

Music of the Whole World

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The Musical Marriages of the Far East

- study materials

by Moshe Denburg

with bibliography and discography
compiled by Randy Raine-Reusch and Mei Han

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General Note

The following study materials are being made available to participants in the educational series, **Music of the Whole World**, presented by the Vancouver Inter-Cultural Orchestra (VICO) at the Vancouver Public Library. The presentation, **The Musical Marriages of the Far East**, took place on February 8, 2006.

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Randy Raine-Reusch – instrument descriptions, khaen information.

Mei Han – zheng information, Chinese music information.

Orchestration of Far Eastern Instruments

These materials form part of a larger work in progress (as of February 2006) entitled *Orchestrating the World - a Manual of Intercultural Music Making* by Moshe Denburg. Portions of this work are available for downloading on the VICO website. To download this study guide, as well as an expanded one for musicians and composers which includes orchestration materials for selected Far Eastern instruments, go to:

www.vi-co.org

and click on 'VICO Instruments'.

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The Far East – Scope and Considerations

The Far East comprises many nations and a very large variety of cultural traditions. Many of these are related due to migrations of peoples over the millenia; however, it would be an error of unseemly proportions to assume that these cultures can all be easily grouped together. Let us bear in mind that each one of these cultures are represented by populations as numerous as, and in many cases more numerous than, that of any European country. Thus we acknowledge the uniqueness of each culture in language, in musical instruments, and in musical expression.

For the limited purposes of the present discussion, the nation-cultures we will include in this category of the Far East are: Laos, Vietnam, Thailand, Borneo, China, Korea, and Japan.

Certain instruments of the Far East are to be found, with variations in construction and techniques of performance, in several cultures. Two significant categories, the long zithers and the free-reed mouth organs, are tabled below.

	Long Zithers	Free-Reed Mouth Organs
China	1. zheng 2. qin	1. sheng 2. naw 3. lusheng
Laos	-----	1. khaen 2. Gaeng
Thailand	-----	1. khaen 2. Gaeng
Vietnam	dan tranh	mbuat
Borneo	-----	sompoton
Korea	kayagum	
Japan	1. koto 2. ichigenkin	sho

For some of the instruments of the Far East there exist written traditions, while for others the music is transmitted aurally. Many Asian musical cultures have adopted or invented systems of notation - whether number notation, tablature notation, or some combination - within the past 100 years. Today, some form of notation may be utilized in China, Korea, Japan, Vietnam, and Thailand.

These notations are often instrument specific, and most of them are prescriptive rather than idiomatically descriptive, in other words, the notations do not include significant details about performance and expression; these details must still be acquired aurally from a teacher.

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- Khaen (free-reed mouth organ from Laos and Northeast Thailand)



[picture of khaen]
- courtesy of Randy Raine-Reusch

Description

The khaen is a free-reed bamboo mouth-organ from Laos and Northeast Thailand, that can also be occasionally found in parts of Northern Vietnam and Southern China. The most common khaen is the 16 pipe version, called the khaen paat which is anywhere from 2 to 3 ½ feet in length. There is a reed flush with the side of each pipe. Originally the reeds were made of bamboo or from the stalk of a certain palm tree, but now of metal (brass or silver) traditionally made by hammering a small coin on an elephant thighbone until it is paper thin and then cut to size. The pipes of the khaen are arranged in two rows and extend through both sides of a wooden wind chamber which surrounds all the reeds.

Khaen - Sizes and Pitches

There are a number of different types of khaen –

- a 6 pipe instrument called khaen hok, which is considered a toy;
- a 14 pipe instrument called khaen cet (pronounced: *tshet*);
- a 16 pipe instrument called khaen paat, the most common type;
- an 18 pipe instrument called the khaen gao, which is around 6 feet long, very rare and pretty much extinct.

The standard khaen is the 16 pipe (khaen paat), and is around one meter long. The standard used to be the 14 pipe (khaen cet).

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Range and Notation

On the 16 pipe khaen the range is 2 ½ octaves, normally extending from A to e². There is no notation tradition associated with the khaen.

