Collier's
Encyclopedia

17

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Collier's Encyclopedia

with Bibliography and Index

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The following three tools are indispensable to the user of Collier's Encyclopedia if he is to take full advantage of its resources. They may be found by consulting the Table of Contents on Page iii of Volume 24.

HOW TO USE THE BIBLIOGRAPHY
HOW TO USE THE INDEX
NOTE ON THE PRONUNCIATION SYSTEM

The Pronunciation System

The system employed to indicate pronunciation in this encyclopedia is based on the alphabet of the International Phonetic Association. This alphabet has two notable advantages over other pronunciation systems: it is widely known beyond the bounds of any one nation, and it is readily applicable to all the languages of the world.

In the application of the system in the encyclopedia, the phonetic symbols are printed in square brackets following the article heading, and stresses are indicated by accents placed immediately after stressed vowels, a heavy or a light accent indicating respectively a primary or a secondary stress.

ɑ	*a*rm, f*a*ther, sh*o*t	i	*e*ve, h*ea*t, bab*y*	s	*s*aw, al*s*o, pa*ss*
ɑ̃	(Fr.) el*an*, *em*ploi[1]	ɪ	*i*f, st*i*ng	ʃ	*sh*e, ra*ti*on, ha*sh*
a	(Fr.) *a*ttacher, b*a*l	k	*c*ane, bro*k*en, la*k*e	tʃ	*ch*in, ha*tch*et, rea*ch*
æ	*a*t, b*a*ck, c*a*n	χ	(Ger) *ich*, a*ch*[3]	t	*t*wo, ma*tt*er, ha*t*
æ̃	(Fr.) *ain*si, v*in*[1]	l	*l*ot, a*ll*ow, rea*l*	th	*th*ree e*th*er, ba*th*
ai	*i*ce, sp*i*ne, cr*y*	m	*m*e, far*m*er, hi*m*	th	*th*is o*th*er, ba*th*e
au	*ou*nce, l*ou*d, c*ow*	n	*n*o, fu*nn*y, i*n*	u	r*u*le, l*oo*p, sh*oe*
b	*b*at, ra*bb*it, ta*b*	ŋ	ra*n*g, si*ng*ing	u	(Fr) cr*u* (Ger) gr*ün*[5]
d	*d*o, la*dd*er, ha*d*	o	*o*ld, n*o*te, g*o*	ʊ	b*u*ll, b*oo*k
e	*e*lite, f*a*te, pr*ay*	o	(Fr) *eu*x, (Ger) sch*ö*n[4]	ʌ	*u*p, b*u*t son
ɛ	*e*nd, y*e*t	ɔ	*o*rb, b*a*ll, *saw*	v	*v*ine, a*v*id, li*ve*
ə	*a*go, mak*e*r, char*i*ty[2]	ɔ̃	(Fr) b*on*, r*om*pre[1]	w	*w*e, a*w*ake
ɜ	*e*arth, f*i*rst, b*u*rn	œ	(Fr) l*eu*r, (Ger) k*ö*nnen[4]	y	*y*es, c*u*re
f	*f*or, e*ff*ort, li*f*e	œ̃	(Fr) br*un*, l*un*di[1]	ʸ	(Fr) montagn*e*[6]
g	*g*o, fi*g*ure, ba*g*	ɔɪ	*oi*l, p*oi*nt, t*oy*	z	*z*oo, da*zz*le, rai*se*
h	*h*ot, be*h*ave	p	*p*at, u*pp*er, mo*p*	ʒ	plea*s*ure, rou*ge*
		r	*r*ed, wo*rr*y, hea*r*	dʒ	*j*oke, fu*dg*e

[1] The tilde (~) indicates that the vowel above which it appears is nasalized

[2] The schwa (ə) is used to indicate a vowel sound common in unstressed syllables in English. It is closely akin to ʌ, the vowel sound in *but*.

[3] The single symbol χ has been used to represent both the consonant sounds found in the German words *ich* and *ach*. Since, as a rule, the vowel that precedes this sound makes it either palatal or velar, it is unnecessary to indicate the distinction by phonetic symbols.

[4] The symbol ö may be approximated by pronouncing the vowel sound in *urn* or *fir* but with the *r* silent, as in Southern speech. The symbol œ represents the same sound, but shortened.

[5] The ü sound may be approximated by rounding the lips as if to pronounce u while saying i.

[6] The symbol ʸ, which occurs with some frequency in French and Russian names, represents a consonantal *y*, approximated by pronouncing all but the last two sounds of the word *canyon*.

MUSIC to NUMAZU

MUSIC, HISTORY OF. Music appears to be a universal human activity, either for its own sake or as part of other activities such as dancing, working, playing, and worshiping. Music is not the only one of man's activities to be principally concerned with sound. Language employs the same fundamental sound elements; differences in pitch, for instance, can be found as a key feature of many Asian and African languages. Language and music differ in organization and purpose, not in basic material: the sounds of language are primarily for conveying specific concepts, the sounds of music are not. Of course, language and music may overlap. Poetry can emphasize the musical values of language, while music can express all manner of emotions and even specific ideas—but then only by association with something nonmusical.

The Elements of Music. There are certain basic elements of particular importance to music. They may conveniently be grouped into three classes: duration, pitch, and timbre. The organization of these elements is referred to as form. In addition, text-setting, the combination of language and music, presents certain problems of its own. These elements, and other terms used in music, are further defined in the article MUSICAL TERMS.

Duration. Since a piece of music unfolds in time (unlike, say, an art form such as a painting), the temporal aspects of sound are of crucial importance. The basic concept of duration is *rhythm,* the organization of sounds in time. All music has rhythm. If the rhythm contains a regular succession of pulses, these pulses are referred to as the *beat;* the organization of beats of equal duration into small groups (usually divisible by two or three) is called *meter.* Although all music has rhythm, not all music has a regular beat. The pace or speed of the music is called its *tempo.* These concepts are discussed at length in the article RHYTHM.

Pitch. The highness or lowness of a given sound is called its *pitch,* and a sound with a fixed pitch is called a *tone.* Not all music is concerned with pitch; the rhythmic drum-beating, hand-clapping, or foot-stamping of many tribal peoples clearly lacks any well-defined pitch. Nevertheless, pitch is of central importance in Western music.

Only a few people can exactly identify a given tone. More important than the absolute pitch of a tone is the difference in pitch between it and its neighbors. The difference between any two pitches is called an *interval.* A succession of single pitches makes up a *melody,* and the difference between two successive pitches is therefore called a *melodic interval.* When two pitches are sounded simultaneously, instead of in succession, the interval is called a *harmonic interval.* For a discussion of what makes a sound have a given pitch, see SOUND AND ACOUSTICS; the organization of pitches into scales is discussed in the article MUSICAL SCALES.

Timbre. The distinctive sound of a voice or instrument is called its *timbre,* or *tone color.* It is the timbre of a flute that distinguishes its sound from that of a violin.

Form. Form is musical structure, the arrangement of all the elements of music into series of similarities and contrasts that a listener may hear as a satisfying whole; individual form are discussed in the article MUSICAL FORMS.

Music is often spoken of as a "universal language." The metaphor is perfectly legitimate when applied to the music of a broad area, such as the Western world, which contains a bundle of traditions that transcend national boundaries. Beethoven is enjoyed from San Francisco to Moscow. But to understand music outside a given area, foreign musical conventions and traditions must be learned; they are like different languages. An extreme illustration of this would be an average Westerner's reaction to the "talking drums" of Africa. Without special training he would be quite unable to tell if he was listening to sounds intended as music or as language. This article, therefore, will concentrate on the history of art music in the West, leaving such other traditions as folk music and Oriental music to be discussed elsewhere in the Encyclopedia.

The Status of Music in the Arts. Twentieth-century music is a vital and thriving art in the process of radical change. Almost everywhere music can be heard twenty-four hours a day, either performed by live musicians or, more often, reproduced on records or magnetic tape and broadcast by phonograph, television, or radio. The particular composition may be a popular song, the first recording of a thousand-year-old church service, the newest recording of Beethoven's Fifth Symphony, or even the chant of an equatorial African tribe. Indeed, the present epoch of music is a musical renaissance, similar in its manifestations to the great movements in art and literature that took place centuries ago. This present revolution which began in the nineteenth century has been caused by several factors: by the impact of musicological research, which has provided composers with classical models and has loosed a flood of masterpieces from the past; by the invention of sound recording and reproduction, which preserves not only a piece of music but also the exact manner of its performance at a given time, and which makes it possible to hear music without performers being present; and by the cheap printing of musical scores. As an art, as a profession, and as entertainment, music counts an abundance of honored figures whose compositions and performances are faithfully recorded in notational symbols and in ultrarealistic sound. But this was not always so. For the greater part of its history in the West, music was regarded as a secondary art form. In order to understand this, it is necessary to review the earlier conditions under which music existed.

Music, like all sound, is subject to the limitations of the ear as an organ of perception. When Goethe said, "in comparison with the eye, the ear is a dumb sense," he was expressing the universal reliance on the visible as opposed to the audible, "hearsay," and echoing the generally accepted preference for "seeing is believing." As one result of the ear's inferior rank and the mistrust of its perceptions of what are, after all, momentary phenomena, music has existed until today in the shadow of the visual arts.

