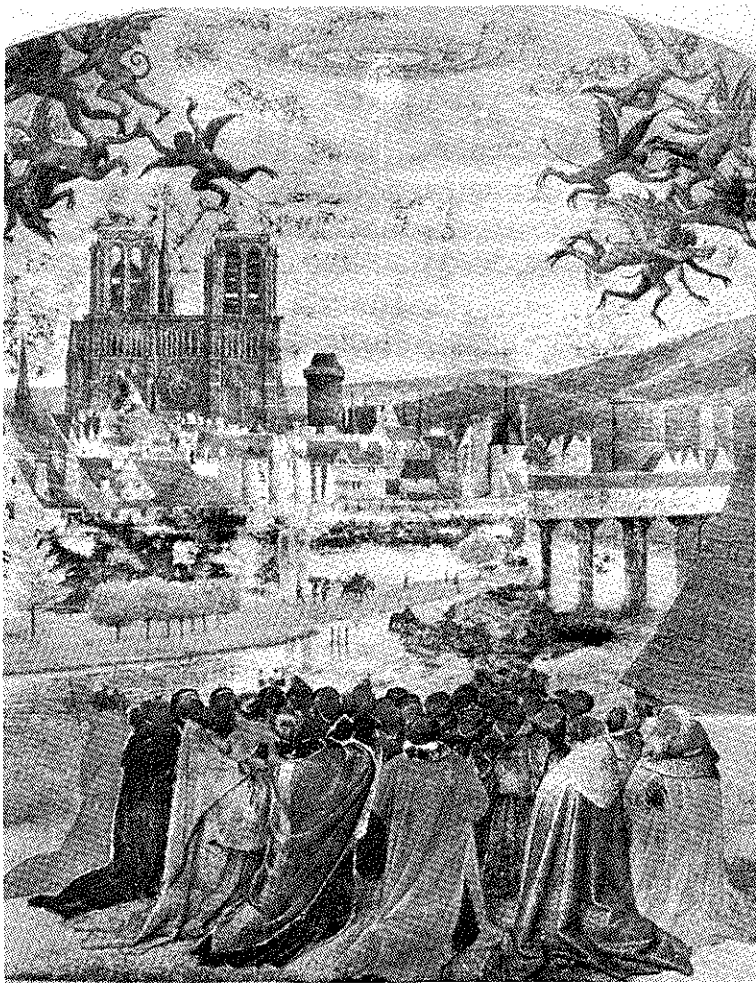


The origin of the Compostela repertory remains unknown, but it is probably wrong to regard it as music by Spanish composers. A remark on the page before the collection of polyphonic pieces (fol. 184v) states that the manuscript was written in a number of different places, but principally at the great Benedictine Abbey of Cluny. The other places listed correspond with the names and titles of the authors to whom the musical items are attributed. Although these attributions are thought to be apocryphal, they suggest that the musical repertory was not the unified product of composers working together in Compostela or any other single locality. Supporting evidence for this view comes from the presence of the one item from St. Martial and the settings of responsorial chants, a class of polyphony that is notably absent from the St. Martial repertory. There might even be some significance in the attribution of *Congaudeant Catholici* to a Magister Albertus of Paris, the city that was soon to take the lead in the further development of polyphony. The Codex Calixtinus as a whole appears to be of French origin, and the musical notation is of the type found in contemporary plainchant manuscripts from the region of central France. Perhaps the Benedictines of Cluny, who greatly influenced the religious establishments of northern Spain in the twelfth century, did prepare the Codex Calixtinus for the Cathedral of Santiago and did assemble the collection of polyphony from a variety of sources. That collection, at any rate, must preserve much more than an isolated and purely local tradition of polyphonic performance. Instead, the Codex Calixtinus provides us with a priceless record of the general state of religious music, both polyphonic and monophonic, about the middle of the twelfth century.

CHAPTER IX

The School of Notre Dame, I: Organum

During the twelfth century, northern France, with Paris as its natural center, gradually assumed the cultural and intellectual leadership of western Europe. Many factors contributed to this development, but among the most important were the growth and prosperity of the cities, the increasing power and prestige of the French kings, and the expansion of the cathedral schools that led to the formation of the University of Paris in the early years of the thirteenth century. The economic recovery of Europe in the eleventh century brought with it a great increase in population and provided a new basis for the organization of society. Hitherto rural and feudal, that society became increasingly urban and commercial. The renewed vigor of the cities and the wealth of their middle-class citizens, the bourgeoisie, made possible the architectural monuments of the twelfth and thirteenth centuries that are still the glory of Europe. The same factors, in combination with the increased population, swelled attendance at the schools and universities, whose intellectual achievements were perhaps even more important than cathedrals in determining the course of Western civilization. By the end of the twelfth century, the schools at Bologna and Paris had won the renown that was to make them the "mother universities of Europe." Bologna emphasized the study of jurisprudence, while Paris concentrated on theology and the liberal arts. It is no surprise, therefore, to find that the authors of many thirteenth-century musical treatises were associated with the University of Paris. The medieval habit of preserving anonymity in musical sources keeps us from knowing whether the Parisian theorists were also composers. Paris so dominated the field of polyphonic composition, however, that a tendency exists to regard as "peripheral" all music of the late twelfth and thirteenth centuries that originated elsewhere in Europe. Yet peripheral styles and conservative practices in both the improvisation and composition of organum probably give a more accurate picture of the general state of contemporary polyphony. Paris and the School of Notre Dame stood far out in front in the development of new musical forms and styles, and—as is often the case with avant-garde composers—their music opened up new paths for succeed-



The Cathedral of Notre Dame, consecrated in 1182, rises in the background of this fifteenth-century miniature by Jean Fouquet (Robert Lehman Collection, Metropolitan Museum of Art).

ing generations to follow. It fully deserves, therefore, the emphasis it usually receives in studies of medieval music.

In 1160, the energetic Maurice de Sully became Bishop of Paris and immediately set about replacing the old Romanesque cathedral of Notre Dame. The cornerstone of the present cathedral was laid in 1163, and work progressed rapidly during Maurice's thirty-six years as bishop. Construction of the apse and choir in less than twenty years made it possible to dedicate the main altar on the Feast of Pentecost, May 19, 1182. The old basilica could then be demolished to make way for the transept and nave, which were completed around 1200. Major construction ended some fifty years later with completion of the facade. During the first forty years of work on the cathedral, two generations of Parisian composers were producing a large body of sacred polyphony that we now credit to the School of Notre Dame. The master builders of the

magnificent edifice—perhaps the best-known of all Gothic cathedrals—remain unknown. It is one of the ironies of fate, therefore, that we know the names of two composers, Leonin and Perotin, who made major contributions to the predominantly anonymous musical repertory of Notre Dame.

