



SMITHSONIAN



# MUSIC



THE DEFINITIVE VISUAL HISTORY



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S M I T H S O N I A N



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THE DEFINITIVE VISUAL HISTORY





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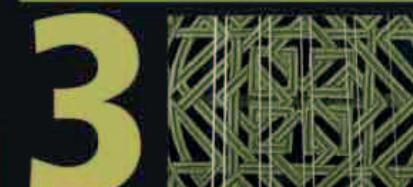
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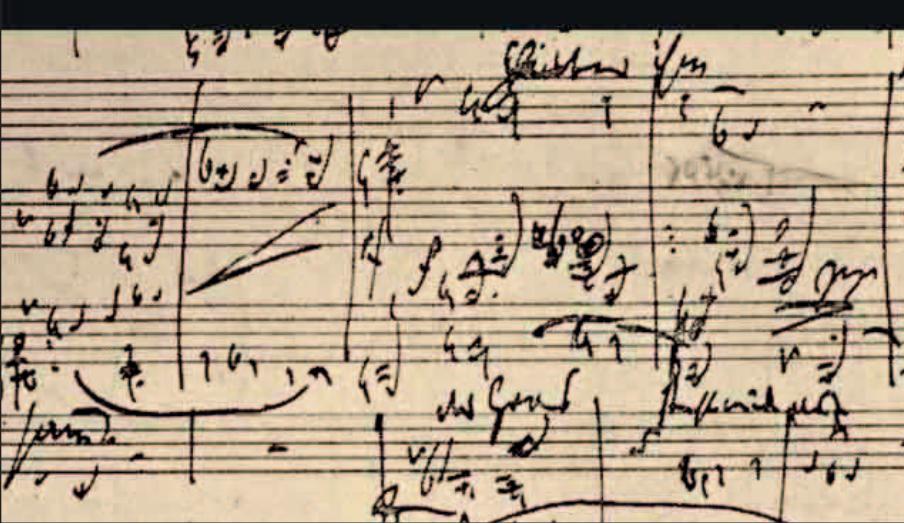
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# Foreword

**M**usic is an ancient and powerful language: from the prehistoric calls that imitated the animals we hunted and the lullabies that sent our children to sleep, to the stirring beats that rallied our troops to battle and the harsh fanfares that terrified our enemies. It is a short step from the sacred hymns that rose in the immense cathedrals built to glorify God to the pop music thundering in stadiums commanded by rock stars.

Tracing a long and fascinating history, *MUSIC: The Definitive Visual Guide* illuminates the dramatic stories of the composers and performers who shaped these sounds and guides us, with striking illustrations and photographs, through the many wonderful instruments that we beat, scrape, and blow. As each musical subject is presented in a concise and engaging two-page spread, it is easy to travel between musical worlds that are continents and centuries apart over the space of just a few chapters. And it's not just the notes and sounds themselves that are examined but also the compelling stories behind them.

Music was an essential element of ancient mythology, medieval poetry, and religious life. Later, the 16th century Reformation shook the Catholic Church to its foundations and set the stage for the great works of J. S. Bach. From the invention of the printing press, through the creation of the phonograph and electric guitar, to the advent of the internet, technology has consistently transformed the way we make and listen to music.

It is often said that music is a universal language and that is reflected in the international scope of this book. It would be easy to confine ourselves to the great achievements of Western music, but *MUSIC: The Definitive Visual Guide* journeys throughout the world to sample the ancient music of China, the frenzied pop of Japan, the tribal music of the African plains, and the passionate rhythms of South American dance halls.

In Ancient Greece, Plato wrote that "Music gives a soul to the universe, wings to the mind, flight to the imagination, and life to everything." Centuries later, the great composer and bandleader Duke Ellington (pictured here with his band) added "Music is the oldest entity. The scope of music is immense and infinite. What is music to you? What would you be without music?" *MUSIC: The Definitive Visual Guide* will help you answer that question.

ROBERT ZIEGLER







# 1

## EARLY BEGINNINGS

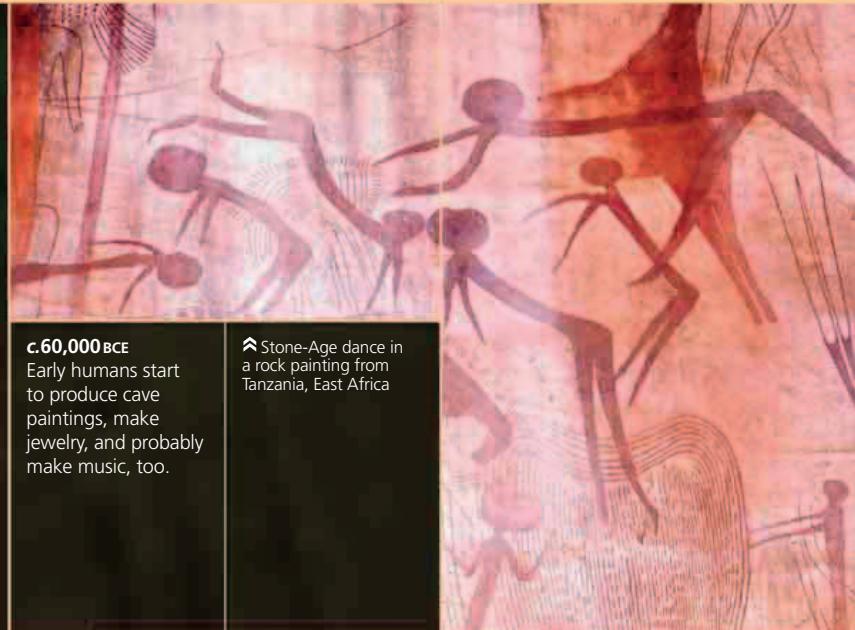
60,000 BCE–500 CE

**The earliest musical instrument is one still used today—the human body. The drum, bone flute, and harp were the earliest musical tools fashioned by humans. Whether in the form of singing, clapping, or rhythmic pounding, music has always been used to celebrate, praise, express sorrow and joy, to rally the troops or terrify the enemy.**

# EARLY BEGINNINGS

## 60,000 BCE–500 CE

60,000 BCE



**c.60,000 BCE**  
Early humans start to produce cave paintings, make jewelry, and probably make music, too.

▲ Stone-Age dance in a rock painting from Tanzania, East Africa

10,000 BCE



**c.35,000 BCE**  
Stone-Age humans in the Hohe Fels cave, Germany, make flutes by boring holes in vultures' wing bones. Early instruments are also made from sticks and shells.

▲ Bone flute from Hohe Fels, Germany

◀ Primitive trumpet made from a conch shell

2500 BCE

**c.2500 BCE**  
Musicians in the Sumerian city-state of Ur, Mesopotamia, play lyres, harps, lutes, wooden flutes, reed pipes, and percussion. Clay tablets preserve instructions for performance.

**c.2500–1900 BCE**  
The civilization that flourishes in the Indus Valley initiates musical traditions that are continued by some of India's performers today.

▼ A Minoan aulos (double flute) player



**2040 BCE**  
Mentuhotep II unites Upper and Lower Egypt. Under the pharaohs, music plays a key role in palace ceremonies, religious rituals, and everyday life.

**c.2000 BCE**  
Central America's first civilizations begin to develop. Ancient instruments include the *ocarina*, a clay flute made in the shape of an animal.

**c.1900 BCE**  
The thriving Minoan civilization of Crete in the Mediterranean develops a rich musical culture.

1500 BCE

**1550–1069 BCE**  
Under the New Kingdom dynasties, Egypt exerts a major musical influence on other civilizations, including Ancient Greece.



▲ Chinese *sheng* with bamboo pipes  
◀ Ivory clappers from Ancient Egypt, 1430 BCE

**c.10,000 BCE**  
The first settlements arise in the eastern Mediterranean, which will lead over thousands of years to the creation of towns, palaces, and temples—all centers of musical activity.

**c.6000 BCE**  
The smelting of metals, especially copper and bronze, begins in Turkey. By 3000 BCE, these metals will be used to make new instruments.

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The smelting of metals, especially copper and bronze, begins in Turkey. By 3000 BCE, these metals will be used to make new instruments.

▼ A Minoan aulos (double flute) player



**c.1900 BCE**  
The thriving Minoan civilization of Crete in the Mediterranean develops a rich musical culture.

» Egyptian musicians in a fresco from Nahkt's tomb, c.1350 BCE



**c.8000 BCE**  
The world's oldest continuously inhabited city, Jericho in the Jordan Valley is founded. In the Bible, the trumpet blasts of the Israelite army demolish the city walls.

**c.5000 BCE**  
In Mesopotamia, Egypt, and the Indus Valley, the first complex societies begin to form, based on irrigated agriculture. Priests and rulers use music for rites and ceremonies.



» Egyptian musicians in a fresco from Nahkt's tomb, c.1350 BCE

**c.13,000 BCE**  
Groups of Siberian hunters cross into the Americas, bringing with them the music and rituals of the shamanic tradition.

**c.6000 BCE**  
In China, bone flutes are made from the hollow bones of the red-crowned crane.

**c.2700 BCE**  
On the Cycladic islands in the Aegean, small statues show figures playing the lyre or harp and the *aulos* (double flute).

**c.2100 BCE**  
In Ireland, musicians are playing sets of six wooden pipes. Made from yew, these are the oldest known wooden pipes in the world.

**c.1600 BCE**  
In Ancient India, Vedas (sacred texts) are recited in songs and chants.

Music evolved with human societies as they developed over thousands of years from small groups of hunter-gatherers to large-scale states with cities, armies, and temples. In the civilizations of Ancient Mesopotamia, China, Greece, and Rome, musical theories arose alongside musical practice; music was seen as having a moral

influence on character as well as a relationship to the fundamental structure of the Universe. But it was primarily an integral part of everyday life, an accompaniment to work and leisure, religious ritual, and popular festivities. Written music remained a rarity, with skills and knowledge transmitted from master to pupil in an oral tradition.

## 750 BCE

**701 BCE**  
When the Assyrians besiege Jerusalem, the Judean king offers them not only his wives and daughters but also his musicians, who were highly valued.

**c.380 BCE**  
In Plato's *Republic*, the Greek philosopher argues that music brings harmony and order to the soul, not just "irrational pleasure." He urges leaders to avoid listening to lazy or soft music.

## 300 BCE



## 1 CE



## 300 CE

**313 CE**  
Christianity becomes the official religion of the Roman Empire. Early church music develops out of Roman and Jewish traditions.



**570 BCE**  
Birth of Pythagoras, the Greek philosopher who will study the mathematical ratios between musical notes (and between heavenly bodies), in the so-called "music of the spheres."



**c.350 BCE**  
For the Greek philosopher Aristotle, music is to "instruct, amuse, or employ the vacant hours of those who live at rest."

**264–31 BCE**  
The Roman Republic conquers new territory from North Africa to Greece and Egypt, absorbing their musical traditions.

▲ Roman mosaic of street entertainers in the 1st century BCE, from the city of Pompeii

**566 BCE**  
The first Great Panathenaea festival in Athens includes music and poetry contests. Music is also a key part of Ancient Greek theater.

» The Greek philosopher Plato

**c.200 BCE**  
The *hydraulis*, a water-powered organ, is invented by Greek engineers in Alexandria, Egypt. The world's first keyboard instrument becomes widespread under the Romans.

**141–87 BCE**  
Under Emperor Wu, the Imperial Bureau of Music strictly regulates music in China, believing that correct performance is vital to ensuring a harmonious state.

**c.30 CE**  
At the death of Jesus, Christianity begins as a Jewish sect under Roman rule. Over the next millennium, early church music will lay the foundations for much of classical music in the West.

**82 CE**  
The Colosseum in Rome opens. It seats 50,000 and stages gladiator shows, mock battles, and drama. Music is an essential part of these entertainments.



◀ Theater in the Ancient Greek city of Aphrodisias, Caria (now in Turkey)



**55 BCE**  
The first permanent theater in Rome opens. As in Greek drama, Roman plays and pantomimes are accompanied by music and song.

**54 CE**  
Nero becomes emperor of Rome. Fond of singing and playing the lyre, he takes part in public music contests—and wins every time.

» Coin portrait of Emperor Nero



**c.500 CE**  
The late Roman philosopher Boethius writes *De Institutione Musica*, an influential work of musical theory that will resurface in Renaissance Europe.

▲ Australian hardwood didgeridoo

**c.500**  
The didgeridoo, a wooden drone instrument, is developed by Aboriginal peoples in Australia.



## BEFORE

Around 60,000 years ago, humans made a cultural leap forward and began producing cave paintings and making jewelry. At the same time, they probably also started to make music.

## SURVIVAL AND SEXUAL SELECTION

Various theories have been put forward about the **origins of music** and its evolutionary purpose. It may, for example, have initially evolved from early humans' imitation of animal cries, and even served the same purpose as the **mating calls** and displays of animals.

## DEVELOPED FROM SPEECH

Modern researchers have noted how close music is to speech, especially in the "**tonal**" languages of Africa and Asia, in which pitch is used to distinguish words, not just emotion or emphasis. It is thought that music and speech may have evolved together.

# Man, the Music Maker

**Humans have made music since prehistoric times, when it played a vital role in social life, from healing and ritual to hunting and warfare. Traces of prehistoric musical practice survive in folk and traditional music in many parts of the world.**

The first source of music was undoubtedly the human voice. It is thought that as soon as speech evolved, humans began augmenting words with tonal pitch, as well as other vocal tricks such as clicks, whistles, and humming. The only accompaniment to the voice

would have been rhythmic clapping and stamping. The human body provided the earliest musical resources.

**The first instruments**

Humans found their first musical instruments in their natural environment, identifying objects—

pieces of wood, stone, horn, or bone—that would make a sound when beaten or blown. Eventually, such objects were shaped and elaborated to develop their musical potential. Around 35,000 years ago, for example, Stone Age humans living in the Hohle Fels cave in what is now southern Germany made finger holes in a vulture's wing bone to create a kind of flute. This and two ivory flutes in nearby caves were among items discovered by archeologists working in the cave in 2008.

Cave paintings provide other evidence for the existence of early musical instruments. A hunting scene painted on the wall of a cave in the

**"Musical notes... were first acquired... for the sake of charming the opposite sex."**

CHARLES DARWIN, NATURALIST, "THE DESCENT OF MAN," 1871



Spirit man

A shaman in Tuva, Siberia, beats a drum as part of his ritual performance. Shamans attempt to contact the spirit world by entering a trance, induced through song, dance, and rhythmic beating.



Dordogne, France, dating from around 10,000 years ago, shows a man playing a musical bow—one end of the bow is held in the mouth while the string is plucked to make the notes. A similar instrument is still played by African cattle herders today.

"Idiophones"—instruments made from solid resonant materials that vibrate to produce sound—played a large role in prehistoric music. They include: slit drums, made by hollowing out a split tree trunk; a primitive xylophone; rattles made by filling gourds with seeds and stones; scrapers, such as a rough stick rasped against bones or shells; and plucked instruments such as the Jew's harp, a simple string instrument held in the mouth. Many types of drum were made by stretching animal skins over bowls, hollow gourds, or wooden frames. A range of eerie sounds could be generated by swinging a piece of shaped wood on the end of a cord—creating the bull-roarer, an instrument favored by indigenous Australians.

Wind instruments were made from conch shells, hollow bones, bamboo, reeds, and parts of trees,

#### Aboriginal instrument

The didgeridoo is a hardwood wind instrument developed by the indigenous peoples of Australia. It is made from a naturally occurring hollow tree trunk or branch, which is then shaped and decorated.



and were blown with the mouth or the nose. Finger holes could be stopped or unstopped to vary the pitch, although these early instruments had no significant melodic potential.

#### Common heritage

Study of the musical traditions of tribal peoples living in Africa, Asia, the Americas, Polynesia, and Australasia in modern times is the best guide we have to the nature of prehistoric music. Although such musical traditions are immensely varied across the globe, they share many characteristics. In general, the music has complex rhythms that are tightly linked to dance and ritual gestures. It is also flexible in melody, following closely the patterns of speech, and is rarely made up of complex harmonies.

#### Spiritual role

For primitive humans, music was an essential element in rituals and ceremonies that bound a society to its dead ancestors and its totemic animals or plants. It was used as a means of communicating with the benign or malevolent spirits that controlled the fate of a society or individual.

In many societies, the shaman was (and is) someone who acted as an intermediary between the spirit and the human worlds. An individual with the special power to enter ecstatic states through trance, he performed rituals in which words, melody, gestures, and dance were

#### Stone Age painting

This rock painting from Tanzania in East Africa is thought to show a shamanistic trance dance. Stone Age humans used music combined with words and movements for specific rituals.

inseparable, his voice accompanied by the beats of a drum. The shaman was a musical specialist, in that his "song" could only be performed by him. The powers of the shaman might be called upon for healing or to summon rain.

