

*Surface and Deep Structure in the Tōgaku  
Ensemble of Japanese Court Music (Gagaku)*

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*Tōgaku* 唐樂 (literally, “music of [the Chinese] Tang [dynasty]”) comprises a large portion of Japanese court music *gagaku*, which has been passed down and strongly associated with imperial court cultures for more than 1,300 years. This essay clarifies how its melody and rhythm are organized on multiple structural levels. Ethnomusicologist John Blacking employs the



Photo: Kangen Ensemble of the Ono Gagaku Kai Society, 2006 in New York. Photo by James Ware Billett.

concepts of surface structure and deep structure respectively to analyze musical patterns and to interpret cognitive processes (Blacking 1971). His notion of deep structure comprises an especially wide and deep viewpoint from which to understand the nonmusical, cultural, and social background of human behaviors. Here, however, I would like to limit the connotations of these terms simply to the context of sonic form and process. Between the surface and deep structures in present-day *tôgaku* practice there is certainly a disjunction of musical idiom and mode. In other words, different principles govern each level of the music. Analysis of these levels in contemporary practice reveals stages of historical change. The disjunctions it identifies between surface melody and deep melody not only inform an understanding of contemporary *tôgaku* but also provide important clues that permit a reconstruction of features of this music as it is thought to have been in the past, closer to its Tang Chinese source.

Current *gagaku* tradition can be divided into three categories according to origin and style: (1) indigenous vocal and dance repertoires, which are primarily performed in Shinto (Japanese native religion) ceremonies accompanied by both indigenous and foreign instruments; (2) foreign instrumental music and dances, *tôgaku* and *komagaku* (“music of Korea”) used in various court, Buddhist, and Shinto ceremonies, which feature instruments brought from the Asian mainland; and (3) vocalized Japanese or Chinese poetry, *saibara* and *rôei*, established in ninth-century Japan and enjoyed mainly by high-ranking noblemen in informal court ceremonies.

*Tôgaku* employs a characteristic ensemble of instruments introduced during the Tang era (618–907): *shô* (mouth organ), *hichiriki* (reed pipe), *ryûteki* (transverse flute), *biwa* (lute), *koto* (zither), *taiko* (big drum), *shôko* (small gong), and *kakko* (barrel-shaped drum). The music is *heterophonic* in that every melodic instrument plays a unique realization of a single, shared basic skeletal melody. But these realizations sometimes sound “contradictory” to one another. The inconsistencies are especially evident in the surface melodic patterns of the *ryûteki* and *hichiriki* parts, which lost some of their original Chinese modal features over the course of the long history since their introduction into Japan. On the other hand, the original Chinese modal principles are preserved well in the basic melody.<sup>1</sup>

1. The article on *tôgaku* in *The New Grove Dictionary of Music and Musicians* claims that *ryûteki* and *hichiriki* melodies, at least their surface structure, are “not part of the legacy from China” and have developed independently since the fourteenth century or earlier (Marett 2001). This perspective summarizes the work of a considerable body of scholarship by Laurence Picken, Allan Marett, and others in the so-called

Here, focusing on a short but well-made (and the most popular) piece, *Etenraku* in *hyô-jô* mode, I examine (1) musical idioms of each instrument, conversation among the instruments, and melodic patterns associated with the registers of each instrument in the surface structure; (2) the original characteristics of the mode according to Chinese theory, which are clear in the basic melody, and the structure of the melodic patterns therein; (3) different principles of modulation and transposition between modes in the surface and deep structures; and I demonstrate that (4) it is possible to reconstruct ancient *tôgaku* melodies by reading and interpreting current and historical sources of music notation with a full understanding of the relationship between the current surface realization and the deep basic melody.

### *Surface Structure of Etenraku*

#### *Rhythmic Structure, Tempo, and Form*

There are two categories of rhythm in *tôgaku*, nonmetrical and metrical. Short introductory pieces (preludes) and closing patterns are often nonmetrical, whereas the main body of a piece is metrical. A significant aspect of the metrical rhythm is a cyclic principle in which the last beat of a unit is of primary importance.<sup>2</sup> Traditionally, it is marked by a stroke of the big drum known as *taiko*. The *taiko* stroke is called *hyôshi*, a term also indicating the measurement of a rhythmic cycle. The rhythmic unit consists of four, six, or eight parts, called *kobyôshi* (“small” *hyôshi*) that can be thought of as “measures” in Western notation. The unit made of four *kobyôshi* is referred to as *yo-hyôshi* (*yo* = four), six as *mu-hyôshi* (*mu* = six), and eight as *ya-hyôshi* (*ya* = eight). If each *kobyôshi* includes four beats, it is categorized as *haya* (“fast”), while it is labeled *nobe* (“extended”) if it contains eight beats. For example, *Etenraku* is considered *haya yo-hyôshi*, wherein one unit of the cycle consists of four measures and every measure includes four beats (figure 1.1). Other types of metrical structure include *tada-byôshi* and *yatara-byôshi*. The former has alternating two- and four-beat measures (2 + 4), whereas the latter alternates two- and three-beat measures (2 + 3).

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Cambridge School. The present analysis complements the Cambridge perspective by emphasizing the pitches falling on the first beat of every measure, which still mostly match those of *shô*, *biwa*, and *koto* and keep the outline of the original Chinese melody (discussed in detail later).

2. This is similar to Chinese *nanguan* and Indonesian gamelan, in which *paiban* or *gong* punctuate cycle endings.



Figure 1.1. Rhythmic structure of *haya-byôshi* (● = *taiko*).

Thus, the *taiko* is struck with strict regularity once every four measures in *Etenraku* (every six or eight measures in other pieces) and is anticipated as the moment when all instruments converge. However, the rhythmic cycles and melodic phrases do not begin or end together. In *Etenraku*, melodic phrases start with the second measure of the rhythmic cycle. If we analyze a *tôgaku* piece prioritizing melody, the *taiko* beat falls in the middle of each melodic phrase (figure 1.2).

Beats in contemporary *tôgaku* performance are actually not equal in duration but rather elastic. In particular, often the last beat of a measure is extended and the original tempo recovered on the first beat of the next measure. Over the larger scale, the tempo also changes, often beginning slowly ( $J = 40$  or so), then gradually accelerating toward the end.<sup>3</sup>

In this slow tempo, two measures make one unit of melody. In figure 1.2, the first two measures (comprising the rhythm that is specified by the mnemonic syllables *to – ra – ro o ru ro*) make a unit, and the next two measures (*ta – a ro ra a a –*) make another unit, which *ryûteki* and *hichiriki* can play with a single breath. In the current standard notation of *gagaku* (*Meiji-senteifu*<sup>4</sup>), each such unit is punctuated by intercolumnal dots.<sup>5</sup>

3. The final tempo differs among pieces. However, music for dance accompaniment (*bugaku*) often ends at  $J = 80$ – $100$ , while music without dance (*kangen*) can end as slow as  $J = 50$ – $60$ . The tempo was much faster, both in *kangen* and *bugaku*, at the beginning of the twentieth century (Terauchi 2002).

4. *Meiji-senteifu* was compiled in 1876 and 1888 by Gagakukyoku, a predecessor of the present-day Kunaichô gakubu, or the Department of Music, Imperial Household Agency, which has been the highest authority of the *gagaku* tradition since the Meiji era.

5. Sukehiro Shiba (1898–1982), a court musician who, in the *Meiji-senteifu*, completed a great work of transcription of the whole *gagaku* repertoire into Western notation, refers to a two-measure unit as *gakushi* (“musical word”), and to a melody lasting one rhythmic cycle (*hyôshi*) as *gakku* (“musical phrase”) (Shiba 1968, 1969, 1971, 1972). Garfias also analyzes *tôgaku* melodies in terms of two-measure units (Garfias 1975).

↓ melody begins				
1	2	3	4	(measures counted by melody)
to	ra	ro o ru ro ta	a ro ra a a	(ryûteki mnemonic syllables)
2	3	●4 = taiko	1	(measures counted by percussion)
				↑ rhythmic pattern starts

Figure 1.2. Rhythmic cycle of *Etenraku*.

These two-measure melodic patterns, reflecting each instrument's function, are combined into larger, repeating segments. The basic melody underlying these units is not obvious in the surface structure, but is organized into larger units of four or eight measures. The full *Etenraku* consists of three such eight-measure sections (section 1: mm. 1–8; section 2: mm. 9–16; section 3: mm. 17–24). In most performances each section is immediately repeated.

