Map of present-day North and South America, indicating the countries whose pre-Columbian cultures are discussed in the following chapters.

1 Reconstructing the past

The first inhabitants of the Americas came from Asia about 40 000 years ago, via the Bering Strait of Alaska, where the continents were connected. These early migrants were nomadic hunters and gatherers, with a low level of technological development. The first archaeological evidence of human nomadic culture in Mexico and Peru, dates from about -20 000. After this, people settled in small agrico (rural) settlements, and techniques like pottery developed. The Americas show a great variety in landscapes and climates: cool high mountains, humid low tropical forests, and hot dry coastal areas. This is reflected in the various cultures: some developed in isolated regions, others became real centres of development. Instances of the latter are the Andean countries, with a common cultural tradition concerning material culture and techniques, religion, and social organisation.

Various cultures flourished between -500 and +1500: Aztec and Maya in Mexico, Tairona in Colombia, and Moche and Nazca in Peru, to mention only a few. The pre-Columbian chronologies end after the arrival of the Spaniards, at the beginning of the 16th century. In some instances these cultures are named after a group of people (for instance, 'Aztecs'), or after a geographical region (for instance, a province, 'Guanacaste', or a river, 'Moche', or the location where artefacts were found, 'La Tolita'). We will follow the periodization and classification used in the exhibition '*Schatten uit de Nieuwe Wereld*' (Treasures from the New World) in Brussels in 1992. This implies that first the culture is mentioned, then the period, and finally the area. For instance: La Tolita, -300 / +700, Northern Coast/Ecuador.[5]

In our search for pre-Columbian musical culture a number of sources will be used; archaeological and written colonial sources, as well as present-day cultural practices. Many people appreciate pre-Columbian objects because of their intricate beauty. Apart from this, archaeological finds are objects of study, with all the signs and symbols (images) conveyed by them. This study aims at knowing more about the people that used the objects. Of course this will be an impossible task, since so much has been lost forever... Still, through careful excavation and study, data can be retrieved.

The writings of the chroniclers who lived at the time of the Conquest are a second source. A number of these chroniclers were Spanish clergymen interested in the life of the Indians; others were of Indian descent. The third source is the music and dance of present-day Indian populations, in which pre-Columbian musical traits may still be found. These three sources are dealt with in more detail below.

The archaeology of music

Whatever we know about pre-Columbian musical instruments is due in the first place to the archaeologists who excavated the objects. Most artefacts are of

terracotta, metal, or animal matter such as bone. Only imperishable material survived, whereas instruments made of reed, wood, or hides – such as flutes and drums – are scarce. Luckily, some reed flutes and wooden drum bodies have been found, preserved by the dry heat of the Peruvian desert.

The main problem in studying pre-Columbian musical instruments is that in most cases, little information is available about the objects and their provenance. In the past excavations were often illegal, or they were carelessly executed and badly documented by archaeologists unfamiliar with the classification of musical instruments. Sometimes objects were not identified as musical instruments at all. (The difference between instruments, for instance between a whistle, a flute and an ocarina, is not all that obvious.) Moreover, many an instrument did not attract attention because of its size or plain look. As a result many musical instruments have been scarcely or wrongly documented. Although it is possible to reconstruct the sound of pre-Columbian wind-instruments by blowing on them and trying out various combinations of finger holes, we will never know exactly which notes were played, how melodies sounded, nor what rhythms were beaten on the drums and other percussion instruments.

Difficulties did arise, and still exist, as well, because of looters ('huaqueros'), be they poor (the local people) or wealthy (the art dealers). Since many countries could not and sometimes still cannot duly protect their sites, grave robbers take away artefacts whose provenance cannot be traced at all afterwards. As a result, archaeologically, much of their value is lost. Besides the competent authorities, banks sometimes buy pre-Columbian objects in order to prevent export. The Archaeological Museums of the Central Bank of Ecuador in Quito, Guayaquil and Cuenca are a case in point. In 1987/1988 graves were discovered in coastal Peru, dating from the Moche culture (-100 / +700). One belonged to a warrior priest, who was called 'the Master of Sipán'. The warrior priest was surrounded by treasures in the form of ceramics, natural materials and precious metals. Included were gold rattles, bells, and a golden flute, which has since disappeared...