Because music can exist only in performance, it is also a

theatrical art. It follows that musicians have lain under the same weight of disapproval and lack of respectability as have other theatrical performers—a disapproval that is at least as old as Aristotle. Aristotle himself put it quite bluntly: ". . . we do not consider performing [of music] to be proper for free men, but somewhat menial; and indeed, performers do become vulgar, since the object at which they aim is a low one. . . ."

Not only was public performance looked down upon, but music itself was considered particularly valueless as a commodity. Paintings, sculptures, architecture, and the decorative arts—things that could be seen and touched—were unique and had monetary value, but music, fashioned from air, vanished back into the air once it was performed. And whereas the tangible worth of the visual *objet d'art* encouraged historians' researches and appraisals, music scores usually lay forgotten and unwanted, curious but valueless relics. Even after the development of pitch notation in the eleventh century, the absence of a method for recording sound, the obsolescence of the early instruments, and the inadequacies of the early notation itself insured the loss of the music after a few generations; what little survived was corrupted and changed. Philosophers based their systems upon the very words of Plato and Aristotle, poets imitated Horace or Ovid, and sculptors benefited from the actual works of classical artists; but the only tradition from ancient times upon which composers could build was contained in treatises which were merely descriptions of music, not music itself. Since music lacked classical models, it could have no such renaissance as occurred during the fifteenth and sixteenth centuries in the visual and intellectual arts.

Thus, music evolved as a succession of related but distinct repertories, constantly accruing new repertories while losing old ones. Unlike literature or the visual arts, which have developed with one eye on the past, music developed as an art that was perpetually contemporary.

The Moral Status of Music. Besides its inferior social status among the arts, music has been influenced by moral considerations. Music is an invisible and therefore, in a sense, a mystical entity; the connection between music and magic is reflected in the fortunes of the Latin word for "song," *cantus,* which turns up in such words as "in*canta*tion" and "en*chant*." As a manifestation of that which cannot be seen music may assume a relationship to the soul, to metaphysics, and to everything that cannot be understood by rational thought.

It is no surprise, then, to find that philosophers and commentators have stressed its dual influence on the character of men. Music may be a force for "good," evoking that which is spiritual, patriotic, noble, or ethical. It may be a force for "evil," exciting the merely physical and lascivious, and may be subversive of moral behavior. The Bible testifies to its moral and healing power; on the other hand, anyone can recognize the deliberately provocative intent of certain types of today's dance music. In between the two extremes of body and soul there are endless varieties and combinations of "good" (spiritual, intellectual) and "evil" (physical, emotional) music. Although at times the two poles of musical function may be obscured by fashion or culture, their existence accounts for many of the characteristics of music in the Western world.

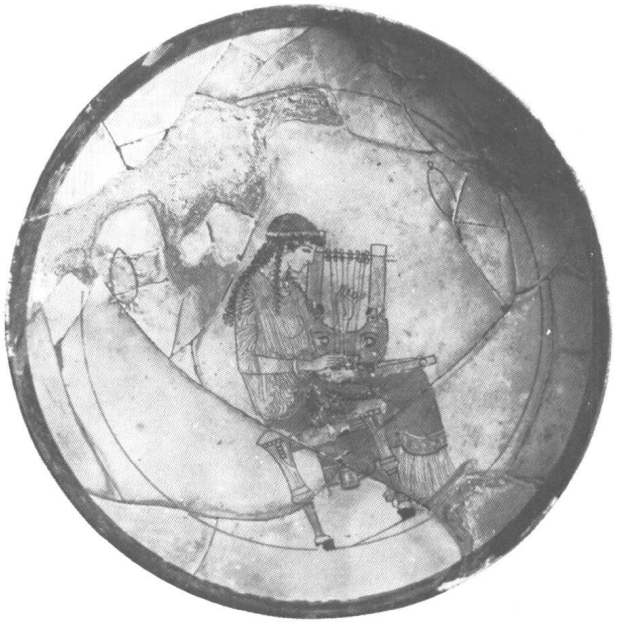
MUSIC IN ANTIQUITY

Greek Music. For Greek commentators the word *mousikē* ("the art of the Muse"), from which our word "music" is derived, defined an art in which melody and words were ideally inseparable. A gifted amateur poet-singer, rendering a Homeric epic or an ode to Apollo while accompanying himself on the many-stringed lyre or its larger cousin the *cithara,* would truly be called a "musician." He was practicing *mousikē.* But the professional performer on the *aulos*—a sort of double pipe which may have sounded like an oboe—could articulate the melodic part of *mousikē* only. He was not a musician—merely an *aulētēs,* or *aulos*-player. The distinction even occurs in Greek myth.

Thus, when Plato proposed that "education in music is sovereign," he was thinking of the uniquely Greek concept of *mousikē* as a complex where the melodic line was influenced by the sound and meaning of the words, while at the same time the syllables of text were rationally organized according to principles of musical rhythm. It was knowledge of *mousikē* that would give one the capacity to tell instinctively the beautiful from the ugly, and by extension, the good from the bad, without recourse to reason. And this ability, Plato felt, would lead its possessor to the quick apprehension of reason itself.

In contrast to vocal *mousikē,* instrumental (*aulos*) music, divorced from the meaning of words, was held unsuitable for the education of the young since "it is the hardest of tasks to discover what such wordless rhythm and tune signify. . . ." It was evidently not difficult for Plato to ban from his utopian state *aulos* music, employed for the orgiastic dances of Dionysian rites. It should be remembered, however, that this criticism of the *aulos* and its music is the best evidence of its importance and influence on Greek life as it really was.

Greek consciousness of the dual nature, "good" and "evil," of music led the Greeks to classify melodic formulas, rhythms, and musical intervals according to their *ēthos,* or emotional and moral characteristics. The so-called Lydian mode or scale, for example, was considered too relaxed and sensual for patriotic music. Certain rhythms were held conducive to moral behavior; others were considered appropriate only to "illiberality, and insolence or madness or other evils" (Plato, *Republic*).



WOMAN PLAYING THE CITHARA, a lyrelike instrument, shown on a Greek drinking cup. With her left hand she pinches off the strings to get the proper notes; a pick held in her right hand is used to pluck the strings. The cithara often accompanied the recitation of poems.

Unfortunately, the story of Greek music must be reconstructed, not from the music itself, but from philosophical and theoretical sources. Of the dozen or so fragmentary examples of music that still exist, the most famous (published 1650), purporting to be the melody of the Greek poet Pindar's first Pythian Ode, is probably spurious. Most of the remaining pieces, dating from the first few centuries of the Christian era, are too far removed from the Periclean age and the time of Plato in the fifth and fourth centuries B.C. to be of any significance as true examples of Greek classical music. Furthermore, except for the three hymns to the Muses (perhaps by Mesomedes, C. A.D. 130), all of the fragments were discovered in the nineteenth or twentieth centuries, long after the formative years of Western music.

Roman Music. Classical Greek music was almost as little known in imperial Rome as it is today. Because music relied on oral tradition rather than on written notes (Roman pictures show players performing without scores), all that remained of Greek music by Roman times was a philosophical concept, not the music itself. The gap between this ideal and the reality was thought by contemporaries to have been considerable, since it was difficult for them (in the absence of the actual music of the Greek golden age) to relate the sensual tunes of dancing girls at the banquet table, to Plato's descriptions of the ennobling *mousikē*.

Besides the music played at convivial entertainments, the Romans heard music at the theater, at the circus, and at military and ceremonial functions. For the latter uses they developed all manner of bronze wind instruments for battle signals and fanfares from earlier models used by their Etruscan neighbors to the north. The *tuba, cornu, bucina,* and *lituus* were the four main military horns. Instruments connected with entertainment and the theater, the *tibia* (the Greek *aulos*) and the *cithara,* were borrowed from Greece along with their performers. Egypt and the Near Eastern provinces supplied a variety of percussion instruments: tambourines, cymbals, bells, and the *sistrum,* a type of rattle. One of the more complex instruments used at the circus was the *hydraulis,* an organ in which air pressure for the sounding pipes was maintained by water chambers.

The precise reasons for the virtually complete disappearance of the music of antiquity are difficult to ascertain. Despite the existence of a musical notation (which used alphabetic symbols to indicate pitch), very few pieces seem to have been written down. But in those times vocal music was taught orally as a manner of reciting poetry. Whereas the words were preserved in writing because they had a meaning *apart* from their sound, the melody, meaningful only *as* sound, was evidently not transcribed. Furthermore, in the field of instrumental music, the monopoly of professional players organized in protective associations may have been effective in preventing publication of craft secrets. Finally, many of the pieces that were written down may have been destroyed accidentally or by zealots seeking to eradicate paganism. Until more documents are found the question of the actual sound of Greek and Roman music must remain a tantalizing mystery.

If Western music did not have the benefit of a direct classical heritage in sound, it was certainly influenced by Greek writings (via Rome) on theory and aesthetics and by Greek terminology. It is enough here to recall that in addition to the word "music" such terms as "mode," "chorus," "scale," "instrument," "orchestra," "symphony," "chant," "harmony," "melody," and "rhythm," commonly used in modern Western languages, are all derived from the Greek or Latin languages.

MUSIC IN THE MIDDLE AGES

The history of Western music proper begins, not in classical antiquity, but in the Middle Ages. It was during this era that the elements that distinguish Western music from other musical cultures first arose. Greek and Roman music had been monophonic—that is, limited to a single melodic line. The accompaniments of such instruments as the *cithara* were probably little more than elaborations of the sung melody, and did not alter the essential character of the music. Monophony continued to dominate music in the early Middle Ages, but in the later Middle Ages it gradually yielded to polyphony—music in which two or more melodies are sung at the same time.