#### Music as history

Another function of music was to record and channel traditional knowledge, legend, history, and myth through the generations. Thus the famous "songlines" of indigenous Australians were sacred paths across the vast landscape transmitted through songs, stories, and dance.

In West Africa, the tradition of the "griot" singer and storyteller has survived into the modern day. The griot's tales preserved a detailed record of local events and celebrations such as births, marriages, wars, and hunting expeditions, as well as a wider repository of legend. It was also the griot's function to invent praise songs honoring the local ruler.

The tradition of songs preserving legends and historical events is also still maintained among Native American tribal societies. The famous Navajo song "Shi Naasha", for example, commemorates an event during the 19th-century Indian wars against the United States.

#### The pleasure of song

Music in Stone Age societies was by no means limited to specialists. Although only a shaman could perform shamanic rituals, there were many other occasions in which the wider society could participate in music as individuals or collectively. There were songs of greeting, songs of

#### Tribal harmony

In Papua New Guinea, tribes perform *singsing*, an ancient form of communal singing and dancing to accompany traditional rites and celebrations.

**The evolution of music went hand in hand with wider developments in human society and culture. Metalworking and the invention of early forms of writing were particularly important to music.**

#### NEW MATERIALS

The beginning of the **Bronze Age**, usually dated to around 5,000 years ago, saw the use of copper and bronze (a copper alloy) to make implements ranging from weaponry and agricultural tools to musical instruments. The latter include the curved **bronze horns** known as "lurs" that have been found in Denmark and northern Germany. **Stringed instruments** became more important, especially the lyre and the harp.

#### THE RISE OF THE MUSICIAN

When **literate civilizations 16–17** emerged in **Mesopotamia**, the **Indus Valley**, **Egypt**, and **China**, they developed distinctive musical traditions, with musicians in the service of emperors and kings. The first known piece of **written music** is a fragment from around 4,000 years ago found in Sumer, in modern-day Iraq. **Ancient Greece and Rome 20–25** continued and expanded the musical tradition of Mesopotamia and Pharaonic Egypt.

love, praise songs, war songs, and satirical songs. Unison group singing and rhythmic clapping would often accompany the performance of an individual soloist. Native American music distinguished songs to be sung by special individuals from songs that were suitable for general public performance.

#### Social attribute

In some societies musical improvisation was considered a necessary social skill. An individual was expected to invent impromptu songs in much the same way we might expect a person to engage in witty repartee today. Music formed an essential part of the everyday texture of life.



## BEFORE

A series of changes in human life between 10,000 and 3000 BCE gave rise to the first complex civilizations, with states ruled by kings and emperors.

**A LEAP FORWARD**  
The development of **settled agricultural societies** in different places around the world led to an increase in population density and the founding of towns and cities. **Metal tools**—bronze and then iron—began to replace stone. In **Mesopotamia, the Indus Valley, Egypt, and China**, hierarchical states dominated by secular rulers and priests emerged. These societies developed various forms of **writing**.

# Music's Cradle

Over thousands of years, the world's oldest civilizations, in Mesopotamia, Egypt, northern India, and China, developed musical traditions. Although the sound of their music has been lost, surviving artifacts show the vigor of music-making in these ancient societies.

**A**round 4,500 years ago, hundreds of musicians worked in the service of the priests and secular rulers of the Sumerian city-state of Ur, in southern Mesopotamia (modern-day Iraq). Singing played a key role in religious rituals, and court musicians provided accompaniment for state ceremonies and banquets. The Standard of Ur, a Sumerian artifact

now in the British Museum, shows a lyre player and a singer entertaining the king at a feast.

A few beautifully made Sumerian lyres have survived into the present day—they are the oldest existing stringed instruments. The Sumerians also played harps and lutes, plus varieties of wooden flutes and reed pipes. Percussion included drums, tambourines, clappers, and a kind

of metal shaker known as a sistrum. Instructions for performance have been found on Sumerian clay tablets.

## Rousing the people

Succeeding civilizations in Mesopotamia and its surrounding area continued and expanded this musical tradition. The Assyrian kings, dominant in the area from 2000 to 700 BCE, maintained a court orchestra and choir that sometimes gave public performances “to gladden the hearts of the people,” according to court records of the time. Musicians also accompanied the Assyrian army on its many campaigns, with drums and trumpets used to signal simple orders and messages.

However, music was not restricted to courts and temples. Shepherds played pipes while minding their flocks, and singing and drumming accompanied heavy work in the fields. There must have been a wide range of musical expression because of the variety of purposes for which music was considered appropriate—from celebrating a victory at war to helping induce sleep.

## Valued role

Professional musicians were trained at music schools and probably organized into guilds. The value placed upon musical skills is well attested. When the Assyrians besieged Jerusalem in 701 BCE,

## Musicians in Egypt

A fresco decorating the tomb of Nakht, a scribe in Ancient Egypt, shows a group of female musicians performing. Their instruments are an arched harp, a long-necked lute, and a double-reed pipe.



**Fertile crescent**

The area from Mesopotamia (Iraq) to Egypt has often been called the "cradle of civilization." The earliest evidence for music-making in a civilized society comes from Ur in southern Mesopotamia.

the Judean king tried to buy them off by offering to hand over not only his wives and daughters, but also his male and female musicians.

**Music of the gods**

Music permeated the myths of the Egyptian gods. Osiris, the god of the afterlife, was known as the "lord of the sistrum" because of his association with the instrument (a kind of rattle). Bes, the god who presided over childbirth, was often represented with a harp or lyre. Egyptian priests and priestesses intoned hymns to the gods as part of their daily duties, as well as at special festivals. At court, the chief musicians had high status and formal rank. Many of the court performers were women, who also danced.

Egyptian instruments were similar to those of the Mesopotamian states, but the harp was more developed, with 6ft (2m) high instruments by 1200 BCE (see pp.22–23).

The music of Ancient Egypt changed little over the centuries, with tradition upheld by the academies that trained musicians. There must have been a freer popular tradition, however, for Egyptian paintings show peasants dancing to pipes and drums.

**Royal orchestra**

A relief from the palace of the Assyrian kings at Nineveh, dating from the 7th century BCE, shows musicians in a court orchestra playing angled harps, reed-pipes, and a dulcimer.

**Indian traditions**

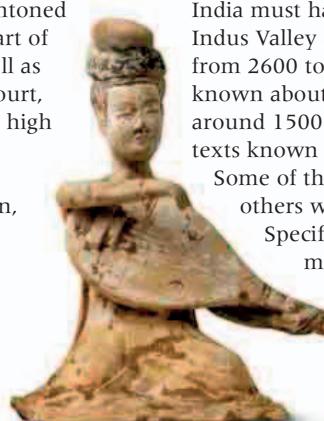
The distinctive musical tradition of India must have had its origins in the Indus Valley civilization that flourished from 2600 to 1900 BCE, but little is known about this period. From around 1500 BCE, the sacred Hindu texts known as the Vedas emerge.

Some of these were recited, but others were chanted or sung.

Specific instruments are mentioned in ancient Indian texts.

King Ravana—a follower of the deity Shiva in the Hindu epic the *Ramayana*—is credited with the invention of the *ravanatha*, a bowed string instrument made out of a coconut shell and bamboo. Another Indian instrument that has survived from antiquity is the *mridangam*, a

double-sided drum, which, in Hindu mythology, is said to have been played by the bull-god Nandi.

**Chinese lutenist**

A terracotta figurine found in a tomb from the Tang dynasty era (907–618 BCE) depicts a female lute player. The *pipa*, or Chinese lute, is still a popular instrument today.

A range of plucked stringed instruments, the *veena*, are believed to date back to the times of the Vedas. Many of the instruments prominent in Indian classical music today, including the sitar and the tabla (see pp.342–43), are of medieval origin.

**Bells, chimes, and silence**

China has a continuous musical tradition stretching back over 3,000 years. From the earliest times, its mix of instruments was distinctive, including the prominent role assigned to bells and chime stones—slabs of stone hung from a wooden frame and struck with a padded mallet.

The *sheng*, a form of mouth organ with bamboo pipes, and varieties of zither have remained central to Chinese music through its history (see p.45), as have flutes and drums. The Chinese also developed a distinctive aesthetic, in particular exploiting the effect of sounds fading into silence.

**Harmony of the state**

Music was seen by Ancient Chinese philosophers as reflecting the fundamental order of the universe. China's imperial rulers were convinced that the correct performance of ritual music was essential to upholding the harmony of the state. From the first century BCE, court and military music were strictly directed and regulated by the Imperial Bureau of Music (see p.45).

However, most music escaped official control. The Chinese opera (see pp.198–99) developed from the third century BCE, and from the period of the Tang dynasty (618–907 CE) a popular music scene flourished in Chinese cities.

**Hindu flautist**

The Indian Hindu deity Krishna, portrayed surrounded by *gopis* (female cow herds) in this 16th-century wall painting, is often represented as a herdsman performing on a bamboo flute.

**The music of Mesopotamia and Ancient Egypt was inherited by the Minoan civilization on the island of Crete, and then by Ancient Greece and the Roman Empire, the source of European musical tradition.**

**CRETE PICKS UP THE BATON**

Egyptian influence probably provided the basis for the court and religious music of **Minoan Crete**, a major Mediterranean civilization that flourished in the second millennium BCE. From Crete, the torch was passed on to the state of **Mycenae** on the Greek mainland, which declined around 1100 BCE.

**ANCIENT TO MODERN**

The Classical era of **Ancient Greece**

**20–21** » began in the 8th century BCE. Greek thinkers broadly accepted their country's musical debt to the Egyptians—whose musical practices they much admired—and to Mesopotamia. Greece provided much of the input for the music of the **Roman Empire 24–25** » which, through **Christian church music 30–31** », founded the modern European tradition.

**"Sing unto the Lord with a harp and the voice of a psalm."**

PSALM 98, THE KING JAMES BIBLE



## BEFORE

**The Ancient Greeks inherited a musical tradition founded in early Mesopotamia and Pharaonic Egypt.**

**IDEAS AND INSTRUMENTS**

Many of the musical instruments and forms developed in **Ancient Egypt** 16–17 reached the Greeks via the Minoan civilization, which flourished during the second millennium BCE on the island of Crete and had an offshoot on the Greek mainland at Mycenae. Musical ideas also filtered in through Asia Minor.

**WRITTEN MUSIC**

Other cultures developed their own unique forms of written music. There is evidence of the use of **musical notation** in China from the 5th century BCE.

MINOAN DOUBLE-FLUTE PLAYER

**Hymn to the Sun**

Russian artist Fyodor Bronnikov (1827–1902) painted this romanticized image of followers of Pythagoras performing a hymn to celebrate the rising of the Sun. For some Ancient Greek philosophers, music had a close connection with astronomy.

# A Philosophical View

**Ancient Greek philosophers, including Pythagoras, Plato, and Aristotle, believed that studying music was central to gaining an understanding of the nature of the universe. For this reason, they gave music a prominent role in education.**

**P**ythagoras of Samos, who lived from around 570 to 493 BCE, is generally believed to have been the first Greek philosopher to develop a theory around music and its importance in the universe.

Legend has it that Pythagoras was intrigued by the higher and lower sounds that he heard produced by hammers of different sizes in a blacksmith's workshop. Experimenting with a monochord—a stringed instrument—he studied the relationship between the pitch of a note and the length of the string that produced it. He then figured out numerical ratios between the notes

and theorized about how they affected the musical harmony. He later made a leap of the imagination from his theories about the mathematics of music to a possible mathematical relationship between heavenly bodies.

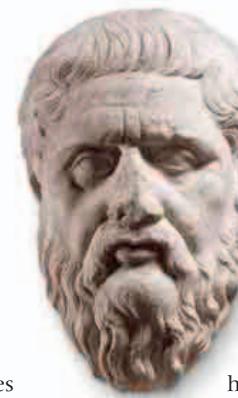
**Heavenly music**

In Greek cosmology, the universe was believed to consist of a series of spheres with the Earth at their center. There was a sphere for the Moon, the Sun, each of the planets, and for

**Stern philosopher**

The Greek philosopher Plato (c.427–348 BCE) argued that music must incite people to a "courageous and harmonious life." He rejected musical innovation as a threat to the stability of the state.

the fixed stars. Pythagoras believed that there was a numerical relationship between these spheres that corresponded to musical harmony. Their movements generated what he described as a "music of the spheres." He believed that this music was imperceptible to



## UNDERSTANDING MUSIC

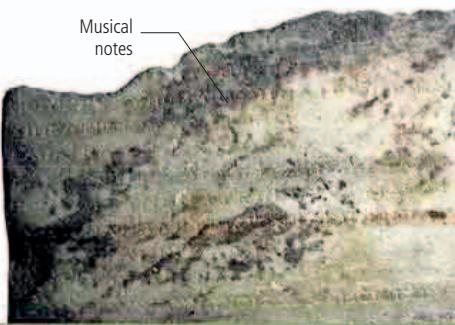
## EARLY NOTATION

The oldest surviving written music is marked on a clay tablet found at Sumer, in Mesopotamia, and dates from around 2000 BCE. The marks probably gave only a rough idea of pitch.

Evidence of true musical notation—giving both the pitch and length of notes—comes from Ancient Greece on inscribed stone fragments. Known as the Delphic Hymns, they show melodies, written to be sung in Athens in 138 and 128 BCE. The oldest complete notated composition to have survived is thought to be

CARVING FROM DELPHI

the Seikilos Epitaph, which has the words and melody of a song. Carved on a tombstone found in Turkey, near the Ancient Greek city of Ephesus, it is likely to date from the 1st century BCE.



the human ear but that it was nevertheless a sign of the fundamental harmony of the universe.

## Music and society

Music and astronomy remained linked throughout the era of Ancient Greek civilization. Plato (423–348 BCE) and Aristotle (384–322 BCE), the leading

Greek philosophers in the 4th century BCE, were more concerned with the effect of music on society and on the character of the listener. Plato believed that formal musical performance was essential to the stability of the state. He described any musical innovations as “unsettling the most fundamental political and social conventions.”



He was deeply critical of the idea of judging a performance by how much pleasure it gave and believed the purpose of music was not to give “irrational pleasure” but to introduce harmony and order into the soul. Furthermore, Plato felt that an elite must uphold musical tradition against “men of native genius... ignorant of what is right and legitimate.” He said that those being educated to become governors of the ideal state must not listen to soft or lazy music, but music that encouraged bravery and restraint.

Aristotle agreed that good music would improve human morals and bad music would corrupt them, but he was

## 4,000 YEARS The age of the oldest surviving example of written music.

more sympathetic to the joyous aspect of performing music. He maintained that the purpose of music was “to instruct, to amuse, or to employ the vacant hours of those who live at rest.”

Aristotle also discussed the psychological impacts of the musical modes, or scales, used by the Greeks, such as the Dorian, Phrygian, and Lydian modes (named after different areas of Ancient Greece), and their effect on emotions and character.

Aristoxenus, a pupil of Aristotle, wrote a systematic theoretical description of music in his treatise *Elements of Harmony*. He was more in touch than his predecessors with the practice of playing music and had a different view of musical intervals, harmony, and rhythm. Aristoxenus felt that the only way to gain knowledge of music was to listen to it and memorize it, basing his understanding of music on the truth of the ear.

## Ptolemy of Alexandria

The last major Greek contribution to musical theory was made by Ptolemy, an important thinker who lived in the Mediterranean port of Alexandria in the 2nd century CE. In his treatise *Harmonics*, he tried to reconcile Pythagoras’s study of music, based on mathematics, with Aristoxenus’s theories, founded on musical experience. He expanded Pythagoras’s “music of the spheres” into a system of connections between musical harmony, astronomy, and astrology.



## The “music of the spheres”

Pythagoras linked the study of music to the study of astronomy. He believed the Sun, Moon, and planets, traveling in spherical orbits around the Earth, caused the universe to vibrate, creating music and signifying the fundamental harmony of the universe.

**“Rhythm and harmony find their way into the inner places of the soul.”**

PLATO, “THE REPUBLIC,” c.380 BCE

## BEFORE

Before its full flowering from the 5th century BCE, Ancient Greek music had a long history, reaching back more than 2,000 years into an obscure past.

## MUSICAL STATUE

The earliest evidence of Greek musical performance is a **marble statuette** of a harp player from the Cyclades—a group of islands between Greece and Asia Minor—dating from 2700 BCE. The **Mycenaean civilization** that flourished in Greece around 1600–1100 BCE probably imported its musical tradition from **Minoan Crete**.

## PHILOSOPHY OF MUSIC

From the 7th to 6th centuries BCE, a **Greek cultural renaissance** associated with city-states such as Athens and Sparta generated the classic musical culture referred to in the **works of philosophers** such as Pythagoras, Plato, and Aristotle **18–19**.