Information about the lives of Leonin and Perotin is almost nonexistent. Leonin's name has not been found in any records of the cathedral or of any other religious establishment in Paris. On the other hand, if one assumes that Perotin is a diminutive of Peter (Petrus), there are so many candidates for his role that it is impossible to determine which, if any, was the composer. What we know about the musical activities of both composers comes from an anonymous treatise written in the latter half of the thirteenth century, long after Leonin and Perotin were dead. This treatise, commonly known as Anonymous IV from its numbering in the edition of Edmond de Coussemaker, appears to consist of information gathered by an English student at the University of Paris.¹ Thanks to the student's unusual interest in historical developments, we learn that Magister Leoninus was known as the greatest composer of organum (*optimus organista*). He it was who wrote a *Great Book of Organum* (*Magnus liber organi*) from the *Gradual* and *Antiphony* for augmenting the divine service. This book was in use until the time of Perotin the Great (*Perotinus magnus*), the best composer of discant (*optimus discantor*), who shortened the organa and composed new and better substitute sections called *clausulae* (or *points*). Perotin also wrote organa for three and four voices, as well as monophonic and polyphonic conducti. Anonymous IV names examples of each type and concludes with the statement that, at the time of writing, the book or books of Magister Perotinus were still in use in the great Parisian church of the Blessed Virgin. This is the only recorded suggestion—and it is slight indeed—that Leonin and Perotin were associated with the Cathedral of Notre Dame.

As students' notes are not usually remarkable for their accuracy, the statements of Anonymous IV—though interesting—would be of little value unless confirmed by other sources. Such sources do exist in several manuscripts that preserve the repertory of the School of Notre Dame. Two of the three main sources of Notre Dame polyphony are now in the Ducal Library of Wolfenbüttel in northern Germany. One of these manuscripts, Wolfenbüttel 677 (*W*₁), belonged to St. Andrews Priory in Scotland in the early years of the fourteenth century. The other, Wolfenbüttel 1206 (*W*₂), appears to have come from France. The third and largest of the Notre Dame sources is Pluteus 29.1 at the Biblioteca Medicea-Laurenziana in Florence (*F*). This lavishly illuminated manuscript was probably copied in France in the thirteenth century for

1. Coussemaker, CS, 1, pp. 327–65. An English translation of Anonymous IV has been published by L. Dittmer, MTT, 1.



A noted teacher lecturing to a group of students in a medieval university.

the library of some wealthy patron. By the middle of the fifteenth century it belonged to Piero de' Medici, father of Lorenzo the Magnificent. A fourth and smaller manuscript, Madrid Bibl. Nac. 20486 (*Ma*), probably came from Toledo; and several fragments containing Notre Dame polyphony are preserved in various other European libraries.²

None of the Notre Dame manuscripts identifies the *Magnus liber organi* or names any composers. Nevertheless, the correspondence between their contents and the statements of Anonymous IV is extraordinary. The core of the repertory consists of two-voice settings of responsorial chants for the great feast days of the Church year. All manuscripts arrange these settings in two groups, each of which follows the order of the Church calendar beginning with Christmas Day. The first group consists of Great Responsories for the Offices. In its earliest form, the *Magnus liber* probably contained only Vesper responsories, the most elaborate chants of this Office in the Middle Ages. Later practice extended the application of polyphony to the final responsory for each Nocturn in Matins. The second group of two-voice settings includes the responsorial chants of the Mass, both Graduals and Alleluias. Other sections of the Notre Dame manuscripts preserve the substitute clausulae to which Anonymous IV referred, and the collections of conducti and of three- and four-voice organa include the pieces he attributed to

Perotin. Musical sources thus vindicate the reputation of Anonymous IV as a historian. They make it possible to reconstruct Leonin's *Great Book of Organum* from the *Gradual* and *Antiphonary*, to follow Perotin's process of revision and improvement, and to study the first polyphonic pieces that can be attributed with certainty to an individual composer.

Before examining the music of the Notre Dame School, let us consider some aspects of its historical development. Writing in the latter half of the thirteenth century, Anonymous IV implies that Leonin composed the *Magnus liber* some three or four generations earlier. This is not much help in dating the activities of the Notre Dame composers. More precise suggestions come from two decrees of Odo de Sully, who succeeded Maurice de Sully as Bishop of Paris. In 1198, Odo forbade the traditional New Year's celebration known as the Feast of Fools and laid down rules for solemn ceremonies to replace the many irregularities and shameful acts that had sullied the holy places. The bishop's rules specified that the responsory and *Benedicamus Domino* of Vespers, the third and sixth responsories of Matins, and the Gradual and Alleluia of the Mass might be sung in simple (two-voice), triple, or quadruple organum. A year later, the second decree permitted the same kinds of organal performance for the Feast of St. Stephen (December 26). From these decrees we may draw two obvious conclusions: Odo would not have mentioned three- and four-voice organum if compositions of this type did not exist; permission to perform organum on New Year's Day and for the Feast of St. Stephen implies that the practice was already established on other, more important feasts such as the Nativity. Other conclusions drawn from Odo's decrees are more problematical. Scholars generally agree that Leonin must have composed the *Magnus liber organi* between the years 1160 and 1180. Shortly thereafter, presumably, Perotin began his revisions of Leonin's work. Odo's decrees then establish the approximate time when Perotin wrote the four-voice settings of the Graduals for Christmas and St. Stephen that Anonymous IV attributes to him. How much longer Perotin's activities continued is subject to dispute. The text of his monophonic conductus *Beata viscera* (Blessed offspring) was by Philip the Chancellor, one of the last great writers of Latin lyric poetry, who died in 1236. The collaboration of poet and composer suggests that Perotin himself must have lived until some time after 1220. Whatever the truth may be, it is reasonably certain that the years between 1160 and 1225 saw the composition of nearly all the Notre Dame repertory of organa and conducti.

We cannot assume, of course, that Leonin and Perotin wrote all of the Notre Dame polyphony, or that the entire repertory came from Notre Dame composers. The composition of two-voice organum did not end with the introduction of organum for three and four voices, and completion of the *Magnus liber organi* may have taken fifty or sixty years. Research has shown that the oldest items followed the liturgical prac-

2. Facsimile editions of the major Notre Dame sources are listed in the Bibliography.

tices of the Paris cathedral and used its version of the chant melodies.³ Many of the later additions also came from Notre Dame, but some came from other religious establishments, both within and outside of Paris. Just as architectural features of Notre Dame reappear in cathedrals from Cyprus to Sweden, so its music turns up in churches from Toledo in Spain to St. Andrews in Scotland. As far as we can tell, however, foreign centers took over the Parisian repertory with relatively few changes or local additions. Notre Dame thus remained the fountainhead of the new polyphony, and we may justifiably credit the entire repertory to Leonin, Perotin, and their anonymous disciples.

THE MUSIC OF THE *MAGNUS LIBER ORGANI*

In the form that we now possess, the *Magnus liber organi* consists of about thirty-five responsories and a dozen settings of *Benedicamus Domino* for the Offices, twenty Graduals and forty Alleluias for the Mass. In addition, two of the Notre Dame manuscripts preserve a total of nearly 500 substitute clausulae. As in the Compostela repertory, these settings are applied only to the solo sections of responsorial chants. All three classes of chants—responsories, Graduals, and Alleluias—begin with a polyphonic setting of the short solo introduction, after which the choir completes the opening respond in plainchant. The verses of these chants, on the other hand, are not all treated the same way. In the Office responsories, the entire verse receives a polyphonic setting that is also used for the doxology; the choir answers both verse and doxology with the closing section of the respond in plainchant. In Graduals and Alleluias, however, the polyphonic settings of the verse are not complete, and the choir sings the final phrase in plainchant. We should not be misled by the fact that the Notre Dame manuscripts—and some modern transcriptions—include only the polyphonic sections of responsorial chants. The manuscripts were for the soloists' use; the choir would naturally sing from its regular chantbook. In liturgical performance, alternation of solo polyphony with choral plainchant is the result.