There are three accepted ways of ordering *Etenraku*'s three sections in performance. In the standard version, after the repeat of section 3, sections 1 and 2 are each played twice more (so the form is 112233 1122). A short version, omitting section 3 and playing sections 1 and 2 twice each, is acceptable when time is constrained. The *Nokorigaku-sanben* version (*nokorigaku*, “remaining music”; and *sanben*, “three times”), which is used for the present analysis, organizes the sections as follows: 112233 112233 1122.<sup>6</sup> As the music unfolds, percussion and winds drop out one by one until only the lead *hichiriki*, the *biwa*, and the *koto* remain. Here the *koto* plays unusually complex figures called *rinzetsu*, accompanied by *hichiriki* phrases cut into fragments and separated by sporadic pauses in the third repetition (figure 1.3).<sup>7</sup>

### *Musical Idiom and Notation of Each Instrument*

In contemporary *tôgaku*, three winds (*shô*, *hichiriki*, and *ryûteki*), two strings (*biwa* and *koto*), and three percussion instruments (*taiko*, *shôko*, *kakko*) make up the ensemble. However, there are two styles of performance: one without dance, called *kangen* (literally “pipes and strings”), and one that accompanies dance, referred to as *bugaku* (“dance music”), in which only

6. In the recording linked to this volume's website, the last repetition of sections 1 and 2 is omitted, making the form 112233 112233 12.

7. *Nokorigaku* is assumed to have been created to feature *koto* and *biwa*, which were relegated to amateur musicians, often higher ranked noblemen. The special arrangement of *koto* and *hichiriki* parts used to be improvised, and is partly so even today.

	<i>Ryūteki</i>	<i>Shō</i>	<i>Hichiriki</i>	<i>Biwa</i>	<i>Koto</i>	<i>Kakko</i>	<i>Shōko</i>	<i>Taiko</i>
Section 1	leader starts, tutti from first <i>taiko</i>	joins in at the first <i>taiko</i>	join in at the first <i>taiko</i>	joins in after the first <i>taiko</i>	joins in after <i>biwa</i>	enters with <i>ryūteki</i>	joins in at the first <i>taiko</i>	joins in at the first <i>taiko</i>
Section 1 repetition	↓	↓	↓	↓	↓	↓	↓	↓
Section 2	↓	↓	↓	↓	↓	↓	↓	↓
Section 2 repetition	↓	↓	↓	↓	↓	<i>kuwae-byōshi</i> , quits at the end	<i>kuwae-byōshi</i> , quits at the end	<i>kuwae-byōshi</i> , quits at the end
Section 3	leader only	leader only	leader only	↓	↓			
Section 3 repetition	↓	↓	↓	↓	↓			
Section 1	↓	↓	↓	↓	↓			
Section 1 repetition	↓	↓	↓	↓	↓			
Section 2	↓	quits in the latter half	↓	↓	↓			
Section 2 repetition	↓		↓	↓	↓			
Section 3	quits in the latter half		↓	↓	<i>rinzetsu</i>			
Section 3 repetition			fragmentary	↓	↓			
Section 1			↓	↓	↓			
Section 1 repetition			↓	↓	↓			
Section 2			↓	↓	↓			
Section 2 repetition			quits in the latter half	↓	↓			

Figure 1.3. Sectional form of *Etenraku: nokorigaku-sanben* version.

winds and percussion are used. In *kangen*, there are three players for each wind instrument, two for each string instrument, and one for each percussion instrument, making a total of sixteen musicians. *Bugaku* performances feature five or more musicians on each wind instrument, and one on each percussion instrument.

#### SHÔ (MOUTH ORGAN)<sup>8</sup>

The *shô* is thought to have originated in the Yunnan province of China and in the surrounding areas in Vietnam, Thailand, and Laos, where one can find various types of this instrument. It has seventeen thin bamboo pipes, arranged into a circle (figure 1.4) and fixed onto a wooden chamber. Fifteen of them have a single metal reed at the bottom, above which there is a small finger hole. When the hole is covered the pipe sounds, both when exhaling and inhaling through the wooden chamber. Chords or clusters of five or six notes, called *aitake* (literally, “combining bamboos”), are commonly used in *tôgaku*, whereas in *saibara* or *rôei* songs the *shô* accompanies the melody only with single notes. Each *aitake* (figure 1.5) is named after the lowest pitch of the bamboo pipes played in the chord, although there are a few exceptions. (In the notation, the name of the *aitake*, or single pipe, is indicated by Chinese characters together with rhythmic signs.) Figure 1.6 shows all the possible lowest pitches. The series of lowest pitches presented by the series of *aitake* is actually the basic melody of the ensemble.

Shifting from one chord to another requires changing both fingering and the direction and pressure of breath, which varies the dynamics. Usually finger changes (*te-utsuri*; literally “moving of chord or hand”) come first, followed by a change (*ki-gae*; literally “change of breath”) from inhaling to exhaling or vice versa, starting on the first beat of the next measure. The breath pressure, and so the loudness, is minimal on the first beat, but it gradually increases, culminating at the last beat (figure 1.7).

#### HICHIRIKI (REED PIPE)

*Hichiriki* is a small vertical bamboo pipe 18 centimeters long, inserted with a large, flattened, shaved double reed that can produce a very loud sound. The main body has seven finger holes in the front and two in the back; its inside is lacquered, and its outside is wrapped with thin strings made of cherry bark. This instrument’s sound is distinguished by its pitch-gliding technique, called

8. The following information about instrumental and ensemble techniques comes from my personal experience of *gagaku* practice with master musician Shiba Sukeyasu (1935–), a former court musician, leading *ryûteki* player, composer, and instructor.

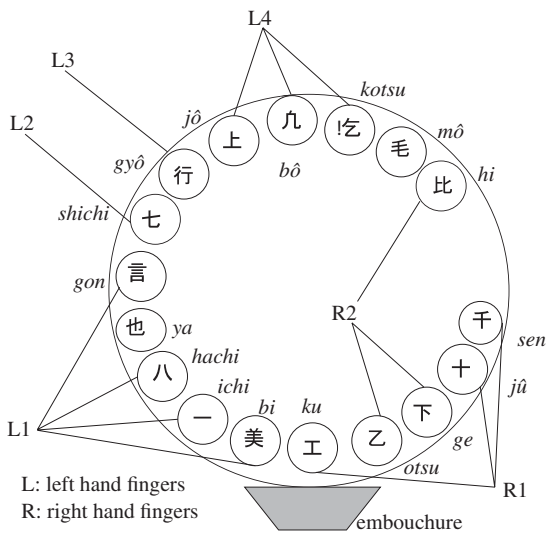


Figure 1.4. Structure and fingering of the *shô*.

Figure 1.5. *Aitake* chords of the *shô*.



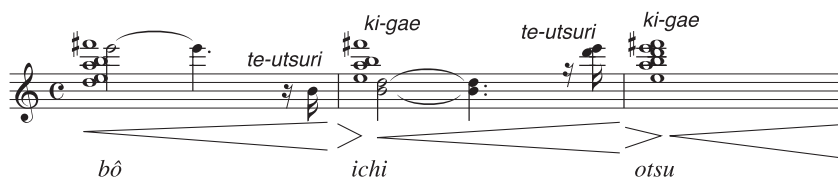
Figure 1.6. Bamboo (and lowest *aitake*) pitches of the *shô*.



*embai* (literally, “salted plum seasoning”), which is attained with subtle adjustment of the lips, breath, and fingers. *Hichiriki* is so popular that it is used not only in *tôgaku* and *komagaku* ensembles, but also to accompany *saibara*, *rôei*, and other Japanese indigenous songs.

In *hichiriki* notation, finger positions are indicated by tablature signs derived from Chinese characters (figure 1.8). However, wind melodies are mainly learned with mnemonics (*shôga*) indicating pitch, rhythm, breath



Figure 1.7. Timing of *te-utsuri* and *ki-gae* for the *shô aitake* succession *bô-ichi-otsu*.

cuts, and other detailed information. Each wind instrument employs its own system of *shôga*. Present-day *hichiriki* and *ryûteki* notation, such as shown in figure 1.9, is presented in columns, each showing *shôga* syllables in the center, finger positions (tablature) on the left, and rhythmic signs on the right.


*Shôga* were already in use very early in the history of *tôgaku*, certainly before the end of the twelfth century, but only relatively recently, in the seventeenth century, did they begin to be actually written down in musical scores. The premedieval notation for *hichiriki* and *ryûteki* contained only tablature signs, as few as one or two per *kobyôshi* (measure), and thus seem to conform to the ancient basic melody.<sup>9</sup> In contemporary practice the *shôga* syllables prescribe the ornamentations that are associated with the separately shown tablature signs.

#### RYÛTEKI (TRANSVERSE FLUTE)

*Ryûteki* is a transverse flute 40 centimeters long, with seven finger holes. Its body is finished like the *hichiriki*'s. Finger positions are likewise indicated by tablature signs based on Chinese characters. The same finger position can produce the lower register (*fukura*; “soft”) and the one an octave higher (*seme*; “tight”) (figure 1.10). The *ryûteki* adds a colorful ornamentation to the *hichiriki* melody, frequently switching from one register to another. It is used also in *saibara* and other few indigenous vocal genres such as *ô-uta*, *ônaobi-uta* and *kume-uta*.