## Open-air theater

The Ancient Greek city of Aphrodisias, now in Turkey, was relatively small but it still had an *oideion*, or concert hall, where musical competitions were held as well as poetry recitals and other performances.

# Myth and Tragedy

**Music played an essential part in Ancient Greek culture, from religious rituals and theatrical tragedies to everyday work and leisure. It was celebrated in the myths of the gods and its finest practitioners won fame and fortune.**

In Greek mythology, the lyre-player Orpheus was identified as the “father of songs.” It was said that no living thing could resist the spell of his music, which could tame wild animals and even move stones.

The lyre (see pp.16, 23) was also the chosen instrument of the god of music, Apollo, who was, in addition, the god of healing, poetry, and the Sun. In a famous myth, the satyr Marsyas challenged Apollo to a music competition, pitting his own *aulos* (a twin-piped wind instrument) against the god’s lyre. The lyre triumphed over the *aulos*, the god over the satyr, and



## Behind the mask

Masks worn by actors were an essential element in Ancient Greek theater, denoting character and also helping actors’ voices to project into the amphitheater.

Marsyas paid for his presumption by being skinned alive.

Lyre or *aulos*?

Such myths represented fundamental Greek attitudes to their musical tradition. The lyre was regarded as the quintessential Greek instrument—at least by the elite. It existed in several forms, from the simple, two-stringed lyre through the *phorminx* (up to seven strings) to the sophisticated seven-string *kithara*,

which was strummed with a plectrum. The *aulos*, in contrast, was denounced by Athenian intellectuals as an Asiatic, rustic instrument suitable only for use by the lower orders. They took the same dismissive attitude toward the *syrinx*, or panpipes (see pp.22–23). However, in the martial city-state of Sparta, Athens’ great rival, the *aulos* was the favored instrument.

The elevating songs written in honor of Apollo, known as *paeans*, were inevitably accompanied by the lyre. The spirit of Apollo—serene and orderly—came to be contrasted with that of Dionysus, the god of drunkenness and wild ecstasy. Dionysus was celebrated with hymns known as *dithyrambs*, designed to excite strong emotion. These were typically sung by a chorus accompanied by the *aulos*.





### The Greek chorus

An important part of any Greek drama was the chorus, a group of players who collectively commented on the action, usually in song form. This modern chorus performs the Theban plays of Sophocles.

### Sung verse

Music was seen as an important part of an elite education, and members of the ruling class in Athens were expected to play the lyre and sing. In singing may lie the origin of tragedy itself: the word *tragoidia* translates as

*choregoi*, wealthy Athenian citizens who bore the major costs incurred by the extensive training and preparation of the choruses, musicians, costumes, props, and scenery.

In addition to writing the words, a playwright was responsible for creating the music, choreographing the dances, and directing the chorus for each performance. A group of robed and masked singers and dancers, the chorus occasionally took an active role in the drama, reacting to events

**“They found Achilles delighting in the clear-toned lyre... singing of the deeds of... warriors.”**

HOMER, “THE ILIAD,” BOOK IX

“goat song” (*tragos* means goat, while *ode* is song). Scholars have yet to find a satisfying explanation for the goat, although a link with satyr plays—tragedies in which the goatlike companions of the gods Pan and Dionysus feature—is plausible.

The founding of Greek lyric poetry—verses written to be sung while playing the lyre—is traditionally attributed to Terpander, who lived on the island of Lesbos in the 7th century BCE. Other lyric poets who attained fame included Alcaeus and Sappho from Lesbos, Alcman of Sparta, and Pindar of Thebes. Only the words of their musical creations have survived. Although written music existed, most musicians played or sang melodies learned by ear, and performances involved a large element of improvisation.

### Music and drama competitions

Festivals involving music and drama competitions were an important part of Ancient Greek life. The annual Carneia festival in Sparta included a music competition, while the Great Dionysia festival in Athens involved the performance of

onstage and contributing their own brand of worldly generalizing wisdom. Their music was first and foremost vocal, with melody following closely the stress and rhythms of their lyrics—helping audience members in the farthest rows to hear the words. The only instrumental accompaniment was traditionally provided by a single *aulos*.

It is notoriously difficult to reconstruct the music and dance in Greek tragedy, although this has not stopped scholars through the ages from attempting it. During the Renaissance period (1400–1580 CE), Classical scholars imagined that all the acting parts would have been sung; today, however, there is some consensus that the actors spoke their lines while the chorus interjected in song.

Reimagining the movements and sounds made by the actors and chorus mostly relies on archeological remains, images found on Greek pottery, and

dithyrambs, comedies, tragedies, and satyr plays. Held annually at the sacred precinct of Dionysus at the foot of the Acropolis, the festival was a competition judged by a panel of ordinary citizens. It was funded by the

the references to dancing and singing in the surviving dramas of Aeschylus, Sophocles, and Euripides.

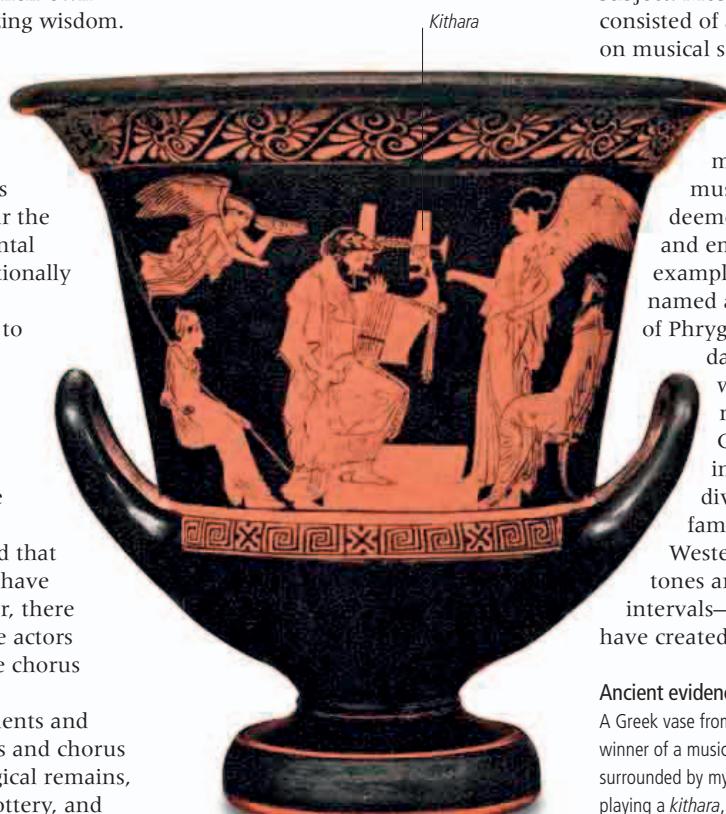
### Professional musicians

Originally tied to religious and civic festivities, Ancient Greek music competitions took on a life of their own with the rise of professional musicians seeking to make their fortune from prize money.

Competitions were held at various locations, with contests in choral singing, dancing, and playing the *kithara* and the *aulos*. Increasingly, music became a form of elaborate virtuoso display put on for admiring audiences. Roofed concert halls, such as the Odeon in Athens, were built to supplement open-air amphitheaters.

Tradition-worshiping intellectuals, notably the philosopher Plato, deplored the professionalization of music-making and the cult of virtuosi. Plato described these crowd-pleasers as guilty of “promiscuous cleverness and a spirit of lawbreaking,” because of their musical innovations. But surviving Greek inscriptions attest to the fame of the leading performers.

Not only the top stars made a living from music, however. Everywhere in Greek society musicians were in demand, to provide solemn melodies for processions and religious rituals, entertainment at weddings, festivals, and banquets, or the dirges and lamentations for funeral rites. In the working world, rhythmic music encouraged laborers in the fields and kept oarsmen pulling in unison.



**Greece was absorbed into the Roman world from the 2nd century BCE and its musical tradition became part of Ancient Roman culture.**

### SACRED MUSIC

The most direct continuation of Ancient Greek music into modern times lies in the music of the **Eastern Orthodox Church**, which developed in the Greek-speaking Byzantine Empire from the 4th century CE.

### NEW MODES

In early medieval Western Europe, a system of “modes” was adopted for religious chants. Although they used the names of the Ancient Greek scales, these **Gregorian modes** 30–31 » were musically completely different from their Ancient Greek predecessors.

### CONTEMPORARY CHORUS

The nearest modern-day equivalent to the Greek chorus might be the **opera chorus**—or the **church choir**, which contributes musical interludes to the words of a service.

### Ancient sounds

Considerable efforts have been made in modern times to establish what Ancient Greek music may have sounded like. The survival of a small amount of written music and of theoretical writings, as well as evidence of the nature of musical instruments, provide at least a basis for educated speculation on this subject. Most music appears to have consisted of a single melodic line based on musical scales known as modes.

These modes, which bear no direct relation to the scales known as modes in modern Western music (see pp.30–31), were deemed to have different moral and emotional qualities. For example, the Phrygian mode, named after the ancient kingdom of Phrygia in Anatolia (in modern-day Turkey), was “sensual,” while the Dorian mode, named after the Dorian Greeks, was “harsh.” They included smaller tonal divisions than the semitones familiar in the modern Western tradition—quarter tones and even smaller intervals—which would probably have created a sound alien to our ears.

### Ancient evidence

A Greek vase from the 5th century BCE shows the winner of a music contest crowned with laurel and surrounded by mythological figures. The musician is playing a *kithara*, a form of lyre.





# Ancient Instruments

The first musical instruments were shaped from bone, pieces of wood, bamboo, or seashells. Metal and stringed instruments evolved around 4,000–5,000 years ago. They were sounded by blowing, beating, shaking, or plucking.

**1** Sheng Played in China since ancient times, the sheng is a wind instrument with vertical bamboo pipes. **2** Bamboo Jew's harp One of the most ancient instruments, this has a flexible "tongue" that is held in the mouth and plucked. This example is from Asia. **3** Metal Jew's harp This is a metal version of a Jew's harp. Such instruments have many names in different countries; the word "Jew" may simply be a corruption of "jaw." **4** Peruvian bone flute Made by the Chimu people of northwest Peru, this flute is decorated with a carving of a bird's head. **5** Bamboo nose flute Bamboo flutes, blown with one nostril instead of the mouth, were common in Polynesian cultures. **6** Bone flute This instrument from Scandinavia provided music for Viking voyagers. It has three finger holes for altering the pitch. **7** Bone whistle Made from the toe bone of a caribou, this north European whistle dates from around 40,000 BCE. **8** Ocarina A type of flute, this was made from pit-fired earthenware clay. Ocarinas were common in Mayan, Aztec, and Incan cultures around 12,000 years ago. **9** Mayan Ocarina This early wind instrument is shaped like a bird. **10** Incan Panpipes In Pre-Columbian Peru, the Incas made

Panpipes from clay, cane, or quills. **11** African bone trumpet In many parts of the world, the bones of animals or humans were turned into wind instruments. **12** Conch trumpet Common from western Asia to the Pacific, this trumpet was made by opening a blow hole in a conch shell. **13** Five-string harp This instrument was played in Ancient Egypt more than 3,000 years ago. **14** Panpipes Made of bamboo in five or more lengths, such pipes were popular in Ancient Greece where they were associated with the god Pan. **15** Thumb piano This traditional plucked instrument is common across Africa. **16** Aztec clay trumpet This clay trumpet was made by Aztec peoples of Pre-Columbian Mexico. **17** Mesopotamian lyre The lyre is one of the world's oldest stringed instruments. This one is from Ur. **18** Bronze sistrum A handheld metal rattle, the sistrum was introduced to Ancient Rome from Egypt. **19** Egyptian ivory clappers This percussion instrument carved from ivory dates from around 1430 BCE. **20** Egyptian wood and leather drum This drum, one of many types of drum used in Ancient Egypt, dates from the 4th century BCE. **21** Chinese pellet drum The pellets strike the drum when the handle is twisted.

# Sound the Trumpet

**In Ancient Rome, audiences enjoyed music at the theater, at banquets, in the arena during gladiatorial combat, and in the street. Music added dignity and solemnity to rituals and ceremonies, and musicians accompanied the Roman legions to war.**

The Romans were not great innovators in music, but across their empire a fresh synthesis of musical traditions was achieved. Although musical notation existed by the Roman period, Roman musical culture was largely aural, with professional music teachers directly passing on their knowledge to their pupils, who learned to play their instruments by ear.

## Range of instruments

Among the musical instruments in use in the Roman world were several forms of lyre, including the seven-

stringed *kithara* (the name of which is believed to be the root of the word guitar), varieties of harp, and pipes. The Greeks are credited with inventing the first keyboard instrument, the water-powered organ called a *hydraulis*, but it was the Romans who took to this instrument with enthusiasm. They also developed

an organ powered by bellows, which over centuries gradually supplanted the water-driven machine. Brass instruments were a prominent part of the Roman musical scene. They included the *tuba*—a long, thin wind instrument that we would now call a trumpet—and various types of horn, such as the *cornu* and the *bucina*.

## Street musicians

A mosaic found at the Villa of Cicero in Pompeii in southern Italy depicts Roman entertainers playing a tambourine, cymbals, and the double-pipe known to the Greeks as an *aulos* and to Romans as a *tibia*.

## B E F O R E

**The rise of Rome to imperial power was accompanied by the absorption of the musical cultures of conquered countries. These exotic traditions were blended into a unique synthesis.**

### ETRUSCAN INFLUENCES

The music of Ancient Rome was inherited from the **Etruscan civilization** that flourished in Italy from the 8th century BCE. The Etruscans eventually fell under Roman control, as did the rest of Italy.



EGYPTIAN TOMB PAINTING

### EASTERN MEDITERRANEAN

In the 2nd and 1st centuries BCE, the Romans conquered **Greece, Syria, and Egypt**, all of which had sophisticated musical cultures. Most of the **musical instruments** used by the Romans had evolved around the eastern Mediterranean. **Greek influence** was dominant **18–19**, but the input from Egypt and Asia was also significant.

Cymbals and tambourines were less prestigious instruments. Initially associated with the cult of the Asian goddess Cybele, they became prominent in the popular music played by the buskers who performed alongside jugglers and acrobats on the Roman streets.

### Music for war and worship

In the Roman army, musicians had a well defined status and function. The trumpet player ranked highest, with the *cornu* player below him and the



*bucina* player of lowest standing. Clearly audible in the heat of battle, the trumpet was used to sound the attack and the retreat. The *cornu* player was always positioned near the legion's standards during a battle, but the *bucina* was exclusively employed to give signals in camp.

In civilian life the trumpet was also the instrument played at funerals, and "send for the trumpeters" became a phrase synonymous with "prepare for a death."

Religious sacrifices, on the other hand, were always accompanied by a piper playing the *tibia*. Imperial triumphs (religious ceremonies to celebrate military achievement) called for larger-scale musical performances

with groups of musicians and choirs. These ceremonies were designed to display the power of Rome.

### Music for pleasure

Despite these various formal and official functions, music was seen by the Romans as, first and foremost, a source of entertainment. Skilled musicians from Greece, Syria, and Egypt flocked to Rome in search of lucrative engagements in the private homes of wealthy Romans.

The host of a house party in a Roman villa would employ musicians to enliven the atmosphere. In the novel *Satyricon*, written by the Roman courtier Petronius in the 1st century CE, the vulgar millionaire Trimalchio has a trumpet blaring out music at his feast. The *kithara* or *tibia*,

on the other hand, were considered more tasteful instruments to accompany a meal.