Basic Scales, Modes, and Tuning

The khaen, being a folk instrument, each instrument may exhibit slight differences in tuning. In other words, traditionally khaen were not produced with a standard frequency in mind. But this is changing, and there are companies today mass producing khaen that are in a standard tuning.

The khaen is tuned to a natural minor scale, starting on A. If we take the lowest A to be one octave and a minor third below middle C. Thus the range will be: A to e².

It is diatonic (7 notes to the scale) but is played pentatonically, in modes derived from the scale.

Khaen can come in different pitches – one has to order them from the maker. They will of course vary in size. The standard Khaen in A is easy to find, but khaen in other pitches are not yet common.

General Considerations

The khaen is representative of the Lao culture as well as the Isan culture of northeastern Thailand. A very similar instrument to the Khaen is found in Vietnam, but it is primarily a Lao instrument.

It is played in one of five different modes determined by blocking fingerholes on two pipes to form drones. The complex note arrangements of the khaen allow for a good player to play a melody, countermelody, chords and rhythm simultaneously, and as such the khaen is perhaps the most versatile instrument of the Asian free-reed family.

Traditionally the khaen is used to accompany a form of social singing with improvisational elements, a style of music called Lam. A person called a mawlam is the singer, and the khaen player provides the main accompaniment for him. This type of music originally came from the recitation of Buddhist scriptures, and has transformed over time into a music of social commentary. Certain set scales or melodies may serve as a springboard for improvised commentary by the singer, who speaks about daily life occurrences, and communal struggles and interpersonal struggles.

As Lao is a five tone language, it is essential for the khaen player to understand the context of the song, to anticipate what the improvising singer is going to do, and go with the tonal inflections of the language, rising with a rising pitch and so on. Thus the art of playing khaen is not easily come by, and a large repertoire and experience is necessary in order to play appropriately.

Method of Play

To make the reeds vibrate the player blows air into and sucks air out of the air chamber – both exhalation and inhalation can make the reeds vibrate. When a hole of a pipe is covered, enough air pressure is created to make its reed vibrate. The length of the pipe is calculated to resonate with the fundamental frequency of the vibrating reed. Thus if the pipe is of an inappropriate length the reed will not sound.

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Traditionally one or two pipes are plugged to sound out constantly, as drones. These are usually the higher pipes of the instrument rather than the lower. They are plugged with pieces of pitch, called *kisoot*. Technically any of the pipes and any number of them can be plugged to sound as drones.

The longest pipes face the player and the pipe holes are opened and closed by the fingers of both hands. The two pipes facing the player (longest and lowest pitched) are played by the thumbs, the two farthest pipes (shortest and highest pitched) are played by the little fingers. This leaves 6 pipes in between. These pipes are played by the three remaining fingers, thus each finger has a choice of two pipes. To summarize:

- Thumbs play the 1st pipe pair;
- Index (first) fingers play the 2nd and 3rd pipe pairs;
- Middle (second) fingers play the 4th and 5th pipe pairs;
- Ring (third) fingers play the 6th and 7th pipe pairs;
- Little (fourth) fingers play the 8th pipe pair..

The maximum number of notes that can be sounded simultaneously, not including drones, is ten.

Chromaticism

The khaen is a non-chromatic instrument – it can only sound the pitches which its reeds and pipes are designed to sound.

Dynamics

There is a very large dynamic range possible, and one can call for *pp* to *ff* on any note. One can create crescendi and diminuendi by adding or taking away notes from a cluster.

Speed of Execution

Quite fast runs are possible, perhaps stepwise a little faster than large leaps, but the action of the fingers is quite quick, even for intervallic fingerings. 16th notes at mm=132 are certainly performable, and perhaps faster still.

Techniques

The Tradition

The lower octave of the mode is traditionally played in octaves or fifths, or combinations of these intervals. Of course it is technically possible to play discrete notes, but the tradition has it that the lower octave is played in such a manner. The second octave and above is played in single notes.

Always there is at least one drone, and clusters are utilized where almost any mode note can be added in. These clusters are typically used at the beginning and end of pieces, a kind of ‘trumpeting’ the entrance and exit of the music.

