

**The Interpretation of Chinese Modal Theory in *Jinchi Yôroku* and  
*Sango Yôroku* –  
An Examination on the Usage of Modal Degree Names in the Late  
12<sup>th</sup>-Century Japan**

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Japan was greatly influenced by Chinese culture in the late Asuka (6<sup>th</sup> – 7<sup>th</sup> century), Nara (710-794) and early Heian (794-1192) periods. Although the political structure of the Chinese Tang (618-907) imperial court was the system that the Japanese most desired to imitate, other aspects of Chinese civilization, such as art, music, architecture and Chinese literary classics, were also absorbed by the Japanese at that time. It is generally believed that Chinese Tang music was transmitted and preserved quite well in the Nara and early Heian periods.

Although there are still many Tang music scores and instruments preserved in Japan, the Tang music repertory (*tôgaku* in Japanese) performed in Japan today is very different from the music performed in the Nara and Heian periods. Unquestionably, it is also not the music that was performed in Tang-period China. The *tôgaku* heard today is partly the result of an enormous reconstruction carried out in the Meiji period (1868-1912). However, changes occurred not only in the Meiji period. As Allan Marett has shown in his paper,<sup>1</sup> the Japanese had already begun to adapt the music to their own tastes as early as the tenth century.<sup>2</sup> The complex nature of Chinese music theory was simplified, and the music was reorganized and handed down in a simpler form.<sup>3</sup>

This paper will focus on modal change. Its object is to examine the tuning instructions of two important score sets compiled by Fujiwara no Moronaga (1138-1192), and to find out how the Japanese interpreted

terms for modal degrees, such as *gong / kyû*, *shang / shô*, *jiao/ kaku* etc<sup>4</sup> in the late 12<sup>th</sup>-century. The two sets of scores are *Sango Yôroku* (for the four-stringed *biwa* (lute)) and *Jinchi Yôroku* (for the thirteen-stringed *gakusô* (zither)). Although the original manuscripts compiled by Fujiwara no Moronaga have been lost, there are various handwritten copies. This paper will be based mainly on the *Fushiminomiya-ke* handwritten copy<sup>5</sup> of *Sango Yôroku* and the *Rakusaidô* handwritten copy<sup>6</sup> of *Jinchi Yôroku*.

### ■ The *biwa* tunings and the *tôgaku* modes recorded in *Sango Yôroku*

There are eight *biwa* tunings recorded in the second chapter of *Sango Yôroku*,<sup>7</sup> namely *fukôjô*, *hen-fukôjô*, (*biwa*) *ôshikichô*, (*biwa*) *hen-ôshikichô*, (*biwa*) *seichô*, (*biwa*) *sôjô*, (*biwa*) *hyôjô* and *takubokuchô*.<sup>8</sup> All these names represent tunings but not modes.

As the four frets of the *biwa* are fixed, there is no difficulty in determining all the pitches played, so long as the pitches of the four open strings are known.<sup>9</sup> One of the four strings will be tuned first, according to the pitch produced by blowing the *ôteki* (transverse flute). The pitches of the remaining strings will then be tuned to either a perfect fourth, perfect fifth or octave from the strings that has already been tuned. In most cases, each of the tuning recorded in the second chapter of *Sango Yôroku* was used to play pieces in two different modes. For instance, the *fukôjô* tuning can be used to play both *ôshikichô* (*ôshiki* mode) and *banshikichô* (*banshiki* mode) pieces. From this we can conclude that the main characteristic of the *biwa* tunings was the interval relationship between each fingering rather than the exact pitches produced on the strings.<sup>10</sup> If the *fukôjô* tuning is used to play *ôshikichô* pieces, the fingerings will yield the pitches shown in Table 1.

Table 1. *Fukôjô* tuning for *ôshikichô* pieces

frets / strings	I	II	III	IV
open string	A	c	e	a
1	B	d	f#	b
2	c	d#	g	c' <sup>11</sup>
3	c#	e	g#	c'##
4	d	f	a	d'

On the other hand, if it is used to play *banshikichô* pieces, the fingerings will yield the pitches shown in Table 2.