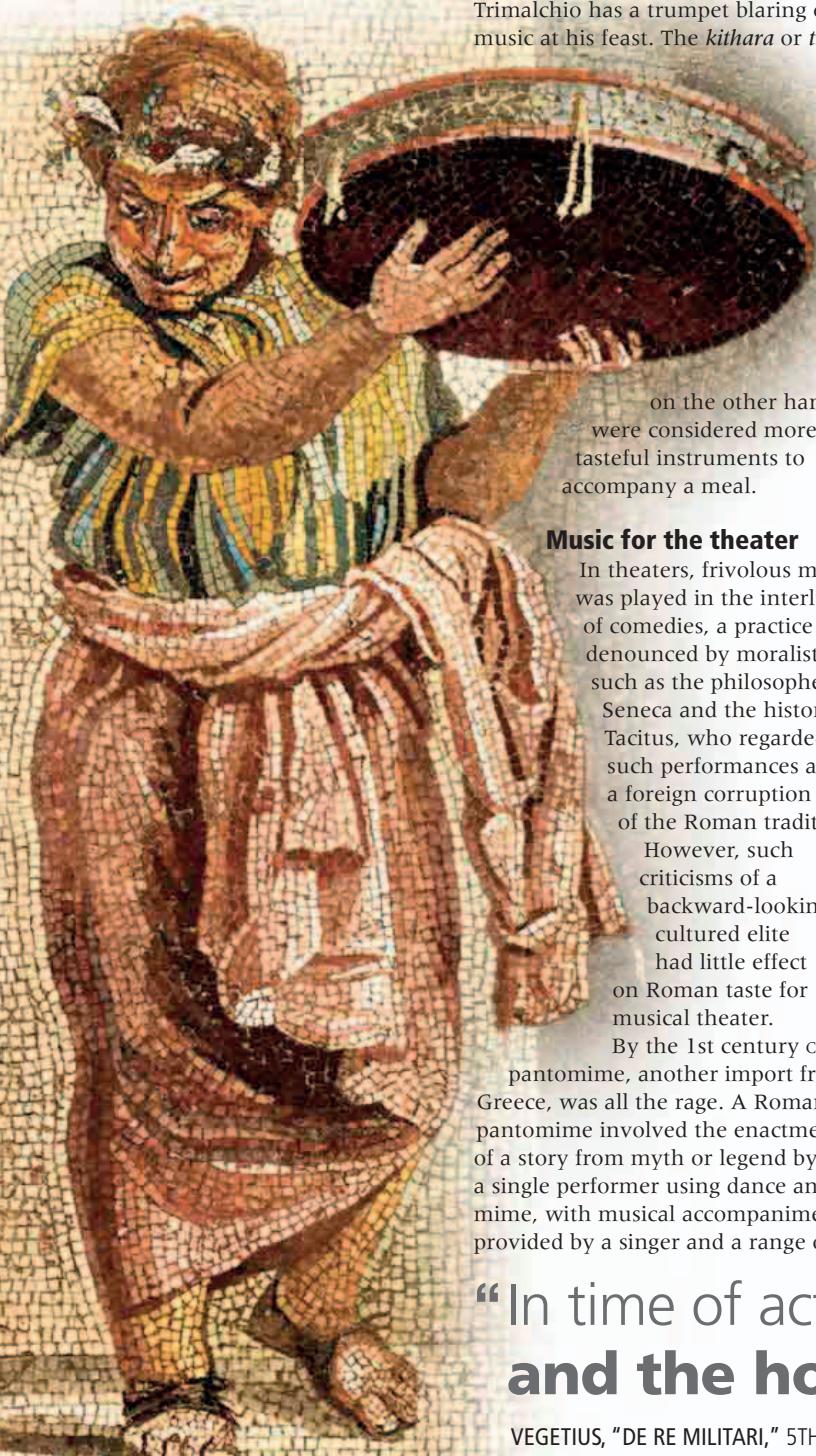
### Music for the theater

In theaters, frivolous music was played in the interludes of comedies, a practice denounced by moralists such as the philosopher

Seneca and the historian Tacitus, who regarded such performances as a foreign corruption of the Roman tradition.

However, such criticisms of a backward-looking cultured elite had little effect on Roman taste for musical theater.

By the 1st century CE the pantomime, another import from Greece, was all the rage. A Roman pantomime involved the enactment of a story from myth or legend by a single performer using dance and mime, with musical accompaniment provided by a singer and a range of



**"In time of action the trumpets and the horns play together."**

VEGETIUS, "DE RE MILITARI," 5TH CENTURY CE

### EMPEROR (37–68 CE)

#### NERO

The Roman Emperor Nero, who reigned from 54 to 68 CE, was an enthusiastic musical performer. He employed Terpnus, a well-known singer and *kithara* player, as his music teacher.

Nero gave his first public performance at his palace in Rome in 59 CE. He later appeared in the theater of Pompey, in front of an audience that

was paid to applaud at the right moments.

In 66 CE, Nero embarked upon a professional tour of Greece, competing in a number of music contests. He invariably won, since no judge would dare vote against the emperor. However, the well-known story that Nero "fiddled while Rome burned" is a myth.



instruments, including pan pipes (see pp.22–23) and lyres. The beat of the music was maintained by a percussion instrument known to the Greeks as a *kroupeza* and to the Romans as a *scabellum*—a pair of sandals with cymbals attached to the soles.

### The starting trumpet

The lavish gladiatorial games, mounted in vast arenas such as the Colosseum in Rome, were always occasions for music. Such events would open with a procession led by trumpeters and horns. The trumpet gave the signal to start events, which were then accorded a musical accompaniment by a musical ensemble, shown on one mosaic as including a *hydraulis* and a *cornu*.

In the later stages of the empire, games sometimes became occasions for mass musical performances. One series of games held during the 3rd century apparently involved 100 trumpeters, 100 *cornu* players, and 200 assorted performers on *tibia* and other pipes. This was exceptional enough to have excited much comment at the time.

### Wealth and status

The demand for musicians enabled them to achieve prosperity and social status. They were organized into trade guilds, which represented their interests and were respected by the Roman authorities. Outstanding virtuosos were sometimes paid fabulous sums for public performances,



#### Horn player

The *cornu* was a bronze horn with a crossbar that allowed it to be supported by the player's shoulder. It was chiefly used in military bands and to accompany gladiatorial contests.

### AFTER

**During the 4th century CE, Christianity became the official religion of the Roman Empire. The music of the Christian Church first developed in the empire's declining years.**

#### EARLY CHURCH MUSIC

To what extent the religious **plain song** of the medieval Church 30–31 » in Western Europe, including the Gregorian chant, reflected the musical practices of Ancient Rome is much disputed. The **organ** 98–99 », descendant of the *hydraulis*, is said to have been adopted as a church instrument from the 7th century.

#### PHILOSOPHICAL INSPIRATION

The writings on music by the late Roman philosopher Boethius (c.480–525 CE) were an important source of theoretical inspiration to musicians in medieval and Renaissance Europe.





# 2

## MUSIC IN THE MIDDLE AGES

500–1400

**The Catholic Church was the single greatest promoter of music in history. Music was in its exclusive domain and used to spread the word of God throughout the world. Secular music began to travel more widely with wandering minstrels and poets, called troubadours. From its humblest to its most glorious forms, the Middle Ages saw an explosion of music.**

# MUSIC IN THE MIDDLE AGES

## 500–1400

500

600

700

800

900

1000



▲ Stone carvings of Buddhist musicians, China

**524**  
Death of Boethius, Roman philosopher and author of *De institutione musica*, one of the earliest dedicated music treatises based on Ancient Greek writings.

**c.600**  
Rome's *schola cantorum* is founded by Gregory the Great to provide music for papal ceremonies, and sets the standards for choir schools across the Christian world.

**711**  
North African Muslims cross the strait of Africa and begin to colonize Spain; a plucked string instrument—the 'ud'—is introduced to Europe, where related instruments, such as the lute and vihuela, develop in court circles.

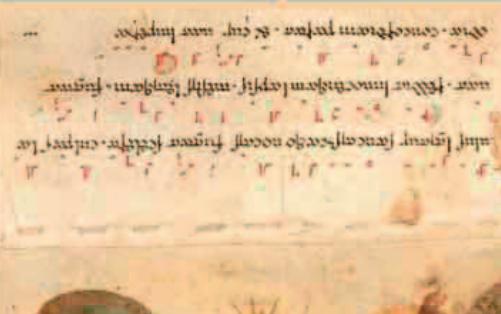
**712**  
Under China's Tang dynasty, Xuanzong becomes emperor; he founds the Pear Garden, a royal academy of music and drama that will later give rise to Chinese opera.

» Dumbek (drum), widely used in Islamic music



**844**  
*Musica disciplina*, the earliest surviving treatise on music in medieval Europe, is the first to cover plainsong and the eight modes of church music. It is written by Aurelian, a Frankish former monk.

**855**  
"The Blackbird's Song" is written by an Irish monk at the Benedictine abbey of St. Gall, Switzerland, and has inspired lyric poets ever since.



▲ Red neumes on chant scroll, c.1072, from Montecassino, Italy

**c.900**  
Neumes, an early form of notation, appear in chant books from the Benedictine abbeys of St. Gall in Switzerland and St. Emmeran in Bavaria.



**590**  
Gregory the Great is made pope, a position he holds until his death in 604; he institutes reform of the liturgy (public worship) and church music, and is credited with being the creator of Gregorian chant.

» Pope Gregory I, "the Great"

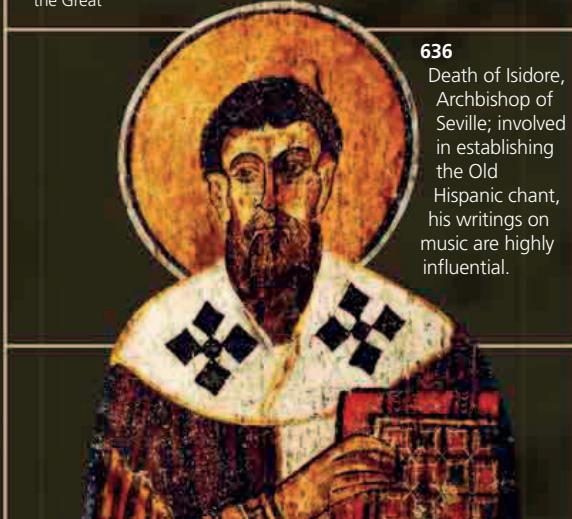
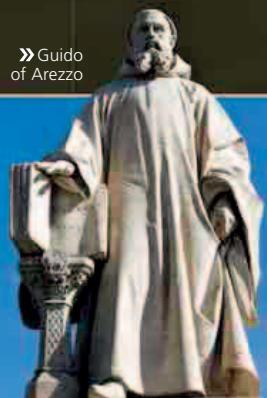
**c.632**  
Death of the Prophet Muhammad, founder of Islam. The new religion that spreads from the Arab world to Africa, Spain, India, and the Far East will not always find music acceptable.

**754**  
Pope Stephen II meets Pepin III, king of the Franks and father of Charlemagne; their political alliance leads to the spread of liturgical reform and major developments in Frankish-Roman chant.

**c.870**  
An anonymous treatise known as the *Musica enchiridias* is the first to establish rules for the composition of polyphony (music for several voices, or parts).

**951**  
The Arabic philosopher and musician Al-Farabi dies; his writings include a study of music's therapeutic qualities.

**1030**  
Guido of Arezzo writes his *Micrologus*, revolutionizing notation by introducing the stave and the Guidonian hand to enable musicians to sight sing instead of learning music by heart.



**636**  
Death of Isidore, Archbishop of Seville; involved in establishing the Old Hispanic chant, his writings on music are highly influential.

**789**  
Charlemagne orders all clergy across his empire to follow his father's reforms and learn the Roman, or Gregorian, chant.

**873**  
Death of the Islamic philosopher Al Kindi, who wrote on music theory and proposed adding a fifth string to the 'ud'.

**c.980**  
England's Winchester Troper is the oldest surviving manuscript for notated polyphony and contains the first known Easter play with music.



**c.790**  
In Central America, music flourishes in the Maya civilization. Temple murals at Bonampak in Mexico show Maya musicians celebrating a military victory on trumpets, whistles, maracas, and drums.

**c.885**  
Notker Balbulus (the "Stammerer"), a Benedictine monk at St. Gall, Switzerland, writes a book of "hymns" (*Liber hymnorum*) or sequences to be sung on feast days, between the Alleluia and the Gospel in the Mass.

**994**  
Odilo is made Abbot of the Benedictine monastery of Cluny, a major center for scribes copying music manuscripts; he undertakes monastic reforms that influence developments in sacred music in France.

**1054**  
The Great Schism marks the final split of the Roman Catholic Church and the Eastern Orthodox Church, each with its distinctive liturgy and musical tradition.

**1071**  
Birth of William IX, Duke of Aquitaine and the earliest troubadour known by name.

The Middle Ages was a period of major musical change as music began to be written down with increasing degrees of accuracy—from marks roughly indicating melodic shape, to the invention of a four-line stave that allowed for accurate pitch, and finally the use of different note shapes to indicate duration and rhythm. These advances in

notation lay behind the rise of polyphony—music with more than one voice part—that is unique to the Western musical tradition. Writing music down enabled performers to read music without having to memorize melodies, and helped standardize the music of the early Church, allowing repertoires to be preserved for posterity.

1100	1150	1200	1250	1300	1350	>>
<p><b>c.1100</b> Aquitanian polyphony develops in the monastery of St. Martial, Limoges, with a substantial and highly influential repertory.</p> <p>» The dulcimer often appears in medieval depictions of angelic musicians</p>			<p><b>1250</b> In his <i>Ars cantus mensurabilis</i> (<i>The Art of Measured Song</i>), German theorist Franco of Cologne describes a new method for indicating the duration of a note by its shape, which allows the accurate notation of rhythmic values.</p>	<p><b>c.1300</b> Parisian music theorist Johannes de Grocheio writes <i>De musica</i>, one of the first treatises to deal with instrumental music.</p> <p><b>1304</b> Compiled in Zurich, the <i>Codex Manesse</i> contains love songs by 137 <i>minnesingers</i>.</p>	<p><b>c.1350</b> French composer Guillaume de Machaut begins to collect his life's work for his wealthy patrons; his <i>rondeaux</i>, <i>ballades</i>, and <i>virelais</i> are among the earliest surviving polyphonic <i>chansons</i> (songs in French).</p>	
<p><b>c.1140</b> The <i>Codex Calixtinus</i> is compiled; the manuscript contains a wide range of polyphonic pieces for two and three voices, and is preserved in the Cathedral of Santiago de Compostela in Spain.</p>	<p><b>1160</b> Birth of Pérotin, French composer of the Notre Dame School and among the first to compose polyphony.</p>	<p><b>c.1207</b> Spain's epic <i>Poem of the Cid</i> is recited by <i>juglares</i> (minstrels).</p> <p><b>c.1221</b> Chinese poet-composer Jiang Kui dies; some of his songs are still popular today.</p>	<p><b>1253</b> Death of Thibaut, count of Champagne and king of Navarre, one of the most important of the <i>trouvères</i> of northern France.</p>	<p>» Troubadours in the beautifully illuminated <i>Codex Manesse</i></p> 	<p><b>1361</b> A permanent organ is installed at Halberstadt, Germany, with 20 bellows operated by ten men.</p> <p><b>1365</b> Francesco Landini, leading composer of Italy's <i>trecento</i> style of polyphony, is organist at San Lorenzo in Florence.</p>	
<p>» 12th-century manuscript for the "Gloria," with text and musical notation</p> 	<p><b>1175</b> <i>Falconied</i> (Falcon Song) is composed by Austrian noble Der Kurenberger, one of the first <i>minnesingers</i> (poet-singers) whose name is known.</p>	<p><b>1230</b> The <i>Carmina Burana</i> manuscript contains 254 goliard songs; 24 will be set to music by Carl Orff in 1936.</p> <p><b>1236</b> One of the most famous and prolific <i>minnesingers</i>, Niedhart von Reuenthal, dies; his songs are often comic or satirical.</p>	<p><b>c.1260</b> The English song "Sumer is icumen in" (Summer has come) is the oldest surviving six-part polyphony.</p> <p><b>1270</b> Death of Tannhauser, German <i>minnesinger</i> and legendary hero of Richard Wagner's 1845 opera <i>Tannhauser</i>.</p>	<p><b>c.1284</b> King Alfonso X the Wise commissions the <i>Cantigas de Santa María</i>, a collection of Galician-Portuguese songs to the Virgin Mary.</p> <p><b>1289</b> The Church bans jongleurs, goliards, and buffoons (jesters) from practicing as clergy.</p>	<p><b>1320</b> Johannis de Muris sets out a new form of notation in <i>Ars nova musicæ</i> (<i>The New Art of Music</i>) with rhythmic modes that allow the rapid development of complex polyphonic works. Philippe de Vitry's <i>Ars nova notandi</i> (<i>The New Art of Notating Music</i>) follows in 1322.</p>	<p><b>1376</b> In England, the York Mystery Plays are first documented—a cycle of 48 biblical dramas, each performed by a different guild and accompanied by pipes and tabors (drums).</p> <p>» Monastic scribe working on a manuscript</p>
<p><b>c.1140</b> Birth of Beatriz de Dia, the most famous of the tobairitz—a group of female troubadours in Provence, France.</p>	<p><b>c.1190</b> The School of Notre Dame in Paris flourishes, with polyphonic works (known as <i>organa</i>) by Léonin and Pérotin being copied into the <i>Magnus liber organi</i> (Great Book of Organum).</p> <p>» Notre Dame Cathedral, home to a new polyphony c.1150–1250</p> 			<p><b>1349</b> German cleric Hugh of Reutlingen compiles <i>Geisserlieder</i>—songs of wandering flagellants—during the Black Death, a plague that kills around one-quarter of Europe's population.</p> 		

# Sacred Chant

**Music and religion have always been closely associated, and singing formed part of the rituals of the early Christian Church. For more than 1,000 years, the monasteries and cathedrals that towered over the medieval landscape and society were flourishing centers of music.**

As the power of the Roman Empire waned, the Church became increasingly dominant in medieval society. The monastic and cathedral communities became centers not only of worship but also of learning. The clergy were almost the only members of society who could read and write, and almost all formally trained musicians were priests. The chanted melodies integral to the celebration of the liturgy (the official form of public worship) were, therefore, performed by men and by choirboys being trained for priesthood. Some nuns also received a musical education and participated in singing the services celebrated daily in convents.