Sounding objects

Despite these problems, the archaeological finds provide us with a lot of data. Experts, anthropologists and (ethno)musicologists studying pre-Columbian musical instruments, have shown much interest in the way the instruments were constructed and sounded, as well as in their function in society. In the first half of the 20th century, Raoul d'Harcourt wrote about instruments in Mexico, Central America and Peru. Samuel Martí focused mainly on Mexico, and Hans Feriz succeeded in putting Panama and Costa Rica 'on the map'. More recent publications are by Isabel Aretz, César Bolaños, José Antonio Guzmán, Ellen Hickmann, and Dale Olsen (see bibliography).

A large variety of materials were used to manufacture musical instruments, such as wood (Mexican drums: ill. 6, 7, 8, and 10), reed (Peruvian flutes: pl. 9), clay (Mexican flutes: pl. 1; ocarinas from Costa Rica, Panama, Colombia, Ecuador: pl. 7 and 8; Peruvian panpipes: ill. 1, 2, and 5, pl. 12), and metals (Peruvian rattles: pl. 8). Used as well were more ready-to-use materials like tortoiseshells (Mexican slit-drum: ill. 7, pl. 4), shells (Peruvian signal horn: ill. 1), gourds (Mexican rattles: ill. 8 and 10), human and animal bones (scrapers). Rattles, drums and shell horns were mainly used during ceremonial events, to

accompany songs and dances in honour of the gods. Ocarinas and flutes were used at more secular occasions, as well as during funerals.

In addition to the musical instruments as such, they convey information by their shape and decoration. For example, an ocarina may be just that: a globular flute with a blowhole and a number of finger holes. But it may also have been given the shape of a shell, a bird, or a mythical being, very intricately moulded and decorated with painting, incisions, etc. This symbolism is an essential source of information.

Recurring motifs on musical instruments are birds, snakes, amphibians (lizards, iguanas, crocodiles), and cats (pumas, jaguars). These are often presented as mythical animals with a magical meaning, possibly totems or tutelary deities. The objects on which these have been depicted were considered sacred objects or objects of status. The motifs suggest that death was considered closely related to fertility and ancestor cults.

Classification of instruments

Musical instruments are generally classified according to the taxonomy devised by E.M. von Hornbostel and C. Sachs in 1914. Their system is based on Victor Mahillon's division of instruments according to the nature of the vibrating bodies: idiophones, membranopohones, aerophones and chordophones.

Instruments are called *idiophones* when the sound is produced by the material itself, free of any kind of applied tension. Idiophones may be struck (clappers, gongs, slit-drums), shaken (chimes, rattles), or scraped (scrapers). Examples of these types of instruments are found in Mexico, where the Aztecs used a slit-drum called 'teponaztli', and a bone scraper called 'omichicahuaztli'. The Maya wall paintings of Bonampak show men shaking rattles, probably of calabash. Rattles made of metal have been found in Peru.

Instruments are called *membranophones* when the sound is produced by the vibration of stretched skin or membrane. This category consists mostly of drums. Examples are the single-skinned drum, 'huehuetl', of the Mexican Aztecs, or the single-skinned drum of the Nazca in Peru.