A second characteristic alternation of musical styles occurs within the solo polyphony itself. In discussing the music of St. Martial we noted that composers on occasion treated the plainchant tenor in two different ways. Where the chant was syllabic, or nearly so, they used sustained-note or organal style. Plainchant melismas were set in note-against-note or discant style. The lengthy melismas characteristic of responsorial chants led Notre Dame composers to distinguish even more clearly between these two styles. In sustained-note sections, single notes of the chant are extended, sometimes to incredible lengths, beneath the elabo-

rate melismatic flow of the upper voice. This flow continues in the discant sections, but now the tenor moves at a regular and much faster pace. As a rule, the two voices still do not move in strictly note-against-note counterpoint, and several notes may appear in the upper voice against one in the tenor. Nevertheless, both voices are sufficiently active to give the impression of being two simultaneous melodies rather than a single melody above a drone. The sections in discant style are the clausulae of which composers wrote so many different settings. Before we go further in examining the development of organal and discant styles, however, we must consider a third characteristic, and most important innovation, of Notre Dame polyphony: its use of rhythm and meter.

MODAL NOTATION AND THE RHYTHMIC MODES

As polyphony became more and more complex, composers had to find some means of indicating how the voices fit together. Difficulties had already arisen in the music of St. Martial and Compostela, where writing in score no longer provided a completely satisfactory solution. What was needed was a system of notation that would show the relative values of notes, both within a single melodic line and in the different voices of a polyphonic composition. The development of such a system, imperfect as it may have been, was one of the most significant achievements of the School of Notre Dame.

In essence, the Notre Dame School's unique contribution consisted of replacing the even, unmeasured flow of earlier polyphony (and plainchant) with recurrent patterns of long and short notes. The different patterns of these notes are known as *rhythmic modes*, and they are identified by what we now call *modal notation*.

The introduction of rhythm and meter may be credited to Leonin, but the complete system of rhythmic modes and modal notation took longer to develop. Theoretical descriptions of the system do not appear until the thirteenth century, when the composition of organum had all but ceased. Indeed, the organization of the rhythmic modes into a "system" may be the work of theorists rather than of composers. Certainly the treatises describe details and set up situations that far exceed what occurs in the music itself. We may therefore ignore theoretical complexities and concentrate on the basic forms of the rhythmic modes and how they were indicated by the notation.

THE SIX RHYTHMIC MODES

Most theorists list six rhythmic modes or patterns that correspond to the feet of quantitative meters in classical poetry. The names and structure of these meters are given in Table 8, but the rhythmic modes are

3. H. Husmann, "The Origin and Destination of the *Magnus liber organi*," MQ, 49 (1963), p. 311. See also Husmann's article "The Enlargement of the *Magnus liber organi* . . .," JAMS, 16 (1963), p. 176.










usually identified by number alone. It is thought that their development was inspired by the description of quantitative meters in the treatise *De musica* by St. Augustine (354–430).⁴ In that description, Augustine used only two units of measurement, a long (*longa*) and a breve (*brevis*), and he made it clear that a long equals two breves. Using these units, which may be indicated as  and , we can formulate the first, second, and sixth rhythmic modes with no difficulty. The other three modes, however, introduce a longer value () not found in Augustine's units of measurement. To understand the reasons for the introduction of this longer note, we must look briefly at the chronological development of the rhythmic modes.



Table 8: *The Six Rhythmic Modes*

Mode	Meter	Musical equivalent
1	Trochaic: long short	
2	Iambic: short long	
3	Dactylic: long short short	
4	Anapaestic: short short long	
5	Spondaic: long long	
6	Tribrachic: short short short	



The first rhythmic mode seems to have been the first to come into general use. It is overwhelmingly preponderant in the oldest items of the *Magnus liber*, and it retained its dominance even after the other modes were introduced. Once the idea of the first mode had become established, reversal of its values to produce the iambic meter of the second mode would be a natural development. The sixth mode apparently originated as an ornamented version of the first or second mode before it was classified as a mode in its own right. To describe the values of longs and breves in these three modes theorists used the term "correct" (*recta*). The longer longs of the other three modes they described as "beyond the measure" (*ultra mensuram*). The origin of these longer notes is probably to be found in older discant clausulae, where the tenor has a series of even notes, one for each foot of the first rhythmic mode. Characteristic examples may be seen in *Alleluia: Nativitas* on the words "glorio(se)" and "virginis" (AMM, No. 33). In later developments, these series of undifferentiated notes evolve into recurring patterns of the fifth rhythmic mode. A similar process of combining different modes in different voices undoubtedly produced the seemingly illogical changes of note values in the third and fourth modes. According to the theorists, these modes still consist of long-short-short or short-short-

4. For arguments in support of this belief, see W. Waite, *The Rhythm of Twelfth-Century Polyphony*, p. 29 ff.

long values, but these values must be modified in two different ways. The longs become *ultra mensuram*, and the second breve in each mode is doubled in value to make it "the other" or altered breve (*brevis altera*). As a result of these changes, a foot of the third and fourth modes—and also of the fifth—equals two feet of the first, second, and sixth modes. Units of three thus became the basis of all modal rhythms, and only the conflicting patterns of those rhythms restricted the simultaneous use of different modes. Any combination of the last five modes was possible, but the first mode was normally used only with the fifth and sixth.

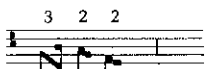

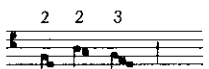





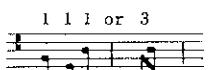



The units or feet of the rhythmic modes are, of course, only building blocks for the construction of larger musical units. Just as a succession of feet creates a line of poetry, so the repeated patterns of a rhythmic mode create a musical phrase. The medieval name for such phrases was *ordines* (sing. *ordo*), a term that indicates a series in a definite and controlled order. We may define an *ordo*, then, as one or more statements of a modal pattern ending with a rest. The theorists developed an elaborate classification of ordines according to the number of complete patterns they contained and the position of the concluding rest. The second *ordo* of any mode, for example, would contain two complete statements of its rhythmic pattern. The *ordo* would be "perfect" if it concluded with a third, incomplete statement in which a rest replaced the second part of the pattern (). An "imperfect" *ordo* would end with the last note of a complete pattern, followed by a rest equal to the first part of another statement (). Imperfect ordines appear to be largely a theoretical concept. In practice, most ordines are perfect, ending on the first note of their modal pattern, which is completed by a rest (see Table 9, p. 224).

THE NOTATION OF RHYTHMIC MODES

Because ordines consisted of successive repetitions of a modal pattern, it was possible to identify the mode of each *ordo* by a particular arrangement of successive neumes. This system was much more natural and logical than knowledge of modern notation would make it seem. Composers of organum necessarily began with the only notation they knew, that of plainchant. In melismatic passages, plainchant notation, both for the sake of appearance and to save space, "bound" notes together in neumes or ligatures. Moreover, single notes in plainchant had no mensural significance. Whenever a distinction was made in their use, the *virga* () and *punctum* () still indicated higher and lower rather than longer and shorter notes. Musicians of the twelfth century, therefore, would never have considered writing the long melismas of organum in single notes. Instead, they naturally adopted the standard forms of ligatures that they knew and used in the notation of plainchant.