## From speech to song

Outside these religious communities and the private chapels of the nobility, most of the population—especially laborers and the less well educated—never heard this music. It was

unaccompanied, in Latin (the universal language of the Church), and sung from memory rather than written down. Singers performed in unison, both as an exercise in contemplation and to assert the message of the Church. Early chant probably grew out of the accentuation patterns of spoken Latin, and the natural rise and fall of the voice in reading aloud. Recited on a single tone or with increasingly complex melodic curves, chant was a useful tool for meditation.

Two types of liturgy were developed in the early Church: the reenactment of the Last Supper, which became the Sunday Mass, and meetings to read from the scriptures and sing psalms, which became the Office, or daily cycle, of prayer. As liturgical worship became more ceremonial, music became an important part of the clergy's training, and choir schools were set up to train choirboys to memorize the melodies. Rome's *schola cantorum*, situated close to the Roman papacy that ruled the Church, formed the core of this tradition. The school was founded around 600 CE by Pope Gregory I (Gregory the Great), who was credited with composing plainchant that would come to dominate liturgical music.

## Early chant traditions

In the 4th century CE, the split of the Roman Empire and of the Church into Latin West and Greek East (centered on Rome and on Constantinople, or Byzantium, respectively) gave rise to separate liturgies, each with regional variations. St. Ambrose (c.340–397 CE) in Milan, northern Italy, favored antiphony, with two choirs singing alternate sections of the chant—a Byzantine practice that was adopted by the Roman Church. He also gave greater prominence to hymns, many of which he is thought to have composed himself.

Other chant traditions in Italy included the florid Beneventan chant melodies,

## B E F O R E

**Christianity became the officially recognized religion of the Roman Empire under Constantine, but the role of music in the Church was a subject of debate.**



EMPEROR CONSTANTINE

## JEWISH LEGACY

Psalm-singing had formed a regular part of Jewish worship and quickly became central to the earliest Christian rites. Biblical references to the singing of angels in heaven and to King David, his psalms, and his musicians were often invoked to justify music's inclusion in Christian worship, but not everyone approved.

## THE ROLE OF MUSIC

Christianity became the dominant religion of the Roman Empire (see 24–25) under Constantine I (272–337 CE). In his *Confessions* (397–398 CE), St. Augustine of Hippo admitted the sensual allure of music, wishing he could banish from his ears "the whole melody which is used for David's Psalter." But he also recognized music's role in inspiring devotion.

150  
9 The number of psalms in the Bible, sung in a weekly cycle.  
The hours (services) of Daily Office, beginning at sunset.



## POPE AND COMPOSER (c.560–640 CE)

### GREGORY THE GREAT

Born into a wealthy Roman family, Gregory initially followed a political career. In 578 CE, he was ordained a deacon and later became papal ambassador to Constantinople. On his return, he became abbot of the Benedictine monastery he had founded on the Caelian Hill in Rome. Elected pope in 590 CE, Gregory I became known as the Father of Christian worship, because of his efforts to unify liturgical practice. Gregory also helped to establish Rome as the center of Christianity.

which continued to be sung until the 11th century, when they were supplanted by the increasingly ubiquitous Roman, or "Gregorian,"

chant as it spread across Europe.

In Spain, the Hispanic, or Mozarabic, rite was observed by the Christians living under Muslim rule. In 1085, following the reconquest of Toledo, King Alfonso VI repressed the Hispanic rite in favor of the Roman tradition, yet its legacy was strong, and the Mozarabic Mass can still be heard in Toledo Cathedral.

## The spread of Gregorian chant

In the Western Church, two main liturgies had evolved: Roman and Gallican (in Gaul). The Roman liturgy was spread across Western Europe by the monastic orders. In 595 CE, for example, Gregory the Great sent St. Augustine and 40 other Benedictine

monks to England to convert the Anglo-Saxons to Christianity. The teachings of music theorists, such as Isidore of Seville (c.560–636 CE), also helped to consolidate the use of chant in the liturgy. As the chant repertory became more extensive, and in order to help the clergy remember the standardized versions of the chant melodies, a simple system of neumes (signs)—initially a sequence of dots, strokes, and dashes added above or below the text—was developed to indicate reciting patterns. By the 11th century, a system of notation had been developed to mark notes and pitch accurately (see pp.36–37).

A key moment in the progress toward a single, all-prevailing chant tradition occurred in the mid-8th century, when Pope Stephen II traveled north from Rome to meet Pepin, the Frankish king of Gaul, to seek an alliance against the king of the Lombards. The Pope was accompanied on his journey by some of his singers, and later popes sent

members of Rome's *schola cantorum* to teach the clergy in Rouen Cathedral and elsewhere. These early exchanges eventually led to a fusion of the Frankish and Roman plainchant traditions into what is now called Gregorian chant, which is still performed today.

## Hagia Sophia

The 6th-century basilica of Hagia Sophia ("Holy Wisdom") in Constantinople (now Istanbul, Turkey) was the seat of the Eastern Church, in which the Byzantine chant tradition flourished.

## Eleventh-century notation

This detail from a scroll from the Abbey of Montecassino, Italy, shows part of the "Exultet" (the hymn of praise sung at Easter). It illustrates the appearance of Christ after his resurrection.

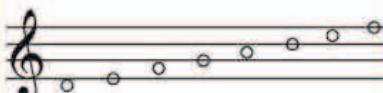
Text appears backward and upside down to the congregation as the singer unfolds the scroll over the lectern

Notation marked in red above each line of text

## UNDERSTANDING MUSIC

## CHURCH MODES

Around the 10th century, a system of eight church modes (groupings or "scales" of notes) was developed, borrowing from Byzantine modes that were thought to have been invented in Ancient Greece by the mathematician Pythagoras (c.570–495 BCE). The church modes took the Greek names—Dorian, Hypodorian, Phrygian, Hypophrygian, Lydian, Hypolydian, Mixolydian, and Hypomixolydian—but gave them to different scales. Chant melodies were generally characterized according to one or other of these modes, which helped singers when memorizing the huge repertory of several thousand chants. Modes can be played using only the white notes on a piano. The Dorian mode (below) begins on D and uses each white key until D an octave higher.



DORIAN MODE

A F T E R &gt;&gt;

**Despite the best efforts of popes and emperors, different chant traditions persisted. They were standardized only after the birth of the stave.**

## NEW NOTATION, NEW VOICES

The most important advance in the attempt to establish a single, standardized chant tradition was the invention of the stave (the horizontal lines on which notes are positioned). Attributed to the Benedictine monk Guido of Arezzo (c.991–1033 ce), it allowed the **notation of melodic pitch** with far greater accuracy **36–37 >>**. It also played a key role in **early polyphony**, in which other voices were added to plainchant **46–47 >>**.

## RADICAL REFORMS

In the 16th century, the **Reformation and Counter-Reformation 58–59 >>** would bring even greater changes to church music.



# Minstrels and Troubadours

**Songs and dances accompanied many aspects of daily life in medieval Europe, enlivening special occasions such as royal visits and religious festivals, as well as entertaining market crowds. Performers ranged from noble troubadours at court to buskers in the streets.**

## B E F O R E

No music survives from before the time of the first troubadours in the late 11th century, because wandering minstrels did not write down their songs.

### EPIC POEMS

One genre that flourished widely is the **narrative epic poem**, or *chanson de geste*. These poems were sung to the accompaniment of a **plucked string instrument** such as a harp, with the musician drawing on a number of melodic

**3,182** The number of lines in the epic poem *Beowulf*, composed by anonymous Anglo-Saxon poets between the 8th and 11th centuries.

formulae and improvised instrumental interludes to help convey the verse structure, heighten the more dramatic moments, and generally retain the listeners' interest. Among the best-known examples are the *Chanson de Roland* (The Song of Roland), the *Cantar del mio Cid* (The Poem of the Cid), and the Anglo-Saxon *Beowulf*, which was brilliantly **brought back to musical life** by the 20th-century performer of early music Benjamin Bagby.

**M**usical entertainment formed a fundamental part of cultural life at all levels of medieval society. There were different types of music for every audience, from popular tunes played on the bagpipe in crowded taverns to elegant ballads sung to harp accompaniment at court.

### Street entertainers

The traveling musicians known as *jongleurs* offered street entertainment featuring storytelling with dance and music, juggling, acrobatics, as well as singing and playing instruments. Minstrels were strictly musicians, initially employed by the nobility, but later performing on street corners or in taverns and inns. Their popularity with the poorer sections of society meant they did not generally have a good reputation. Thomas Chobham, an English theologian writing in the 13th century, was not impressed by the way

### Street music

This detail of an 11th-century manuscript depicts the *jongleur's* skills. The smaller figure is juggling, while the musician plays a *shawm*, a loud reed instrument well suited to street entertainment.

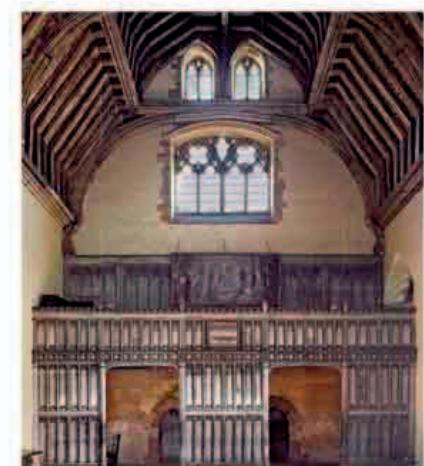


minstrels seemed to encourage people to sin: "Some go to drinking places and wanton gatherings so that they may sing wanton songs there to move people to lustfulness, and these are damnable just like the rest."

Nevertheless, these wandering minstrels played an important part in transmitting song repertoires and dances far and wide in an age when music was rarely written down.

### Itinerant goliards

Clerics and the better educated sections of society listened to sing songs in Latin, the language of high culture throughout Europe, and these songs covered all topics, from love to biting political satire. The songs were performed by goliards, men who had begun a clerical training but, having dropped out of ecclesiastical life, earned their living as traveling songsters, visiting different cities and courts. The famous collection of more than one hundred song melodies, known as the *Carmina Burana*, includes love songs as well as moralistic, satirical, and religious verse. Originally compiled in the late 13th century, in the monastery of Benediktbauern, Germany, the *Carmina Burana* has become well-known today through the



### Minstrels' gallery

For their music to be heard over the noise of the activity below, minstrels often played from raised galleries. This gallery is in the Great Hall at Penshurst Place, a house dating from 1341 in southern England.

who usually performed his own works and either sang his verse as an unaccompanied melody or played a harp or lute as well.

The first known troubadour was William IX, Duke of Aquitaine (1071–1176), who set to music the verse he wrote in Occitan, or *langue d'oc*, a language of southern France and adjacent areas in Spain and Italy. Not all troubadours were of noble descent, but all worked in courtly circles and valued their elevated status. The troubadour song was an aristocratic genre and focused on social conventions and the emotional vicissitudes of courtly love.

More than 40 known troubadours achieved fame and fortune, and many had biographies written about them. One troubadour, Raimon Vidal, described their lives: "You would hear, as I did, the troubadours tell and relate how they lived by traveling and

**"I am a man inclined to the profession of minstrelsy of singing, and I know how to tell... good stories."**

THE TROUBADOUR RAMON VIDAL, "ABRIL ISSIA," c.1210

colorful symphonic versions of some of the songs made by the German composer Carl Orff in the 1930s.

### Troubadours and trouvères

While the identities of medieval jongleurs and goliards have been lost in the mists of time, from the late 11th century a new type of professional musician emerged—the troubadour. Essentially, he was a poet-composer,

making the rounds of lands and places; and you would see their tasseled saddles and much other costly equipage, and gilded bridles and palfreys." It is clear that these musicians held a valued place in southern French society.

In the north of France, the court of Champagne was the center of activity for the *trouvères*, who also enjoyed an aristocratic pedigree or patronage.

### TROUBADOUR (c.1140–1200)

#### BERNART DE VENTADORN



Bernart de Ventadorn led a typical troubadour's life. The son of a servant at the castle of the Count of Ventadorn in southern France, he was famous for composing the classical form of the courtly love song. Bernart learned to compose while in the service of his patron, Eble III of Ventadorn, and he dedicated his first songs to the count's wife, Marguerite. He seems to have fallen under the spell of his own verse, because he was forced to flee Ventadorn after becoming enamored of the countess. Later, Bernart traveled through France before visiting England in the retinue of Eleanor of Aquitaine. Some 45 of his poems have survived, with melodies for almost half of them.

Among the first *trouvères* was Thibault, Count of Champagne, later King of Navarre, and the wealthy landowner Gace Brûlé. Later *trouvères* included members of the clergy and the wealthier middle classes who formed brotherhoods known as *pays*. The *trouvères* composed their verse in the

*langue d'oil*, a dialect of northern France, and held contests to choose the best songs.

### Elsewhere in Europe

A number of other aristocratic song traditions flourished in Europe. The *Minnesingers* in Germany were

influenced by the troubadours and *trouvères*, and developed their own song forms and styles from their local language and verse forms. In Spain, King Alfonso X "the Wise" (1252–84) commissioned the *Cantigas de Santa María*, a collection of hundreds of songs to be copied into illuminated

anthologies. They were composed in Galician-Portuguese, with lyrics about the miracles of the Virgin.

### Dance music

Dancing was popular at all levels of medieval society. The steps and musical accompaniment varied with the social context, ranging from the formal, choreographed steps of court dance to the acrobatic leaps of the *jongleurs*. Dancing could also be a spontaneous pastime. A chronicler of the 12th century described a call for dancing between the jousts of a tournament: "Let us dance a carole while we wait here, that way we shall not be so bored." The carole was a sung dance performed in a circle, often with dancers holding hands.

Dance songs enlivened both court culture and more popular festivities. Though many were improvised, some songs survive in the *Robertsbridge Codex*, a 14th-century manuscript of *estampies*—dance music with repeated sections.

### Music and dance

*Minnesingers* at the court of the Holy Roman Emperor enjoyed a high social status. This image is from the 14th-century *Codex Manesse*, which contains about 6,000 songs from 140 poets.

### KEY WORKS

**Bernart de Ventadorn** "Quan vei la lauzeta mover" (When I See the Skylark Move)

**Gace Brûlé** "A la douceur de la belle saison" (To the Sweetness of Summer)

**Niedhart von Reuenthal** "Meienzit" (May Time)

**Alfonso X** Cantiga No. 10, "Rosa das rosas" (Rose of Roses)

### AFTER

The courtly monophonic song, with a single line of melody, cultivated by the troubadours and *trouvères*, gradually gave way to the polyphonic song for two or three voices.

#### SONGS FOR MANY VOICES

Adam de la Halle (c.1250–88), one of the last *trouvères* and a prolific song composer, began to write **polyphonic rondels**

**46–47** » songs for a few people to sing together. Although monophonic songs were still composed and performed throughout the Middle Ages, polyphonic settings became more widely appreciated during the 14th century, especially in wealthier courts and cities. By the 1350s, the poet-composer **Guillaume de Machaut**

**47** » had transformed dance songs into sophisticated polyphonic compositions.





# Medieval Instruments

**In the Middle Ages, a wide variety of instruments were played to enliven festivities. Wind instruments, such as shawms and bagpipes, accompanied dancing, while the harp or lute accompanied songs and epic poems.**

**[1] Tabor drum** This portable drum is hung around the neck and played by the right hand while a pipe is played with the left. **[2] Nakers** These small, dome-shaped drums, with goatskin heads, were usually played in pairs. **[3] Double pipe** Used since ancient times, the double pipe allows two notes to be played at once—the drone (sustained note) and the melody. **[4] Tabor pipe** Played with the tabor drum, this wooden pipe has a narrow bore, with three holes near the end. **[5] Shawm** With a penetrating sound suited to playing outdoors, this double-reed wind instrument was an early precursor of the oboe. **[6] Tenor shawm** Shawms of different sizes and pitches formed the wind band known as the *alta capella*—a loud ensemble that accompanied dancing or heralded the entrance of royalty. **[7] Bagpipe** This popular drone instrument consists of a short blowpipe, an air bag made of hide and squeezed under one arm, a chanter with holes for playing the melody, and two drone pipes. **[8] Hunting horn** This ancient instrument was

first made from the horn of an animal and played as a hunting signal. This ornate example is made from bull horn fitted with a brass mouthpiece, flare, and decorative foliage. **[9] Harp** A key instrument of the medieval era, the harp was used to accompany the love songs of the troubadours. Richly carved, this example ends in an animal's head. **[10] Medieval lute** Related to the Arabic 'ud, this lute has sound holes decorated as intricately carved roses with geometric patterns in the Arabic style. **[11] Medieval viol** This bowed-string instrument has a low range and was probably used to accompany a melody. **[12] Rebec** This narrow bowed instrument was an early precursor of the violin. It was played on the arm, or sometimes under the chin. **[13] Hornpipe** Made of animal horn, this pipe usually had a single reed. **[14] Dulcimer** The strings of the dulcimer are stretched across a trapezoid soundboard and struck by small hammers. **[15] Psaltery** Related to the zither, this instrument is metal strung and played using a quill in each hand.