CHRISTIAN CHANT

The haze that has veiled the music of antiquity is suddenly lifted for the historian by numerous medieval manuscripts from all parts of Europe. The earliest dates from the eighth century; all display amazingly similar melodies. These are manuscripts of Christian chant, also known as *cantus planus* "plainchant" or "plainsong." (The Latin word *planus,* "plain" or "flat," has the associated meaning of "even" or "smooth"; the term *cantus planus* was coined in the twelfth century to distinguish the nonmetrical chant from contemporaneous music with uneven, long and short note-values.) The music of these manuscripts represents a fully developed tradition; it is plainly not the earliest Christian music. But although the earliest chant has been lost, it is helpful for an understanding of the music of the manuscripts to examine briefly what is known of the early, pre-manuscript chant and of its origins.

Early Christian Chant. The early chant consisted chiefly of psalms, hymns, and some sacred songs that were not part of the liturgy, or formal church service. The chants could be sung by a single chorus; antiphonally, by two alternating choirs; or responsorially, by a soloist alternating with a choir.

Most of our information on the early chant comes from the writings of the Church Fathers. Like the Greeks before them, the Church Fathers were concerned with the dual nature of music and its capabilities for evoking either the spiritual or the physical. Undoubtedly much of the character of Christian chant is due to their deliberately purging it of all distinctively secular elements.

Greek music certainly had some influence on the early chant. The most important influence was not Greek, however; it was Jewish. Since the first Christians were Jews, it was natural for them to adapt portions of their traditional liturgy for use in the new church. Differences between the two liturgies inevitably grew; nevertheless, the basic features of the early Christian musical services preserved much that was derived from Judaism:

1) Chanting of the scriptures.
2) Singing of complete psalms or individual psalm verses.
3) Post-Biblical prayers.
4) Melismatic songs, such as Alleluias, which are characterized by many notes to each text syllable.
5) Certain distinctive melodic patterns (modes).
6) A primitive musical notation.
7) The preference for vocal over instrumental music.

Gregorian Chant. Pope Gregory I "the Great" (r. 590-604) played an important part in consolidating the liturgy and music of the Roman Church and in establishing a *schola cantorum* (school of singers) in Rome. The music of the Roman rite is known in his honor by the now universally accepted term "Gregorian chant."

During the late Middle Ages and after, the traditional methods of performing the chant were forgotten, and the chant itself was sung in a debased form, in accordance with the musical fashions of the times. In the late nineteenth and early twentieth centuries, however, the music was transcribed and purified by scholars of the Benedictine Abbey of St. Pierre de Solesmes, France, and their work was approved by Pope Pius X in his papal decree, *Motu proprio,* of Nov. 22, 1903.

General Characteristics of Gregorian Chant. Gregorian music is the vocal setting of Roman Catholic liturgical texts. Gregorian melodies have a limited range and are constructed in patterns of steps and skips found in the distinctive scales known as church, or ecclesiastical, modes. Aside from its modal, unaccompanied melody, the most striking characteristics of the Solesmes version of the chant are its free rhythm, which lacks a regular beat, and its subtle accentuation. However appealing these features may be, they have been disputed by scholars who would interpret the medieval manuscripts differently. But the Solesmes monks have perfected such an integrated and aesthetic system of performance, keyed to a free rhythm of gentle stresses and relaxations, that any attempt to substitute another rhythmic conception would be academic. Whether or not the Solesmes version is accepted as a true restoration or as a modern refinement, it remains today a paragon of music consciously composed to religious specifications.

Styles of Gregorian Chant. There are two distinct styles of Gregorian chant: the *accentus* and the *concentus.* The *accentus* is the declamatory manner of chanting on one tone; punctuation is indicated by the momentary raising or lowering of the reciting tone.

The *concentus* is the more melodic setting of liturgical texts. It is in turn divided into three types: syllabic, neumatic, and melismatic. A syllabic chant, as its name implies, has one note to each text syllable. A neumatic chant has a few tones to each text syllable (a neume is a notational shorthand symbol that can represent more than one note). The melismatic chant (Greek *melisma,* "song") has many tones to each syllable. The first two types, syllabic and neumatic, are found typically in chants assigned to the choir; the last type, the florid and embellished melismatic style, pertains mainly to solo chants.

Tropes and Sequences. Very early in their history, musical material was added to chants to emphasize or heighten the meaning of the text. It was natural, as church musicians vied with one another to praise the Lord, that certain parts of the repertory attracted long, virtuoso melismas. This was one phase of the procedure known as "troping."

The spread of Gregorian chant brought with it the danger of dilution or corruption, both because of the scarcity of manuscripts and the lack of performers who were able to sing the difficult melismatic passages. A solution to the problem was to add texts, one syllable of the new text for each tone, to the melody. Some of the earliest tropes were added to melismatic settings of the Kyrie, a prayer that occurs almost at the beginning of the Mass. These tropes go back to the ninth century. For example, the words *omnipotens genitor, Deus omnium creator* were substituted for the word *Kyrie* of the original text, *Kyrie eleison*—"Lord, have mercy." The trope thus read: *omnipotens genitor, Deus omnium creator, eleison*—"Almighty Father, God the Creator of all things, have mercy."

The most important type of trope was the sequence. Originally, these were texts set to the *jubilus*—the customary long melisma on the final *a* of the Alleluia. Later, separated from the Alleluia, the sequence became a creative outlet for poets and composers, notably Adam of St. Victor and the philosopher Peter Abelard; perhaps the best known is the *Dies irae* ("Day of Wrath") from the Mass for the Dead. Eventually, however, as the process of troping threatened the purity and tradition of the liturgy, the Council of Trent (1545-1563) banned tropes and all but four sequences.

The importance of troping does not stop with the composition of the sequences. Both the origins and the development of vocal polyphony can be traced to similar desires of church musicians to embellish and glorify the chant.

MEDIEVAL MUSIC THEORY

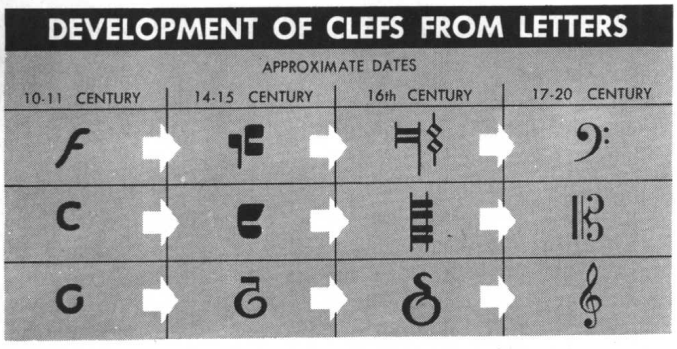
Music as a Liberal Art. In his *De institutione musica* the Roman philosopher Boethius (c. 480-524), interpreter of classical philosophy to the Middle Ages, helped establish music as a liberal art by dividing it into three classes: performance, composition, and philosophical and analytical studies. Performers he dismissed as mere servants wholly destitute of speculation. Composers, he stated, are guided merely by "natural instinct." It is only the philosopher, historian, and analyst of music who deserves the title "musician." Since he considered the art of music to be founded in reason and speculation, Boethius maintained that only those with faculties can be acknowledged as musical.

The presence of music in the division of the medieval scholastic curriculum known as the *quadrivium* (arithmetic, astronomy, geometry, and music) testifies to the high esteem in which it was held as an intellectual pursuit. Musical phenomena were demonstrated as audible examples of the abstract mathematical concepts of ratio and proportion —ratio, between intervals, and proportion, between the long and short notes of later measured music. The monochord, a one-stringed instrument with one or more movable bridges, was used as a sort of laboratory device to prove the Pythagorean theory of intervals. For the medieval mind, music was the theory of numbers made audible.

The Medieval Church Modes. Such speculation about the physical properties of sound—and therefore, of music—is an intellectual activity which can exist prior to any composition. But that branch of music theory which treats of actual composition is at best an after-the-fact analysis of what composers have already done. For, as Boethius regretfully concluded, composers do not create according to theoreticians' speculations and reasoning, but by natural instinct.

This may seem a series of truisms, but it should be kept in mind throughout any consideration of the church modes. The modes were musical scales; the theoretical system built on them dominated music during the Middle Ages. The modes themselves are neither major nor minor, but they occupied the same place in medieval music that the major and minor scales do today. They were not a set of pre-existing scales out of which composers fashioned music. Rather, the modal system was the result of the medieval theoretician's after-the-fact arrangement of the chief melodic patterns already existing in the early chant. The modes are more fully discussed in the article MUSICAL SCALES.

Medieval Notation. The symbols used to write the chant were called "unmeasured neumes." They were originally written above the text, and there were no lines to indicate exact pitches. The neumes themselves had no fixed time values, and a single neume could indicate a combination of two or more tones. During the eleventh century, after the association of Latin letters with pitches, the neumes were placed on colored lines assigned to specific pitches: the line for F was red, for C green or yellow. The monk Guido



Clefs, which assign a given note to a given line of the staff, developed from letters which named the fixed notes. From top to bottom, they are: the F (bass) clef, which fixes the note F on the next-to-the-top line of the bass staff; the C (alto or tenor) clef, a movable sign which fixes the note C between the curving brackets; and the G (treble) clef, which fixes the note G on the next-to-the-bottom line of the treble staff.

d'Arezzo (died c. 1050) devised a staff of four lines, each separated by the interval of a third (such as the interval C-E). The use of a clef (French for "key") on the staff originated at this time. The clef fixed a given pitch on a given line, making it unnecessary to draw colored lines as indications of pitch. F, C, and G clefs, the most commonly employed, were at first ordinary letters which later developed into symbols of varying degrees of abstraction.