Table 2. *Fukôjô* tuning for *banshikichô* pieces

frets / strings	I	II	III	IV
open string	B	d	f#	b
1	c#	e	g#	c'##
2	d	f	a	d'
3	d#	f#	a#	d'##
4	e	g	b	e'

In addition to explaining the tuning method, Fujiwara no Moronaga also examined the relationship between modal degree names<sup>12</sup> (such as *gong* / *kyû*, *shang* / *shô* etc.) and the pitches yield by the tunings for each mode. For instance, in the *fukôjô* tuning, the pitches produced from the first open string, the fourth fret of the third string and the fourth open string all act as *gong* / *kyû* irrespective of whether the mode is *banshikichô* or *ôshikichô*. Likewise, the pitches produced from the first fret of the first string and the first fret of the fourth string act as *shang* / *shô* irrespective of mode and so on for all modal degrees. Table 3 is a summary of the relationship between modal degree names and the pitches of the two modes produced from the *fukôjô* tuning.

Table 3. Relationship between degree names and pitches of the *fukôjô* tuning

string s frets	I			II			III			IV		
	<i>ôshi</i> <i>ki-ch</i> ô	<i>bans</i> <i>hi-ki</i> chô	<i>yin /</i> <i>in</i>	<i>ôshi</i> <i>ki-ch</i> ô	<i>bans</i> <i>hi-ki</i> chô	<i>yin /</i> <i>in</i>	<i>ôshi</i> <i>ki-c</i> hô	<i>ban</i> <i>shi-</i> <i>kich</i> ô	<i>yin / in</i>	<i>ôshi</i> <i>ki-ch</i> ô	<i>bans</i> <i>hi-ki</i> chô	<i>yin /</i> <i>in</i>
open	A	B	<i>gong /</i> <i>kyû</i>	c	d	<i>jiao /</i> <i>kaku</i>	e	f#	<i>zhi / chi</i>	a	b	<i>gong /</i> <i>kyû</i>
1	B	c#	<i>shang /</i> <i>shô</i>	d	e	<i>bian-z</i> <i>hi /</i> <i>hen-c</i> <i>hi</i>	f#	g#	<i>yu / u</i>	b	c'#	<i>shang /</i> <i>shô</i>
2	c	d	<i>jiao /</i> <i>kaku</i>	d#	f		g	a	<i>bian-go</i> <i>ng /</i> <i>hen-kyû</i>	c'	d'	<i>jiao /</i> <i>kaku</i>
3	c#	d#		e	f#	<i>zhi /</i> <i>chi</i>	g#	a#		c'#	d'#	
4	d	e	<i>bian-z</i> <i>hi /</i> <i>hen-c</i> <i>hi</i>	f	g		a	b	<i>gong /</i> <i>kyû</i>	d'	e'	<i>bian-z</i> <i>hi /</i> <i>hen-c</i> <i>hi</i>

According to the information given in Table 3, the modal structures of *ôshikichô* and *banshikichô* can be confirmed as follows:

Table 4. The structure of *ôshikichô*

<i>yin / in</i>	<i>gong /</i> <i>kyû</i>	<i>shang /</i> <i>shô</i>	<i>jiao /</i> <i>kaku</i>	<i>bian-zh</i> <i>i /</i> <i>hen-chi</i>	<i>zhi /</i> <i>chi</i>	<i>yu / u</i>	<i>bian-g</i> <i>ong /</i> <i>hen-ky</i> û	<i>gong /</i> <i>kyû</i>
pitches	A	B	c	d	e	f#	g	a

Table 5. The structure of *banshikichô*<sup>13</sup>

<i>yin / in</i>	<i>gong / kyû</i>	<i>shang / shô</i>	<i>jiao / kaku</i>	<i>bian-zh i / hen-chi</i>	<i>zhi / chi</i>	<i>yu / u</i>	<i>bian-g ong / hen-ky û</i>	<i>gong / kyû</i>
pitches	B	c#	d	e	f#	g#	a	b

By referring to the other tunings recorded in the second chapter of *Sango Yôroku*, it is possible to derive the structures of other *tôgaku* modes.<sup>14,15</sup>

If we cast our mind back to Allan Marett's presentation of the Tang modal system,<sup>16</sup> we can see that the application of degree names to modes in *Sango Yôroku* is quite different from that of Tang modal theory. In 12<sup>th</sup>-century Japanese usage the final of the mode is always designated *gong / kyû*, whereas in Tang theory, it retains a degree name that reflects its place in the overall scheme of the modal theory. Thus while in 12<sup>th</sup>-century Japanese practice, the final of *banshikichô* (B) is designated *gong / kyû* and the final of *ôshikichô* (A) is also designated *gong / kyû*. In Tang theory both modes have the degree name *yu / u* applied to their final.