**8 HUNTING HORN**  
Length approx. 20 in (50 cm)



**9 HARP**  
Height approx. 26 in (66 cm)



**10 MEDIEVAL LUTE**  
Height 25 in (70 cm)



**11 MEDIEVAL VIOL**  
Height 24 in (62 cm)



**12 REBEC**  
Height 22 in (55 cm)



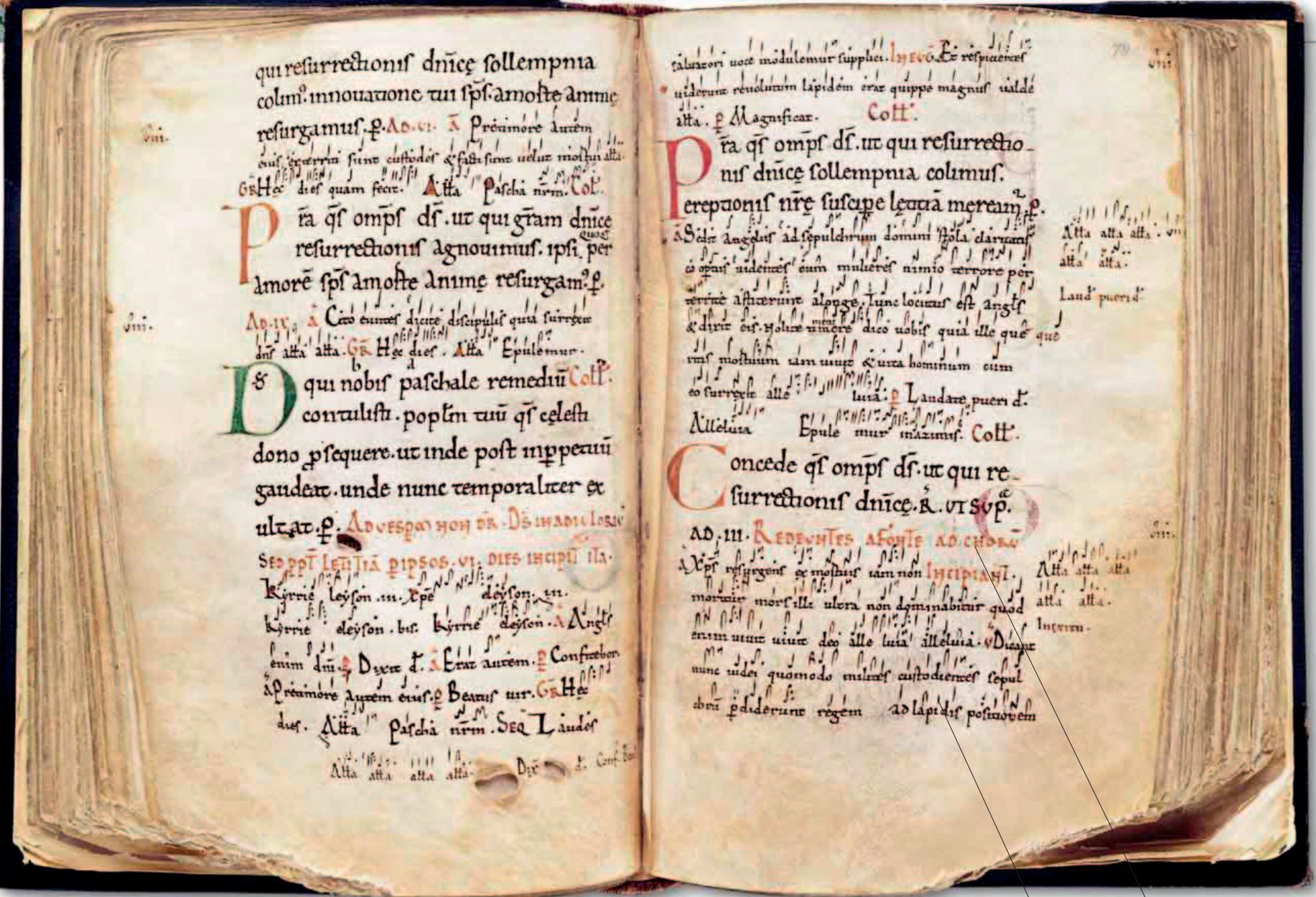
**13 HORNPIPE**  
Length approx. 16 in (40 cm)



**14 DULCIMER**  
Length up to 28 in (70 cm)



**15 PSALTERY**  
Length of longest side approx. 18 in (46 cm)



Chant notation

This musical manuscript appears in a book of liturgy and shows the notation of chant melodies. A variety of dots, lines, and squiggles above the lines of text suggested the general shape of the melody.

## B E F O R E

**Before the development of musical notation, music was passed on orally or improvised on the spot.**

### LEARNING LITURGIES

**Songsters and minstrels** <> 32–33 learned their repertoires by way of contractual apprenticeships, while those destined for a Church career began to learn and memorize liturgical chants at the choir schools attached to monasteries and cathedrals.

### ROOM FOR INVENTION

**Improvisatory skills** remained important in all spheres. Dance music was improvised over simple **chord sequences** or melodic patterns. In sacred music, additional vocal lines were improvised over chant melodies.

# Writing Melody

**Before musical notation, melodies were memorized or improvised. Manuscripts of early liturgical chants or lyric verse give only the texts, but gradually signs began to be added above the words and a means of notating music was developed.**

In the early medieval Church, the clergy responsible for music in divine worship were faced with the problem of memorizing an ever-growing repertory of chant melodies that needed to be consistent throughout the monasteries of a specific order or the churches in a particular diocese.

### Learning by heart

Studies have shown that the capacity for memorization in the Middle Ages was vast. Widespread illiteracy, and the fact that the production of manuscripts was confined to monasteries, meant that oral transmission of music was the norm. The task was daunting, as Odo

(c.788–942), second Abbot of the Benedictine monastery of Cluny in France, explained: "No amount of time is enough to reach such perfection of study that we can learn even the smallest antiphon [response] without the labor of a master, and if we happen to forget it, there is no way in which we can recover our memory of it."

A series of signs (neumes), placed above the text, was developed to serve as a memory aid for the choirmasters

and singers. Initially, these neumes were essentially inflectional marks, a graphic representation of syllabic stress and the rise and fall of the voice, but gradually they became more sophisticated and could indicate quite complex groupings of notes.

The basic forms of the neumes were the dot (*punctum*), a vertical or oblique line (*virga*), and squiggles of diverse forms in which several pitches were bound together (ligatures). Different

**"They could sing at first sight... and without any mistake..."**

ANONYMOUS WRITER OF THE 11TH CENTURY, ON THE ADVANTAGES OF NOTATION

neumatic systems were developed in the various chant regions, but all increasingly tended to represent pitch through the height of the neumes.

### The revolutionary stave

The use of heightened neumes to indicate relative pitch between one note and the next quite soon attracted the scribal device of a horizontal line, initially imagined in the copyist's eye and then represented by an inked line on the page.

In Italy, Guido of Arezzo had experienced firsthand in his monastery the difficulties faced by monks and clergy in memorizing the chant repertory. He devised a stave of four horizontal lines, an invention that proved to be a distinctive feature of the Western musical tradition and a huge leap for musical composition.

In addition to the accurate notation of pitch, the stave allowed for the clear alignment of simultaneously sounding pitches, which made it an important graphic tool for the notation of early polyphony.

Guido claimed, justifiably, that his new system of musical notation would reduce the lifetime of study needed to learn the chant repertory to just two years, so that monks would have more

An illuminated initial "G" begins the "Gloria" of the Mass



time for prayer and other duties. Notation also meant that the chant melodies would remain "pure," since they could be clearly encoded through the use of the stave and correctly transmitted in written form, together with the corresponding liturgical texts.

Guido also developed a teaching method in which he mapped pitches onto the human hand. His system of seven interlocking six-note scales (hexachords) described the entire gamut of the vocal range, with each note marked on a different part of the hand, starting with the bottom note on the thumb. When coaching musicians, Guido could point to the relevant joint to indicate the note to be sung.

### Monastic manuscripts

The scriptoria of medieval monasteries, with their teams of highly trained scribes, were ideally placed to record chant melodies through notation. A particularly important center for the production of chant books using heightened neumes was the Benedictine abbey of St. Gall in Switzerland, founded in the first half of the 8th century. There the scribe and teacher Notker the

Four-line stave  
in red ink

**Decorated manuscript**  
This text and musical notation of the "Gloria" hymn, with a decorated initial "G," was produced by a professional scribe for St. Albans' abbey in England in the 12th century.

### Scribe at work

Monasteries were important centers of scribal production. Biblical and liturgical texts were made for use in the daily activities of the monastery and for distribution along the Order's network.

Stammerer (c.840–912 CE), who was responsible for the copying of the liturgical books, compiled a large anthology of sequences (chants or hymns sung during the liturgy).

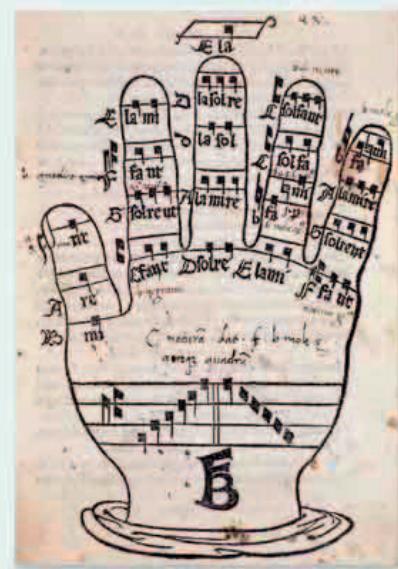
Another major center of scribal activity was the Benedictine abbey of Cluny in central France, founded in 909 by William of Aquitaine. The community at Cluny grew substantially during the 11th century, partly due to sizeable donations from the kings of Leon and Castile in Spain. Cluniac foundations and influence stretched throughout

Western Europe, from the Isle of Lewis in Scotland to northern Spain, and its manuscripts were distributed to other Cluniac houses.

### A Cluny codex

The illuminated manuscript known as the *Codex Calixtinus*, preserved at the cathedral of Santiago de Compostela in northwest Spain, was probably copied in Cluny. Dating from the mid-12th century, the *Codex* was an anthology of sermons and liturgical texts for pilgrims. It contains monophonic melodies copied on a four-line stave, which is elegantly drawn in red ink, as well as early examples of two-voice polyphony notated on two vertically aligned staves.

**Accurate musical notation paved the way for more complex compositions and musical innovation.**



GUIDONIAN HAND IN A MUSICAL TREATISE (c.1500)

### DOE A DEER

The six notes of Guido's scales were named after the **initial syllables** of the first verse of the hymn "Ut queant laxis": ut-re-mi-fa-so-la. "Ut" later changed to "do," and an extra note was added, now called "ti." Known as solmization (or **solfá**), the system is still widely used and features in the song "Do(e) a Deer" from the movie *The Sound of Music*.

### GREATER COMPLEXITY

Toward the end of the 13th century, a system of **notating rhythm** 46–47 >> was developed by music theorists such as **Franco of Cologne** that enabled the composition of **more complex music**.

### MUSICAL THEORIST (991–AFTER 1033)

#### GUIDO OF AREZZO

Guido of Arezzo is regarded as the inventor of modern notation through his use of a four-line stave, and of the hexachord system taught through the Guidonian Hand (see above right). He became a monk of the Benedictine order at the monastery of Pomposa near Ferrara. His reputation as a teacher was rapidly established, but the hostility this fame aroused in his fellow monks caused Guido to move to Arezzo, where he wrote his highly influential treatise on music entitled *Micrologus* in about 1025. His teaching method attracted the attention of Pope John XIX. It is thought Guido went to Rome at the Pope's invitation in 1028, but returned to Arezzo because of poor health. Nothing is known of him after 1033.



## BEFORE

**Two key figures from mythology and the Bible achieved lasting fame for their musical prowess and were widely portrayed in the Middle Ages.**

**THE POWER OF MUSIC**

In Greek mythology <> 20–21, Orpheus and his lyre charmed wild beasts and conquered hell, showing music's power to move the heart of man. Singing to a plucked



ORPHEUS IN A ROMAN MOSAIC

stringed instrument remained one of the most widespread forms of musical performance.

In the **Bible**, David soothed King Saul and praised God with psalms accompanied, in medieval depictions, by a host of angelic musicians playing all kinds of instruments.

# Zither and Lyre, Sackbut and Shawm

**Illuminated manuscripts, paintings, and carvings show that instrumental accompaniment for songs and dances was an integral part of the medieval sound world. Yet no one is certain exactly what combinations of instruments and voices were heard, or in which kinds of music.**

**W**andering minstrels and troubadours were expected to play a wide range of instruments (see pp.32–35), as is clear from an anonymous 13th-century poem: “I’ll tell you what I can do: I’m a minstrel of the vielle [violin]; I can play the bagpipe and the flute and harp, symphonie [hurdy-gurdy] and fiddle; and on the psaltery and the rote [zither and lyre] I can sing a melody right well.”

There seems little doubt that medieval instrumentalists prided themselves on their versatility, but it is difficult to reconstruct what kind of repertoires were played on which instruments. Certain instrumental groupings were associated with specific functions or settings: *haut* (loud) instruments, such as shawms, sackbuts, trumpets, and drums, were used outdoors for street processions and dancing, to herald the royal presence, or

to urge troops into battle. The role of the *bas* (soft) instruments, such as harps, lutes, rebecs, vielles, recorders, and flutes, was generally more intimate, to accompany songs and to provide background music or entertainment during banquets and other indoor gatherings.

**Music for every occasion**

In his *De musica* (*On Music*) of around 1300, French theorist Johannes de Grocheio expected instrumentalists not only to play a wide range of instruments but also to have a wide repertory: “A good fiddler generally performs every kind of *cantus* [Latin for song or melody] and *cantilena* [song or melody beginning and ending with a refrain], and every musical form.”

Throughout the medieval period, stringed instruments, both plucked and bowed, were used to accompany songs, especially the epic poems and ballads

**TECHNOLOGY****METAL STRINGS**

Stringed instruments were strung with a variety of materials in the Middle Ages, depending on where the instruments were made and what function they would have. Sheep-gut (also known as cat gut) was the most common, twisted into a fine string for bowed instruments, but silk and horsehair were also used.

Metal wire was used on some plucked and hammered instruments, for a louder sound. The metals used on metal-strung harps and psalteries were extremely valuable: brass, silver, and occasionally gold. Iron was available from the late 14th century, and the technique of twisting brass or iron was discovered in the mid-16th century.

**Hurdy-gurdy**

The hurdy-gurdy is a mechanical instrument that produces sound by a crank-turned wheel rubbing against the strings. Some strings are drones, producing a continuous, unaltered pitch, while on others, melodies are played by pressing wooden keys.



with strong storytelling elements. The anonymous mid-13th century *Romance of Flamenca* describes the proliferation of such performances: "What with the hum of the viula players and the noise of so many storytellers, the hall was full of sound." Traces of this repertory

accompanied by the vihuela (a small guitar-shaped instrument similar to the lute) survive in the anthologies of vihuelists from 16th-century Spain.

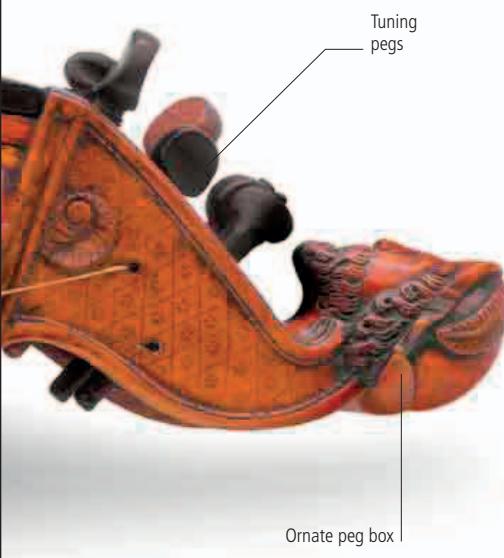
#### Tablature

The introduction of the printing press in the latter part of the 15th century would transform how music was recorded and circulated (see pp.54–55). Tablature was another innovation that became widespread. This form of notation was based on letters or numbers that indicated finger placings on the frets along an instrument's neck. Until then, instrumental accompaniments tended to be learned by ear, committed to memory, and improvised at each new performance.