9. In the oldest extant large-scale wind score, *Hakuga no fue-fu*, compiled in 966 by the noble musician Minamoto no Hiromasa (918–980), only tablature signs and *taiko* beats are written. Hayashi Kenzô (1899–1976), focusing on number and distribution of tablature signs and the periodicity of the rhythm, tried to restore the basic melody as early as in 1960 (Hayashi 1960/1969). Allan Marett also worked on early *ryûteki* notations and interpreted them as a legacy of Chinese tradition (Marett 1977, 1985, 1988, 2006).

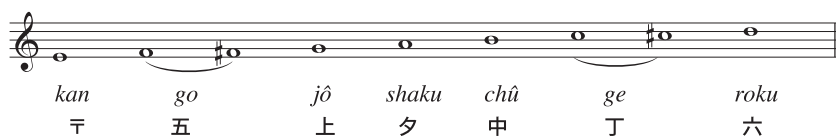
Figure 1.8. Tablature symbols and names for *hichiriki* finger positions.



<i>zetsu</i>	<i>go</i>	<i>kô</i>	<i>han</i>	<i>riku</i>	<i>shi</i>	<i>itsu</i>	<i>jô</i>	<i>tei</i>
舌	五	工	凡	六	四	一	上	丁
四	タ	・	工	ト	・	六	チ	・
	ア			ヲ		四	ラ	越天楽
ノ	ハ	・	ノ	ホ	・	工	ロ	・
	ア		五	ヲ		五	ヲ	
	ア		舌	ロ		工	ロ	
一	タ	●	工	ト	●	四	タ	●
	ア		五	ル		六	アル	← <i>taiko</i>
			工	ロ		四	ラ	
丁	リ	・	四	タ	・	四	ラ	・
	イ		工	ロ		四	ア	← <i>kobyôshi</i>
	イ		五	ル				
工	ト	・	上	チ	・	六	チ	・
凡	ロ		丁	リ		四	ラ	
			一	ラ		ノ	ハ	
工	ト	・	工	ト	・	上	チ	・
五	ロ		工	ヲ		丁	エ	
六	ヲ		五	ロ		上	リ	
丁	リ	●	四	タ	●	四	タ	●
	イ			アル			アル	
ノ	引	・	六	ラ	・	六	ラ	・
	引		四	ア		四	ア	↑ <i>tablatures</i>
							アル	← <i>shôga syllables</i>
							ラ	
							ア	

Figure 1.9. Traditional columnar notation for the *hichiriki* (“Etenraku”).

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Figure 1.10. Tablature symbols and names for *ryûteki* finger positions.

## BIWA (LUTE)

*Biwa* is a pear-shaped, four-string lute with four frets attached to the neck, which is angled back sharply. Twenty left-hand finger positions, including open strings, are indicated by signs made from Chinese characters (figure 1.11). The interval between the second, third, and fourth frets is equivalent to a semitone, whereas that between an open string and the first fret is a whole tone. There are six kinds of tuning, each corresponding to one of the six modes used in *tôgaku* (see below). The instrument's role is mainly rhythmic. The strings are plucked downward from lowest to highest with a box-wood plectrum, creating arpeggios. The notated pitch sounds on the first beat of its measure and is the last (and highest) of each arpeggio pattern (figure 1.12). The primary left-hand action is to hold fingers on frets. Sometimes a finger is released and replaced to produce a lower neighbor-note figure, but this technique may be almost inaudible. The notes played by the plectrum are indicated by large symbols, while those produced by left-hand finger motions are indicated by small ones (and are transcribed as small notes in figure 1.12).

## KOTO (LONG ZITHER)

*Koto*, also known as *sô* or *gakusô*, is a thirteen-string-long zither plucked with bamboo artificial nails worn on the thumb, index, and middle fingers. Each string is tuned with a movable wooden bridge to one of the six modal tunings. Notational signs are either single or in combinations of two. A pair of signs indicates two strings of the same pitch or at an octave, but they are realized as *hayagaki* or *shizugaki* patterns in the actual ensemble. For example, in figure 1.13, the actual notation on the left specifies only the seventh and twelfth strings, but when it is realized as *hayagaki* or *shizugaki* as shown on the staff, the eighth, ninth, and tenth strings are also plucked. The *koto*'s idiom strongly articulates the quarter-note beats on which it plays. In Heian times (794–1185/1192), left-hand techniques of pressing or pulling strings were used that are now lost, with consequences for music analysis to be discussed below.

	Open	Fret 1	Fret 2	Fret 3	Fret 4
IV	丄 <i>jô</i>	八 <i>hachi</i>	丨 <i>boku</i>	厶 <i>sen</i>	也 <i>ya</i>
III	夕 <i>gyô</i>	七 <i>shichi</i>	匕 <i>hi</i>	ㄥ <i>gon</i>	之 <i>shi</i>
II	厶 <i>otsu</i>	下 <i>ge</i>	十 <i>jû</i>	乙 <i>bi</i>	コ <i>ko</i>
I	一 <i>ichi</i>	工 <i>ku</i>	几母 <i>bo</i>	フ <i>shû</i>	斗 <i>to</i>

Figure 1.11. Tablature symbols and names for *biwa* finger positions.Figure 1.12. Timing of arpeggio patterns in the *biwa*.

也 厶 也 八  
IV4 3 4 IV1

Figure 1.13. *Shizugaki* and *hayagaki* patterns that realize a *koto* notation.

爲 七  
12 8/9 7 8 9 10/12 8/9 7 12

### TAIKO (BIG DRUM)

There are three types of *taiko*, a large double-headed barrel-shaped drum. The *dadaiko* has the largest diameter skin and an elaborate ornamental sculpture attached to its body; it is usually used outdoors for *bugaku* performances. The *ninai-daiko* is small enough to carry and play in processions. The most common type is *tsuri-daiko*, used in ordinary indoor *kangen* performances. All these *taiko*, however, have the same musical function: a strong right-hand stroke (*o-bachi*, “male stroke”) preceded by a weaker left-hand stroke (*me-bachi*, “female stroke”) articulates the end of each *hyôshi* rhythmic cycle.

### SHÔKO (GONG)

The flat gong *shôko* also has three types: the largest one, *ô-shôko*, is used for outdoor *bugaku* performance; *ninai shôko* is for processions; and *tsuri-shôko* for indoor *kangen*. *Shôko*'s concave side is struck with two thin wooden sticks. Combinations of right-hand, left-hand, and double strokes by both hands produce distinctive rhythmic patterns.

## KAKKO (CYLINDRICAL DRUM)

*Kakko* is a double-headed cylindrical drum playing one of three basic patterns with two long, thin sticks. The solid single stroke *sei* is played with the right stick. Two kinds of gradually accelerating rolling patterns—*rai*, with one stick on either side, and the double roll *mororai*—are combined into larger patterns that span the rhythmic cycle. In *tôgaku*, all the percussion repeat a specific pattern throughout the first half of a piece (figure 1.14a), then in the standard version they often replace it with another pattern called *kuwae-byôshi* (“added pattern”) (figure 1.14b).

*Conversation among the Instruments: Who Leads the Ensemble?*

There is no conductor in *gagaku*, but the ensemble is maintained even with the elastic beat and gradual acceleration. It is commonly held that the *kakko*, usually relegated to the eldest musician, acts as conductor, but the situation is actually more complicated. Smooth performances of *tôgaku* are possible due to a stylized “conversation” among the instruments. Undoubtedly, the *hichiriki* and *ryûteki* carry the most important melodic lines, but the percussion and

Figure 1.14. Standard percussion patterns for *haya yo hyôshi*.

L: left hand, R: right hand

**a**

L: left hand, R: right hand

**b**

strings also help to determine the subtle tempo changes within each quarter-note beat and from measure to measure.

Figure 1.15 is a transcription of section 1 of *Etenraku* in *hyô-jô* mode (with the tonic equivalent to the Western *E*), *nokorigaku-sanben* version, and its slightly varied initial repetition. Like other *tôgaku* pieces it opens with a *ryûteki* solo, whose first two half notes define the tempo. Percussion enters in m. 2, where the focus shifts to a *kakko* stroke on the first beat and a tremolo on the

Figure 1.15. *Etenraku* in *hyô-jô* mode, *nokorigaku-sanben* version, section 1.