Aerophones are musical instruments which produce sound by the vibration of an air column, by wind or breath, in a tube or across a reed. Pre-Columbian aerophones are mostly (natural) horns or trumpets, panpipes, whistles, ocarinas, and flutes. Within the context of this study, it is important to notice their differences. Horns, trumpets and panpipes have no mouthpiece or finger holes; a whistle has two holes, one for the air to be blown into, the other for the air to exit; an ocarina is round with finger holes on the sides of the body; and a flute is tubular, with or without a mouthpiece and has a number of finger holes in a row. Whistles only have one tone (or two, through overblowing), the tones on horns and trumpets are made by overblowing, and the tones on flutes (round as well as tubular) are produced by covering the finger holes as well as by over-blowing. An example of a trumpet from the Moche, Peru, may be seen on plate 11, and panpipes of the Peruvian Nazca on plate 12; plates 7 and 8 show ocarinas from various countries, and plate 1 shows flutes of the Mexican Colima culture. The Peruvian whistling jars are particularly interesting types of aerophones (pl. 10): their two round chambers are joined by a stirrup-spout with a whistle mechanism. When the jar is filled with a liquid and tilted, or when one blows into the spout, a whistling sound is made.

1

1. Drawings of Guamán Poma de Ayala.

1 *The Inca singing to his llama.*

2 *Festivals of the Antesuyos: jingle rattles and panpipes.*

3 *Festival of the Collasuyos: flutes and drum.*

4 *Chasqui (messenger) with shell-trumpet.*

5 *Songs and music: flutes.*

2

4

3

5

Chordophones, producing sound by the vibration of stretched strings, did not exist before the arrival of the Spaniards. One exception might be the musical bow, which is closely related to the hunting bow and consists of a piece of bent wood with a string made of organic material between the extremities. This string may be plucked or struck with a stick; the mouth cavity serves as a sound box. Martí (1968:223 ff) devotes a chapter to this simple but very interesting instrument, which is still played in Mexico and other regions of Latin America and may be of pre-Columbian origin. Although no bows have been found, nor any illustration of musical bows, this does not imply that they did not occur in pre-Columbian times; due to their low sounding volume they may have been instruments for individuals, not to be used in large gatherings, and thus escaped the attention of the chroniclers. As objects they may not have survived due to the vulnerability of the vegetal material they were made of.

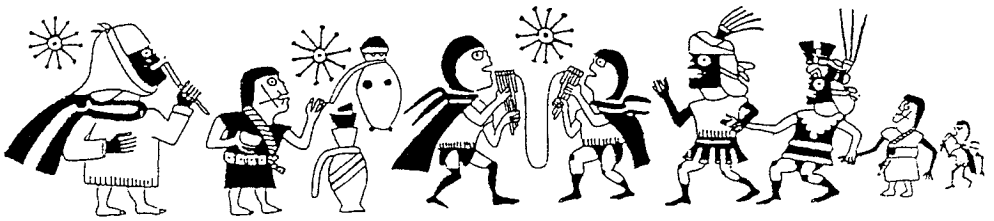
Sound-producing objects are not always recognized or considered as musical instruments. Ornaments may serve as little chimes, for instance jingling metal pendants which are used as a necklace or are sown onto clothing. Ceremonial staffs often have jingles fastened to the upper end. Jars with hollow legs containing pellets or stones, may serve as rattles.

Iconography: the image of music

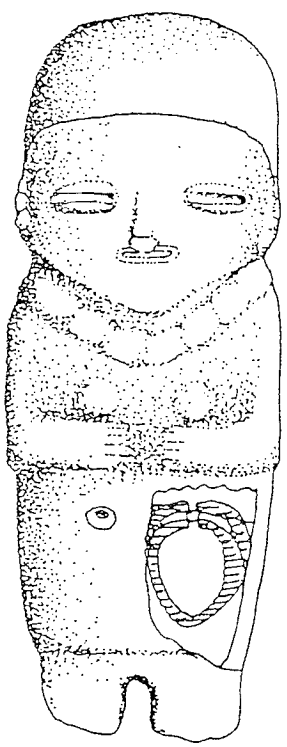
An important source for reconstructing the musical past are the two and three-dimensional depictions of musical activities. They can be found on wall paintings, codices, drawings, or jars. Moreover, figurines may represent musicians and dancers, who are also depicted on artefacts which are themselves musical instruments as well (whistling jars, ocarinas). The drawings by Felipe Guamán Poma de Ayala in his *Nueva Corónica y Buen Gobierno*, which deals with Peru, are famous, and rightly so (ill. 1). They depict many musical instruments, their uses, and the changes due to the Spanish Conquest. Dance is depicted as well, but this is more difficult to detect, since it is not always obvious that the people shown are actually dancing. One of Guamán Poma's drawings shows a man and two women dancing. One of the women plays a set of panpipes. Both she and the man wear rattles, tied to their lower legs. The figurines from Mexico (pl. 2) almost certainly show people dancing. The wall paintings of Bonampak, a Maya site of the 8th century, show a procession with musicians and dancers (ill. 8 and 9). They are famous for their pictorial eloquence. The Peruvian Moche and Nazca decorated their terracotta jars; many scenes depicting musicians and dancers are to be found on their pottery. The Moche jar painting in illustration 2 almost certainly seems to show people dancing, since they are holding hands and are accompanied by two men playing panpipes. These forms of dance are still practiced by Mexican or Peruvian Indians today.