Tablatures seem to have evolved around the time that players of plucked string instruments such as the vihuela and the lute began to use their nails or fingertips instead of a plectrum or pick. These players could now read and perform arrangements of polyphonic pieces (see pp.46–47), and compose new and more complex works.

#### Instrumental ensembles

The long lists of instruments found in medieval poems and the angelic orchestras depicted in altarpieces and



#### A choir and musicians

This 15th century illumination from a manuscript copied for René II, Duke of Lorraine, shows a group of singers who appear to be accompanied by musicians playing the psaltery and rebec.

carvings suggested a symphonic scale of musical accompaniment that greatly appealed to the specialist ensembles of the 20th-century early music revival. In the 1960s and '70s, many of these groups were formed by virtuoso instrumentalists and arrangers keen to make what might seem relatively simple or repetitive music more interesting through kaleidoscopic instrumental scorings of surviving vocal works.

In reality, medieval ensembles such as the *alta capella* (bands that played shawms and slide-trumpets in courts and cities of continental Europe) were employed to accompany banquets and dancing but, it seems, rarely singers. Indeed, songs may often have been performed *a capella* ("in church style") and therefore unaccompanied.

Instrumental groups varied from region to region. Wind bands of shawms, sackbuts, and dulcians found particular favor in Spain from at least the early 16th century, when groups of these instrumentalists became salaried employees of the great cathedrals.

#### Musical angels

In addition to regional variations, certain combinations of instruments may also have performed on certain occasions. For example, an ensemble of three or four *bas* instrumentalists, generally dressed as angels, took part in the annual Corpus Christi procession, as the host was carried through the streets. Yet little is known about exactly what kind of music these angelic musicians might have played on these important civic occasions. The same is true of the less formal groups of musicians who accompanied the medieval mystery, or miracle-plays—popular dramas that reenacted cycles of biblical stories, often on wagons as part of a procession.

**New instruments and instrumental groupings soon widened the scope of musical accompaniment in the late 15th century.**

#### NEW TECHNOLOGY

Improved metal working led to the invention of the slide trumpet so that players could achieve a greater range of notes by extending the tube length. The double-slide sackbut, an early form of the trombone, evolved to provide low notes in the wind ensembles that began to accompany **sacred polyphony in church 46–47**.

The advent of **music printing** in the 1470s **54–55** created a demand for songs with instrumental accompaniment that could be performed by **amateurs at home**.

#### INSTRUMENTAL FAMILIES

As instrumentalists began to play polyphonic music, instruments of the same family were made in several sizes to form **consorts** (groups) **68–69** with a wider range. The viol consort was a common example, playing music for three to seven parts, as were consorts of wind instruments, such as recorders or crumhorns.

These ensembles were usually made up of amateur musicians who had learned their skills informally. Professional instrumentalists often came from musical dynasties or contracted apprenticeships. Many players also attended the international minstrel schools held in northern Germany and Flanders in the years around 1400, at which techniques and repertory were exchanged. From dusty streets to courts and cathedrals, Europe was humming with continually evolving musical accompaniment.

#### City waits

Wind bands called waits were a familiar sight in medieval towns. Their duties grew from providing the night watchman's signal at daybreak to announcing royal entries and accompanying civic processions.



در حلوت باز گردند که حالی طاری شده سلطان اطماد رفته  
کجی از اشیان حم خرمد و درمان روز حضرت سلطان ابوسعید  
نیز جمع درویشان ایشان بعوالی استیغنا لی مودن و ساع روند



در میان آن ساع اعمال ریخت سلطان ابوسعید نکشید  
اطماد رفته مودن درست هم تیره از رویی فخر بجا می اورد حضرت  
ریخت ابوالحسن فرمودند که این چنین ریشی را انجام نمی می باشد

# Islamic Music

**During the Middle Ages, the Islamic world stretched across the Middle East, the Far East, Africa, and Spain and absorbed many regional traditions. Attitudes to music were equally diverse, and still shape many of the oral traditions handed down to the present day.**

## B E F O R E

**The birthplace of Islam, the Arabian peninsula in the Middle East, traced its music back to the Bible.**

### ARABIAN ROOTS

Pre-Islamic writers credited Old Testament figures with the **invention of music**: Jubal was the inventor of song and Lamech was the creator of the 'ud, or *oud* (see pp.42–43).

As early as the 6th century CE Arabic poetry refers to instruments such as the lute, frame-drum, end-blown flute, and cymbals, and to contrasting musical styles—"heavy" and ornate or "light" and cheerful. Poets and composers were thought to be inspired by *jinn* (spirits), but it was women who sang and performed their music.

### COURT CULTURE

In the more affluent courts of the Umayyad dynasty in 7th-century Syria and the Abbasid dynasty in 9th-century Baghdad, poetry and music were indispensable.

### Transcendent states

Dervishes and other Sufi ascetics chanted, drummed, and danced to reach a state of religious ecstasy. This miniature from a 16th-century Persian manuscript shows whirling dancers accompanied by musicians.

**"Ecstasy is the state that comes from listening to music."**

PERSIAN THEOLOGIAN AL-GHAZALI (1059–1111), IN HIS "REVIVAL OF RELIGIOUS SCIENCES"

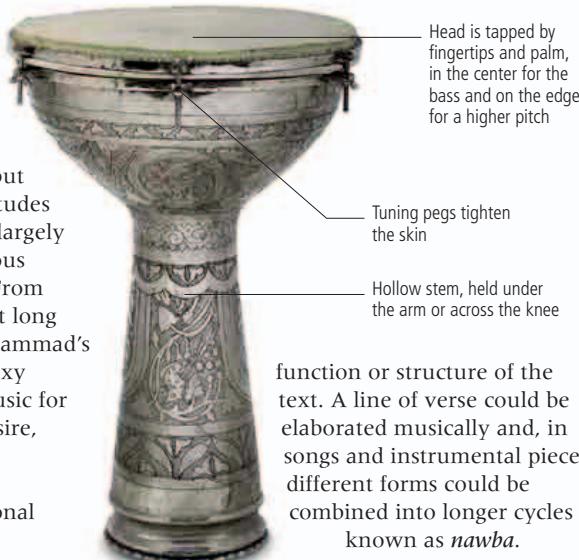


**T**he muezzin's call to prayer and the recitation of the Qur'an dominate the Islamic sound world, but over the centuries attitudes to music have varied, largely because of its ambiguous status in Islamic law. From the 7th century CE, not long after the Prophet Muhammad's death, Islamic orthodoxy largely condemned music for its ability to arouse desire, grief, and other "base" passions. The use of instruments in devotional music was *haraam*, or forbidden, as was the participation of women.

Music as entertainment may have been condemned by Islamic law, but early scholars such as Al-Farabi and Ibn Sina (c.980–1037 CE), the 11th-century Persian known as Avicenna in the West, discussed the healing properties of music. In the Sufi tradition of Islam, whose followers were drawn to mysticism, writers in the 11th and 12th centuries defended listening to music as a spiritual exercise that could draw the listener nearer to the Divine.

### Musical patterns

As with the early, oral traditions of music in the West, music that was *halal*, or permitted, in the Islamic world was improvised around formulaic patterns, whether melodic or rhythmic. These musical building-blocks could be combined and repeated in different ways according to the



Dumbek drum

Widely used across the Middle East, North Africa, and Eastern Europe, goblet-shaped *dumbek* drums are traditionally made from clay, with a goatskin head. This ornate example in nickel is from Syria.

function or structure of the text. A line of verse could be elaborated musically and, in songs and instrumental pieces, different forms could be combined into longer cycles known as *nawba*.

### Drums and strings

The principal instrument of the Arab world was the 'ud (see pp.42–43). This pear-shaped, short-necked, plucked-string instrument is the ancestor of the European lute (see pp.62–65) and has a fretted fingerboard. Arabic melodic modes, or groupings (known as *maqam*), related primarily to the frets on the 'ud's strings.

The 'ud and other Arabic instruments such as the *rabāb* or *rebāb* (a simple bowed instrument) and the *naqqāra* (a pair of small drums) filtered along trade routes, through Muslim Spain into the Western music of medieval minstrels and troubadours (see pp.32–35).

### Sufi music

Unlike orthodox Islam, Sufi devotional music included not only vocal pieces but instruments—such as reed-pipes, flutes, and drums—and dancing.

The most popular and enduring tradition of Sufi devotional music is *qawwali*, which originated in 8th-century Persia. This fused with Indian traditions by the late 13th century to create the form that is now known on the Indian subcontinent. Singers recite Sufi verses, ranging from love poetry to songs praising Allah and the

### Qawwali musicians

These musicians are playing at Nizamuddin Dargah, the mausoleum of the Sufi saint Nizamuddin Auliya in Delhi, India, which is visited by thousands of Muslims and other pilgrims every week.

## MUSICIAN (c.872–951 CE)

### AL-FARABI

The philosopher, cosmologist, and musician Al-Farabi was born either in Kazakhstan or (according to some sources) in Afghanistan. He appears to have spent most of his life in Baghdad, although he is also known to have visited Egypt and Syria, where he died in Damascus in late 950 or early 951 CE. A leading intellectual in the golden age of Islam, Al-Farabi studied the writings of Aristotle, and is said to have invented the Arabic tone system that is still in use today. His *Great Book of Music* focused on Persian musical traditions, and in his *Meanings of the Intellect* he discussed the therapeutic qualities of music.

Prophet Muhammad. All are seen as spiritual—the desire expressed in love poetry is interpreted as the longing for spiritual union with the Divine. Musical accompaniment includes the *sarangi* (a bowed string instrument), percussion instruments such as the *tabla* (a small drum) and *dholak* (a two-headed drum), and a chorus of four or five men who repeat key verses and add hand clapping to the percussion.

## A F T E R

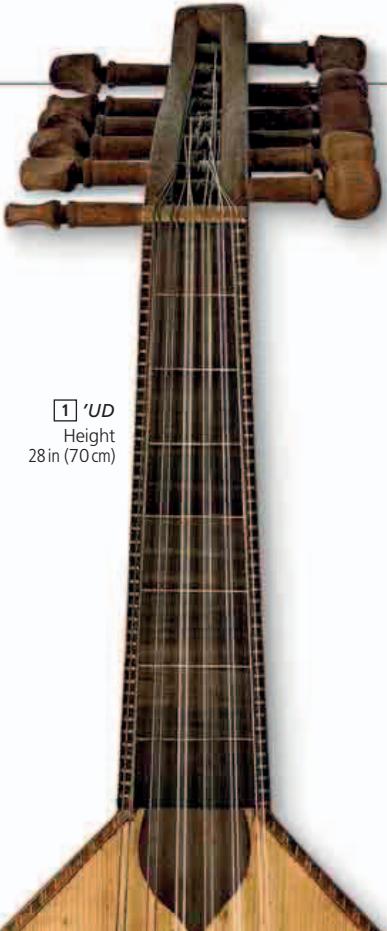
**From the 16th century, the more orthodox communities forbade instruments and dancing altogether, although other traditions flourished.**



MALOUF MUSICIANS FROM LIBYA

### CONQUEST AND DISPERSAL

The living Arabic musical genre of *malouf* began in Andalusia in Spain under Islamic rule, and was displaced to **North Africa** after the 1492 conquest of Spain. In the **Ottoman Empire** following the fall of Constantinople (now Istanbul, Turkey) in 1453, Eastern musical traditions diverged completely from Western, and Istanbul remains a hub of Islamic music. Court music continued to flourish in **Mogul India 340–43** where Akbar the Great (1542–1605) had an orchestra of at least 50 musicians.



[1] 'UD  
Height  
28 in (70 cm)



[2] ZITHER  
Length of longest side 33 in (83 cm)



[3] TĀR  
Height 37 in (95 cm)



Height 18–24 in (45–60 cm)

[5] GIMBRI



[6] BAĞLAMA



[4] EGYPTIAN  
REBĀB AND BOW  
Height approx. 35 in  
(90 cm)



[7] ANDALUCIAN  
REBĀB AND BOW

Height approx. 28 in (70 cm)



# Islamic Instruments

The wide range of regional musical traditions of the Islamic world is reflected in the variety of instruments that developed from North Africa to East Asia in the Middle Ages. Most are still played in traditional music today.

**1 'Ud** The most important instrument in the Islamic world, the 'ud, with its pear-shaped soundboard, influenced the development of the lute. **2 Zither** This instrument is set up for 72 gut strings grouped in threes, although several are missing. Commonly heard in Eastern Asia, the zither can be played on the lap or on a table. **3 Tar** This Persian plucked-string instrument has a horn bridge and a wooden neck inlaid with bone. Its sound was believed to relieve headaches and insomnia. **4 Egyptian rebāb and bow** A bowed instrument made from wood and animal skin, it is still played in Southern Egypt. **5 Gimbi** Of Moroccan origin, this lutelike instrument has a tortoise-shell resonator and accompanies singing and clapping. **6 Baglama** Carved from a single piece of hardwood, the baglama has a giraffelike neck and a deep round back, and contributed to the distinctive sound of court music in the Ottoman Empire. **7 Adalucian rebāb and bow** Having influenced the development of the medieval rebec, it can be considered an

ancestor of the violin. **8 Naqqarā** The rounded section of this kettle drum is made from baked clay over which a treated animal skin is fastened. **9 Tambourine** Decorated with bone and ebony, this Egyptian instrument has five sets of brass disks. **10 African rebāb** This plucked-string instrument is made from hollowed-out wood covered with a camel skin. **11 Moroccan rebāb** Although the Arabic word "rebāb" means "bowed," this rebāb is played in Afghanistan and Pakistan, where it is generally plucked. **12 Kamanjah** This Turkish spiked fiddle is played with a bow and has a wooden resonator with skins on both sides. **13 Zummarā** This reed instrument has two pipes, one of which is sounded as a drone. **14 Sorna** Still played in Iran and Azerbaijan, this double-reed instrument is similar to the shawm. **15 Dumbek** This drum has a distinctive, chalice-like shape and is generally made of ceramic or metal. **16 Darabuka** Essentially the same as a dumbek, this is a particularly beautiful and ornate example.

BEFORE



A CAMEL CARAVAN ON THE SILK ROAD

**Over thousands of years, as ruling dynasties rose and fell, China absorbed many musical influences.**

#### FROM BAMBOO TO BUDDHISM

Legend has it that long ago the music master of the **Yellow Emperor Huangdi** cut bamboo tubes to form 12 perfect pitches to echo the birdsong of the fabled phoenix. **Buddhism**, a new religion from India, spread eastward **along the Silk Road** through Central Asia and reached China in the 1st and 2nd centuries CE. With it came new musical repertory and instruments such as the lute and harp. After 300 years of uprisings, China reunited under the **Tang dynasty** in 618 CE, and music reached new heights.

# Music in Ancient China

**Music has always held a central place in Chinese culture. The Tang dynasty of 618–907 CE saw the Golden Age of music, but traces of popular theater involving dance, song, comedy, acrobatics, and puppetry still survive in Chinese opera today.**

**A**ccording to the ancient Chinese philosopher Confucius (c.551–479 BCE), “to educate somebody, you should start with poems, emphasize ceremonies, and finish with music.” The centrality of state ceremonial in Confucian and Daoist teaching meant that music had a complex ritual function. By the time of the Tang dynasty, there were 10 different bodies of musicians at court, including the Office of Grand Music and the Office of Drum and Wind Music. Elaborate rituals were developed for military exercises and religious sacrifices. Banquet music (*yanyue*) entertained guests with extended suites (*daqu*) that included dances made up of five or six movements, each differently

choreographed, and even longer instrumental suites for the revered Chinese zither, the *qin*.

Diverse musical traditions flourished outside the court, and court music was often influenced by the folk traditions of song, instrumental music, and dance that successive emperors made a point of collecting. Many of the instruments used in early court music are still played in folk music today.

#### After the Golden Age

When the last Tang emperor was assassinated, China split apart once more. Yet elements of Tang ritual music survived, notably a syllabic singing style and ceremonial bell-chimes, and scholars preserved the ancient traditions. In the great intellectual revival under the Song

dynasty (960–1279), Chen Yang presented his 200-volume *Yueshu* (Book of Music) to the emperor around 1100, and later Zhu Xi (c.1130–1200), the creator of neo-Confucianism, published what he took to be Tang melodies for 12 texts from the ancient *Shijing* (Book of Songs).