Solmization. Guido apparently also instituted the technique known as solmization. With this technique a new melody could be learned by relating the notes of the melody to the pitches of certain syllables previously associated with a well-known tune. Taking a hymn to St. John the Baptist in which choirboys ask the saint's protection against hoarseness, Guido noticed that the pitches on which the initial syllables of the first six lines were sung formed an ascending scale, C, D, E, F, G, A:

C *Ut* queant laxis	**F** *fa*muli tuorum
D *re*sonare fibris	**G** *sol*ve polluti
E *mi*ra gestorum	**A** *la*bii reatum

Sancte Johannes

By applying these syllables, *ut, re, mi, fa, sol, la,* with their associated pitches, to the notes of any melody the singer could sing it without having previously heard the melody. This did away with the time-consuming practice of teaching new tunes by rote. The syllables, with the minor change of *ut* to *do* and the addition of *si* (or *ti*) for the seventh degree of the scale, are still used today for the same purpose for which they were devised over nine hundred years ago.

SECULAR MONOPHONY OF THE MIDDLE AGES

To judge from the homilies against its all-pervading influence, secular music must have been strongly entrenched in Christendom during the era of the early Church Fathers. Representative of their attitude was the admonition of St. John Chrysostom (c. 345-407):

> As swine flock together where there is a mire . . . so demons congregate where there are licentious chants. . . . And those who bring comedians, dancers, and harlots into their feasts call in demons and Satan himself and fill their homes with innumerable contentions, among them jealousy, adultery, debauchery, and countless evils.

The Role of the Minstrels. The earliest surviving collections of secular music date from as late as the thirteenth and fourteenth centuries. The monastic scribes who monopolized the art of notation had neither the desire nor the occasion to aid the devil and his "comedians, dancers, and harlots." Only when the nobles became interested in secular love poetry and music, during the twelfth century and after, did nonreligious music come to be written down.

The minstrels themselves were probably descended from the Roman mimes and jugglers; they were variously called *joglars* in Provence, *jongleurs* in northern France, and *Gaukler* in Germany. Their ignorance of notation and their self-interest, combined with the Church's anathema which denied them even the hope of salvation, helped preserve the secrets of their art. Imitating the guilds that became popular after the development of cities and towns, these vaudevillians formed brotherhoods for professional schooling and mutual protection.

The minstrels may have served as intermediaries between folk music and the later highly stylized and sophisticated art of the courtly troubadour, trouvère, and minnesinger. Perhaps more important was their proficiency in all manner of instrumental music, which was not especially cultivated at that time by the Church.

The Noble Singers. *Troubadours and Trouvères.* The cultural and intellectual awakening of the twelfth century manifested itself in part among the nobility (and to a lesser extent among the rising middle class of burghers) in the widespread pursuit of courtly love, chivalry, and comfortable living. The courtly life of the time was celebrated in France by the troubadours of Provence in the south and by the trouvères in France proper to the north. In contrast to the minstrels, the troubadours and trouvères, though not all nobly born, belonged to noble circles. They were as much musicians as poets, but it was not unusual for them to employ minstrels to perform their compositions.

Beginning with Count Guillaume IX of Aquitaine (fl. c. 1080), the troubadours, who wrote in the *langue d'oc,* the Provençal language, flourished until the end of the twelfth century. One of the most gifted, the humbly born Bernart de Ventadorn, was in the retinue of Eleanor of Aquitaine, Guillaume IX's granddaughter and sponsor of the informal groups which debated questions of courtly behavior—the "courts of love." Eleanor's first marriage to Louis VII of France may have introduced the art of the troubadours to northern France, where in the last quarter of the twelfth century trouvères who sang in the *langue d'oïl,* or Old French, appeared. Eleanor's part in this history continues, for Bernart was sent to England for a while after Eleanor's marriage to Henry II of England, where he may have spread the lyrical aspect of courtly love. Richard the Lion-Hearted, son of Eleanor and Henry, was a trouvère, as was his retainer Blondel de Nesles.

A repertory of over two thousand troubadour-trouvère melodies exists in various manuscripts. Unlike Gregorian chant, the notes were assigned long and short time values, but these were not fixed. The relative lengths of the notes were determined by the application of the medieval version of classical Greek poetic meters—the six "rhythmic modes" (not to be confused with the church modes, which are scales). Modern scholars have produced reasonably authoritative and musically attractive transcriptions, usually in a variant of triple or compound duple meter, by using these rhythmic modes. In performance, however, the singers probably did not maintain a metronomic regularity of beat.

The melodies themselves have the modern sound of music written in either the major or minor scales, although they were in fact written in the church modes. This comes from the judicious use of the practice known as *falsa musica,* by which singers sharped or flatted certain notes in a modal melody, usually to avoid certain melodic intervals forbidden in contemporary practice. The result is often indistinguish-

able from a major scale. Trouvère melodies tend to be more simple and rhythmic than troubadour melodies; in some cases they have a dancelike quality.

Minnesingers and Meistersingers. The dispersion of French secular monophony to Germany is credited to the marriage of Beatrix of Burgundy to Frederick Barbarossa in 1156. In Beatrix' household was the trouvère Guiot de Provins. A German song, *Ich denke underwîlen* by Freidrich von Husen (d. 1190), is a close imitation of Guiot's *Ma joie premeraine*—evidence of the French roots of the German secular lyrics and their composers, the minnesingers (*Minne,* "courtly love"). The minnesingers included such famous names in German poetry as Walther von der Vogelweide, Wolfram von Eschenbach and Neidhart von Reuenthal. They flourished from about 1150 to 1318, the year of the death of Heinrich von Meissen, called "Frauenlob."

FRAUENLOB ("Praise of Women") was the name given to Heinrich von Meissen (playing the fiddle). This medieval German poet, singer, and composer showed a style transitional between the art of the minnesingers — courtly poets — and the meistersingers — middle-class guild musicians.

A later flowering of the minnesingers (1380-1445) took place during the final decline of chivalry and acted as a link to the meistersingers of the fifteenth and sixteenth centuries, who echoed the past courtly tradition in the middle-class setting of burghers' guilds. It is a coincidence of history that as the last meistersinger group expired in the nineteenth century, Richard Wagner immortalized one of the most famous of their number, Hans Sachs (1494-1576), and the entire tradition of medieval secular love music in his opera *Die Meistersinger von Nürnberg* (1868).

Other Lyrics. Songs similar to French models exist in Italian, Spanish, and English sources, but they are neither as plentiful nor as sophisticated. Many of them, particularly the Italian laude and Spanish cantigas, are melodies on religious themes. Secular Latin lyrics and devotional Latin songs not intended for Church use, called *conductus,* also flourished at this time. Lower down were the *carmina* of the goliards, or wandering clerics, which were at the very least secular, if not actually sacrilegious. In contrast to the troubadour-trouvère repertory, these songs established no tradition.

The Importance of the Medieval Lyrics. Possibly the most important technical contribution of the medieval songs was the crystallization of certain principles of form that have influenced musical composition ever since. For example, the monophonic French songs (chansons) led to polyphonic chansons with more than one voice part. From there the line led to Italian instrumental copies, *canzone,* and to original instrumental pieces called *canzoni a sonare*—forms which in turn shaped the fugue and the sonata. Distant musical prototypes of the chanson may be found in Gregorian hymns and sequences, but it was secular monophony that gave currency to the new formal ideas. In general these forms consist of short, tuneful phrases, lengthened by different repetition schemes. This principle of the repetition and return of initial phrases eventually evolved into more complex forms.

Medieval Instrumental Dance Music. Earliest records of purely instrumental music in the Middle Ages are largely literary. One of the first surviving dance melodies was of a type called *estampie.* It was played by two northern French jongleurs before the troubadour Raimbaut de Vaqueiras (d. 1207), who used the melody for his song *Kalenda maya.*

The many instrumental dances from French, Italian, and English manuscripts of the thirteenth and fourteenth centuries tend to use the major mode; they have clear-cut, repeating sections with different endings for the first and second occurrences of each section, small motives repeated at different levels of pitch, and regular dynamic accents.

MEDIEVAL POLYPHONY

Polyphony (Greek *polyphōnos* from *polys,* "many," + *phōnē,* "sound") is music in which two or more melodies are sounded at the same time. It is not exclusively a Western development — many other musical systems, both Oriental and primitive, have both incidental and deliberate occurrences of the technique. But only in Western music has the practice of simultaneously sounding pitches become of prime importance. It is the intense development of polyphony that distinguishes the Western musical world from all others. Except for music in the Gregorian tradition and the secular songs and dances considered above, almost all European art music has been polyphonic or the polyphonic tradition.