■ **Turning now to the *gakusô* tunings and the *tôgaku* modes recorded in *Jinchi Yôroku***

There is an obvious difference between the tunings mentioned in *Sango Yôroku* and *Jinchi Yôroku*. Although the word '~*chô*' or '~*jô*' (mode) is used in all the tuning names in *Sango Yôroku*, the tunings were not used to play pieces from that mode. In some cases, tuning names are not even mode names (e.g. *fukôjô*), and even when the tuning name is the same as a mode name they will not correspond. For instance, the (*biwa*) *sôjô* tuning is used to play *ichikotsuchô* and *sadachô* pieces rather than *sôjô* pieces. However, tunings mentioned in *Jinchi Yôroku* are different. *Ichikotsuchô* tuning is used to play *ichikotsuchô* pieces; *sôjô* tuning is used to play *sôjô* pieces and so on.

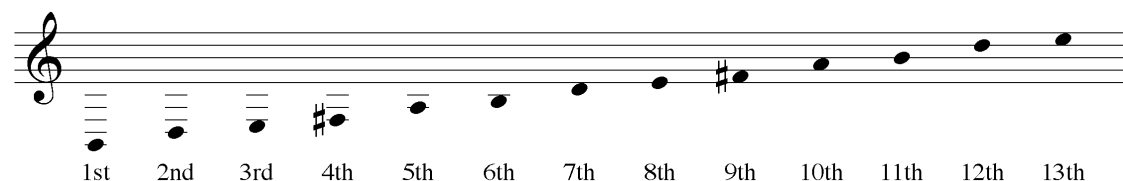
In total, thirteen tuning/modal names are noted in the first chapter of *Jinchi Yôroku*:

Table 6. Tuning/modal names noted in the first chapter of *Jinchi Yôroku*

1.	<i>ichikotsuchô</i>	8.	<i>ôshikichô</i>
2.	<i>ichikotsuseichô</i>	9.	<i>dai-ôshikichô</i>
3.	<i>sadachô</i>	10.	<i>suichô</i>
4.	<i>hyôjô</i>	11.	<i>banshikichô</i>
5.	<i>taishikichô</i>	12.	<i>fukôchô</i>
6.	<i>kishikichô</i>	13.	<i>uchô</i>
7.	<i>sôjô</i>		

According to *Jinchi Yôroku*, the thirteen strings of the *gakusô* for *ichikotsuchô* pieces should be tuned to the following pitches:<sup>17</sup>

Music example 1. *Ichikotsuchô* tuning



There are only five pitches, D, E, F#, A and B, used in the *gakusô* tuning for *ichikotsuchô*. Table 7 shows the degree names applied by Fujiwara no Moronaga to the five basic pitches of the tuning. This raises the question of how the other two pitches are produced.

Table 7. Relationship between degree names and pitches of *ichikotsuchô*

Pitches	D	E	F#	?	A	B	?	d
<i>yin / in</i>	<i>gong / kyû</i>	<i>shang / shô</i>	<i>jiao / kaku</i>	<i>bian-zhi / hen-chi</i>	<i>zhi / chi</i>	<i>yu / u</i>	<i>bian-gong / hen-kyû</i>	<i>gong / kyû</i>
Intervals	M2	M2	M2	m2	M2	M2		m2 <sup>18</sup>

The pitch of *bian-zhi / hen-chi* can be obtained by pushing the fourth and the ninth strings with the left hand behind the bridges. Thus raising the pitch a semitone or a tone, depending on the force used on it. However, we need to know the structure of the mode in order to know how much force to use and thus which pitch to produce. For this we can turn to *Sango Yôroku*. According to the *ichikotsuchô* structure derived from the (*biwa*) *sôjô* tuning from *Sango Yôroku*, *bian-zhi / hen-chi* should be G# not G natural. The pitch should therefore be raised a tone.

*Sango Yôroku* shows that the pitch of *bian-gong / hen-kyû* in *ichikotsuchô* should be c# not c natural. The pitch of *bian-gong / hen-kyû* therefore can be obtained by pushing the sixth and the eleventh strings with the left hand behind the bridges with sufficient force to raise the pitch a tone. With this information, we can now complete the table.