These ligatures too had no mensural significance in themselves, but they provided an ingenious yet simple solution to the problem of notating the rhythmic modes. Because the notes of a melisma may be grouped in distinctive patterns of ligatures, those patterns could be used to identify the different rhythmic modes. If a composer wanted to indicate performance in the first mode, for example, he would write a three-note ligature followed by a series of two-note ligatures. Similarly, a series of two-note ligatures ending with a three-note ligature indicated performance in the second mode. Vertical lines of indeterminate length marked the ends of ordines and called for the appropriate rests. The characteristic patterns of ligatures that identify the rhythmic modes are shown in Table 9, together with their equivalents in modern note values.

Table 9: *Ligature Patterns of the Rhythmic Modes*

Mode	Perfect ordo	Pattern of ligatures	Modern equivalent
1	Third		
2	Third		
3	Second		
4	Second*		
5	First		
6	Third		

*By analogy with the third mode, some writers end the fourth with a single note. Apel, NPM, pp. 222 and 225, gives both versions. As the fourth mode was rarely used, the matter is of little importance.

Examination of Table 9 will show that the form of a ligature has nothing to do with the note values it represents. Two-note ligatures, it is true, were normally sung as breve-long, but three-note ligatures had at least five different meanings. Theorists of the thirteenth century recommended modifying the forms of ligatures to indicate different values, but this is really a development of mensural notation. The manu-

script sources of modal notation rely almost exclusively on the normal ligature forms of plainchant, and the meaning of those forms depends on the modal pattern in which they occur. This determination of note values on the basis of the position rather than the form of ligatures is one of the primary distinctions between modal and mensural notation.

The basic patterns of modal notation are clear enough, but the system suffered from disadvantages more serious than the varied meanings of ligatures. Even with strict adherence to the rhythm of a mode, repeated notes in a melody may disrupt the normal notation because they cannot be written in ligatures. When they cause a temporary break in the pattern of ligatures, the reason is usually obvious; but a sufficient number of repeated notes can make it impossible to tell which mode should be used. More difficult problems arise when changes occur in the rhythmic patterns of the modes themselves. Fortunately for the musical interest and artistic value of Notre Dame polyphony, its composers were not long content with unvaried repetitions of a basic modal pattern. They could and did achieve variety by changes of mode from one section of a composition to another, but they also avoided monotony by modifying the successive patterns of a single rhythmic mode. A process known in the thirteenth century as *fractio modi* (breaking of the mode) subdivided the notes of a modal pattern into smaller values—longs into breves and breves into semibreves. The reverse process, now called by analogy *extensio modi* (extension of the mode), combined notes of a modal pattern into a larger value. The long and breve of the first mode, for example, might become a single long equal to three breves. Some methods of notating these modifications did little violence to the normal ligature patterns. Others made those patterns almost unrecognizable. Because *fractio* and *extensio modi* play an important role in giving organum its characteristic melodic style, we must look more closely at some of the devices composers used to vary the patterns of the rhythmic modes.

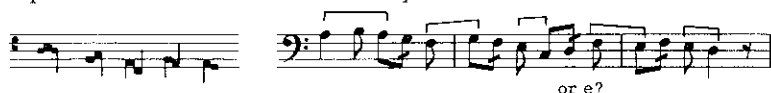
THE PLICA

The *plica* (fold) is a notational sign that evolved from the liquescent neumes of plainchant and continued to be used well into the fourteenth century. The sign itself is no more than an upward or downward stem added to single notes or to the final note of a ligature. It indicates the addition of an ornamental note above or below the note to which the plica is attached.⁵ Both the pitch and the rhythmic value of the added note must be determined by the context. As far as pitch is concerned, the added notes usually function as upper or lower neighbors, or as passing

5. Downward plicas on a single note require a stem on each side of the note.

tones that fill in the interval of a third. When the two written notes lie more than a third apart, however, the pitch of the added note becomes uncertain. Decisions as to rhythmic values are somewhat less problematical. The added note always takes its value from the note to which the plica is attached. If that note has a triple value, it gives up a third to the added note. If the note is duple, it gives up half its value. In this way the plica provided a convenient means of producing *fractio modi* in Notre Dame polyphony. Occasional use of the plica merely introduces welcome variety without destroying the essential character of a rhythmic mode. Consistent and continued use, however, can change one mode into another. It is just in this way, indeed, that the sixth mode apparently developed from the first. As may be seen in Example IX-1, plicas on the ligatures of a first-mode pattern produce the sixth mode on all but the first foot of the ordo. Because plicas cannot be attached to the first or middle notes of ligatures, a four-note ligature was needed to indicate subdivision of the first long. The later use of three-note ligatures to continue the ordines of the sixth mode apparently resulted from a desire for more definite pitch indications than plicas could provide.

Example IX-1: *Fractio Modi Produced by Plicas*



Medieval treatises tell us that the ornamental note indicated by a plica received special vocal treatment, but their descriptions of that treatment are not particularly enlightening. Although we can only guess at the original method of performance, we know that the added note was not optional and that it had a definite rhythmic value. Modern transcriptions must therefore give both the written and unwritten notes. The latter is usually identified by means of some special sign such as the one used here: a diagonal line through the stem of the added note. In performance, treatment as ordinary notes will probably produce the most satisfactory results.

SINGLE NOTES

Single notes call for comment because they can have so many different values. Scribes apparently made no distinction in their use of the shapes ♩ and ♪ , although the note with a stem—usually very short—is by far the more common of the two. In the tenors of discant clausulae, single notes normally indicate longs of triple value (♩), either in a continuous series or in a repeated pattern of the fifth mode. Oc-

asionally, however, single notes may be duplex longs with twice the normal value (♩). Duplex longs are sometimes written as slightly larger notes, but in many cases they can be recognized only by the way the voices fit together. Single notes in the upper voice or voices of organum result from repeated notes in the melody or from extensions of the mode. Thus they may represent the value of a breve (♩), a longa recta (♩), or a longa ultra mensuram (♩). The reason for their appearance is usually clear and their value easy to determine, as long as repeated notes and *extensio modi* do not occur simultaneously. When they do, decisions as to the values of the single notes become more difficult. In discant clausulae, again, the way the voices fit together will ordinarily solve the problem. No such help is available in passages above a sustained-note tenor, and the intended rhythm may remain forever in doubt.

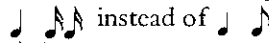

THE CONJUNCTURA OR CURRENTES

A special form of ligature, the *conjunctura* or *currentes* (running notes), consists of a descending series of diamond-shaped notes attached to a single note or to the final note of a ligature. The form occurs in plainchant notation for ligatures of three or four notes, but Notre Dame composers also used it for descending scale passages up to an octave or even a ninth in range. Such passages, indeed, appear so frequently that they become a distinctive feature of Notre Dame style. *Conjuncturae* of more than four notes obviously have no place in the ligature patterns of modal notation. Their primary effect on the rhythm, as the alternate designation *currentes* suggests, is to break up the modal pattern into a series of rapid or running notes that not only divide longs into breves but also breves into semibreves (Example IX-2). The later use of diamond-shaped notes to indicate semibreves may thus have been suggested by *conjuncturae*, although they themselves do not always give the notes this meaning. Contrary to appearances, in fact, the final note of a *conjunctura* is normally a long, the penultimate a breve, and faster notes, if any, come at the beginning of the descent. Despite the general applicability of these rules, the correct rhythmic interpretation of *conjuncturae* often remains uncertain. They occur most commonly in sections of sustained-note style, where the tenor is of no help in determining their length. Moreover, we cannot always tell whether a *conjunctura* begins on the first note or in the middle of a modal pattern. Modern transcriptions of *conjuncturae*, therefore, need not be accepted without question. It seems probable that these ligatures represented vocal flourishes that were, and should now be, performed with considerable freedom and flexibility.