Vocal polyphony first appeared in Europe from the tenth to the twelfth century—scholars differ as to the exact date—as the practice of melodic troping was waning. The chief pleasure-giving musical element became the sonority of harmonic intervals, rather than the sensation of a well-balanced melodic rise and fall. Revolutionary as this change in compositional technique may seem when viewed from the perspective of almost one thousand years, in actuality the two textures, monophony and polyphony, existed side by side for some time. Not only did Gregorian melodies continue to be sung, but the lowest voice of an early polyphonic composition was taken note for note from some Gregorian chant (although changed rhythmically) while the upper voices retained much of the free-flowing Gregorian melodic character. An unusual aspect of early polyphonic composition from the modern point of view was this practice of superimposing new melodies upon already existing melodic mate-

rial instead of composing entirely original pieces. Early polyphony was essentially a different way of arranging old materials in "musical space"—the old way was "linear," concerned with melodic lines; the new methods were "vertical," concerned with simultaneous high and low tones.

The Origins of Polyphony. Polyphony developed in the West for several reasons—some strictly musical, others social and historical. Whenever more than one person sings there always exists the possibility of two different pitches or sounds for the following reasons: 1) the melody may be sung at different pitches in large groups of high and low voices; 2) the melody in a responsorial song may be "telescoped" by superimposing the second part of the melody upon the end of the first; 3) the singers may imitate the organ or other instruments able to produce simultaneous tones. While these reasons may explain the origins of polyphony in general, they cannot alone account for the art-polyphony which developed only in the West into the complex and sophisticated music of today.

The eminent art historian Erwin Panofsky has suggested that scholasticism and urban professionalism were largely responsible for the Gothic style in architecture. It should be mentioned that a similar professionalism existed in music from early times in the *schola cantorum,* the schools for singers at monastic and cathedral centers. Furthermore, the rise of polyphony coincided with the rise of scholasticism and the development of Gothic architecture. All three took place among the people of a relatively small area from 150-250 miles around Paris. This seems to indicate that Western polyphony originated as part of the general intellectual ferment of this time and place rather than for specific musical reasons such as the ones mentioned above. The establishment of church polyphony as an art was, therefore, the result of the conjunction of universally existing musical tendencies and fertile and organized minds which were able to reject or accept, develop, and record these tendencies according to a particular need and desire—to glorify and embellish the liturgy of the Christian church.

Organum. *Parallel Organum.* The earliest liturgical vocal polyphony was known as organum. The first descriptions of organum are found in three early-tenth-century treatises on music. They not only mention the word "organum" but contain, in letter notation, examples of the so-called strict or parallel organum—a Gregorian melody and its exact duplicate moving parallel to the original at the interval of a fourth or fifth, with possible doublings at the octave above and below. (Very briefly, the interval between any two notes is named by assigning the number one to the lower and counting up. Thus, the interval C-F is a fourth, C-G is a fifth, and so forth.)

Free Organum. The next reference to organum is in Guido d'Arezzo's treatise *Micrologus* (c. 1040). Guido describes a freer type of organum in which the interval of the third (such as C-E) appears and oblique and contrary motion of the voice-parts is present as well as parallel motion. This is the first appearance of what came to be a guiding principle of Western music: independence of the voice-parts in polyphony.

Melismatic Organum. Except for a collection of 164 two-part organa in the unfortunately undecipherable Winchester Troper manuscript of the late tenth or early eleventh century, evidence of the first schools of organal composition comes from the Abbey of St. Martial at Limoges and the pilgrimage cathedral at Santiago de Compostela in northwestern Spain in the first half of the twelfth century. Just as the "free" organum described by Guido marks the beginning of melodic independence of polyphonic voices, the "melismatic" organum of St. Martial and Compostela marks the beginning of rhythmic independence of the voice parts. A pre-existing chant derived from the Gregorian repertory stretched out in long-held notes in the lowest voice below free-flowing melismas of shorter notes in the upper voices. The lower voice was appropriately called the tenor (from Latin *tenere,* "to hold") or the *cantus firmus* (plural, *cantus firmi;* Latin, "fixed melody"); the upper voice was called the *duplum.*

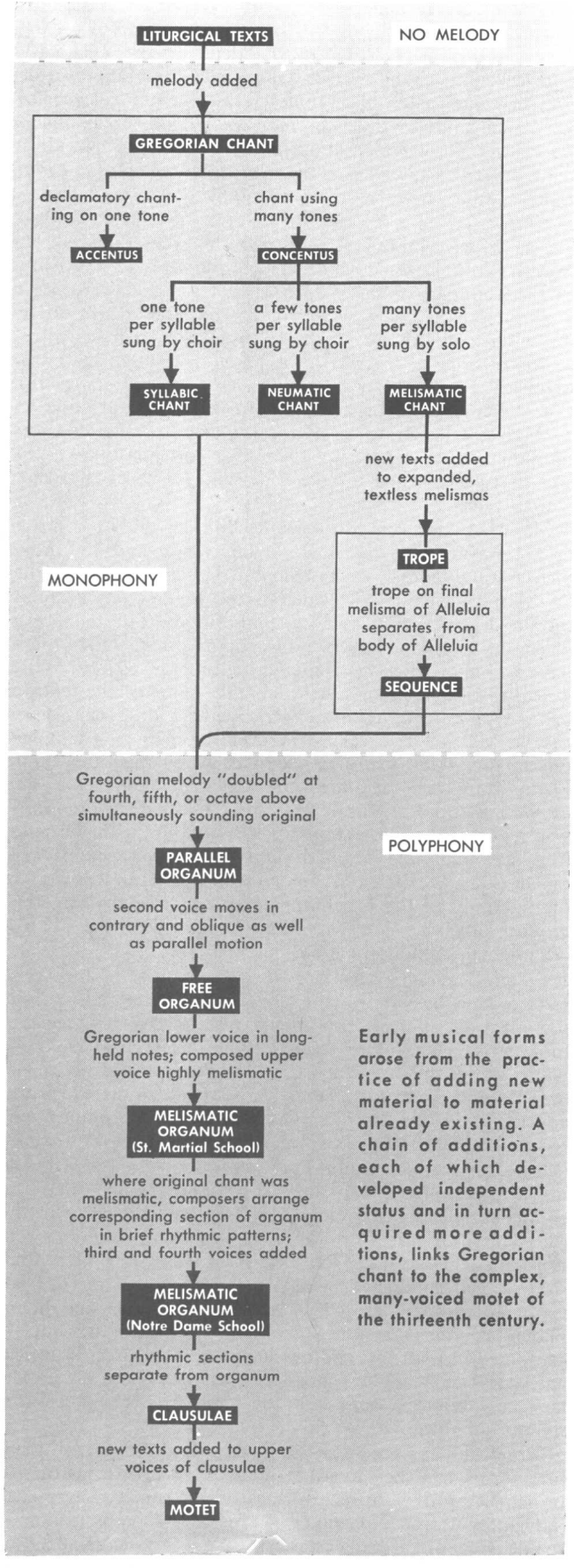
The Notre Dame School. By the second half of the twelfth century, when scholastic philosophy was flourishing and the builders of the Notre Dame Cathedral were beginning their labors, a new school of composers came to the fore. Their works are preserved in a large manuscript collection of organa, *Magnus liber organi,* composed mainly by Magister Leoninus, or Léonin, called *optimus organista* ("best composer of organa"?) with revisions and additions by Magister Perotinus, or Pérotin, *optimus discantor* ("best composer of *discantus*"?). The Liber contains two-, three-, and four-part organa for the Mass and Office of the whole church year.

Many of the compositional techniques of Léonin-style organum—notably the slow-moving tenor and the faster melismatic *duplum*—were obviously derived from the earlier St. Martial school. Nevertheless, the Léonin style exhibits certain distinct procedures of composition. The tenor was, of course, an adaptation of a Gregorian chant, which might have had alternating syllabic and melismatic sections. Wherever the original chant was syllabic the notes of the tenor in the polyphonic composition were held as long tones, as in the St. Martial style. But wherever the original chant was melismatic, with many notes to each syllable, the Notre Dame composers arranged the tones of both tenor and *duplum* in brief rhythmic patterns. The name "organum" was retained for the sections in free rhythm with the tenor in long notes, while the rhythmically organized sections were called clausula, *discantus,* or *punctum.* Léonin excelled in his handling of the organum sections in free rhythm. His *duplum* melodies are particularly beautiful, with a long, ornamental, sinuous melodic line.

Pérotin, Léonin's successor, revised many of his predecessor's organa by varying the upper parts through rhythmic organization. He also composed new pieces in three and four parts. The English word "treble" is derived from the name of the third voice-part, the *triplum,* added above the *duplum* and the *cantus firmus.* In some of his pieces Pérotin added a fourth part, the *quadruplum;* these compositions reach the height of the Notre Dame school.

The Thirteenth Century. *Conductus.* The Notre Dame music is a link between the earlier organum and the more complex forms that developed and replaced organum in the thirteenth century. In addition to organum, Pérotin wrote music in other forms. One such form was a type of composition called conductus (possibly a processional piece, from Latin *conducere,* "to lead," "to escort"). Like its monophonic counterpart, the polyphonic conductus was newly composed in both text and music and had no direct liturgical antecedents in Gregorian texts or melodies. Its most important polyphonic feature was the chordal, note-against-note style in all voices.