Table 8. Relationship between degree names and pitches of *ichikotsuchô*

Pitches	D	E	F#	G#	A	B	c#	d
<i>yin / in</i>	<i>gong / kyû</i>	<i>shang / shô</i>	<i>jiao / kaku</i>	<i>bian-zhi / hen-chi</i>	<i>zhi / chi</i>	<i>yu / u</i>	<i>bian-gong / hen-kyû</i>	<i>gong / kyû</i>
Intervals	M2	M2	M2	m2	M2	M2	M2	m2

The structures of seven modes, *ichikotsuchô*, *sadachô*, *hyôjô*, *sôjô*, *ôshikichô*, *suichô* and *banshikichô*, derived from the *gakusô* tunings are exactly the same as those derived from the *biwa* tunings. Three more, *ichikotsuseichô*, *dai-ôshikichô* and *fukôchô*, are not mentioned in *Sango Yôroku*, but there is no difficulty in ascertaining their structures. This is because *Jinchi Yôroku* states that *ichikotsuseichô*, *dai-ôshikichô* and *fukôchô* have the same structures as *ichikotsuchô*, *ôshikichô* and *banshikichô* respectively. Only three modes remain, namely *taishikichô*, *kishikichô* and *uchô*. It is not possible to determine the structure of *uchô* from *Jinchi Yôroku* and *Sango Yôroku* because the relationship between modal degree names (*yin / in*) and pitches is not mentioned. *Taishikichô*

and *kishikichô*, however, can be confirmed by referring to the *taishikichô* tuning of *Jinchi Yôroku* and the (*biwa*) *hen-ôshikichô* tuning of *Sango Yôroku*.<sup>19</sup>

■ **The characteristics of the *tôgaku* modes recorded in *Sango Yôroku* and *Jinchi Yôroku***

Even though more than ten modal names can be found in *Sango Yôroku* and *Jinchi Yôroku*, some of them actually have identical structures, for example, *ichikotsuchô* and *sadachô* are the same. If we only examine the modal structures, there are in fact only seven in total.

Table 9. A summary of the modal structures explained in *Sango Yôroku* and *Jinchi Yôroku*

	degree names modes	<i>gong</i> / <i>kyû</i>	<i>shang</i> / <i>shô</i>	<i>jiao</i> / <i>kaku</i>	<i>bian-zh</i> <i>i</i> / <i>hen-chi</i>	<i>zhi</i> / <i>chi</i>	<i>yu</i> / <i>u</i>	<i>bian-go</i> <i>ng</i> / <i>hen-kyû</i>	<i>gong</i> / <i>kyû</i>
1.	<i>ichikotsuchô</i> <i>sadachô</i> <i>ichikotsuseichô</i>	D	E	F#	G#	A	B	c#	d
2.	<i>sôjô</i>	G	A	B	c#	d	e	f#	g
3.	<i>suichô</i>	A	B	c#	d#	e	f#	g#	a
4.	<i>hyôjô</i> <i>seichô</i>	E	F#	G	A	B	c#	d	e
5.	<i>ôshikichô</i> <i>dai-ôshikichô</i>	A	B	c	d	e	f#	g	a
6.	<i>banshikichô</i> <i>fukôchô</i>	B	c#	d	e	f#	g#	a	b
7.	<i>taishikichô</i> <i>kishikichô</i> <i>kotsushikijô</i>	E	F#	G#	A	B	c#	d	e



These seven modal structures can be categorized into three modal types according to the intervals between each note.

Table 10. Three types of modal structures

<i>yin / in</i>		<i>gong</i>	<i>shan</i>	<i>jiao</i>	<i>bian-z</i>	<i>zhi</i>	<i>yu</i>	<i>bian-go</i>	<i>gon</i>
types		<i>/</i> <i>kyû</i>	<i>g/</i> <i>shô</i>	<i>/</i> <i>kaku</i>	<i>hi /</i> <i>hen-c</i> <i>hi</i>	<i>/</i> <i>chi</i>	<i>/</i> <i>u</i>	<i>ng /</i> <i>hen-kyû</i>	<i>g /</i> <i>kyû</i>
Type A (lydian): <i>ichikotsuch</i> <i>ô</i> <i>sadachô</i> <i>ichikotsusei</i> <i>chô</i> <i>sôjô</i> <i>suichô</i>	intervals	M2	M2	M2	m2	M2	M2	m2	
Type B (dorian): <i>hyôjô</i> <i>seichô</i> <i>ôshikichô</i> <i>dai-ôshikich</i> <i>ô</i> <i>banshikichô</i> <i>fukôchô</i>	intervals	M2	m2	M2	M2	M2	m2	M2	
Type C (mixolydian): <i>taishikichô</i> <i>kishikichô</i> <i>kotsushikijô</i>	intervals	M2	M2	m2	M2	M2	m2	M2	

As mentioned already, the system of modal degree names and most of

the modes mentioned in Table 10 were not developed in Japan. They were transmitted from China during the Sui (581-618) and Tang periods. Before examining how the Chinese modal theory was changed in the late Heian period, it is necessary to have a clear idea of the Tang modal theory.

