. For the majority of the songs, the composers are unknown. Of the few names that have come down to us, all appear to have been highly educated and professionally involved in writing of some sort. But with one exception, none made