

## INTRODUCTION TO JAVANESE GAMELAN

### Notes for Music 451

### (Javanese Gamelan-Beginners)

|  |             |
|--|-------------|
| <i>Preface</i> .....                       | <i>1</i>    |
| <i>Background</i> .....                    | <i>2</i>    |
| <i>Instrument</i> .....                    | <i>2</i>    |
| <i>Notation</i> .....                      | <i>4</i>    |
| <i>Tuning System</i> .....                 | <i>4</i>    |
| <i>Melodic Organization</i> .....          | <i>7</i>    |
| <i>Melody</i> .....                        | <i>8</i>    |
| <i>Musical Time</i> .....                  | <i>18</i>   |
| <i>Structure</i> .....                     | <i>20</i>   |
| <i>Social and Performance Context</i> .... | <i>22</i>   |
| <i>Bibliography</i> .....                  | <i>23</i>   |
| <i>Discography</i> .....                   | <i>23</i>   |
| <i>Glossary</i> .....                      | <i>. 24</i> |

#### ***Preface***

In my experience teaching gamelan at Wesleyan university, it is always difficult to find a suitable reading for beginning gamelan student. Much of the literature on Javanese gamelan is either too general or too specifically detailed in content. I hope this booklet will serve its purpose.<sup>1</sup>

As a performance course, the emphasis of gamelan class is to provide the student with first hand hands-on experience to play gamelan. Thus, this booklet emphasizes on the performance practice of gamelan, albeit in a rudimentary level. Also included in the booklet are a few sections on the performance context of gamelan in Java; they are meant to provide background for further discussion.

Like any manual for learning gamelan, in this booklet notation is used as an aid for learning. However, it should be noted that although notation has become a part of gamelan tradition for about a century, basically gamelan is still the product of oral tradition. Listening, imitating and observing are the thrust of traditional gamelan learning. In spite of the use of notation, it is important that gamelan students have an opportunity to play gamelan aurally. This is because full experience in gamelan is fulfilled when one is able to feel the relationship between his or her part with the other.

I put together this booklet base on previous handout notes for my students. I would like to thank my student-assistants who have helped me to put together such handout materials; in particular Cindy Benton and Marc Perlman who were my assistants in writing a handout notes entitled “Javanese Gamelan Instruments and Vocalists” (1977). Another handout notes incorporated in this book is entitled “Gamelan Music of Java” [1980]. Thank also to Topher Sebest, a devoted gamelan student, and Maria Medonça, a graduate student in music, who are my technical assistance in producing this booklet.

Sumarsam

Middletown, October, 1988. Revised for Wesleyan’s gamelan webpage, Fall 1999. Last revised, Fall 2002.

---

<sup>1</sup> Two books of introduction to gamelan has appeared after the publication of this booklet: Lindsay (1992) and Sorrell (1990). Students are assigned to read the selected chapters of Sorrell’s book.

### ***Background***

Tanah air, land and water, is an Indonesian expression equivalent to “fatherland”. This is because the many thousand islands of Indonesia, located in between the continents of Asia and Australia and stretching from northern Sumatra to western New Guinea, spreads across almost 3,400 miles of ocean (about the distance from the Atlantic coast to the Pacific in the United States). This geographical setting and their historical development, brought about Indonesia's diversity of its people and cultures. Each of hundreds of ethnic groups and subgroups has its own local characteristic, in language, customs, forms of organization, ritual, dances, music and other cultural expressions.

Java is one of the Indonesian islands located in the south-western part of the archipelago, between the islands of Sumatra and Bali (see map). It is the most populated island in Indonesia. Almost one-half of one hundred seventy million Indonesians live in the island about the size of New York state. Besides, Java has a long and rich history, spanning from the era of the oldest human species, the “Java man”, to the period of Hinduization, Islamization and Westernization of the island. Significantly, for many centuries Java has been the principal locus both of power and international commerce and communication.

Java also has rich musical traditions, traditional as well as westernized genres. One of the forms of well-known traditional music of Java and those of neighboring Bali is gamelan. Gamelan, derives from the word “gamel”, to strike or to handle, is a generic term referring to an ensemble which comprises predominantly of percussive instrument. However, vocal music has important role in the development of gamelan. In the beginning of this century, the term karawitan was introduced, embracing both vocal and instrumental elements in the gamelan.

As a consequence both of ethnographical setting and historical development, diverse gamelan styles exist. There are two principal styles: Balinese and Javanese gamelan. But in Java, like in Bali, several regional styles can be identified. Two of the most noted styles are Sundanese (or West Javanese) and Central Javanese gamelan. It is the latter, especially the Solonese style, with which this booklet is concerned.<sup>2</sup>

### ***Instrument***

Gamelan instruments are mostly metallophone and gong type instruments which produce tones when struck with mallets (tabuh). Other types of percussion instruments included in the gamelan ensemble are: a wooden xylophone (gambang), and a set of two headed drums (kendhang) played with the palm and/or fingers. There are a few instruments in the gamelan ensemble which are not percussion instruments: they are a two-stringed bowed instrument (rebab), a plucked zither-type instrument (celempung or siter), and a bamboo flute (suling). A female singer (pesindhèn), and a male chorus of two or three singers (penggérong) also participate in the gamelan ensemble.