### ■ Modes and modal theory in the Tang period

The most common way to investigate the theory and the structures of Tang-period modes is to examine the Chinese historical sources written in and after the Tang period.<sup>20</sup> Useful sources include Duan An-jie's *Yuefu Zalu* (ca. 900), Wang Pu's *Tanghuiyao* (ca. 961), Ou-yang Xiu's *Xintangshu* (1060) and Zhang Yan's *Ciyuan* (ca. 1280). All of them are important for confirming the *yanyue ershibadiao* (28 modes for banquet music) in the Tang Dynasty.

Tang music scholars, such as Hayashi Kenzô and Kishibe Shigeo, commonly agreed that music transmitted from China to Japan during the Tang Dynasty was music performed for banquets (*yanyue*) and entertainment (*suyue*), rather than court music for religious and ceremonial purposes (*yayue*).<sup>21</sup> *Yanyue ershibadiao* represents the modes that were actually used to perform *yanyue* in the Tang Dynasty. As a result, a detailed investigation of the *yanyue ershibadiao* can clarify the origin of the modes used in early Heian-period *tôgaku*.<sup>22</sup>

According to sources such as *Xintangshu*, *Yuefu Zalu* and *Tanghuiyao*, the names of the *yanyue ershibadiao* are as follows:<sup>23</sup>

Table 11. The names of *yanyue ershibadiao*<sup>24</sup>

1.	<i>zheng-gong(diao)</i> <i>shatuodiao</i>	15.	<i>yue-jiao(diao)</i>
2.	<i>gao-gong(diao)</i>	16.	<i>dashi-jiao(diao)</i>
3.	<i>zhonglü-gong</i>	17.	<i>gao-dashi-jiao(diao)</i>
4.	<i>daodiao-gong</i>	18.	<i>shuang-jiao(diao)</i>

5.	<i>nanlü-gong</i>	19.	<i>xiaoshi-jiao(diao)</i>
6.	<i>xianlü-gong</i>	20.	<i>xiezhi-jiao(diao)</i>
7.	<i>huangzhong-gong</i>	21.	<i>linzhong-jiao(diao)</i>
8.	<i>yue-diao</i>	22.	<i>zhonglü-diao</i>
9.	<i>dashi-diao</i>	23.	<i>zhengping-diao</i> <i>ping-diao</i>
10.	<i>gao-dashi-diao</i>	24.	<i>gaoping-diao</i>
11.	<i>shuang-diao</i>	25.	<i>xianlü-diao</i>
12.	<i>xiaoshi-diao</i>	26.	<i>huangzhong-yu(diao)</i>
13.	<i>xiezhi-diao</i> <i>shui-diao</i>	27.	<i>panshe-diao</i>
14.	<i>linzhong-shang(diao)</i>	28.	<i>gao-panshe(diao)</i>

Many of these mode names are also found in *Sango Yôroku* and *Jinchi Yôroku*.

Table 12. Same modes found in *Sango Yôroku*, *Jinchi Yôroku* and the *yanyue ershibadiao*

	Modes from <i>Sango Yôroku</i> and <i>Jinchi Yôroku</i>	Their corresponding modes in the <i>yanyue ershibadiao</i>
1.	<i>sadachô</i>	<i>shatuo-diao</i>
2.	<i>ichikotsuchô</i>	<i>yue-diao</i>
3.	<i>taishikichô</i>	<i>dashi-diao</i>
4.	<i>sôjô</i>	<i>shuang-diao</i>
5.	<i>suichô</i>	<i>shui-diao</i>
6.	<i>ôshikichô</i>	<i>huangzhong-diao</i>
7.	<i>banshikichô</i>	<i>panshe-diao</i>
8.	<i>hyôjô</i>	<i>ping-diao</i>

■ **The structure of the modes in the *yanyue ershibadiao* and their relationships to the modes recorded in *Sango Yôroku* and *Jinchi Yôroku***

As there are only eight modes (Table 12) in the *yanyue ershibadiao* which are related to the modes recorded in *Sango Yôroku* and *Jinchi*

*Yôroku*, this section will mainly concentrate on the examination of these eight modes. The following table illustrates the structure of these eight modes according to Tang modal theory:

Table 13. The eight *tôgaku* modes that appear in Tang sources<sup>25</sup>

	<b>Modal Degrees</b>	<i>gong/ kyû</i> I	<i>shan g/ shô</i> II	<i>jiao / kak u</i> III	<i>bian-zhi / hen-chi</i> iv	<i>zhi/ chi</i> V	<i>yu/ u</i> VI	<i>bian-go ng/ hen-kyû</i> vii
<b>Pitches</b>								
D <i>taicou/ taisô</i>		<b>D8</b>	<b>E1</b>	F#	G#	A	<b>B5</b>	C#
F <i>zhongl ü/ chûryo</i>		F	<b>G2</b>	A	B	C	D	E
G <i>linzhon g/ rinshô</i>		G	A	B	C#	D	<b>E6</b>	F#
A <i>nanlü/ nanryo</i>		A	<b>B3</b>	C#	D#	E	F#	G#
C <i>huangz hong/ kôshô</i>		C	<b>D4</b>	E	F#	G	<b>A7</b>	B

## KEY

<b>Shang / shô modes (mixolydian)</b>	<b>Yu / u modes (dorian)</b>
1. <i>dashi-diao/taishikichô</i> (final E)	5. <i>panshe-diao/banshikichô</i> (final B)
2. <i>shuang-diao/sôjô</i> (final G)	6. <i>ping-diao/hyôjô</i> (final E)
3. <i>shui-diao/suichô</i> (final B)	7. <i>huangzhong-diao/ôshikichô</i> (final A)
4. <i>yue-diao/(ichi)kotsuchô</i> (final D)	<b>Gong / kyû modes (lydian)</b>
	8. <i>shatuo-diao/sadachô</i> (final D)

With reference to this table, it is clear that not only *gong / kyû*, but also *shang / shô* and *yu / u* can act as the first name of a mode. In fact, *shang / shô* and *yu / u* are more commonly used as final than *gong / kyû*.

However, modes recorded in *Jinchi Yôroku* and *Sango Yôroku* are different. Although some of the modes still preserve the Tang modal structures (the intervals between each note), the first notes of the modes are all named as *gong / kyû*.<sup>26</sup>

*Taishikichô*, *hyôjô*, *ôshikichô* and *banshikichô* all preserve their Tang modal structures. Nevertheless, the first note of all the modes were changed to *gong / kyû*. *Sadachô* also has the same modal structure and because it was a *gong / kyû* mode in Tang modal theory, its final is *gong / kyû* in both systems.

Table 14. The structure of the eight modes in *Sango Yôroku* and *Jinchi Yôroku*

	<i>gong / kyû</i>	<i>shang / shô</i>	<i>jiao / kaku</i>	<i>bian-zhi / hen-chi</i>	<i>zhi / chi</i>	<i>yu / u</i>	<i>bian-go ng / hen-kyû</i>	<i>gong / kyû</i>
<i>taishikichô</i>	E	F#	G#	A	B	c#	d	e
<i>hyôjô</i>	E	F#	G	A	B	c#	d	e
<i>ôshikichô</i>	A	B	c	d	e	f#	g	a
<i>banshikichô</i>	B	c#	d	e	f#	g#	a	b
<i>sadachô</i>	D	E	F#	G#	A	B	c#	d
<i>ichikotsuch ô</i>	D	E	F#	G#	A	B	c#	d
<i>sôjô</i>	G	A	B	c#	d	e	f#	g
<i>suichô</i>	A	B	c#	d#	e	f#	g#	a

There are only three modes mentioned in *Sango Yôroku* and *Jinchi Yôroku* that do not exactly match the structure of the modes in the *yanyue ershibadiao*. They are *ichikotsuchô* (including *ichikotsuseichô*), *sôjô* and *suichô*. *Ichikotsuchô* is changed from a mixolydian (*shang / shô*) mode to a lydian (*gong / kyû*) mode by sharpening the fourth degree to G#. *Sôjô* is changed from a mixolydian (*shang / shô*) mode to a lydian (*gong / kyû*) mode by sharpening the fourth and the seventh degrees to C# and F# respectively. *Suichô* maintains its mixolydian character but is transposed down a tone. Here the first note of all these three modes is designated as *gong / kyû* in both *Sango Yôroku* and *Jinchi Yôroku* despite the fact that they were all mixolydian (*shang / shô*) modes in the *yanyue ershibadiao* system.