Taken together, these drawings and paintings provide an excellent – if not necessarily complete – overview of the musical instruments that were used in pre-Columbian times.

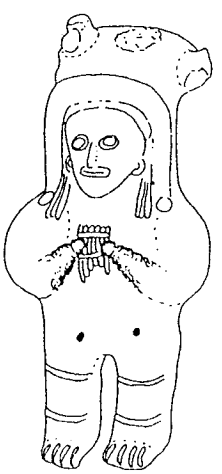
In interpreting these objects, it is useful to follow the interesting ideas on the iconography of music and dance developed by Ellen Hickmann (1990). In her study on archaeological documents of music-making in pre-Columbian cultures of Peru, Ecuador and Colombia she discusses 'the semantics of iconography



2. Paintings on terracotta jars of the Moche culture, Peru. Left: Two elaborately dressed men, possibly priests, playing panpipes, and two men playing trumpets. Above: Dance of the dead. The two panpipes in the middle are connected by a string, the figures on the outsides play flutes. [In: Hickmann, 1990:381, 194]



3. (left) Ocarina in the shape of a woman. Bahia culture, Ecuador. The drawing shows a cross section of one of the air chambers. The blowhole is located at the top of the figurine's head, and the air exits through four finger holes, two at the front of the body and two at the back. This ocarina produces four notes. [In: Parducci, 1982, fig. 20]



4. (right) An example of 'icon of superposed symbolism': the ocarina is shaped like a panpipes player. Bahia culture, Ecuador. [In: Hickmann, 1990:79]

regarding music, dance and sounding objects'. Her approach is new, inasfar as it relates the musical instruments as such to the way they appear, distinguishing between objects which are obviously musical instruments, and others more hidden to the eye (if not to the ear!). Hickmann defines 'icon' as 'an optical impression of sounding objects with their internalized acoustic property', starting with the simplest form of icon, the 'natural icon' and ending with 'icons of superposed symbolism'. A summary of her classification follows.

Icon and idea

How should these various types of representation of musicians, dancers and musical instruments be interpreted?

Hickmann's first category concerns musical instruments immediately recognizable as such, or instruments which in their form imitate other natural sounding objects. For instance, terracotta ocarinas from Ecuador are imitations of the large shells that are sounded as a signal. The use of the ocarina is unambiguous and not difficult to define, as is the case with instruments like rattles, bells, flutes, and drums. These instruments represent '*primary*' or '*natural icons*'.

The same type of instruments, however, can have more complicated forms, such as ocarinas in the shape of a bird or another animal, whose sound the ocarina imitates. The relation is rather obvious, and the unity of shape and sound characteristics may be easily decoded. The ocarina represents the 'voice' of the bird. Many aerophones, especially whistles and ocarinas, have the shape of an animal (the term 'ocarina' means 'little goose' in Italian). They represent the voice of various birds and animals which were considered to have a birdlike voice, such as opossums, monkeys, dogs and bats. Whistling jars are often bird-shaped as well. Another instance is the puma on the end of a terracotta horn of the Moche culture in Peru. The horn's sound may have been regarded as close to that of the puma. Hickmann calls this combination of instruments and symbolized animal sounds '*secondary*' or '*conventional icons*'.