Section 1 (measures 1–8), first statement

The musical score is presented in two systems. The first system contains measures 1 through 4, and the second system contains measures 5 through 8. The instruments are listed on the left side of each system: *shô*, *ryûteki*, *hichiriki*, *shôko*, *kakko*, *taiko*, *koto*, and *biwa*. The *ryûteki* part begins with a 'solo' marking in measure 1. The *shô* part has a 'tutti' marking in measure 3. The *taiko* part has dynamic markings 'mp' and 'f' in measures 6 and 7 respectively. The *koto* part also has 'mp' and 'f' markings in measures 6 and 7. The *biwa* part has a '3' marking in measure 8, indicating a triplet. The score includes various musical notations such as rests, notes, slurs, and dynamic markings.

Figure 1.15. (Continued)

Measures 9–16: Section 1 (mm. 1–8) repeated

The musical score consists of two systems, each with five staves. The first system covers measures 9-12, and the second system covers measures 13-16. The notation includes treble and bass clefs, a key signature of one sharp (F#), and various musical symbols such as notes, rests, beams, and dynamic markings (mp and f). The score is a continuation of a section from measures 1-8.

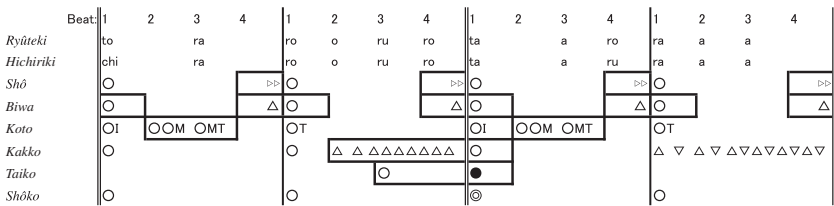
second, then to a weak *taiko* stroke on the third beat, which announces the coming of the most important stroke in the cycle at m. 3. The *shô* begins to play on the fourth beat of m. 2, just before the *hichiriki* begins. Measure 3, where all the winds have entered, is called *tsuke-dokoro* (“joining place”).<sup>10</sup>

10. In the standard version, *tsuke-dokoro* is on the next *taiko* beat in measure 7.

After *tsuke-dokoro*, the texture thickens with the addition of *biwa* and *koto*. *Biwa* arpeggios start after the *shô*'s change of fingering at the end of m. 4, helping the ensemble to synchronize at the next downbeat. Two measures later, *koto* eighth notes on the second beat help reestablish the original tempo after a *ritardando* on the fourth beat of the preceding measure.

Thus, *hichiriki*, *ryûteki*, *kakko*, strings and *shô* are each focused on at specific spots and lead the ensemble at those moments. Figure 1.16 shows this shifting of focus: *shô* and *biwa* lead from the *ritardando* at beat 4 of every measure to beat 1 of the next. *Koto* leads on beats 2–3 every two measures, where the tempo is faster. Every four measures the *kakko* leads on beats 2–3–4–1, and *taiko* on beats 3–4–1.<sup>11</sup> The *kakko* and *taiko* also establish and maintain the periodicity of the four-measure rhythmic cycle, but this larger cycle regulates the more active conversation among winds and strings.

In the standard version, a piece closes with the last *taiko*, briefly suffixed by an ending pattern in free rhythm played by *shô*, *hichiriki*, *ryûteki*, *kakko*, *biwa*, and *koto*. However, *nokorigaku* employs a quite different and more complex procedure (figure 1.3). First, the percussion quits at the end of the repetition of section 2. The *shô* quits at the second repetition of section 2. After the *ryûteki* quits at section 3, the *hichiriki* plays fragmentary phrases to focus attention on the *koto*'s own intricate patterns. Through this, the *biwa* continues normally.



## Notes:

- (1) Ryûteki and hichiriki: shôga syllables are shown
- (2) Shô ○ = usual chord, ▷▷ = preceding finger change (*te-utsuri*)
- (3) Biwa ○ = last note of arpeggio, △ = preceding notes of arpeggio
- (4) Koto ○ = pluck, I = index finger, M = middle finger, T = thumb
- (5) Kakko ○ = single stroke by the right stick, △ = tremolo by the left stick, △▽△▽ = tremolo by both sticks
- (6) Taiko ○ = weak stroke by the left hand, ● = strong stroke by the right hand
- (7) Shôko ○ = stroke by a stick, ◎ = stroke by both sticks

Figure 1.16. Instrumental focus, beat by beat (after *tsuke-dokoro*). The part in focus is outlined in bold.

11. This account is based on my own experience. Shiba Sukeyasu has also pointed out the existence of multiple leaders in the ensemble, and describes as “listening” what I here call “conversation” (see Shôno 1987).



*Patchwork Structure, Repeating Melodic Patterns, and Shared Patterns*

As stated above, two measures constitute a melodic unit. In twenty-four measures of music (sections 1, 2, and 3), twelve such units are heard, but in *Etenraku* only ten are distinct because some are repeated. If we label each pattern alphabetically (A, B, C, . . . , J), the structure, including all sectional repeats, can be represented by figure 1.17.

Sections 1 and 2 (ABCB DEFB) conclude with B (mm. 7–8, 15–16), which insists strongly on the prime note *E*, whereas section 3 changes to another mode (*ôshiki-chô*) that stresses the note *A*. Patterns H and J also end on *A*. Sections 1 and 2 especially emphasize pattern B’s closing function (underlined). Counting all repetitions in the standard version, out of ten pattern types (A–J), patterns A and C through F are heard four times each and G through J twice each, but pattern B is played a full twelve times.

*Etenraku* is a rather short piece of *tôgaku*. In other larger pieces, several patterns also appear repeatedly. In not a few cases, three or four consecutive units are repeated in the latter half of a piece. The proportion of iterating patterns ranges from less than 10 to about 60 percent for pieces in *hyô-jô* mode. For example, figure 1.18 shows melodic structure in *Funan*, a piece also in *hyô-jô* mode and *haya-yo-hyôshi* rhythm. There are twenty kinds of different melodic patterns, from A to T. Out of them, only patterns J, O, S, and T are unique to *Funan*. The rest can also be found in other pieces.

		*		*		
Section 1 (repeated)	A	B	C	<u>B</u>	Measure 1–8	
Section 2 (repeated)	D	E	F	<u>B</u>	Measure 9–16	Short version ends
Section 3 (repeated)	G	H	I	J	Measure 17–24	
Section 1 (repeated)	A	B	C	<u>B</u>	Measure 1–8	
Section 2 (repeated)	D	E	F	<u>B</u>	Measure 9–16	Standard version ends
<i>Section 3</i> (repeated)	G'	H'	I'	J'	Measure 17–24	
<i>Section 1</i> (repeated)	A'	B'	C'	<u>B'</u>	Measure 1–8	
<i>Section 2</i> (repeated)	D'	E'	F'	<u>B'</u>	Measure 9–16	<i>Nokorigaku</i> ends

Figure 1.17. Melodic patterns of *Etenraku* (italicized sections are repeated in *nokorigaku* only; \* = *taiko*).

<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>
<u>I</u>	<u>J</u>	<u>K</u>	<u>L</u>
<u>A</u>	<u>B</u>	<u>M</u>	<u>H</u>
<u>N</u>	<u>O</u>	<u>P</u>	<u>Q</u>
<u>R</u>	<u>S</u>	<u>G</u>	<u>H</u>
<u>K</u>	<u>T</u>	<u>P</u>	<u>Q</u>

Figure 1.18. Common patterns (underlined) employed in *Funan*.

Examining all patterns found in pieces in *hyô-jô* mode and *haya-byôshi* rhythm in the current *Meiji-senteifu*<sup>12</sup> repertoire, we find some thirty-five patterns that are used in more than two pieces. Each piece includes at least one of the patterns in common use. Figure 1.19 shows the total number of unique and common patterns included in each piece. *Yûjô no kyû*, *Funan*, *Yahanraku*, *Korôji*, *Ôshôkun*, *Ôjô no kyû*, and *Shun'yôryû* each contain more than ten common patterns.

The more a piece employs common patterns, the more it gives the impression that it is similar to others and therefore its melody's distinctiveness is minimized. Conversely, the fewer such patterns, the more it carries a flavor of originality. In this regard *Etenraku* (together with the piece *Ringa*) is rather exceptional for music in *hyô-jô* mode and *haya byôshi* rhythm, since it uses only one common pattern, while most other pieces employ many. This is one reason why *Etenraku* makes such a strong impression, despite its small scale.

### Deep Structure

#### Tang Dynasty Modal Theory

To grasp the relationship of the surface melody to the deep structure articulated by the basic melody, a brief review of the Chinese modal theory brought to Japan around the eighth century will be helpful. The ancient Chinese

Title	Number of Patterns	Common Patterns
<i>Ôjô no kyû</i>	16	11
<i>Goshôraku no kyû</i>	18	7
<i>Sandai no kyû</i>	26	9
<i>Shun'yôryû</i>	34	11
<i>Ringa</i>	32	1
<i>Rôkunshi</i>	12	8
<i>Keitoku</i>	16	5
<i>Yûjô no kyû</i>	30	14
<i>Funan</i>	20	16
<i>Yahanraku</i>	31	14
<i>Korôji</i>	25	13
<i>Ôshôkun</i>	14	12
<i>Etenraku</i>	10	1

Figure 1.19. Number of distinct patterns, and of patterns used in more than one piece, in the current *Meiji-senteifu* repertoire.