Example IX-2: Some *Conjuncturae* and Possible Transcriptions

As if the difficulties introduced by plicas, single notes, and *conjuncturae* were not enough, the presence of either *fractio* or *extensio modi* often results in irregular groupings of ligatures that admit of several interpretations. It is no wonder, therefore, that different transcriptions of the same organum rarely agree in all rhythmic details and may even use different rhythmic modes in some ordines. And it is not only the modern transcriber who finds modal notation confusing and uncertain. Some theorists who described the system complained that its indefiniteness led different singers to interpret a passage in different ways. Two transcriptions of the same piece will usually agree, therefore, when the modal notation is unequivocal, but they may differ considerably when irregular patterns of ligatures leave the "correct" solution in doubt.

SUSTAINED-NOTE STYLE AND MODAL RHYTHMS

In describing two-voice organum, thirteenth-century theorists distinguish between *discant* style, in which both voices are measured, and *organum purum*, in which the sustained notes of the tenor are unmeasured. The upper voice of *organum purum*, they insist, is modal, a statement they immediately qualify by adding that the mode may be abnormal (*non rectus*) or irregular. The nature of the irregularities is not entirely clear, but they seem to consist largely of willful departures from the normal note values of the rhythmic modes. Individual singers might lengthen or shorten notes according to their personal preference, but the notation remained the same as for the regular rhythmic modes. Modern scholars have assumed—perhaps too readily—that these modifications of note values did not destroy the underlying organization of modal patterns in units of three. The irregular first mode, for example, would be sung as  instead of . Also based on theoretical descriptions is the assumption that the organal voice was consistently and continuously modal from the very beginning of Notre Dame polyphony. Both of these assumptions might well be reexamined. Reliance on theoretical descriptions even of contemporaneous practice can be dangerous. It becomes even more so when we project those descriptions backward and apply them to music written fifty or more years earlier. Both the

musical style and the notation of *organum purum* should make us suspect that thirteenth-century theorists were trying to explain a rhapsodic and improvisatory manner of performance in terms of their fully developed system of rhythmic modes.

In two-voice organum, the exuberant melismas above a sustained tenor seem almost Oriental in style and suggest a relationship with the expansive melismatic tropes that embellished responsorial chants in earlier times (see Chapter VI). Now, of course, the sustained tenor notes provide a foundation that controls the melodic flow to some extent. The melismas of the organal voice break up into phrases that usually begin and end on a consonance with the tenor. Departures from this procedure result chiefly from the introduction of melodic sequences, one of the first devices Notre Dame composers used to organize a melody. Whatever control the sustained notes may have exercised over the melodic direction of the organal voice, they certainly exercised none over its rhythmic organization. Completely unhampered by any need to consider the note values of another voice, no singer, then or now, would be likely to maintain an unyielding triple meter, even if the notation of that meter were precise and unmistakable. But this is just where the notation in the practical sources departs most strikingly from theoretical descriptions. Instead of the normal ligature patterns of modal notation, we find more often than not that the arrangement of ligatures gives no indication of a particular rhythmic mode. This situation results in part from the many *conjuncturae*, but other ligatures may also contain from four to six or seven notes. Even in ordines with nothing but two- and three-note ligatures and single notes, the grouping is often so irregular that several different rhythmic interpretations are possible. Faced with such a notation, singers could hardly be expected to recognize and use an underlying rhythmic mode. It is even less likely that they would group the patterns of that mode—assuming it was the first—into pairs that conveniently produce 6/8 measures in modern transcriptions. The music must nevertheless be transcribed if it is to be studied and performed, and scholars will undoubtedly continue to use the patterns of the rhythmic modes as their starting point.⁶ This will do no harm if singers remember that many passages are open to different rhythmic interpretations and that even regular patterns in unequivocal modal notation were probably performed with a certain amount of freedom. Medieval theorists were fond of emphasizing the difference between musicians who "know" and singers who merely "do." In performing the extravagant vocalises of *organum purum*, however, the instincts of singers may be a surer guide than the knowledge of theoretical musicians. Both at least deserve consideration.

6. For an unmeasured transcription as done by "the more cautious transcribers," see NOHM, 2, p. 344.

DISCANT STYLE AND MODAL RHYTHMS

The introduction of modal rhythms in the upper voice of sections in sustained-note style may well have been a gradual process that was never fully completed in the two-voice organa of the *Magnus liber*. Discant clausulae, on the other hand, seem to have used modal rhythms much sooner. Modal notation was not yet fully developed or wholly consistent—indeed, it never became so—and metrical patterns are often fractured beyond recognition. Nevertheless, the mode is usually identifiable, and the presence of measured values in both voices solves most of the rhythmic problems. It is primarily in the discant clausulae, therefore, that we can observe both the development of the rhythmic modes and the way that development changed the character of Notre Dame polyphony.

In the earliest form of the *Magnus liber organi*, presumably by Leonin, sustained-note style is overwhelmingly predominant. When discant clausulae do appear, they tend to be short and undeveloped. More often than not, the modal patterns of the upper voice are broken up into shorter values, and the tenor moves in a series of undifferentiated longs. These longs usually have a triple value equal to a foot of the first mode, but they may also be duplex longs of twice that value. In later substitute clausulae, the chief development lies in a clearer definition and more systematic use of the rhythmic modes. The upper voice sacrifices some of its rhythmic freedom and adheres much more consistently to the pattern of the mode. The tenor goes even further in the systematic organization of its rhythmic structure. Instead of the series of even longs, the notes of the tenor melody are now arranged in a rhythmic pattern that is repeated throughout the clausula. The most common pattern is the first ordo of the fifth mode, but the tenors of clausulae may also use short ordines of the first or second mode. Other and longer patterns may result from the alternation of duplex longs with the fifth mode or of normal (triple) longs with the first. As the characteristic patterns in Example IX-3 make clear, tenors of clausulae usually move in units that can best be transcribed as measures of 6/8, or more rarely, 9/8 meter. Above such

Example IX-3: Characteristic Tenor Patterns of Clausulae

5TH MODE, 1ST ORDO	
1ST MODE, 1ST OR 2ND ORDO	
2ND MODE, 1ST OR 2ND ORDO	
ALTERNATIONS	

patterns, units of the first, second, or sixth mode will also appear in pairs, and it is for this reason that these modes are normally transcribed in 6/8 rather than 3/8 meter. The consistent application of this procedure to melismas above sustained notes is more questionable, as we have seen. Regular phrases built in 6/8 measures appear to have developed along with the system of the rhythmic modes and to be another feature that distinguishes the later discant style from the earlier and freer style of organum purum.