Motet. By far the most significant of the thirteenth century forms was the motet. It retained its basic constructive principles until the fifteenth century and survived ever later in changed form. The motet is a result of the application of the principles of troping to music. New texts were added to



the textless upper voices of the Notre Dame clausulae, which were themselves based on the textless melismatic portions of the Gregorian *cantus firmus*. This addition of texts may have been done for the same reasons that texts were added to Gregorian melismas in the early days of troping—to explain and elaborate the original text. The principle of building the new on the old calls to mind the contemporaneous practice of constructing Gothic churches upon Romanesque foundations. At first motets were as much a part of the liturgy as the organa from which they were excerpted; later, with the introduction of French vernacular love poetry as texts, the motet passed into the realm of secular art music.

Typical features of the thirteenth-century motet based on the Notre Dame repertory are the lilting melodic lines of the upper voices and the repeated short rhythmic patterns into which the lowest voice (tenor or *cantus firmus,* derived from Gregorian chant) were arranged. Because the motet composer was not particularly concerned with harmony, but with counterpoint, many dissonances occur between the two upper voices, each of which, though, agrees with the *cantus firmus*. At key points such as the beginning and ending of phrases, all three voices are usually in harmony with one another. The two outer voices are an octave apart and the middle voice sings the fifth between. It is the hollow ring of octaves and fifths, contrasting with the dissonances, that gives these motets their distinctive sound. Finally, the upper voices have separate vernacular texts.

The *cantus firmus,* or lowest voice, seems to have been performed on an instrument since it has no text. The only clue to its Gregorian origins is a tag, or *incipit* (Latin: "here begins"), indicating where the melody came from. For example, the *incipit* DOMINO refers to the melody sung to the word *domino* in the chant for *Benedicamus domino* ("Let us bless the Lord"), used occasionally at the end of the Mass.

Cantilena. In addition to the organum, *conductus,* and motet, a fourth type of composition flourished: the cantilena, a polyphonic setting of secular lyric texts. Cantilenae seem to exhibit the wedding of the trouvère melodic and poetic art with sacred polyphonic techniques. Most of these secular pieces are anonymous, but a few polyphonic songs by the trouvère Adam de la Halle (c. 1237-1286/7) survive.

The Notation of Measured Music. The music of the thirteenth century reached a peak of achievement in the motets of Petrus de Cruce (fl. end of thirteenth century), with their elaborate melodic and rhythmic lines, and in the codification of rhythmic theories and practice by Franco of Cologne. Franco's treatise, *Ars cantus mensurabilis* (c. 1280), was a record of, as well as a guide to, the correct rhythmic practice of his day. Polyphony complicated the problem of singing together: the speed and duration of the tones in two or more parts had to be synchronized to insure that each part coincided properly with the others. Thus the measuring of music and the development of mensural notation were inevitable results of the change from monophony to polyphony. In the first stages of this development, Gregorian notation sufficed to record the simple note-against-note style of early organum. But as the relation between the upper and lower voices became more complex, the old notation became ambiguous. Composers and performers were at first forced to read the notes according to a system of implied durational values, the rhythmic modes, and then to adopt an explicit system of notational symbols whose shape indicated exact durations. Modified subtly by later composer-theorists, the Franconian system has remained the basis of all subsequent Western musical notation.

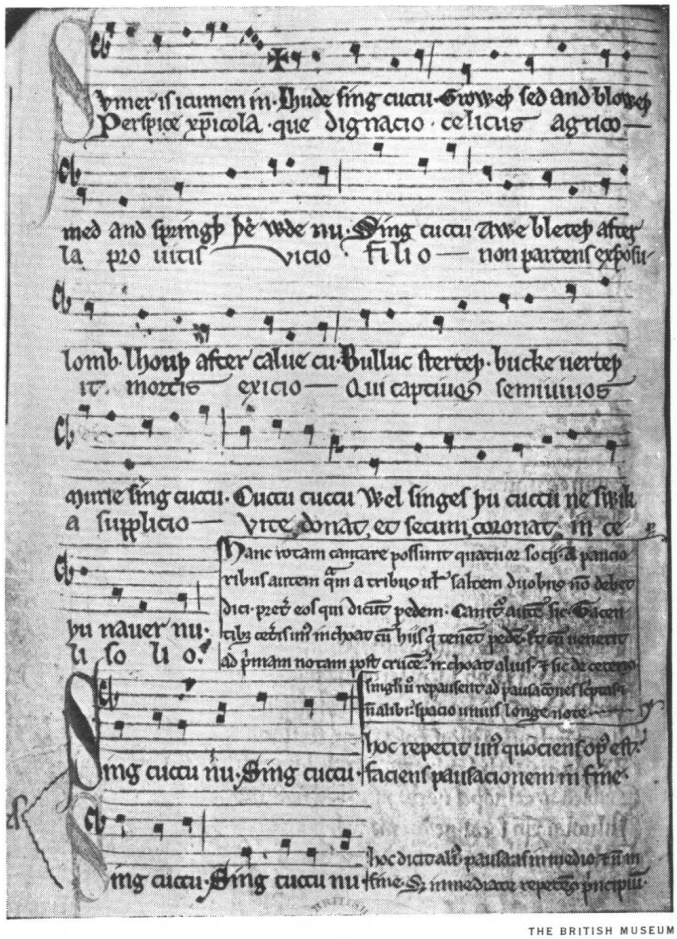
The Fourteenth Century. Near the beginning of the fourteenth century the *ars antiqua* (old or venerable art)—as the music of the Notre Dame, thirteenth-century era was described by its leading defender, Jacob of Liège, in his *Speculum musicae* (c. 1330)—was gradually superseded by two new trends. The first, in France, was hailed as *ars nova,* a "new art," by Philippe de Vitry (1291-1361), a renowned poet, politician, diplomat, and bishop of Meaux as well as a composer-theorist. The French *ars nova* was characterized by the introduction of smaller note-values, faster tempos, and a highly intellectualized method of rhythmic organization called "isorhythm." The second musical movement flourished in Italy after the first quarter of the century, with its center in the Florence of Dante, Boccaccio, and Giotto. Although its techniques may have been influenced by France, Italian music of the fourteenth century evolved a distinctive flavor that emphasized tuneful melodies, regular, simple rhythms, and the warm sonorities of the intervals of the third and the sixth.

Machaut and the Isorhythmic Motet. One personality stands out above the rest in music during the fourteenth century in France: Guillaume de Machaut (c. 1300-1377), secretary and diplomat for dukes and kings, poet and lover, church dignitary, and composer of cerebral music. Machaut's musical reputation is based on his polyphonic secular chansons, motets, and a complete setting of the Ordinary of the Mass. The secular pieces employ techniques developed in sacred polyphony, but they differ from these in that they are freely composed in all voices, having no pre-existing Gregorian material, and conform to the repetition patterns of the vernacular poetry. In a typical Machaut three-part chanson, the vocal part is accompanied by two instrumental lower parts; the particular instruments are unspecified.

The motet, on the other hand, continues the tradition of the thirteenth-century Notre Dame motet, but in addition features a technique of organization known as isorhythm. The Gregorian *cantus firmus* of an isorhythmic motet was a fairly long melodic phrase, repeated as often as the composition required and organized as a series of repetitions of an unchanging rhythmic pattern. Since the melodic phrase and the rhythmic pattern were often of different lengths, each repetition of the melody could appear in a different rhythm. This isorhythmic organization was often extended to other voice-parts. Thus, instead of the short, repeated, easily heard rhythmic groupings found in the Notre Dame repertory, the tenors of Machaut's compositions are arranged in long, angular, complex patterns. The isorhythmic phrase is so long, and the relation of melodic and rhythmic patterns so subtle, that the technique is felt rather than actually heard. Its chief function is intellectual.

More than any other single work, Machaut's four-part Mass, the so-called *Notre Dame* Mass, composed in the isorhythmic style of his motets, stands out as a landmark of Church music up to this time. According to tradition, it was composed for the coronation of Charles V in 1364; it was the first complete polyphonic setting of the Ordinary (Kyrie, Gloria, Credo, Sanctus, Agnus Dei, Ite Missa Est) of the Mass by one composer. (The three-part Mass of Tournai, c. 1320, seems to have been a collective work.) Machaut's work employs similar musical motives as a unifying element for all of its sections.

The Italian School. In fourteenth-century Italy no individual composer dominated the musical scene as Machaut did in France. The blind organist and composer, Francesco Landini or Landino (1324-1397), honored in his lifetime by being crowned with laurel, was the first to be "rediscovered"



THE BRITISH MUSEUM

OLDEST CANON, OR ROUND. "Sumer is icumen in" is shown in a manuscript copied by an English monk, probably in the thirteenth century. The upper canon is for four parts (voices enter successively, singing the same music); the *pes* or lower canon is for two voice parts.

by musicologists, but later research has unearthed no less than three generations, from c. 1325 to c. 1425, of North Italian composers of secular music—madrigals, caccias, and ballatas.

The madrigal (not to be confused with the better-known sixteenth-century madrigal) was a two-, sometimes three-part polyphonic composition set to a lyric text of two or three stanzas followed by a refrain. A prime melodic attribute is the long, flowing melisma on the next-to-last syllable of each verse. The lower voice is not derived from Gregorian sources. The caccia, perhaps derived from a French form, and its companion piece, the pescia, are, as their names indicate, songs about hunting and fishing. Most characteristic of their musical devices is the use of strict canon at the unison, the second voice "chasing" the first at a distance of several beats, accompanied by an instrumental support in the lowest voice. The melodic line, sometimes almost a fast patter, imitates the naturalistic, descriptive cries of the text. More in vogue during the last half of the fourteenth century in Italy was the ballata, in musical form similar to the French virelai and in musical style like the three-voice French cantilenae, or polyphonic chansons.