12. Pieces with *nobe byôshi* and *tada byôshi* rhythm are omitted here, because their melodic units are differently composed and derive from different rhythmic structures.

devised a mathematical method of calculating pitches called *sanbun son'eki* (“dividing into three segments and subtracting or adding one”), which is comparable to proceeding along the Pythagorean circle of fifths. If we divide a sounding length of string or pipe into three equal segments and subtract a segment (that is, take two-thirds of its length), the resulting pitch is a perfect fifth above the original. Adding a segment (taking four-thirds) gives the pitch a perfect fourth below. The left side of figure 1.20 shows how this process can be continued. Beginning from a given fundamental tone and proceeding by this method (alternately up by fifth and down by fourth) twelve times generates a pitch collection, which, collapsed into the range of a single octave, creates the analog of a Western chromatic scale. The first five of these make a pentatonic scale. These scale tones are referred to as the prime (*gong* in Chinese; *kyû* in Japanese), the second (*shang; shô*), the third (*jiao; kaku*), the fifth (*zhi; chi*), and the sixth (*yu; u*). Adding the next two pitches, flat-*chi* (*bian-zhi; hen-chi*) and flat-*kyû* (*bian-gong; hen-kyû*), creates a heptatonic collection equivalent to the Western Lydian mode (figure 1.20, right). In Chinese theory, this fundamental scale, consisting of the first seven pitches in the circle of fifths, is called *gong diao* (the mode of *gong*; in Japanese, *kyû-chô*, the mode of *kyû*). Shifting the prime note up a step to *shang/shô*, one obtains *shang-diao/shô-chô* (the mode of *shang/shô*). In this way, we can produce seven modes (figure 1.21). Transposing each of the seven to all twelve notes results in eighty-four distinct combinations of mode and prime note.

This theory was certainly introduced into Japan. However, only a small number of the eighty-four possibilities were actually used. Until the late Heian period (the end of the twelfth century), ten were known.<sup>13</sup> Only six, called *chôshi*, survive in current *tôgaku* practice. These comprise two types, *ryo* and *ritsu*, equivalent to the Western Mixolydian and Dorian modes, respectively (figure 1.22). *Ichikotsu-chô* (prime note = *D*), *sô-jô* (prime note = *G*), and *taishiki-chô* (prime note = *E*) fall in the former category, and *hyô-jô* (prime

Figure 1.20. *Sanbun son'eki* and the fundamental mode *kyû-chô* (*gong-diao*).



13. In the *biwa* score *Sango yôroku* and in the *koto* score *Jinchi yôroku*, both compiled by aristocrat and musician Fujiwara no Moronaga (1138–1192), *ichikotsu-chô* (prime note *D*), *sada-chô* (*D*), *hyô-jô* (*E*), *taishiki-chô* (*E*), *kotsujiki-chô* (*E*), *sei-chô* (*E*), *sô-jô* (*G*), *ôshiki-chô* (*A*), *sui-chô* (*A*), and *banshiki-chô* (*B*) can be found.

Figure 1.21. Seven modes of *tôgaku*, according to theory.

	gong    shang    jiao    bian-zhi    zhi    yu    bian gong
	(kyû    shô    kaku    hen-chi    chi    u    hen-kyû)
gong-diao (kyû-chô)	
shang-diao (shô-chô)	
jiao-diao (kaku-chô)	
bian-zhi-diao (hen-chi-chô)	
zhi-diao (chi-chô)	
yu-diao (u-chô)	
bian-gong-diao (hen-kyû-chô)	

Figure 1.22. Six current modes of *tôgaku*.

【ryo=mixolydian】

<i>ichikotsu-chô</i>	
<i>taishiki-chô</i>	
<i>sô-jô</i>	

【ritsu=dorian】

<i>hyô-jô</i>	
<i>ôshiki-chô</i>	
<i>banshiki-chô</i>	

note = *E*), *ôshiki-chô* (prime note = *A*), and *banshiki-chô* (prime note = *B*) in the latter.

However, some notes used in present-day *tôgaku*, notably those produced on the *ryuteki* and *hichiriki* with certain fingerings, deviate from the “correct” pitches in modal theory, whereas the *shô*, *biwa*, and *koto* retain them. In *Etenraku* (such as in mm. 6 and 14 of figure 1.15), the *ryuteki* and *hichiriki* frequently use *F* (and *C*, particularly on the *hichiriki*), which is not supposed to occur in *hyô-jô* mode. This deviation was possibly due to the influence of Edo period (1603–1868) music in general<sup>14</sup> and was facilitated by the instruments’ inherent capabilities, as players of these two instruments can easily produce various pitches or slides between standard tablature positions by applying lip, breathing, and fingering techniques. The other instruments, and especially the *shô*, produce only pretuned fixed pitches. The *biwa* and *koto* mimicked the *shô* and have kept the original pitches.

### *Basic Melody in the Deep Structure*

In current practice, the *shô*, *biwa*, and *koto* play idiomatic figures not directly deducible from the tablature. However, if we disregard present-day embellishment practice and simply take the pitches that the tablature signs indicate, we obtain the skeletal basic melody underlying the surface melodies played in the current ensemble. Figure 1.23 shows *Etenraku* extracted from the *shô*, *biwa*, and *koto* tablatures; each tablature sign in a *kobyôshi*, worth a full measure at the surface level, is shown as a quarter note,<sup>15</sup> and each rhythmic cycle (*haya-yo-hyôshi*) is shown as a measure.

Occasionally there is a clash between the parts, for example on the very first note. As we shall soon discuss, this may be explained by considering that *C#* and *F#* on the *koto* used to be *D* and *G* in the Heian period.<sup>16</sup> Otherwise, the *shô* and *biwa*, especially, share almost the same melody, consisting entirely of notes from the authentic *hyô-jô* mode, *E-F#-G-A-B-C#-D*. Indeed, for some instances of *tôgaku* it is only at this level that modality may be clear. For instance, current *ryuteki* or *hichiriki* practice uses not only the

14. Vocal genres in *gagaku* have also experienced pitch changes. *Kagura-uta*, *azuma-asobi*, *saibara*, *rôei*, and the like all employ scales similar to the *koto*’s popular *miyako-bushi* scale, or *shamisen* music of the Edo period.

15. If two signs are included in a *kobyôshi*, they are represented by two eighth notes.

16. In Heian times there was a left-hand technique of pressing strings. The pitch *D* was produced if the left hand pressed the string tuned *C#*. *G* was similarly produced on the eighth and thirteenth strings, tuned *F#*. Current technique and notation do not continue this tradition (see below).

Figure 1.23. Basic melody of *Etenraku* (*shô, biwa, koto*).

The musical score for *Etenraku* is presented in three sections. Each section consists of three staves: koto (top), sho (middle), and biwa (bottom). The key signature is one sharp (F#) and the time signature is common time (C). The score includes lyrics and fingering for each instrument.

**Section 1:**

- koto:** 6/11 10 7/12 12 | 6/11 13 7/12 7 | 5/10 9 5/10 11
- sho:** *bô ichi otsu otsu* | *bô jû ge otsu otsu* | *ichi ichi kotsu ichi otsu*
- biwa:** IV/4(34) IV1 II/4 III/0 | II/2(12) III2(1) II/4 III/0 | II0 IV1(0)III/2 II0 II/2(12)

**Section 2:**

- koto:** 3/8 10 2/7 7 *Fine* | 2/7 7 3/8 9 | 5/10 10 9 4/9 9
- sho:** *jû ichi kotsu otsu otsu* | *otsu otsu ge kotsu* | *ichi ku ku ichi kotsu kotsu*
- biwa:** III2(12) IV1(0) II/4 III/0 *Fine* | II/4 III/0 III1(01) III/4 | IV1(3) IV3(1) III/4 IV1(0) *D.C. al Fine*

prime note *E* but also many of the same melodic patterns for the modes *hyô-jô* and *taishiki-chô* (*E-F#-G#-A-B-C#-D*), so the difference between pieces, or sections of pieces, attributed to these modes is evident only in the different modalities of their respective basic melodies.