The growing interest in musical structures based on repeated rhythmic patterns in the tenor apparently led composers to seek ways of extending the length of clausulae. Because the tenor normally used all the notes of a plainchant melisma, it could rarely be extended by including more notes of the original chant. The only solution, then, was to lengthen the tenor by repeating all or part of its melody within a single clausula. This composers frequently did. The repeat may have the same rhythms as the first statement of the melody, or it may be varied in different ways. In some clausulae, the tenor maintains one rhythmic pattern throughout, but the repetition of the melody begins on a different note of the pattern. The repeat is thus disguised by the new melodic figures of the tenor patterns. Other clausulae emphasize the structure and at the same time introduce an element of contrast by combining the repeat with a new rhythmic pattern in the tenor. Both methods of varying melodic repetitions in the tenor of clausulae are illustrated in Example IX-4. Such combined repetitions of melodic and rhythmic patterns became an important constructive principle in the thirteenth and later centuries. This principle, therefore, is one of the most significant innovations of the Notre Dame School and one that we may attribute with some certainty to Perotin. Quite obviously it belongs with the other characteristic features of the "new and better clausulae" that won the praise of Anonymous IV and led to the designation of Perotin as the best composer of discant.

Example IX-4: Melodic Repetition in Tenors of Discant Clausulae

a. EX SEMINE, FROM ALLELUIA: NATIVITAS (AMM, No. 33)

b. MULIERUM (from F, fol. 164; Apel, NPM, facs. 52a)

DIFFERENT VERSIONS OF ALLELUIA: NATIVITAS

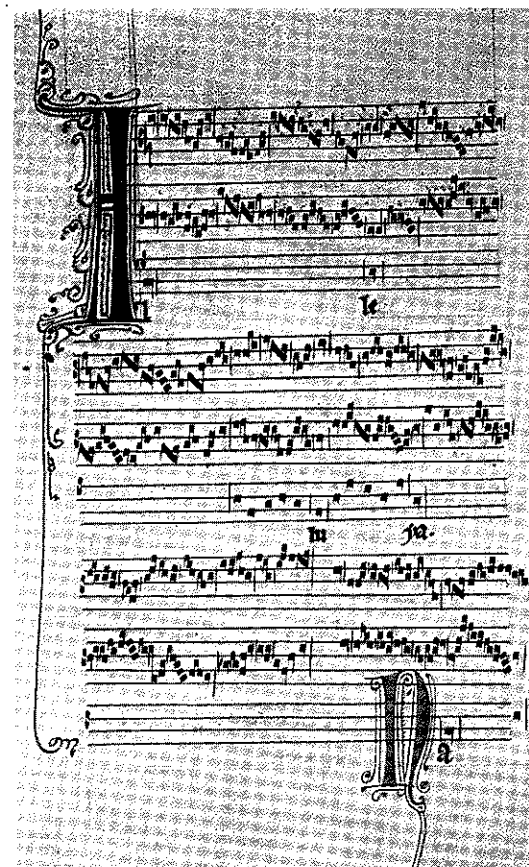
The remark of Anonymous IV concerning Perotin's abbreviation and improvement of the *Magnus liber* has led to the assumption that substitute clausulae originated as optional replacements either of another discant clausula or of a passage originally composed in sustained-note style. In some cases, however, more clausulae were composed on the same tenor melisma than could possibly have been needed and some may have been intended for use as independent pieces. Yet we do find that clausulae have been interchanged in different manuscript versions of the same composition. The way in which this process remodeled an earlier composition will become clear in the ensuing discussion of the two-voice organum *Alleluia: Nativitas* and its dependent clausulae (AMM, No. 33).

Two of the Notre Dame manuscripts contain a two-voice setting of *Alleluia: Nativitas* for the Nativity of the Virgin Mary, and three have a three-voice setting, presumably the one attributed to Perotin by Anonymous IV. The older of the two-voice settings occurs in the manuscript from St. Andrews Priory in Scotland (*W*₁).⁷ The later one comes from the manuscript now in Florence (*F*). (It is this later setting that is transcribed in AMM together with the substitute clausulae contained in the same manuscript.)

The two versions of the opening Alleluia in sustained-note style differ only in minor details. This situation is nearly reversed in the two settings of the verse. Beginning with the second tenor note, the melismas of sections in sustained-note style almost seem to be different compositions, with only a few short passages that are identical in both versions. It is the treatment of the clausulae, however, that is most instructive. The setting of "glorioso" is new in *F* and has a shorter closing melisma, but both versions use the same clausula for the word "Virginis." One of the most striking differences occurs on the following word, "Marie." In *F*, a clausula of only seven measures replaces a passage in sustained-note style that consists of no fewer than thirty-three measures of 6/8 in Waite's transcription from *W*₁. The next clausula in the series, on "ex semine," is equally interesting. The setting of *W*₁—thirteen measures with the tenor in even note values—is replaced by a longer clausula with a repeated rhythmic pattern in the tenor, which has been extended by melodic repetition as was shown in Example IX-4a. The older setting was not simply discarded but was preserved in *F* among the substitute clausulae (fol. 176v; see AMM, No. 34a). The new setting, curiously enough, proves to be the two lower voices of the clausula in the three-voice *Alleluia: Nativitas* attributed to Perotin. After all these changes,

7. Waite, *Rhythm*, p. 195 ff. (of music). This version is included in Waite's transcription of the complete *Magnus liber organi* as it appears in *W*₁.

An example of organum triumphum, *Alleluia: Nativitas* by Perotin, from *W*₂.



the second version returns to almost complete identity with the first for the remainder of the verse. Only at the very end do we find still another substitution. Both versions have the same short clausula on "Ju-" of "Juda," but the version of *W*₁ then concludes with a melisma above a sustained note. In place of this ending, the version of *F* extends the clausula by repeating the tenor with a new countermelody and a short melisma on the penultimate note. Following the verse, *F* provides another setting of the opening Alleluia. This procedure is common to a number of Alleluias in *F* but does not occur in other Notre Dame sources. It apparently represents another way in which later composers modified and added to the original form of the *Magnus liber organi*. In this instance, a discant clausula on the syllables "-le-lu-" results in a considerably shorter setting than the first Alleluia, which is entirely in sustained-note style.

The extensive modifications in the second version of *Alleluia: Nativitas* are not the only ones that can be observed from material contained in the Florence manuscript. Of two clausulae on "Ex semine," one came from the older version of *W*₁, as we have seen. The other (AMM, No. 34b) appears to be new, although its tenor has the same rhythmic pattern and the same melodic repetition as the first twenty-two measures of

Perotin's clausula in the complete organum. In the substitute clausula, however, the tenor makes a further repeat of all twenty-two measures before going on to the closing notes of the original melisma. The result is a striking difference in the lengths of the three clausulae on "Ex semine." The shortest has only thirteen measures; Perotin's has thirty-two; the longest has fifty-four. This longest clausula, incidentally, can be substituted in the complete organum as easily as the other two were interchanged.

The greatly increased length of the later and more highly organized discant clausulae would seem to belie the statement that Perotin shortened the organa of Leonin. We may assume—if we wish—that these are the "better" clausulae of which Anonymous IV spoke, but they are not the only new ones. More than 150 very short clausulae constitute the last two cycles of discant settings in *F* (fols. 178–84v). Like the others, these cycles are arranged in liturgical order, and the clausulae for a particular chant appear in correct succession. These short clausulae can have no other function than to replace passages in sustained-note style. We have already noted one such replacement on the word "Marie" in the second version of the complete setting of *Alleluia: Nativitas*. Now, we find four more clausulae for this chant on the words or syllables "le-lu-," "ti-vi-," "Marie," and "Abra-."⁸ The third of these provides a substitute for the replacement just mentioned. Each of the others, however, converts an extended melisma above sustained notes into a much shorter discant clausula. Although we may sometimes question how much of the original should be replaced, the difficulties of inserting these clausulae are by no means insuperable. And there can be no question that they were meant to be so inserted.