During the late fourteenth and early fifteenth centuries there was a period of flux, during which the rhythmic complexities of the French and the melodic complexities of the Italians were further increased by a school of Franco-Italian musicians called "mannerists."

The English School. In the late fourteenth century a new

style was being developed in England. It featured tuneful melody, sonorous harmony, and simple rhythmic patterns. English music had always shown a preference for the intervals of the third and the sixth (which is an inversion of the third), and for the harmonious sound of triads—thirds in combination. The thirteenth-century gymel (from Latin *cantus gemellus,* "twin-song") *Nobilis humilis,* a hymn to St. Magnus, patron saint of the Orkney Islands, might be considered a kind of *conductus* which uses the interval of the third instead of the perfect intervals customary on the Continent—fourth, fifth, octave. The English partiality for polyphonic music in canon, where each voice-part takes up in succession the same melody, is well illustrated by the celebrated thirteenth-century *Sumer is icumen in.*

The outstanding representative of the English school and the first internationally known English composer was John Dunstable (c. 1370-1453), famed also as a mathematician and astronomer. Dunstable seems to combine the English love of sonorous harmonies with Italian tunefulness and French formal-constructive elements of rhythmic organization. His music ended the 250-year period that began with the Notre Dame organa, while, at the same time, it foreshadowed the imitative contrapuntal style of music that dominated Western European composition until about 1580.

THE RENAISSANCE

From today's vantage point, the history of music in the West seems to be divided into two main periods: the first, from Gregorian chant to Dunstable, leads into the sixteenth century; the second comes out of the sixteenth century and continues to the early twentieth century. The first period is characterized by linear, "additive," counterpoint, composed by adding melodic lines one on top of another, and by the hollow ring of perfect intervals (the "open" or empty fifths, fourths, and octaves). The second period is characterized by chordal, harmonic structure and by the rich, full sound of thirds and sixths. The first period employs an additive rhythm, with irregular rhythmic groupings added one to another; the second period tends to exhibit divisive rhythm and regular groupings (see below for a fuller discussion of these concepts). The first period seems to model itself upon the voice as a standard; the second tends to emphasize the instrument (harpsichord, organ, piano, and later the orchestra) as its chief means of expression.

Observed at a distance that admittedly obliterates fine distinctions, the era between these two great periods—approximately 1450-1580—was a time of transition and cross-currents. It is the period of the High Renaissance in the visual and intellectual arts. Side by side with the masters of polyphonic vocal church music dwell numerous though less well-known composers of lute-accompanied love songs, dances, musical entertainments, and harmonic keyboard music for harpsichord and organ. An authoritative observer of Renaissance life, the writer and courtier Baldassare Castiglione, noted in 1516 that "there were many kinds of music, vocal as well as instrumental"; and that while "the most beautiful music is in singing well," even more beautiful is singing to the accompaniment of the vihuela (a guitarlike instrument) "because nearly all the sweetness is in the solo and we note and follow the fine style and the melody with greater attention in that our ears are not occupied with more than a single voice, and every little fault is the more clearly noticed—which does not happen when a group is singing, because then one sustains the other." Castiglione also praises the "musical sweetness" of keyboard instruments and the suave and exquisite sound of a consort of viols.

These words were written at the midpoint of a musical period which is conventionally described as the "Golden Age of Vocal Polyphony." They support a broader view of Renaissance music: an art blossoming out into many different forms and styles at the same time. They testify to the coexistence of majestic polyphony and popular styles, including by extension music for ceremony and entertainment. In this epoch, therefore, can be found both the last, consummate examples of sacred vocal polyphony and the sometimes naive songs, dances, and instrumental pieces performed at court and private salon—composed in many cases by the same musician.

THE FRANCO-FLEMISH COMPOSERS

The Spread of Northern Music. The tradition of contrapuntal vocal music begun in France and developed by composers like Machaut and Dunstable was carried on to new heights of profundity and expressiveness by masters from the area that today lies mostly within Belgium and northern France. These Franco-Flemish composers (or "Netherlanders," as they are sometimes termed) first worked in the chapels and courts of Burgundy and France and were later imported to the cultural centers of Renaissance Italy. With few exceptions, Franco-Flemish musicians spread the art of contrapuntal music throughout France, Burgundy, Savoy, Italy, Spain, England, and Germany. Their influence was felt even as far as Hungary and Poland during the sixteenth century. Six distinct generations of Franco-Flemish composers can be discerned. Some of the most notable are listed by generation:

I. fl. 1420-1460	Guillaume Dufay	c. 1400-1474
	Gilles Binchois	c. 1400-1460
II. fl. 1450-1490	Johannes Ockeghem	c. 1430-1495
	Antoine Busnois	d.1492
III. fl. 1480-1520	Josquin des Prez	c. 1440-1521
	Heinrich Isaac	c. 1450-1517
	Jacob Obrecht	c. 1453-1505
IV. fl. 1520-1560	Nicolas Gombert	c. 1500-after 1556
	Cipriano de Rore	c. 1516-1565
V. fl. 1550-1590	Philippe de Monte	1521-1603
	Orlandus Lassus	1532-1594
VI. fl. 1580-1620	Jan Pieterszoon Sweelinck	c. 1562-1621

The Franco-Flemish Secular Style. The first two generations of Franco-Flemish composers (sometimes also referred to as Burgundians because many of them served at the court of Burgundy) refined and developed the melodious and harmonious style of Dunstable, who was even at the time recognized by contemporary writers as their chief inspiration. The new style was not, however, consistently applied; it is more characteristic of Flemish secular music than of the rather conservatively crafted Flemish sacred motets and Masses. A rather distinctive feature of Burgundian music is a particular melodic formula at the cadences of phrases, which approaches the final tone of the phrase by skipping upwards a third from the sixth degree of the scale. This little cliché, the 6-1 cadence (the notes A and C in the key of C), perhaps more than any other feature, serves to identify Burgundian music. In a typical chanson, a tuneful upper voice is accompanied by two lower parts, most probably played by instruments. With the sung melody, these create harmonies which sound like today's common chords, which are based on the intervals of the third and the sixth. Gone, except in the harmonies at the cadences, are the hollow sounds of the fifth and octave.

Also, in contrast to the rhythmic complexities of the late fourteenth-century mannerists and the involved mathematical symmetries of Machaut, is a new rhythmic simplicity. The rhythmic fabric tends to be designed in clearly audible groupings of twos and threes. Sometimes the tones are arranged in triple meter (3/4), sometimes in compound duple (6/8); and sometimes both meters are added together in a combination of the two basic groupings, 2 + 3, giving a distinct quintuple (5/4) flavor to the rhythm. Nevertheless, insofar as the metrical groupings are not constant from beginning to end, the piece is easily distinguishable from the rigidly controlled metrical music of the last two or three centuries. The rhythmic independence of each of the three lines from one another even further enhances this feeling of freedom from meter.

These rhythmic, melodic, and harmonic features have been succinctly termed the "treble-dominated style"—a term which emphasizes the role of the highest vocal line, in contrast to the styles of previous centuries in which the lowest voice or tenor was structurally most important.

Franco-Flemish Masses and Motets. The sacred music of Dufay and Binchois is more conservative than their secular style. There is a tendency to retain many of the techniques of the fourteenth century, such as isorhythm and imitation, described above in connection with Machaut and the Italian composers. While the technique of isorhythm soon died, the principle of imitation was to be developed and expanded into the predominant technical musical feature of both the sacred and the artistic secular music for the next 150 years.

Another important technique clearly distinguishes the first generation of Franco-Flemish composers: the writing of whole passages which consist chiefly of successions of a particularly harmonious type of chord. This procedure is known as *fauxbourdon;* the chords used are the so-called "chords of the sixth"—such as E-G-C, F-A-D, etc. The significance of *fauxbourdon* is that it implies a love of purely harmonic, or chordal, sound as a thing of beauty in itself, not just as the coincidental by-product of counterpoint. Thus while the linear composition and relatively naive imitative counterpoint of Dufay were yet to develop into the full-blown polyphony of Lassus and Palestrina, already at the beginning of this period the seeds of a harmonic and chordal language of vertical composition were being implanted in the musical consciousness of composers.

The Later Franco-Flemish Generation. *Ockeghem and Busnois.* In the works of Ockeghem and Busnois, leading members of the next generation of composers, two tendencies are noted. Johannes Ockeghem, or Okeghem (c. 1430-1495), was in the service of three successive kings of France: Charles VII, Louis XI, and Charles VIII. In his music are found such intricate polyphonic devices as canon, inversion, retrograde, augmentation, and diminution—where the imitation of the chief melody is sounded upside down, backwards, or in longer or shorter note values. However, knowledge of Ockeghem's virtuosity in the science of musical

JOHANNES OCKEGHEM, Franco-Flemish composer, shown with his church choir. In the fifteenth century, Ockeghem and other North European composers were considered supreme because of the expressive power of their counterpoint (the combining of melodic lines).

THE BETTMANN ARCHIVE

composition should not be allowed to obscure the appreciation of the grace of his long-flowing melismatic lines or of the unique texture of his counterpoint, which has been called "seamless." If any melody deserves the description "continuous" or "endless"—a phrase coined for Wagner's music—it is the melody of Ockeghem. Indeed, it was Ockeghem's ideal of interlocking contrapuntal melody, reminiscent of fifteenth-century Flamboyant Gothic traceries in architecture, that influenced the homogeneous sound of sixteenth-century music.