Figure 1.23 shows how *Etenraku*'s basic melody is organized into four-measure units, each corresponding to a rhythmic cycle. In current practice, however, the winds play the opening two measures (*to – ra – ro o ru ro*) (figure 1.15, mm. 1–2) on a single breath as if they were a complete phrase, even though these measures correspond to only two notes, *D* and *B*, in the basic melody. This discrepancy between surface-level and deep-level grouping structure is explained by taking into account the likelihood that the tempo was much faster in ancient times.<sup>17</sup> Played faster than they are today, the

17. *Gagaku* was played at a much faster tempo even as late as the beginning of the twentieth century, as 1903 recordings by F. Gaisberg demonstrate (Terauchi 2002). In addition, old documents describing Buddhist rituals in the Heian (794–1185/1192) and Kamakura (1192–1333/1363) eras indicate that many *bugaku* dances were staged in a single day, which would have been impossible if the dances were performed at today's slow tempi.

units *D–B–E–E* (figure 1.23, m. 1) or *D–G–F#–E–E* (m. 2) could be managed on a single breath.

### *Differences of Modulation and Transposition in Surface and Deep Structures*

Some *tôgaku* pieces contain modulation, or change of mode. Although *Etenraku* is fairly short, it includes such modulating phrases in section 3, where the melody moves into *ôshiki-chô* mode. This change is clearly audible in both the surface and deep melodies due to the relatively large distance of a perfect fourth between the prime tones *E* and *A* of *hyô-jô* and *ôshiki-chô*. However, it arrives at different moments in the surface and deep melodies.

In the current *hyô-jô* surface melody (the top staff of figure 1.24, which shows three different modal versions of this melody), the *ryûteki* part announces the beginning of the modulation in m. 18 by introducing a *C#*. This note, not used before, sounds unfamiliar and therefore initiates the change. The next ascending phrase from *F* to *A* (mm. 19–20) completes the modulation, and the long repeated *A* at the end of the section (mm. 23–24) confirms it. In the deep structure, the phrase moving from *F#* to *A* traces the same modal shift (figure 1.25), but the *C#* is not evident until m. 21, three bars later than in the surface melody.

In Heian times, at the height of court culture and the *gagaku* tradition, it was popular to arrange a tune in different modes. This transformed repertoire is called *watashi-mono*, which literally means “things carried across.” Such modal transformation is usually done within the same *ryo* or *ritsu* modal group. Most *sô-jô* (in *G*) pieces were transposed from the originals in *ichikotsu-chô* (in *D*; both *ryo*). Likewise, many *ôshiki-chô* (in *A*) pieces were transposed from *banshiki-chô* (in *B*; both *ritsu*). Currently, as indicated in figure 1.24, *Etenraku* is played in *hyô-jô*, *ôshiki-chô*, and *banshiki-chô*.<sup>18</sup> In making *watashi-mono*, quite different principles govern the modal transformation of the deep structure and the surface melody.

18. In the *koto* score, *Jinchi-yôroku*, compiled in the late Heian period (twelfth century), only *banshiki-chô Etenraku* can be found. However, based on the description in the musical treatise *Kyôkun-shô* compiled by *gagaku* musician Koma no Chikazane in 1233 (Koma 1233/1973), Shiba Sukeyasu claimed that the *hyô-jô* version is the original (Shôno 1987: 32).

Figure 1.24. *Etenraku* in three modal versions, *ryûteki* part.

section 1

hyô-jô

ôshiki-chô

banshiki-chô

section 2

section 3

Fine

Fine

Fine

D.C. al Fine

D.C. al Fine

D.C. al Fine

Most of the intervals of the deep structure are preserved exactly across a change in mode. For instance, the three *Etenraku shô* parts compared in figure 1.25 are intervallically identical (ignoring changes of octave). The only exceptions are in mm. 12 and 21–22. The latter shows greater discrepancies, due to the change of mode in section 3, mentioned above.



Figure 1.25. *Etenraku* in three modal versions, basic melody.

The musical score consists of three systems of three staves each. The first system is labeled 'section 1' and contains measures 1 through 13. The second system is labeled 'section 2' and contains measures 14 through 27. The third system is labeled 'section 3' and contains measures 28 through 41. The first staff in each system is labeled 'hyô-jô', the second 'ôshiki-chô', and the third 'banshiki-chô'. The notation includes treble clefs, a key signature of one sharp (F#), and various note values (quarter, eighth, and sixteenth notes). Section 3 ends with a double bar line and the instruction 'D.C. al Fine'.

In the versions shown on the upper two staves, which begin respectively in *hyô-jô* and *ôshiki-chô* modes, the modulation involving transposition by fourth (to *ôshiki-chô*<sup>19</sup> and *ichikotsu-chô*, respectively) results in the same melodic interval, a whole tone, at this point. However, the third version, involving a modulation from *banshiki-chô*, requires a different interval at this spot—a semitone—to be consistent with the mode, *hyô-jô* ( $E-F\#-G-A-B-C\#-D$ ), that is the fourth transposition of *banshiki-chô* within the *ritsu* group.<sup>20</sup>

For the present-day surface melodies of the *ryûteki* and *hichiriki*, *watashi-mono* is not transposition at all, but a substitution of certain idiomatic patterns for others. These patterns are often associated with particular registers.

19. Shiba Sukeyasu interprets the modulation in section 3 in *hyô-jô* mode from *hyô-jô* to *sui-chô*. *Sui-chô* existed in Heian times as a *ryo* mode  $A-B-C\#-D-E-F\#-G$ , since there is no  $C\#$  in *ôshiki-chô* mode (Shôno 1987: 28).

20. There seems to be confusion about the transposition in section 3. In the old *shô* score *Kofu ryoritsu no maki*, compiled in the thirteenth century by the Toyohara family of court musicians, the phrase in question (*banshiki-chô*, section 3) is  $F\#-G-G-F\#-E-E$ , but the *biwa* score *Sango yôroku*, compiled in the late twelfth century by Fujiwara no Moronaga, shows  $F\#-G\#-G\#-F\#-E-E$ .

Consider, for example, the pattern *F–G–A–F–G* found both in m. 6 of the *hyô-jô* version and in m. 1 of the *ôshiki-chô* version (figure 1.24); it is also idiomatic in pieces in *taishiki-chô* mode. In *hyô-jô* (and in *taishiki-chô*) it is often used, as here, to descend from the second scale degree, via structurally subsidiary third and fourth degrees, to the prime note of the scale, but in *ôshiki-chô* it goes from the sixth scale degree, via structurally subsidiary seventh and eighth (upper prime) degrees, to the fifth degree. This suggests that the pattern does not belong to a particular mode but is associated more with the fingering positions of the *ryûteki* around the specific register of *kan*, *go*, *jô*, and *shaku* (figure 1.10). Although the nature of the instruments would certainly make exact transposition possible, court musicians preferred to replace a particular melodic pattern suitable for a certain range in the original mode with a different melodic pattern associated with the corresponding range in the transposed mode. To arrange *watashi-mono* in *gagaku*, then, is not so much to transpose the surface melody exactly but rather to select the melodic patterns appropriate to the particular ranges of the instruments and coordinate them into a longer continuity.

### *Reconstructing Past Practice through Information Hidden in Tablature Signs*

*Tôgaku* notation often provides clues allowing us to recover past practices. As shown above, current *ryûteki* and *hichiriki* melodies changed certain pitches, mostly flattening them, thereby creating discrepancies with *shô*, *biwa*, and *koto* pitches. In current practice, *shô*, *biwa*, and *koto* realizations featuring chords, arpeggios, and *hayagaki* and *shizugaki* patterns cannot be read from the simple tablature signs. But by stripping away present-day idioms and returning to the tablature we may recover what is shared by all melodic instruments. Analyzing *hichiriki* and *koto* tablature, in particular, suggests some possibilities for reconstruction of the music's past features.

### *History of Tôgaku Notation, and Inconsistency in the Hichiriki Part*

*Shô*, *biwa*, and *koto* notation has been stable since the Nara and Heian periods (710–1185/1192). The Chinese characters of *shô* notation indicate the pitches of single bamboo pipes or chords; *biwa* signs indicate fret positions (including open strings); and those of *koto* indicate strings. Particularly for the scores completed after the twelfth century, small and large dots indicating rhythmic cycles are attached to these signs.

At the beginning of the Meiji period, when the standard collection of *gagaku* scores, *Meiji senteifu*, was compiled (1876, 1888), *hichiriki* and *ryûteki* notation changed drastically.<sup>21</sup> Until the late Edo period, it consisted of tablature signs and dots indicating measures. Most of these are too simple and imprecise to specify all the melodic nuances, so the *shôga* (mnemonics), transmitted orally, played an important role in the pedagogy of the genre. The *Meiji senteifu* (as in figure 1.9) shows them in the main column attached to tablature signs on the left side and rhythmic signs on the right.<sup>22</sup> Its introduction of *shôga* syllables into notation enabled the melodic movements of the *hichiriki* and *ryûteki* to be described with much more rhythmic detail than before.