The use of *gong / kyû* (or more precisely, the seven *yin / in*) in the late 12<sup>th</sup>-century Japan was very similar to the use of technical names in western music theory nowadays. The function of *gong / kyû* is similar to the function of ‘tonic’. No matter what kind of modal structure it is, the first note of a mode is named to be *gong / kyû*.

Moreover, the development of *ryo* and *ritsu*<sup>27</sup> modal structures in a later period in Japan might also be related to misinterpretation of *yin / in* theory. Since the structure of a modes cannot be revealed by the *yin / in* if all the modes possess a same *yin / in* sequence,<sup>28</sup> a new term is necessary to disclose the structures.

<sup>1</sup> Marett, Allan. *Modal practice in the tenth-century Japanese flute source Hakuga no fue-fu and its implications for our understanding of present-day tōgaku*. (original title in the conference abstracts: *A reconsideration of modal practice in the tenth century Japanese flute source Hakuga no fue-fu in the light of recent research*) Paper presented in the PNC Conference 2001, City University of Hong Kong, Jan 2001.

<sup>2</sup> Nelson, Steven. *Gagaku: Video Commentary, Volume 2* (English commentary of the video set *Gagaku* (10 volumes). Okada Kazuo dir. Tokyo: The Shimonaka Memorial Foundation, 2000). Tokyo: The Shimonaka Memorial Foundation, 2000. P. 20.

<sup>3</sup> Ibid., p. 20.

<sup>4</sup> The Chinese character ‘gong’ is pronounced as ‘kyū’ in Japanese. For convenience, if characters, terms or words are commonly used in both Chinese and Japanese, romanized words will be given in Chinese first and then followed by Japanese, e.g. *gong / kyū*.

<sup>5</sup> The *Fushiminomiya-ke* handwritten copy of *Sango Yōroku* is preserved in the Kunaichō Shoryōbu of the Imperial Palace. The first page of the first *maki* (chapter) indicates that it was copied by Takatsukasa Kanehira (1228-1294). However, as the whole source consists more than one styles of calligraphy, it might be copied by several persons around 13<sup>th</sup> and 14<sup>th</sup> centuries.

<sup>6</sup> The *Rakusaidō* handwritten copy of *Jinchi Yōroku* was formerly owned by Matsura Kiyoshi (1760-1841). It is now preserved in the Research Archives for Japanese Music of Ueno Gakuen University. The exact copy date is not sure but people commonly agree that it is an eighteenth-century copy.

<sup>7</sup> The first chapter of *Sango Yōroku* concentrates on the explanation of the Chinese *xuan-gong* theory, which will not be used in *tōgaku* performance.

<sup>8</sup> A bracketed ‘*biwa*’ is added to some tuning names in order to avoid confusions with the tuning names mentioned in *Jinchi Yōroku* and the modal names used below.

<sup>9</sup> The pitch difference between each fret is a semitone, but a whole tone between the upper bridge and the first fret.

<sup>10</sup> For instance, the intervals between each open string of the *fukōjō* tuning must be:

1 <sup>st</sup> open string	2 <sup>nd</sup> open string	3 <sup>rd</sup> open string	4 <sup>th</sup> open string
major 3 <sup>rd</sup>		major 3 <sup>rd</sup>	perfect 4 <sup>th</sup>

This is the reason why different pitches can be assigned to one *biwa* tuning.

<sup>11</sup> The pitch ‘c’ here refers to the ‘middle c’.

<sup>12</sup> The system of modal degrees (*gong / kyū, shang / shō, jiao / kaku, bian-zhi / hen-chi, zhi / chi, yu / u* and *bian-gong / hen-kyū*) is referred to as *yin / in* in the Chinese modal system.

<sup>13</sup> The structure of *banshikichō* can also be derived from the (*biwa*) *seichō* and (*biwa*) *hyōjō* tunings.

<sup>14</sup> The structures of *taishikichō* and *kotsushikijō* cannot be determined only from the *biwa* tunings without investigating the tunings in *Jinchi Yōroku*. The reason is that the relationship between pitches and *yin / in* is not mentioned in the (*biwa*) *hen-ōshikichō* tuning section.

<sup>15</sup> The only tuning that cannot be used to derive modes is *takubokuchô*. This is because there is no information about the pitch of the various degree names.

<sup>16</sup> See note 1.

<sup>17</sup> Fujiwara no Moronaga also illustrated the *gakusô* tunings by referring the pitches produced from the *ôteki*. Three or four strings are firstly tuned according to the pitches produced by blowing the flute, and then pitches of the remaining strings are derived from the tuned strings, mostly by using perfect fourth, perfect fifth or octave interval tuning.