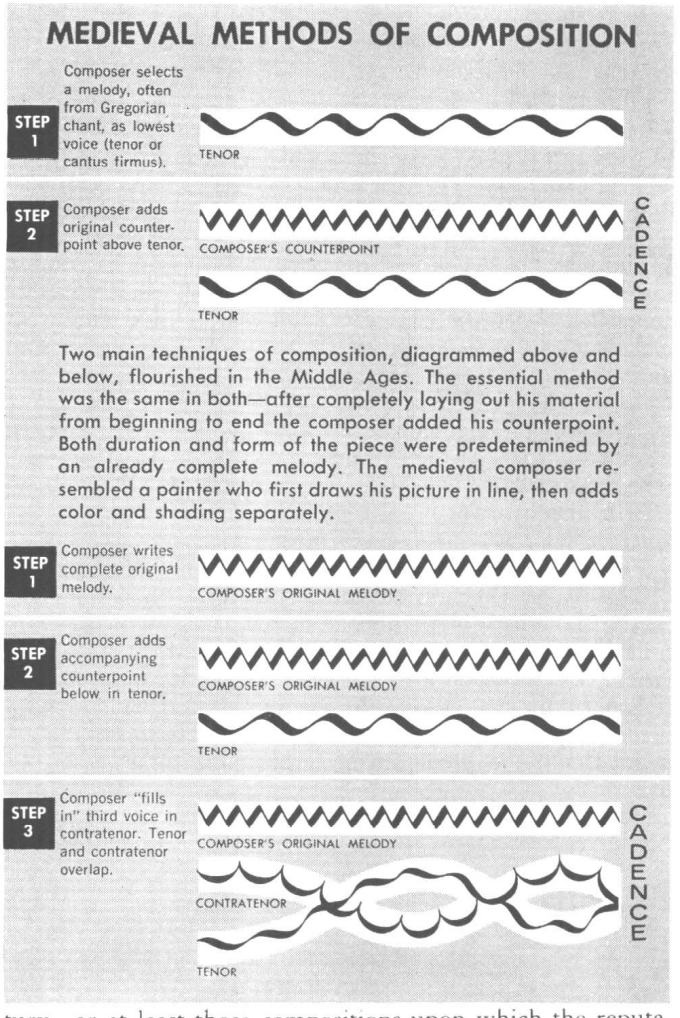
With Antoine Busnois (d. 1492), composer and singer of chansons at the Burgundian court of Charles the Bold, imitative counterpoint becomes a predominant technique. In a way, therefore, Busnois, whose imitative style was to be universally adopted, was more "progressive" than Ockeghem who, despite his originality and mastery of technique, remained a retrospective composer.

The Generation of Josquin. It is difficult to find another period in the history of Western music with more excellent composers than the third generation of Franco-Flemings. Josquin des Prez (c. 1440-1521; his name is also spelled Des Prés), its most eloquent member, was compared to Michelangelo by the writer Cosimo Bartolo in 1561; and Josquin was only one of many who composed and directed music all the way from their native North to the noble courts and chapels of France and Italy. With this third generation music begins to rival the visual and literary arts in its ability to express a wide range of human feelings, from the earthiness of secular songs to the deepest religious and dramatic emotion of Masses and motets. The eminent musicologist Curt Sachs aptly termed this period "the Raphael-Josquin generation."

The most audible characteristics of art music around 1500 are the modern choral sonority of four voice parts: soprano (*superius* or *cantus*), alto (*contratenor*), tenor, and bass (*bassus*); and the obvious use of triadic harmonies—harmonies built on the interval of the third, such as the chords C-E-G or A-C-E. To modern ears this sound is most apparent in the chordal style of the popular Italian songs known as *frottole* and in the *canti carnascialeschi,* or carnival songs. Sometimes referred to as *stile famigliare,* or familiar style (familiar = informal or popular), sections in chordal style are also found in the most sacred works, where they are usually employed to set clearly the important or dramatic portions of the liturgy.

THE LATE RENAISSANCE

Imitative Counterpoint: the Universal Style. At this juncture detailed description of the remaining generations of Franco-Flemish composers may be omitted. Once firmly established by Josquin and his colleagues, imitative counterpoint became a truly universal practice. It was not, of course, the sole technique; but it was employed in every type and medium of composition. The technique was to be employed with little basic change by the succeeding generations of the Franco-Flemings, including the great Orlandus Lassus; by the Italians, including Palestrina; the Spaniards, including Victoria; and the English and German (even Polish and Hungarian) schools of the sixteenth century. In the hands of Palestrina, Lassus, Byrd, Hassler, and Victoria—to name great masters of the late Renaissance from five different countries—the style was refined and individualized. The peculiarities of different languages influenced the way music was set to them, serving to color the style according to national boundaries. But regardless of these distinctions, both sacred and secular art music in the sixteenth century—or at least those compositions upon which the reputation of a composer rests—was written in the universal style of polyrhythmic, imitative counterpoint.



Paradoxical as it may seem, however, the practice of imitative counterpoint implies a basic harmonic conception of composition. As the theorist Pietro Aron wrote in *Il Toscanello in Musica* (1523), the music of the "moderns" was better than that of the preceding generations "because they consider all parts together and do not compose their voices one after the other." Imitative counterpoint thus marks a qualitative change in the way in which composers compose. The technique is depicted in the accompanying illustration.

The Renaissance Mass. The chief vocal forms of sacred music in the Renaissance were the Mass and the motet. The term "Mass" is used here to describe the sung portions of the Ordinary of the Mass: Kyrie, Gloria, Credo, Sanctus (including the Benedictus), and Agnus Dei. These titles are derived from the first word or words of the liturgical text. Guillaume de Machaut in the fourteenth century was the first composer to write a complete Mass in which all of the individual sections of the Ordinary were musically linked by the use of similar motifs. Beginning with Dufay and his generation, composers' highest efforts were spent on Mass composition. By the time of Lassus and Palestrina, around 1570, four main types of Masses were in vogue:

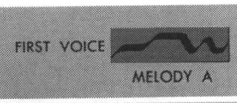
The Paraphrase Mass. In the paraphrase, or plainsong, Mass, musical material from Gregorian chant or even from secular melodies is found in an ornamented form in the various voices and section of the polyphonic composition.

The Cantus-Firmus Mass. In the *cantus-firmus,* or tenor,

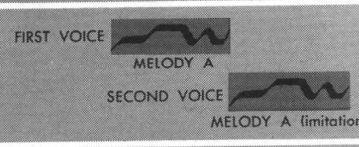
THE TECHNIQUE OF IMITATIVE COUNTERPOINT IN THE RENAISSANCE

Imitative counterpoint was the sovereign method of composition during the Renaissance. The technique called for a composer to consider all his voice parts together and to write his piece step by step in successive blocks of sound. This differs from the medieval technique of composing complete individual voice parts one after the other. Shown here is the method of setting one phrase of text to music. The entire musical phrase is called a point of imitation, and a typical composition contains many points.

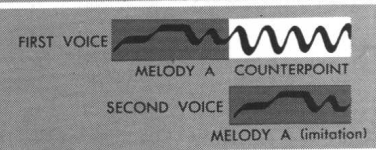
STEP 1 Composer begins with melodic phrase A. Stated alone in the first voice, it will start the composition.



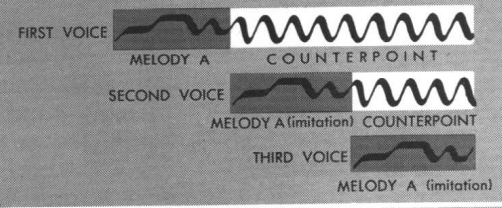
STEP 2 Next, Melody A is restated, or imitated lower down in the scale.



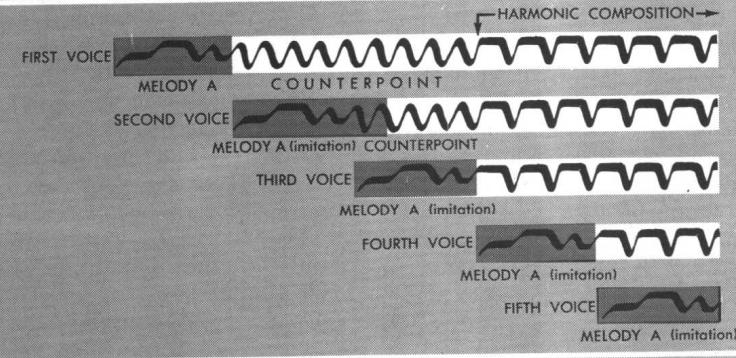
STEP 3 The composer continues Melody A in the first voice with a counterpoint which harmonizes with the imitation in the second voice.



STEP 4 The procedure is repeated with the entry of a third voice: first stating Melody A in the new part and then writing in counterpoints above it.



STEP 5 With the entry of a fourth voice, the compositional method becomes chordal. The entry of a fifth voice confirms the fact that the writing procedure is harmonic. The individual voices, however remain rhythmically independent.



STEP 6 The whole section now exhibits an unmistakable harmonic and melodic drive to an ending, or cadence, in all parts. One voice emerges from cadence to begin a new point of imitation. The section from a motet by Palestrina below, is an example of the finished point of imitation.