Despite what we know about the history of *tôgaku* notation, there remains some uncertainty about the correspondence of signs and pitches. For instance, some tablature signs actually denote several pitches, the choice of which is relegated to oral tradition. Though we cannot trace the precise source of this confusion, Heian notational practice seems to have been more consistent, and examination of some old sources supports this view.

Figure 1.26 shows a transcription of *Etenraku*'s current *hichiriki* melody along with its *shôga* syllables and tablature signs, respectively, on the upper and lower rows of symbols below the staff. (The traditional notation of this tune is given in figure 1.9.) One apparent inconsistency involves the notation of the events played as the note *F* for which different tablature signs are given: *jô* ⊥ (上), in mm. 6 and 13; and *itsu* —, in mm. 13 and 19. Recall that the *hichiriki* can produce a wide range of pitches from a single position using fingering and lip techniques, and that currently (as shown in figure 1.8) the position *jô* covers the notes *F–G*, and the position *itsu* covers *E–F–F#–G*. *Jô* is originally the higher position on the instrument. Considering modal theory and the basic melody of *Etenraku* extracted from *shô* and the strings, it seems plausible that *jô* originally indicated *G* and *itsu* *F#*. The large-scale musical treatise *Gakkaroku*, written in the late seventeenth century, provides interesting support for this conjecture. The author, Suehisa Abe (1622–1708),<sup>23</sup>

21. In the late nineteenth century, a new department of royal court music, Gagaku-kyoku, was established in Tokyo based on the traditions of three different *gagaku* groups in the Kansai area. The new department needed to unify tradition and to compile standard scores.

22. *Shôga* and fingering signs for *ryûteki* and *hichiriki* are similar but different in places.

23. Abe was a Kyoto court musician. The description of *hichiriki* is found in volume II (Abe 1690/1935/1977).

Figure 1.26. *Etenraku's* current *hichiriki* melody, with its *shōga* syllables and tablature signs.

section 1

chi ra ro (o)ru ro ta a ru ra (a) a chi ra fa te e - ri re ta a ru ra (a) a  
六 四 工 五工 四 六 四 六 四 六 四 丁 丁 四 六 四

9 section 2 Fine

to o fo o ro ru to ru ro ta ro ru te - ri ra - to (o)ro ru ta a ru ra (a) a  
工 丁 五 舌 工 五工 四 工 五 丁 丁 工 五 舌 四 六 四

17 section 3 D.C. al Fine

ta a fa (a) a ta a - ri (i) i to ro to ro - o ru ri i - -  
四 六 丁 丁 工 凡 工 五 六 丁

Current	Tablature signs	<i>Gakkaroku</i>
A, G	丁	<i>tei</i> A
G, F	丁(上)	<i>jō</i> G
G, F#, F, E	一	<i>itsu</i> F#
E, D	四	<i>shi</i> E
D, C#, C	六	<i>riku</i> D
C	凡(凡)	<i>han</i> C
B, A#	工	<i>ku</i> B
A, G#	五	<i>go</i> A
G, F#	舌	<i>zetsu</i> F#

Figure 1.27. Interpretation of *hichiriki* tablature currently, and according to *Gakkaroku* (1690 CE).

included a figure (transcribed here as figure 1.27) showing the structure of the *hichiriki* with finger holes and pitches as an example of old practice, corroborating the production of *jō* as G and *itsu* as F#. I suggest, therefore, that the relationship of signs and pitches in *hichiriki* 300 years ago or earlier was more consistent and that pitches in *hyō-jō Etenraku* retained the original characteristics of Chinese modal theory.

### *Koto left-hand techniques*

Let us return to figure 1.23, which juxtaposes the versions of the basic melody extracted from the notation of the *shō*, *biwa*, and *koto* parts. The melodies of

*shô* and *biwa* are nearly identical, but that of *koto* diverges at certain moments, specifically:

Measure 1, beat 1	<i>Shô, biwa: D</i>	<i>Koto: C#</i>
Measure 2, beat 1	<i>Shô, biwa: D</i>	<i>Koto: C#</i>
Measure 2, beat 2	<i>Shô, biwa: G–F#</i>	<i>Koto: F#</i>
Measure 3, beat 2	<i>Shô: B–A, biwa: B</i>	<i>Koto: A</i>
Measure 3, beat 4	<i>Shô: E, biwa: D</i>	<i>Koto: C#</i>
Measure 4, beat 1	<i>Shô, biwa: G</i>	<i>Koto: F#</i>
Measure 4, beat 2	<i>Shô: B–A, biwa: B</i>	<i>Koto: B</i>
Measure 6, beat 2	<i>Shô: C#–B, biwa C#</i>	<i>Koto B–A</i>

Some of these differences can be reconciled if we reconsider *koto* tuning and revive lost left-hand techniques, based on an analysis of a late twelfth-century source of *koto* notation.

This source, called *Jinchi-yôroku* (*JCYR* hereafter) is a twelve-volume collection of *koto* scores edited by Fujiwara no Moronaga (1138–1192), a Heian aristocrat.<sup>24</sup> In the first volume he introduces a tuning for *hyô-jô* that is different from the one in use today (figure 1.28).

In present-day tuning, strings 3 and 8, as well as 6 and 11, are tuned an octave apart, but in *JCYR*'s tuning they are not. When ancient performers wanted to produce the octave, they used left-hand pressing or pulling techniques, which *JCYR* specifies, to bend the tones up or down. Each such action is indicated by dot(s) or scratch-like lines modifying the tablature (figure 1.29).

The score of *Etenraku* in *JCYR* specifies the following:<sup>25</sup>

- Technique 3 on string 6/11 (m. 1), 6/11 (m. 2), 11 (m.3)
- Technique 2 on string 13 (m. 2), 5/10 (m. 6)
- Technique 1 on string 3/8 (m. 4)
- Technique 4 on string 9 (m. 3)

To take one example, technique 3 applied on string 11 in m. 1, beat 1 will produce *D* instead of *C#* with additional ornamentation (another *D* after

24. Several copies of handwritten manuscript have survived, among which the copy preserved in the library of Kyoto University (a former property of the noble clan Kikutei) is in relatively good condition, and its contents, on which this study is based, are considered reliable.

25. Unfortunately, *JCYR* does not contain *Etenraku* in *hyô-jô* but in *banshiki-chô*. However, as the tuning of *banshiki-chô* is an exact transposition of *hyô-jô*, the latter part can be derived from the former.

	1	2	<span style="border: 1px solid black; padding: 2px;">3</span>	4	5	<span style="border: 1px solid black; padding: 2px;">6</span>	7	<span style="border: 1px solid black; padding: 2px;">8</span>	9	10	<span style="border: 1px solid black; padding: 2px;">11</span>	12	13
Current	B	E	<span style="border: 1px solid black; padding: 2px;">F#</span>	A	B	<span style="border: 1px solid black; padding: 2px;">C#</span>	E'	F#'	A'	B'	C#'	E''	F#''
JCYR	B	E	<span style="border: 1px solid black; padding: 2px;">G</span>	A	B	<span style="border: 1px solid black; padding: 2px;">D</span>	E'	F#'	A'	B'	C#'	E''	F#''

Figure 1.28. *Koto* tuning for *hyô-jô* mode, according to *Jinchi-yôroku* (twelfth century CE).

Technique	Performance Action	Notation
(1) <i>Oshi-ire</i> ("press-in")	Press and pluck (keep pressing)	A dot at the foot of a tablature sign
(2) <i>Oshi-hanachi</i> ("press and release")	Press and pluck (then release)	A dot on the shoulder of the tablature sign
(3) <i>Nido oshi-ire</i> ("press-in twice")	Press and pluck, then release, and press again	Two dots on the shoulder and the foot of the tablature sign
(4) <i>Toriyu</i> ("take away")	Pluck, then pull once	Indicated by a scratch on the shoulder of the tablature sign
(5) <i>Toru tabitabi</i> ("take away several times")	Pluck, then pull several times	Double scratch on the shoulder of the tablature sign

Figure 1.29. Left-hand pitch-bending techniques for the *koto*, according to *Jinchi-yôroku*.

the C#). If we implement all the left-hand techniques that JCYR specifies, the *koto* melody resembles *shô* and/or *biwa* melodies more closely, as follows:

Measure 1, beat 1	<i>Shô, biwa: D</i>	<i>Koto: C# D-c#-d<sup>6</sup></i> (technique 3)
Measure 2, beat 1	<i>Shô, biwa: D</i>	<i>Koto: C# D-c#-d</i> (technique 3)
Measure 2, beat 2	<i>Shô, biwa: G-F#</i>	<i>Koto: F# G-f#</i> (technique 2)
Measure 3, beat 2	<i>Shô: B-A, biwa: B</i>	<i>Koto: A A-g</i> (technique 4)
Measure 3, beat 4	<i>Shô: E, biwa: D</i>	<i>Koto: C# D-c#-d</i> (technique 3)
Measure 4, beat 1	<i>Shô, biwa: G</i>	<i>Koto: F# G</i> (technique 1)
Measure 4, beat 2	<i>Shô: B-A, biwa: B</i>	<i>Koto: B-A-G<sup>27</sup></i>
Measure 6, beat 2	<i>Shô: C#-B, biwa: C#</i>	<i>Koto: B-A C#-b-A</i> (technique 2)

26. Small letters indicate that these pitches are produced not by right-hand plucking but only by left-hand pressing or pulling, which is almost inaudible in the actual ensemble.