The net result of using all four of these clausulae in *Alleluia: Nativitas* is twofold. The condensation they effect more than compensates for even the longest clausula on "Ex semine," and discant style now predominates over the older organum purum. It is this development—characteristic of all Notre Dame polyphony—that corroborates the testimony of Anonymous IV. That Perotin probably did not compose all the substitute clausulae is immaterial. The School of Notre Dame, like the School of St. Martial, showed an ever increasing preference for discant style that undoubtedly reflected their increasing concern for musical organization and design. In modifying organum by means of discant clausulae, the Notre Dame composers developed many of the structural principles and techniques that characterize polyphonic composition throughout the thirteenth century.

8. These four clausulae are inserted above the score in AMM, No. 33. All four, together with an incomplete transcription of *Alleluia: Nativitas*, are printed in W. Waite, "The Abbreviation of the Magnus liber," JAMS, 14 (1961), pp. 153–56. Assuming that the syllable "ti-" is misplaced in the manuscript, I have divided the first two clausulae differently. As a result, the melisma of "le-lu-" is now complete, and it is not necessary to assume that the first three notes of "ti-vi-" are repeated.

ORGANUM TRIPLUM AND QUADRUPLUM

Organum for three or four voices is called *organum triplum* or *organum quadruplum* to distinguish it from simple *organum duplum* for two voices. Used alone, however, the terms *duplum*, *triplum*, and *quadruplum* refer to single voices as they appear above the tenor. In an organum quadruplum, for example, the four voices from the bottom to the top of the score would be called the tenor, duplum, triplum, and quadruplum. According to theoretical descriptions and the evidence of practical sources, the voices were composed successively in this numerical order, and each stage of the process resulted in a composition that was musically self-sufficient. It is for this reason that Perotin's three-voice clausula on "Ex semine" could be adapted for use in the two-voice setting of *Alleluia: Nativitas* simply by omitting the triplum. Or did Perotin compose the two-voice version of the clausula when he remodelled the older organum duplum and then add a third voice when he composed the complete organum triplum? Either procedure was possible and both were common in the later Middle Ages.

The addition of a third and fourth voice did not alter the overall form of organum, but the musical style changed in a number of ways. Although the tenor still alternates between sustained notes and repeated rhythmic patterns, the upper voices make scarcely any distinction between the two styles. The need to coordinate and the desire to organize these two or three voices above the tenor undoubtedly account for the characteristic features of organa tripla and quadrupla. The expansive and wide-ranging melismas of organum duplum give way to shorter and more regular phrases. Because the singers were men, all the voices lie at about the same pitch-level and frequently cross. Individual melodies tend to become narrow in range and to move around perfect consonances above the tenor. As a result, interest shifts from melodic outline to rhythmic and chordal structure. The first mode still predominates, and long passages maintain the modal pattern almost unbroken. From the combination of regular and persistent rhythms with consonant chords on each strong beat, organum for three and four voices gains a strangely hypnotic power that composers evidently appreciated and exploited.

HARMONIC STRUCTURE

The harmonic structure of three- and four-voice organum still depends in large part on perfect consonances—the unison, fourth, fifth, and octave. Theoretically, these consonances should appear at the beginning of each pattern of the rhythmic mode. No restrictions were placed on dissonant combinations produced by the intermediate note or notes. In practice, however, we find numerous deviations from this rule of

consonant treatment. In the first place, the fourth becomes less and less common as a consonant interval above the lowest note, although it remains acceptable between upper voices. The result is a predominance of chords containing a fifth and octave above the bass. Such chords occur almost invariably at the beginning and end of phrases; but, in a second deviation from the rule, thirds sometimes appear as consonances within phrases. We thus have a curious situation—for modern ears—in which complete triads are less stable and less conclusive in effect than triads without the third. Another deviation from the expected consonant treatment results from the rules for the successive composition of voices. As the triplum and quadruplum were added, they were supposed to be consonant with one but not necessarily with all of the voices already existing. In consequence, sharply dissonant combinations sometimes occur on strong beats. Other accented dissonances can only be regarded as appoggiaturas that resolve to consonances. Such appoggiaturas often ornament the final note of a phrase or the sustained interval or chord with which organum invariably begins. That their use in this position may have been optional is suggested by variants in the different manuscripts. *Alleluia: Nativitas*, for example, begins with an unadorned octave in W_1 but has a major seventh resolving to an octave in F . The theorists evidently disapproved of this opening appoggiatura and recommended that the dissonance be avoided by delaying the entry of the tenor. They also disapproved of the many dissonances that occur above sustained tenor notes. To avoid these dissonances, they say, the tenor may either be silent or move to a consonant tone. To what extent singers followed these instructions we cannot know. Examination of both *Alleluia: Nativitas* and *Sederunt* (AMM, Nos. 33 and 35) will show that removal of the dissonances would require frequent interruptions or changes of the sustained notes. This free treatment of the plainchant tenor may have been normal practice in performance, but modern editors are understandably reluctant to suggest it in their transcriptions. The possibility remains that composers and performers accepted and even cultivated the free treatment of dissonance recorded in the music as it stands. It is not unreasonable to suspect that, lacking an explanation for these dissonances, theorists tried to eliminate them. In so doing, they could make organum conform to their later standards of harmonic propriety.