While long-held traditions were maintained, major developments occurred in song composition. Classical *shi* (lyric poetry) was combined with more popular traditions, and shorter pieces were grouped into longer suites,

#### Music fit for a feast

These elegantly dressed women are members of a court banquet orchestra, playing at an imperial feast depicted in a 10th-century painting from the Tang dynasty.





## "Music is joy... This is why men cannot do without music."

CONFUCIAN PHILOSOPHER XUN ZI, 312–230 BCE

particularly in the song form called the *changzhuan*, which was performed to the accompaniment of drum, flute, and clappers. One of the few early Chinese poet-composers whose life can be documented in some detail is Jiang Kui (1155–1221). A calligrapher by training, he composed a number of songs, some of which—for example, the “Song of Yangzhou”—are still popular today. He also discussed the tuning of the *qin* instrument in *Ding xian fa* (Tuning strings method), and transcribed his melodies using a notation method known as *gongche*. The vocal traditions cultivated during the Song dynasty, with melodies being subject to variation and then joined together to form longer works, continued to flourish in the Yuan (1279–1368) and Ming (1368–1644) dynasties.

The Mongols, who began their attack on China under the leadership of Genghis

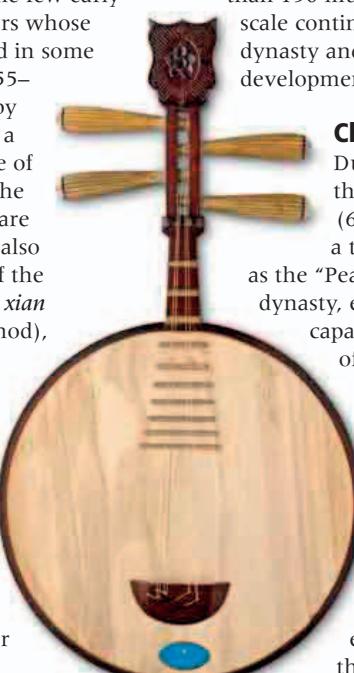
Khan in 1215 and eventually formed the Yuan dynasty, established huge ritual orchestras made up of more than 150 musicians. This sumptuous scale continued under the Ming dynasty and spilled over into the development of Chinese opera.

### Chinese opera

During the Tang dynasty, the Emperor Xuanzong (685–762 CE) had created a theater troupe known as the “Pear Garden.” In the Song dynasty, enormous theaters capable of holding audiences of up to 3,000 people had staged variety acts that included song, dances, and comedy sketches.

These lavish entertainments formed the basis of a new kind of musical theater in the Ming era—operas that elaborated heroic themes from China’s past. The new genre was so popular that officials constantly sought to control it, and even attempted to ban performances by threatening the actors with the death penalty.

There were hundreds of regional variations in Chinese opera, but the dominant form of the 16th–18th centuries was the *Kunqu* of southern China. This form emerged in the 14th century, early in the Ming dynasty, from a specific kind of melody known as the Kunshan *diao*. *Kunqu* would in turn influence the world-famous Peking opera (see pp.198–99), but by the early 20th century it had all



Chinese lute

The *yueqin* is a traditional Chinese lute with a round, hollow body—giving rise to the nickname “moon guitar”—and has four strings and a fretted neck.

### KEY WORKS

- Zhu Xi *Shijing* (Book of Songs)
- Jiang Kui Song of Yangzhou
- Yang Zuan Qin anthology *Purple Cloud Cave*
- Zhu Quan Qin anthology *Manual of the Mysterious and the Marvelous*
- Tang Xianhu *Kunqu* opera *The Peony Pavilion*

### Sheng players

The *sheng* is a mouth-blown reed-instrument, a bit like a mouth organ with long vertical pipes. It is one of the oldest Chinese instruments, and it is traditionally played with the *suona* (shawm) and *dizi* (flute) in outdoor festivities.

but disappeared, although it is now enjoying something of a revival.

China has long had a huge variety of instruments, in both popular and art music, and some types of instrument from ancient times are still used in traditional music, including Chinese opera. The *sheng* is a reed instrument with 19 pipes, and examples made as long ago as the 8th century still survive. It was a prominent instrument in *Kunqu* music theater, as was the *xiqin*—a fiddle with two silk strings, played with a thin strip of bamboo, which is a distant relative of the fiddle played in Chinese opera today.

### Instrument of the sages

One of Ancient China’s most distinctive instruments is the *guqin* or *qin*. Scholars were expected to master four art forms: calligraphy, painting, chess, and the *qin*. Known as “the father of Chinese music,” this seven-string zither was so central to Chinese culture that *qin* schools were founded from at least the 11th century and its music was copied in a special tablature—a form of notation for fingering rather than notes.

**9,000 YEARS OLD** The age of the world’s oldest playable flute, found in China and made from the bone of a crane.

The *qin* is played in a different manner from Western stringed instruments. Instead of its strings of twisted silk being pressed down, or stopped, by the fingers to produce different notes, they are lightly touched, or dampened, to produce the different harmonics, or overtones, of each note. The Confucian love of systems of numbering is reflected in the so-called Twenty-Four Touches, or ways of playing vibrato to vary the pitch slightly. Often richly decorated, the finest examples of the *qin* were prized by the Chinese elite as collectable objects.

### Musicians and dancers

In the Yungang Buddhist grottoes, 252 cave chapels carved in the fifth and sixth centuries CE, these painted sculptures of musicians and dancers decorate the walls of Cave 12.

**Respect for China’s musical heritage did not prevent significant advances in music theory and practice.**

### MUSIC FROM MING TO QING

Ming prince Zhu Zaiyu (1536–1611) is famous for his pioneering description of the **equal temperament**—a tuning system in which the 12 notes of the octave are all tuned in exactly the same ratio to one another. This is the system most commonly used, since the late 19th century, to **tune instruments in Western classical music** so that they can be played in any key. Zhu Zaiyu’s concept preceded European theory by several decades, and was possibly transmitted to Europe by Jesuit missionaries such as Matteo Ricci.

Under the Qing dynasty (1644–1911), ***gongche***, a Chinese form of **notation**, became the most widespread of several forms in use across the country. Although less popular now, it still appears in sheet music for traditional instruments and operas.

### UNDERSTANDING MUSIC

#### CHINESE MODES

Early in the seventh century CE, during the Tang dynasty, a system of 84 classified modes, or groupings of notes, was approved by the emperor, with seven possible modes beginning on each of the 12 different pitches.

The 84 modes were not thought of as scales, or step-by-step sequences of notes as in Western music. They related to certain instruments’ strictly regulated position in performance, and had a strong functional identity. Later, the number of modes was reduced, and although Chinese music theory continued to refer to 12 fixed pitches, the actual pitches varied over time.



CHINESE MODE OF FIVE PITCHES, STARTING ON GONG, OR C IN WESTERN NOTATION



# Many Voices

**When musical notation made it possible to represent not just pitch but rhythm, too, it paved the way for polyphony. This new style of richly layered and rhythmically complex music for multiple voices altered Western music forever.**



**Patron of polyphony**

In this 15th-century miniature, Philip the Good, Duke of Burgundy, listens to a mass sung in the court chapel, with singers gathered around the lectern. His court became the musical center of Europe.

## KEY WORKS

- Pérotin** *Sederunt principes* (For Princes Sat)
- Guillaume de Machaut** *Messe de Notre Dame* (Mass of Notre Dame)
- Jacob Senleches** *La harpe de mélodie*
- John Dunstable** *Alma redemptoris mater* (Sweet Mother of the Redeemer)
- Guillaume Dufay** *Missa Se la face ay pale* (If My Face Seems Pale)
- Josquin Desprez** *De profundis* (From the Depths)

**M**any of the innovations that would establish the course of music history in the West are found in the 13th-century polyphonic repertory of the so-called Notre Dame School in Paris.

The Cathedral of Notre Dame de Paris was completed in about 1250 and the polyphonic music composed to solemnify the liturgy celebrated there was gathered in the *Magnus liber organi* (Great Book of Organum). This impressive anthology not only contains works by the first named composers of polyphony—Léonin and Pérotin—but also includes pieces written using the newly devised system of notating rhythm: the organization of groups of notes into clearly defined rhythmic patterns called modes.

At first, polyphonic music was only written down in triple time (three beats in a bar), stressing the first beat. By the 14th century a way to notate duplum time (two beats in a bar) had emerged, a breakthrough explained in Philippe de Vitry's *Ars nova notandi* (A New Art of Writing Music).

## A new art

The tenor, which at first formed the lowest voice in the vocal texture, drove the structure of the piece, and was

usually based on an existing melody, drawn from the plainchant for a particular feast or occasion. The tenor part was often organized into repeating patterns, both rhythmic and melodic, known as isorhythm. A second voice was then added above the tenor to form a two-voice piece, a third for a three-voice piece, and so on. These additional voices sang different texts, often secular and in Latin or French, which generally related to or commented on the sacred Latin text of the tenor. They had to be harmonious with the tenor, but not always with each other, resulting in harmonic clashes

**“Just hearing music makes people rejoice.”**

COMPOSER GUILLAUME DE MACHAUT, 1372

## B E F O R E

**For centuries, Western music had been monophonic, with a single melodic line. Between 700 and 900, a second line was added to plainchant.**

## ROOTS IN IMPROVISATION

Known as *organum*, early forms of polyphony were improvised, not written down. The added voices duplicated the chant melody at a different pitch and moved in parallel, note for note. The rules for composing *organum* appear in a late 9th-century French treatise, *Musica enchiriadis*, suggesting polyphony was already an established practice. Guido of Arezzo's **Invention of the stave** **36–37** in the 10th century led to more accurate notation of pitch. By around 1100, the added voices began to move more freely and independently.



**COMPOSER (c.1300–77)****GUILLAUME DE MACHAUT**

Born in Champagne, northern France, Machaut was appointed a canon of Reims Cathedral in 1337, where his duties included singing the Offices and Mass. His patrons were King John of Bohemia, Charles of Navarre, Charles V of France, and Jean, Duke of Berry, for whom, toward the end of his life, he compiled several anthologies of his compositions. His works include the first cyclic mass and numerous polyphonic motets and chansons.

**The Harp of Melody**

In this manuscript of Jacob Senleches's *La harpe de mélodie*, two of the voices are notated on the harp's strings, while the scroll around the column explains how to create a third.

that sound distinctly modern even today. Polyphony called for great skill and subtlety on the part of the performers, and made considerable demands on the listener, too. It also required the substantial financial commitment of patrons—wealthy individuals and city guilds and corporations who commissioned new works (see pp. 84–85).

**Patterns and refrains**

The *Ars Nova* culminated in the works of Guillaume de Machaut (see left) who composed in every form and style available to the 14th-century poet-composer. He established several new secular song forms, each with its own rules and pattern of repeated verses and refrains. An Italian *Ars Nova* evolved in parallel, spearheaded by the Florentine composer Francesco Landini, while a third way, the *Ars Subtilior* (More Subtle Art) developed among the musicians who clustered around the papal court in Avignon, where composers such as Jacob

Senleches exploited the potential of polyphonic notation to create works of great sophistication.

Mathematically complex structures and polyphonic settings involving different texts persisted into the early 15th century, but a new



Notation on the strings

trend toward simpler vocal textures and harmonies spread through Europe with the circulation of works by the English composer John Dunstable (1395–1453). He championed the use of consonant harmonies that give a sense of resolution rather than dissonance and tension. Composers associated with the powerful Duke of Burgundy's court, such as Gilles Binchois (1400–60) and Guillaume Dufay (1397–1474), incorporated Dunstable's "sweet harmonies" to produce a polyphonic style that spread across Europe—notably to Italy where rival princes and patrons vied for the best musicians from north of the Alps.

**1322** The year in which Pope John XXII banned the use of polyphony in the liturgy, although the "devil's music" was tolerated by most of his papal successors.

as in a round) and imitation (in which a short phrase sung in one voice is copied in the other voices) to create large-scale works of astounding beauty.

In addition to masses, shorter pieces known as motets were composed.

At first these used existing melodies in the manner of the cyclic mass, but by the 16th century they were being

composed more freely, with each phrase of the text corresponding to a musical phrase. This, too, was seen as a "new art" and reflected the growing awareness of the importance of a close relationship between music and words.

**AFTER**

**In the age of Humanism, when Man and his emotions became central to art, musicians sought a closer relationship between text and music.**

**GOLDEN AGE OF POLYPHONY**

By the 16th century, a coherent European style of polyphony had emerged—partly thanks to the invention of the **printing press**, which allowed for the widespread dissemination of music 54–55 >>.

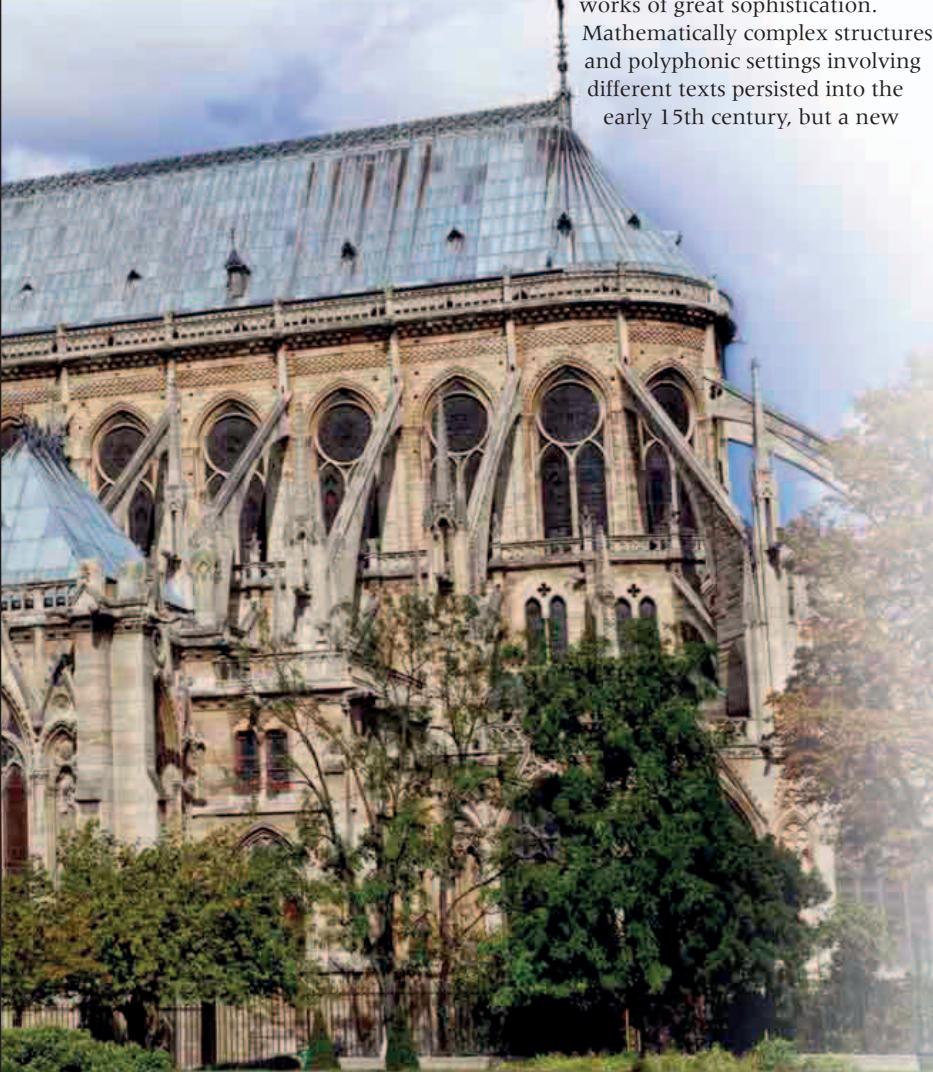
At the same time, the religious reforms of Martin Luther and the Council of Trent

58–59 >> placed new emphasis on a style of music that allowed greater textual clarity. Renaissance polyphony peaked in the 16th century in the works of

**Josquin des Prez and Palestrina**  
60–61 >>



JOSQUIN DES PREZ

**Masses and motets**

Binchois and Dufay cultivated the secular and sacred polyphonic genres established by Machaut. Particularly important in this period was the cyclic mass, which used a plainchant or secular melody in the structural voice (usually the tenor) to link the five sections of the mass: the Kyrie, Gloria, Credo, Sanctus, and Agnus Dei. This linking device was known as the *cantus firmus*, or "fixed melody."

By the second half of the 15th century, such cycles were generally composed in four voice parts, with the fourth voice below the tenor. Mass settings by Ockeghem, Busnois, Obrecht, La Rue, Josquin, and many other Franco-Netherlandish composers used complex devices such as the canon (in which one voice repeats another after a short space of time,

**Notre Dame, Paris**

With soaring gothic architecture and spectacular stained glass, the great cathedral of Notre Dame (Our Lady), built in 1163–1250, mirrors the dazzling new complexity of its school of polyphony.