Notes that one is not playing can be added in as a rhythmic counterpoint or accompaniment to the actual notes being played. Also, percussive breathing is used to accent the drone pipes, in a 6 note pattern. One can conceive of this accented pattern in two ways:

1. a 2/4 measure with two 16th notes followed by an 8th note, repeated, the accent falling on the 8th notes.
2. a 2/4 measure of two triplets, where the accents fall on the 3rd note of each triplet.

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The problem with notating this traditional accenting scheme in western notation is that the natural western tendency is to accent the 1 of the measure. This tendency needs to be checked. The important accents are on the 3rd and the 6th notes. One ought to consult with the performer to see whether the notation is adequate and appropriate.

General resources

All the notes of the septatonic natural minor scale are playable, in combination or singly. What can become awkward is placing the fingers on three adjacent pipes. It is possible, but would necessitate developing a non-traditional skill.

Specific Techniques

I. Tongueing

All tongueings are doable – multiple, flutter, and back of the tongue flutter.

II. Vibrati

Vibrato is accomplished with the diaphragm. One can also achieve a diaphragmatic flutter.

III. Accents

Accenting is possible, by accentuating the breath. It is suggested to utilize just the onbe accent marking: >

IV. Timbres

Timbral variation is not part of the instrument's vocabulary, but perhaps some experimentation can be done to vary the timbre by manipulating the pipes. Please consult with the performer.

V. Special Techniques

1. Interesting sharpening and flattening of notes can be achieved by varying the air pressure. It is an aleatoric device (i.e. – unpredictable), but can be utilized to colour various clusters.

2. John Cage discovered that if one blows very lightly, certain reeds will sound in a pitch other than their actual constructed pitch. These pitches are not 'composable' since each instrument may respond quite differently, rendering different effects. However, it may be utilised for example at the end of a very quiet phrase that drops down to a very low volume. Experimentation with the individual performer is called for.

3. One has to include as an extended technique, fingerings that do not adhere to the traditional one finger per two pipe scenario (see above in 'Method of Play').

4. One can play and sound the voice simultaneously.

Asian Relatives of the Khaen

Sheng (China)

Sho (Japan)

Mbuat (Vietnam)

Sompoton (Borneo)

Internet links

<http://www.asza.com/ikhaen.shtml>

<http://www.ksanti.net/free-reed/essays/khaenlaos.html>

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Descriptions of selected Far Eastern Instruments
with special thanks to Randy Raine-Reusch

Dan Tranh - The Dan Tranh is a 16 string zither from Vietnam approximately 1 metre long. The strings are all made from metal of a uniformly thin gauge, allowing for extremely subtle nuances to be voiced. The instrument is usually played with metal or tortoise shell picks on the thumb and first two fingers. The dan tranh is performed as both a solo instrument, in small ensembles, and as part of larger traditional music orchestras. It has a very quiet and delicate sound.

Ichigenkin - The ichigenkin is an extremely rare 1-string zither that was believed to have originated in the Shikoku region of Japan. The ichigenkin has a history as a philosopher's instrument, and at one time was a preferred instrument of many members of the Samurai class. Presently used to accompany vocal music, the ichigenkin is capable of extreme subtlety while producing a surprisingly full and complex sound.

Gaeng - The gaeng or qeej is the free-reed mouth organ of the Hmong people of Laos and northern Thailand. It has a very long wooden wind chamber intersected by six pipes placed in two rows that curve upwards. The reeds are usually made of brass. The mouth piece can be up to a metre long with the pipes ranging from a metre (common in Laos) to 4 metres (found in southern China). It is usually played for funeral rites but can also be performed at the New Year's festival and other events.

Kavagum - A long zither which originated in the southern kingdom of Kaya, the Kayagum has a soundboard made of paulownia wood and 12 strings of twisted silk. The strings rest on moveable bridges each carved in the shape of a crane's foot. It has great expressive capabilities including microtonal shadings, and it is perhaps the most favored of all Korean instruments that are normally performed in a solo capacity.