The gamelan musicians should sit crosslegged (*silå*) before their instruments. Because of this *silå* position, it is most comfortable for the musicians to take off their shoes or sandals. Commonly, the musicians hold the tabuh in their right hand, except if the instrument must be played with two tabuh.

---

<sup>2</sup> Solo or Surakarta and Yogyakarta or Yogyakarta, although only 30 miles apart, inherited subtle difference in gamelan styles. The division of the court of Mataram into these two political and cultural centers in 1755, as a consequence of a long conflict between the royal families, was responsible for the cultivation and development of different styles in performing arts in these two court traditions.

Often, the Javanese consider a gamelan set as *pusåkå*, an inherited object which is endowed with supernatural power. An honorific title, Kyai or “The Venerable Sir”, and name is assigned to the gamelan.<sup>3</sup> Periodically, an offering is provided and incense is burned before the gong. For this reason, the Javanese always maintain a show of respect for the instruments. Hood and Susilo aptly state the most appropriate etiquette of the musicians when they are present in the gamelan area:

There is an inviolable rule that no one ever steps over one of the musical instruments, since to do so would be considered a breach of respect. If there is not room to pass, the musician must move the instrument temporarily to provide space, and when he passes by instruments and other players, he does not stride along erect but bends low, holding one hand before him and mumbling the appropriate Javanese word of permission and apology (nuwun sewu) for crossing in front of someone.<sup>4</sup>

Besides spiritual beliefs, such careful treatment of the gamelan instruments also prevents possible physical damage of the instruments.

### **Notation**

Traditionally, one learns to play gamelan aurally. This is a learning process in which one has to spend much time listening to and observing gamelan performance. Several musical notations have been introduced and experimented with since the end of the nineteenth century. In present-day Java, cipher notation is commonly used as a teaching device and for analyses. Below are the traditional names of the pitches and their cipher equivalents.

Sléndro tuning system (see below), from low to high:  
barang (1), gulu (2), dhådhå (3), limå (5), nem (6)

Pélog tuning system (see below), from low to high:  
penunggul (1), gulu (2), dhådhå (3), pélog (4), limå (5), nem (6), barang (7)

Other symbols: A dot above a number indicates the upper octave; below a number, the lower octave. A dot in the place of a number indicates a rest or sustained sound. A dash above a number, or numbers, indicates a fractional duration of the notes.

### **Tuning System**

Most gamelan instruments are tuned to definite pitches corresponding to two kinds of tuning system (laras): five-tone sléndro and seven-tone pélog. Therefore, a complete gamelan set of forty to sixty instruments is actually a double set, that is a sléndro gamelan and a pélog gamelan, although they are never played simultaneously.

---

<sup>3</sup> The name of the sléndro set of the Wesleyan gamelan is Kyai Mentul [The Venerable Sir “Bouncing”], and the pélog set is Kyai Pradhah [The Venerable Sir “Generosity”].

<sup>4</sup> Mantle Hood and Hardjo Susilo. *Music of the Venerable Dark Cloud*. Los Angeles: Institute of Ethnomusicology, University of California, 1967. Booklet accompanying the recording of the same title.

Figure 1 Notation of balungan ladrang Pakumpulan, sléndro sångå (excerpt)

|      |    |        |    |    |    |   |     |
|------|----|--------|----|----|----|---|-----|
| 1    | 5  | 6      | 1  | 5  | 6  | 1 | 2   |
| 3    | 5  | 3      | 2  | 1  | 6  | 3 | 5   |
| 2    | 2  | .      | 3  | 5  | 6  | 5 | 3   |
| 2    | 3  | 2      | 1  | 6  | 5  | 3 | (5) |
| <br> |    |        |    |    |    |   |     |
| 2    | 2  | .      | 35 | 6i | 6i | i | 5   |
| 6    | 3  | 5      | 2  | 2  | 3  | 6 | 5   |
| i    | 6  | 5      | 6  | 5  | 3  | 2 | 1   |
| <br> |    |        |    |    |    |   |     |
| .6   | .5 | .6     | .5 | .6 | .5 | 6 | (1) |
| <br> |    |        |    |    |    |   |     |
| 5    | →  | kenong |    |    |    |   |     |
| 2    | →  | kempul |    |    |    |   |     |
| (1)  | →  | gong   |    |    |    |   |     |

Each tuning system is characterized by its intervallic patterns. In sléndro, the five intervals consist of short and medium steps. The difference between the two intervals in sléndro is so small that they are often inaccurately described as equal or nearly equal intervals.