If there is no direct relationship between image and sound and their meanings do not converge, the icons are called '*derived*'. This is the case when, for instance, a rattle or an ocarina is itself a figurine in the shape of a woman (ill. 3).

A fourth category consists of instruments of which image and sound are 'doubled'; this is, for instance, the case when the image of a musician is to be found as an ornament on a musical instrument, or when an ocarina has the shape of a panpipe player (ill. 4). Such an ocarina would be classified as a derived icon (image and sound are not related), if it were not for the added iconographic element: a panpipe. The image of a musician ornates the musical instrument. The ocarina is now a figurine of a panpipe player as well! This doubling seems to occur mostly between instruments with a common character, for instance, whistling jars are adorned with conch, panpipes or flute players. (Examples of other categories – such as a drum player on a Moche whistling jar – have been found.) The relationship instrument-decoration thus is 'one-to-one', e.g. the instrument as well as the decoration are aerophones. Hickmann calls these *'icons of superposed symbolism'* or *'synesthesising icons'*.[6]

She extends her iconographical categorization to depictions of music on non-sounding objects. Figurines and water jars in the shape of musicians, paintings on walls or jars, as well as low-reliefs on jars depict musicians in

action and are called *'narrative icons'*. Musicians were often present at funerals, and their effigies were used as funeral gifts. These effigies are instructive since they depict occasions when music and dance were performed, such as processions and celebrations; as such, however, they have no musical function. Interesting figurines have been found depicting musicians playing two instruments at a time, for example panpipes and drum, and effigies showing entire ensembles of musicians and dancers (pl. 2).

A last iconographic category concerns objects which make use of musical sounding instruments in a non-musical context, for example when they are used as jewelry: metal bells and jingles sewn onto clothing or used as necklaces or bracelets, or objects for daily use, such as jars, with hollow feet containing pebbles that rattle. Here the symbolism is removed and only understood by the initiated. Hickmann calls this an *'iconized decor piece'*.

In her view, in some cases the iconographic-symbolic impression of a musical instrument is more important than its sound. She arrives at this conclusion, analyzing whistles in the shape of human beings. Erich von Hornbostel and Curt Sachs, when studying a number of ocarinas from the Ethnographic Museum in Berlin, came to a similar conclusion: since the ocarinas do not have a fixed scale and thus produce sounds and intervals only due to their physical structure, their function is not a musical one in the first place (D'Harcourt, 1930). A figurine of the Recuay culture of Peru shows a man with a llama, holding a set of panpipes upside down! Could this be a mistake on the part of the maker, or were the panpipes in this scene not meant to be a sounding musical instrument? Judging from the elaborate (head)dress of the man, he may be a priest and the llama meant as an offering (ill. 5).

Hickmann's approach is stimulating for the study of pre-Columbian musical instruments, enabling us to go beyond the instruments as beautiful objects or interesting sounding objects, and to discover a deeper meaning or message.

Chroniclers as witnesses of their time

In reconstructing the past, various kinds of 'manuscripts' can be consulted: the painted codices from Mexico (before and after the Conquest), and the chronicles written in Spanish (after the Conquest). Music and dance were described by most chroniclers.

The pre-Columbian peoples of Meso America knew an idiographic way of transmitting information upon bark paper or deer skin. A number of such codices remain. Most, however, were destroyed by the European friars, since they considered them to be idolatrous. Some forty codices survived that are interesting for ethnomusicologists. They contain information regarding musical instruments, how they were played, the occasions and ceremonies during which they were used, as well as the gods to which they were dedicated. These codices, together with mural paintings and paintings on pottery, show music and dance in a social context. The musical culture of the Mixtec is shown in the *Codex Borbonicus* executed just after the Conquest, and in the *Codex Becker*, dealing with events between 1047 and 1066. The *Codex Dresden* deals with the Maya, the *Codex Florentino* shows Aztec musical instruments and events (Aretz, 1991).