Koto - A prominent member of the family of Asian long zithers, the Koto has seen more than a millenium of development since it was brought to Japan from China. It normally has 13 strings which rest on moveable bridges to facilitate various tunings. It is played with plectra on the right hand fingers, while the left hand is employed primarily in creating ornamentation and altered pitches.

Lusheng - (pronunciation: *loo-shung*) The lusheng is a free-reed mouth organ played by several minority peoples of Southwestern China. The Chinese lusheng is a version of the Lao *gaeng* but different in size and construction materials. Traditional lusheng have six bamboo pipes set into a bamboo or wooden wind chamber. Sizes range from 1/3 of a metre to 3-4 metres. Recent innovations, created in response to Chinese government ideologies, have increased the number of pipes in order to play more complex music, and a set pitch to play with other instruments.

Mbuat - The mbuat is the free-reed mouth organ of the Meo (Hmong) people of Vietnam. Played as a solo instrument or in small ensembles it was commonly used for expressing caring between a man and woman. It is perhaps the oldest example of free reed mouth organs in existence. The Raglai people of Vietnam play an almost identical instrument called a kupoat. The Murung people of Bangladesh play an instrument called a plung which is almost identical in construction to the mbuat.

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Naw - Found in southern China and in the mountains of northern South-east Asia, the naw or hulusheng (which literally means gourd sheng) is a free-reed mouth organ, and one of the oldest members of the sheng family. It has five pipes grouped in a circular cluster, and placed in such a way as to allow the player to "bend" the notes. The music of the naw is lively and quite loud, in spite of its possessing bamboo reeds.

Qin - (pronunciation: *chin*) A seven-stringed zither without bridges, it is widely recognized as the Chinese instrument with the highest pedigree, as it has over 3000 years of history. It can be called Qin, but is also referred to as Guqin, as "gu" implies 'ancient'. Acoustically it is of very soft dynamic, and is not played as an ensemble instrument and hardly in public. It is reserved as an instrument of personal discipline and enrichment.

Shakuhachi - An end blown notched bamboo flute of Japan, the modern standard version has four finger holes and one thumb hole. Originally imported from China by the early 8th century, it reappeared around the 15th century in a Japanized form and has since come to be used in several quite diverse types of music: meditative solos, small ensemble pieces, folksong, and modern works by both native and foreign composers.

Sompoton - The sompoton is a free-reed mouth organ from northeastern Borneo. It has a gourd wind chamber from which extend 8 pipes arranged in two rows. There are bamboo reeds in seven of these pipes only, and three of these pipes do not have sound holes and are played by closing and opening the tops of the pipes with fingers of the right hand. The instrument has an average size of just over 1 foot, but may range in size from 6 inches to 3 feet in length.

Sheng - (pronunciation: *shung*) The sheng is a mouth organ made of bamboo, consisting of a bundle typically of 17 pipes (but as many as 36 in some larger models) attached to a wind chamber. The pipes are fitted with free reeds, nowadays made of brass. The Sheng is an ancient Chinese instrument and since it is capable of sounding up to 6 notes at once, it is utilized both as a solo voice and for harmonic accompaniment.

Sho - A Japanese free-reed mouth organ related to the Chinese shêng, the sho has around seventeen bamboo pipes and 15 reeds. The pipes extend from the top of a wooden wind chamber, and arrayed in a circular manner. The instrument is used to provide a chordal element, and is prominent in a style of Japanese court music called Gagaku.

Zheng - (pronunciation: *jung*) A plucked half-tube wood zither from China, with movable bridges over which strings are stretched. The strings were traditionally made of silk, but today they are usually made of steel or metal wound nylon. The modern Zheng usually has 21 strings, tuned to a pentatonic scale. The performer uses the right hand to pluck the strings, and the tone can be modulated by the left hand pressing the string on the non-speaking side of the bridge. Excellent arpeggios, chords, glissandi, bends, and delicate ornaments are obtainable from the instrument.

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Selected Bibliography and Discography

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Internet Resources

- www.asza.com click on: 'WORLD INSTRUMENT GALLERY'
- For more information on a large array of world music instruments

For more information on intercultural events, music, and study

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