27. Exceptionally here, JCYR shows a glissando-like pattern on B-A-G called *ren*.

Thus, by considering the notation in light of the tuning system and forgotten techniques, we can interpret it more consistently, and distill features of the basic melody that seem to be closer to authentic Heian practice.

### Conclusion

Encountering *gagaku* for the first time, some listeners are struck by its dissonant sound. This dissonance exists largely because of the ways that the *ryûteki* and *hichiriki* melodies have changed during the long history of the genre, creating conflicts with the melodies of the *shô*, *biwa*, and *koto*, which have changed less. However, at the level of the basic melody underlying the current heterophonic ensemble, the discordance cannot be found.

Research to revive the lost melodies of Heian times or reinterpret even the surviving repertoire of *tôgaku* in the context of Tang modal theory has been repeatedly carried out since the 1940s.<sup>28</sup> In addition, some reconstructed pieces, on reconstructed instruments, have actually been performed in a series of *gagaku* concerts at *Kokuritsu gekijô* (the National Theatre of Japan in Tokyo) since the 1970s,<sup>29</sup> showcasing the older modal and timbral practice.<sup>30</sup>

I do not place any lesser value on present-day practice just because it contains “deviated” pitches and dissonance. Rather, I appreciate it as a highly elaborated music in which each instrument’s unique style of expression is refined almost to perfection. Once one becomes accustomed to the modern *gagaku* sound, one is attuned to its distinctive and striking features: the process of increasing tension caused by the dissonance among instruments, and the point of release where all instruments converge to a single pitch, both

28. Hayashi Kenzô was a great pioneer in this research (Hayashi 1964, 1969, 1973), followed by the post-1980 generation, including the author. Also, researchers outside Japan such as Laurence Picken and his group have worked on the reconstruction project of Tang music by analyzing Japanese manuscripts (Picken et al. 1981–2007; see also footnote 1).

29. Revival of melodies are based on such old handwritten manuscripts as *Hakuga no fue-fu* (966), *Sango yôroku*, *Jinchi yôroku*, *Motomasa fue-fu* (late twelfth century), *Kaichû-fu* (early thirteenth century), and the like. The reconstruction has been mostly done by Shiba Sukeyasu. *Kokuritsu gekijô* is also eager to reconstruct old instruments of the Nara period (710–794; most of them are designated as national treasures), which had been preserved in *Shôsô-in* of Tôdaiji temple, and are now under the supervision of Kunaichô (the Imperial Household Agency).

30. For more information on the forty years of *gagaku* activities at *Kokuritsu gekijô*, see Terauchi 2008.

heightened in effect by the elastic tempo and acceleration—a complex texture woven by a deliberate reciprocation among the instruments.

Recent developments in *gagaku* performance exhibit such diverse tendencies as preserving classical style, reviving ancient features, bringing out traditional expression in contemporary avant-garde art music,<sup>31</sup> and combining *gagaku* elements with pop music.<sup>32</sup> If it continues to diversify along with the global tide of music, we will certainly need to develop new ways to analyze and understand it. Paradoxically, however, change makes it even more important to understand the classical tradition at *gagaku*'s base. Not to be satisfied with a superficial impression, but to cultivate a deep insight into the tradition, will surely enable us to clearly distinguish features of *gagaku* in contemporary practice and imagine way to develop this music in the future.

### Glossary

- Abe Suehisa 安倍季尚  
*aitake* 合竹  
*azuma-asobi* 東遊  
*banshiki-chô* 盤涉調  
*biwa* 琵琶  
*bugaku* 舞樂  
*chi (zhi)* 徵  
*dadaiko* 大太鼓  
 Edo 江戸  
*embai* 塩梅  
*Etenraku* 越殿(天)樂  
 Fujiwara no Moronaga 藤原師長  
*fukura* 和  
*Funan* 扶南  
*gagaku* 雅樂  
 Gagakukyoku 雅樂局  
*Gakkaroku* 樂家録

31. For instance, Takemitsu Tôru (1930–1996) is one of the few excellent composers who succeeded in grasping the essence of *gagaku* instruments (see De Ferranti and Narazaki 2002).

32. A former court musician, Tôgi Hideki (1959–), achieved popular success by making an easy-listening fusion music with *gagaku* instruments. Several essays analyze his music (for instance, Bürkner 2004 and Lancashire 2003).



*gakushi* 楽詞  
*gakusô* 楽箏  
*gaku* 楽句  
*Hakuga no fue-fu* 博雅笛譜  
*haya* 早  
*hayagaki* 早搔  
*haya-mu-hyôshi* 早六拍子  
 Hayashi Kenzô 林謙三  
*haya-ya-hyôshi* 早八拍子  
*haya-yo-hyôshi* 早四拍子  
*Heian* 平安  
*hen-chi* 变徵  
*hen-kyû* 变宮  
*hichiriki* 篳篥  
*hyô-jô* 平調  
*hyôshi* 拍子  
*ichikotsu-chô* 壹越調  
*Jinchi yôroku* 仁智要録  
*kagura-uta* 神樂歌  
*Kaichû-fu* 懷中譜  
*kakko* 鞞鼓  
*kaku (jiao)* 角  
 Kamakura 鎌倉  
*kangen* 管絃  
*Keitoku* 慶（鷄）徳  
*ki-gae* 氣替  
 Kikutei 菊亭  
*kobyôshi* 小拍子  
*Kofu ryoritsu no maki* 古譜呂律卷  
*Kokuritsu gekijô* 国立劇場  
*komagaku* 高麗楽  
 Koma no Chikazane 狛近真  
*Korôji* 小娘子  
*koto (sô)* 箏  
*kotsujiki-chô* 乞食調  
*kume-uta* 久米歌  
*kuwae-byôshi* 加拍子  
*Kyôkun-shô* 教訓抄  
*kyû (gong)* 宮  
*kyû-chô (gong diao)* 宮調  
*me-bachi* 雌桴

*Meiji-senteifu* 明治撰定譜  
*miyako-bushi* 都節  
*mororai* 諸来  
*Motomasa fue-fu* 基政笛譜  
*nido oshi-ire* 二度推入  
*ninai-daiko* 荷太鼓  
*nobe* 延  
*o-bachi* 雄桴  
*Ôjô no kyû* 皇 急  
*ônaobi-uta* 大直日歌  
*oshi-hanachi* 堆放  
*oshi-ire* 推入  
*ôshiki-chô* 黃鐘調  
*Ôshôkun* 王昭君  
*ô-uta* 大歌  
*rai* 来  
*Ringa* 林歌  
*ritsu* 律  
*rôei* 朗詠  
*Rôkunshi* 老君子  
*ryo* 呂  
*ryûteki* 龍笛  
*sada-chô* 沙陀調  
*saibara* 催馬樂  
*sanbun son'eki* 三分損益  
*Sandai no kyû* 三台急  
*Sango yôroku* 三五要録  
*sei* 正  
*sei-chô* 性調  
*seme* 責  
*shamisen* 三味線  
*Shiba Sukehiro* 芝祐泰  
*Shiba Sukeyasu* 芝祐靖  
*Shinto* 神道  
*shizugaki* 閑搔  
*shô* 笙  
*shô (shang)* 商  
*shô-chô (shang diao)* 商調  
*shôga* 唱歌  
*shôko* 鉦鼓

Shôno Susumu 庄野進  
*Shôsô-in* 正倉院  
*Shun'yôryû* 春楊柳  
*sô-jô* 双調  
*sui-chô* 水調  
*tada-byôshi* 只拍子  
*taiko* 太鼓  
*taishiki-chô* 太食調  
 Takemistu Tôru 武満徹  
*te-utsuri* 手移  
 Tôdaiji 東大寺  
*tôgaku* 唐楽  
 Tôgi Hidegi 東儀秀樹  
*toriyu* 取由  
*toru tabitabi* 取度々  
 Toyohara 豊原  
*tsuke-dokoro* 付所  
*tsuri-daiko* 釣太鼓 渡物  
*u (yu)* 羽  
*watashi-mono* 渡物  
*Yahanraku* 夜半楽  
*yatara-byôshi* 夜多羅拍子  
*Yûjô no kyû* 勇勝急

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