STRUCTURAL DEVICES IN ORGANA TRIPLA AND QUADRUPLA

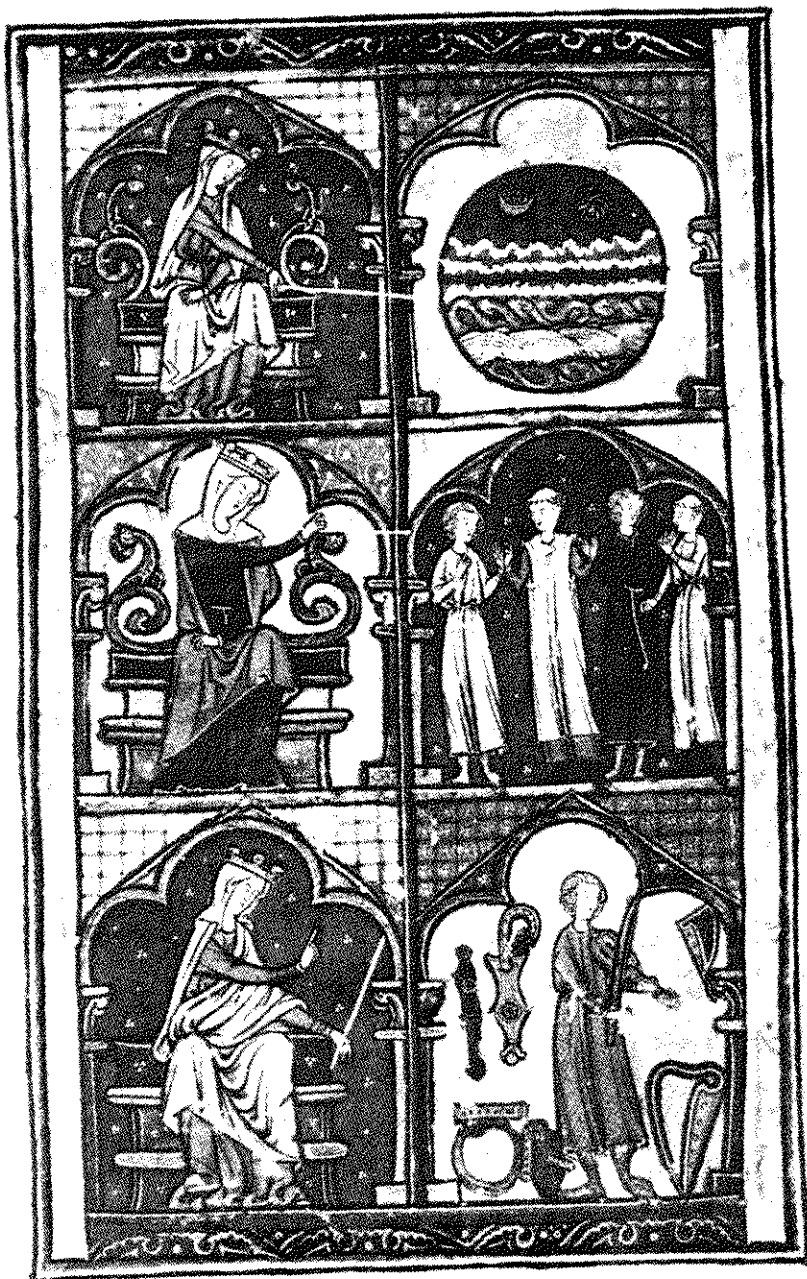
The powerful effect of organa tripla and quadrupla does not result solely from the reiteration of rhythmic and chordal patterns. Melodic repetition and organization also play an important role. In organum duplum,

the contrasting rhythmic structures of the two voices gave composers little opportunity to establish melodic relationships between them. Two or three voices above the tenor, on the other hand, made it possible and indeed necessary to develop procedures for relating the simultaneous melodies and for shaping the melodic material into comprehensible musical structures. It is only natural, therefore, that the emphasis on constructive devices already noted in later discant clausulae should become even stronger in organum for three and four voices.

One device that was also found in organum duplum is the use of melodic sequences to give direction to the phrases of a single melodic line. A particularly rich source of such sequences is the three-voice setting of the Christmas Responsory *Descendit de caelis* (He descended from heaven), from which Example IX-5 is taken. This excerpt follows the syllable “-quam” near the beginning of the verse. It is interesting to remark, first of all, the different rhythmic modes of the three phrases and the textbook regularity of their notation. In the second place, all three sequences in the triplum are variations of the basic melodic progression from f' down to a cadence on c' above the sustained f in the tenor. That only the triplum is consistently sequential makes it more interesting and important than the duplum and raises doubts as to which of the two was composed first. If the triplum really were written last, it must have existed in the composer's mind, at least, before he created the less highly organized duplum.

Example IX-5: *Melodic Sequences from Descendit de caelis (F, fol. 14)*

The process of composing individual voices one after the other seems even less credible when exchange of voice parts is involved. This device



The opening page of one of the most sumptuous of medieval manuscripts, Pluteus 29.1 (Biblioteca Laurenziana, Florence).



The beginning of the organum quadruplum *Viderunt* by Perotin (Biblioteca Laurenziana, Florence).

had already appeared in a few St. Martial pieces in discant style, but its use was virtually impossible in two-voice organum. With two or three voices above the tenor, however, voice exchange became one of the most common structural devices, particularly in the extended melismas of organum quadruplum. The opening section of Perotin's four-voice setting of *Sederunt* (AMM, No. 35) provides many characteristic examples. Beginning in measure 13, the duplum and triplum exchange two-measure motives in a way that must have been planned in advance. Moreover, the eleven measures from 13 to 23 must have been completed in all three upper voices before they could be repeated exactly with voice exchange in measures 24 to 34. In the next eighteen measures the application of voice exchange is somewhat less rigid. A six-measure pattern appears first in the quadruplum, then in the triplum, and again in the quadruplum. Beneath this pattern—which is itself like an ostinato—the other voices vary in both melodic outline and phrase structure. Examples such as these make it clear that the successive composition of voices cannot have been an invariable procedure. At least some sections must have been composed with foreknowledge of what all the voices would do, and the exchange of melodies among three voices means that no voice can be omitted without destroying the musical design. We may safely assume, therefore, that Perotin conceived *Sederunt* as a four-voice organum and that he planned in advance the complex interrelationships of its different voices.

Imitation and canon are other constructive devices that appear occasionally in the upper voices of organa tripla and quadrupla. In a few instances, imitative entries occur at the beginning of sections, as happens on the syllable “-de-” of *Sederunt* (mm. 57–58). This imitation rarely extends beyond the first few notes and is little more than an incidental detail in the overall structural plan. More often, imitation results from the transfer of motives from one voice to another in what might be called incomplete voice exchange. In measures 71–128 of *Sederunt*, for example, short motives move from voice to voice, begin on different pitches, follow each other in melodic sequence, and appear in simultaneous inversion. The result is a remarkable illustration of the various ways in which motives may be used to unify a polyphonic texture. Nevertheless, the relationship between this kind of motivic development and the practice of voice exchange is still clearly evident. That more extended imitations and canons derived from the same practice is possible but less certain. One of the longest canons occurs in *Viderunt*, Perotin's other four-voice organum.⁹ A melody of twelve measures in 6/8 that appears first in the triplum is repeated by the duplum beginning

9. For an excerpt that includes the canon, see Reesc, MMA, p. 305 (Ex. 88). The complete organum is published in *Die drei- und vierstimmige Notre-Dame Organa*, which also contains *Sederunt principes* and Perotin's three-voice setting of *Alleluia: Nativitas*.

one measure later at the fifth below. Canonic writing of such length and strictness is unusual, but the short phrases into which the melody is broken lend a less complicated appearance to the passage. The total effect, indeed, is one of incomplete voice exchange that is varied by transposition and compressed by overlapping of motives. We shall probably not be far wrong in regarding voice exchange as the basic device from which the Notre Dame composers evolved ways of organizing and integrating the simultaneous melodies of polyphony.

It is clear that brevity was of no concern to the composers of organa tripla and quadrupla. Even the abbreviations of the *Magnus liber* resulted primarily from a desire to replace old-fashioned organum above a sustained tenor with more up-to-date discant style. In organa for three and four voices, the upper parts were in discant style throughout, and the exploitation of structural devices produced works of almost unbelievable length. After the opening chord, the first tenor note of *Sederunt* is sustained beneath a melisma that lasts for fifty-six measures of 6/8 meter. The complete setting of just this one word, the solo intonation of the Gradual, extends for a total of no fewer than 142 measures, and a performance of the entire composition would take about twenty minutes. Never before had musical structures attained such astonishing dimensions. It would seem that, as the nave of Notre Dame neared completion, the cathedral's unprecedented size and magnificence stirred Perotin to fill the vast space with music of equal splendor. For his successful achievement of this goal he well deserves to be remembered as Perotin the Great.