<sup>18</sup> ‘M2’ represents a major second interval whereas ‘m2’ is a minor second.

<sup>19</sup> For details, see: Ng Kwok Wai. “Modal Practice in Japanese *Tôgaku* of the Late Twelfth Century: Its Relationship to the Modal Theory of Tang-period China (A.D. 618-907)”. Unpublished MA thesis. International Christian University (Tokyo), June 1998. Pp. 50-99.

<sup>20</sup> There are limited Tang scores discovered in China, or handwritten by Chinese. Typical examples include a *guqin* (seven-stringed zither) score called *Youlan* and the *Dunhuang Pipa-pu* (Dunhuang lute score). As the tuning section of the *Dunhuang Pipa-pu* was lost and the *guqin* repertory has its own performing aesthetics and tuning system, it is not possible to derive the general Tang modal practice from these scores.

<sup>21</sup> Hayashi Kenzô. *Shôsôin Gakki no Kenkyû*. Tokyo: Kazama Shobô, 1964. P. 208.

Kishibe Shigeo. *Tôdai Ongaku no Rekishiteki Kenkyû* Vol. 1. Tokyo: Tôkyô Daigaku Shuppan-kai, 1961. P. 7.

<sup>22</sup> Ng Kwok Wai, op. cit., pp. 29-30.

<sup>23</sup> Ou Yang-xiu (1007-1072). *Xintangshu*. In *Ershiwushi* Vol. 6. Shanghai: Shanghai Guji Chubanshe, 1987. Chapter 22 (*liyuezhi*). P. 57.

Duan An-jie (fl. 880). *Yuefu Zalu*. In *Zhongguo Gudian Xiqu Lunzhu Jicheng* Vol. 1. Beijing: Zhongguo Xiqu Chubanshe, 1959. Pp. 62-3.

<sup>24</sup> Modes underlined refer to mode names recorded in *Tanghuiyao* but not *Xintangshu* and *Yuefu Zalu*. Moreover, some of the ‘*diao*’ are in brackets. They are words only used in *Yuefu Zalu*.

<sup>25</sup> This table is taken from Allan Marett’s conference paper, see note 1.

<sup>26</sup> Notwithstanding there is no definite explanation about the sequence of the degree names (i.e. *gong* / *kyû* should be the first note of a mode, and then followed by *shang* / *shô*, *jiao* / *kaku*, *bian-zhi* / *hen-chi* and so on) in the modes recorded in *Jinchi Yôroku* and *Sango Yôroku*, the pieces compiled in the two sources provide a definite hint to prove it. The tonality of a piece can be confirmed by ending with the first note of its mode. The last notes of most pieces are set to the pitches of *gong* / *kyû* in *Sango Yôroku* and *Jinchi Yôroku*. Some of the transcriptions can be found in the following source:

Picken, Laurence, et al. *Music from the Tang Court (Vol. 1 – 7)*. Oxford: Oxford University Press (Vol. 1); Cambridge: Cambridge University Press (Vol. 2-7), 1981-2000 (Continuing series).

<sup>27</sup> The *ryo* modal structure (*ichikotsuchô*, *sadachô*, *sôjô* and *suichô*):

<i>gong</i> / <i>kyû</i>	<i>shang</i> / <i>shô</i>	<i>jiao</i> / <i>kaku</i>	<i>bian-zhi</i> / <i>hen-chi</i>	<i>zhi</i> / <i>chi</i>	<i>yu</i> / <i>u</i>	<i>bian-gong</i> / <i>hen-kyû</i>	<i>gong</i> / <i>kyû</i>
M2	M2	M2	m2	M2	M2	M2	m2

The *ritsu* modal structure (*hyôjô*, *ôshikichô* and *banshikichô*):

<i>gong</i> / <i>kyû</i>	<i>shang</i> / <i>shô</i>	<i>jiao</i> / <i>kaku</i>	<i>bian-zhi</i> / <i>hen-chi</i>	<i>zhi</i> / <i>chi</i>	<i>yu</i> / <i>u</i>	<i>bian-gong</i> / <i>hen-kyû</i>	<i>gong</i> / <i>kyû</i>
M2	m2	M2	M2	M2	M2	m2	M2



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<sup>28</sup> That is, *gong / kyû*, *shang / shô*, *jiao / kaku*, *bian-zhi / hen-chi*, *zhi / chi*, *yu / u* and *bian-gong / hen-kyû*.