An important source of information on the music and dance of the time before and during the Spanish Conquest – which took place at the beginning of the 16th century – are the books written in Spanish by native Indians, or missionaries and travellers from Spain. Many of these chroniclers refer to aspects of musical life in their writings. These chronicles reflect the attitude of the conquerors, the 'civilized' Europeans, towards the 'barbarians' of the New World, which was often condescending.

The *Popol Vuh* (Book of Council) was written around 1550 by an anonymous Maya-Quiché Indian; in it music and dance were described. Fray Bernardino de Sahagún (1499-1590) arrived in Mexico in 1529 and wrote *Historia General de las Cosas de Nueva España*, based on the Aztec *Codex Florentino* and orally transmitted knowledge. He provides us with information on music in its social context, from an indigenous perspective. Bernal Díaz del Castillo, a soldier in Cortés' armada, wrote *Historia Verdadera de la Conquista de la Nueva España*, published in 1632. To the Franciscan Fray Toribio de Benavente Motolinía, who was one of the first missionaries to arrive in New Spain in 1524, we owe *Memoriales e historia de los indios de la Nueva España*, dealing with Aztec culture.

In Peru, as stated above, it was Felipe Guamán Poma de Ayala, an Indian nobleman who adopted the name of his Spanish protector Ayala, wrote and illustrated the *Nueva Corónica y Buen Gobierno* between 1584 and 1614. Folios 315-327 deal with music and dance as well as the festivals of the four regions of the Inca kingdom of Tawantinsuyu. Other chroniclers, among them Garcilaso de la Vega, Bernabé Cobo and Pedro de Cieza de León, inform us about music and dance in Peru as well.

Cultural continuity

In addition to objects and images from pre-Columbian times, it is useful to study the present-day cultures of peoples whose lives to a certain extent still reflect pre-Columbian culture, due to the fact that they have lived in isolated or remote areas. In this context the term 'ethnographic analogy' is used. Of course, perfect cultural continuity does not exist, since most Indian societies today have had more or less intensive contacts with Western cultures, in one way or another.

Traditional music of certain contemporary indigenous groups resembles the music of their ancestors inasfar as the musical instruments and the context in which they are used are concerned. Often the music has a ceremonial function, during a communal event, to accompany dance, with texts in indigenous languages. The instruments used also resemble the pre-Columbian ones: gourd rattles, rattles tied around the lower legs, stamping sticks with jingles at the upper end, ocarinas, flutes, panpipes and various types of drums. A number of present-day traditional dances, among them the so-called *Danzas de la Conquista* (Dances of the Conquest), do revive the past, portraying the struggle against the conquerers. These dances may be considered as a way of keeping alive the memory of the Conquest, as a 'collective memory'.[7] Other dances represent the wives and daughters of the Inca rulers, like the Peruvian dance called *Ñustas*.

5. Figurine of a man with llama, carrying panpipes upside down. Recuay culture, Peru. Is this a way of carrying the instrument when not playing it, a mistake by the maker of the figurine, or was the instrument only meant for ceremonial purposes and not for playing? [In: Hickmann, 1990:287]

A related, interesting development concerns the 'cultural revival'. Cultural revival occurs in Andean countries like Bolivia, Peru and Ecuador, as well as in Europe. Groups of young people, (mixed) Indians and whites, play traditional music on instruments that already existed in pre-Columbian times, such as rattles made of deer hoofs, 'quenas' (notched flutes), panpipes, and double-skinned drums. Indian culture, once despised and suppressed, is regarded as a means of reaffirming cultural identity. In Europe this music is often looked upon as 'exotic' and for the performers it is often just a way to make a living. Still, the modern Indian music may be seen as cultural continuity, in that – together with new influences – aspects of traditional music are more or less developed in a living performing practice.

After this brief parade and classification of pre-Columbian musical instruments, with their history, their shapes and sounds, we will focus in more detail on the instruments of a number of countries, with an emphasis on those countries that are most strongly represented in the Tropenmuseum collection.