Figure 2 Sléndro pitches and approximate Western equivalents

| pitch | pitch name  | Western-pitch equivalent |
|-------|-------------|--------------------------|
| i     | barang alit | D-                       |
| 6     | nem         | B                        |
| 5     | limå        | A-                       |
| 3     | dhådhå      | F#+                      |
| 2     | gulu        | E                        |
| 1     | barang      | D -                      |

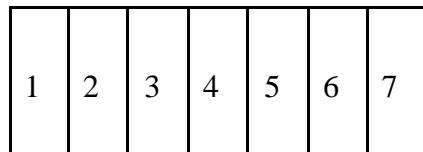
Note: the missing pitch 4 does not represent a gap note. It is used for the sake of uniformity with pélog (see below) in assigning numbers in one octave.

In pélog, although it has seven pitches per octave, sets of five pitch positions are used and combined. Thus, the pélog intervals consist of small, medium and large steps. Laras pélog is also pentatonic, but consists of not one but three basic five-pitch scales (see figure 3). A gendhing may use one or a combination of these scales. Unlike sléndro, narrow and wide intervals in each of these scales are very apparent.

*Figure 3* Pélog three basic five-pitch scales and approximate Western equivalents

| Scale I          | Scale II         | Scale III     |
|------------------|------------------|---------------|
| i (penunggul) D# | i (penunggul) D# |               |
| 6 (nem) B        | 6 (nem) B        | 7 (barang) C# |
| 5 (limå) A#-     | 5 (limå) A#-     | 6 (nem) B     |
| 3 (dhådhå) F#    | 4 (pélog) A-     | 5 (limå) A#-  |
| 2 (gulu) E       | 2 (gulu) E       | 3 (dhådhå) F# |
| 1 (penunggul) D# | 1 (penunggul) D# | 2 (gulu) E    |

To accommodate the use of these three scales, most pélog instruments are built with seven pitches. For example, a pélog saron has a sequence of slabs with the ordering tones of



The seven pitches in a pélog bonang are arranged as follow:

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 4 | 6 | 5 | 3 | 2 | 1 | 7 |
| ? | 1 | 2 | 3 | 5 | 6 | 4 |

Usually, sléndro and pélog gamelan of the same set share a common pitch (tumbuk): tumbuk 6 or tumbuk 5. In gamelan tumbuk 6, two other pitches are considered the same: pitch 2 in both tunings and pitch 4 in pélog with pitch 5 in sléndro. In gamelan tumbuk 5, there are also two other pitches to be considered the same: pitch 1 of both tunings and pitch 6 in sléndro with pitch 7 in pélog.

Within the parameters of sléndro and pélog, each gamelan is tuned in a particular pattern of interval sizes. Thus, an instrument from one gamelan set cannot be played in another set. In other words, there is no standard tuning. This practice in tuning the gamelan results the creation of embat, nuance or temperament of gamelan tuning—each gamelan has its own characteristics of overall sound.

Each composition is composed in one of the three pathet or modal categories. Pathet, which literally means “to restrain”, is a system of categorizing the use of tones. This includes the hierarchical use of tones, characteristics of instrumental or vocal idioms to be used to approach these tones, and the range of tones used in a composition. In sléndro the pathet are pathet nem, pathet sanga, and pathet manyura. In pélog, pathet lima, pathet nem, and pathet barang.

The progression of mood, from calm, solemn, or majestic to more lively, is an important concept of the gamelan performance. Therefore, the order of compositions (gendhing) played in a gamelan performance follows this mood progression. Musicians will select compositions whose mode and mood correspond to this mood progression. Besides pathet, there are other factors which determine the mood of a composition: irama, performance technique, and musical structure.

### ***Melodic Organization***

The gamelan ensemble can be characterized as music based on communal expression. The melody of a single instrument cannot be conceived as separable from the whole sound of the ensemble. In identifying what they find to be the main melody of a composition, many theorists have been puzzled by the different limitations of the melodic ranges of the instruments. Actually, the feeling of unity, communality, or totality is based on the interactions or interrelationships among the instruments in the ensemble. This is the most important concept of the gamelan ensemble. The interrelationships among the instruments provide our understanding of how musicians intuitively conceive of the melody of gendhing as the result of their own inner creativity at work. This melody as conceived by the musicians is never explicitly stated on their instruments, yet this implicit melody is in the minds of musicians. I call this melody the “inner melody” of gendhing. Each musician has to coordinate his conception of the inner melody with the range of his or her instrument and its performance technique when creating melodic patterns for a gendhing (Sumarsam 1984).

In spite of the complex process in which the musicians conceive and express their melodies, gamelan instruments can generally be classified according to their functions, into three major groupings (see figure on page 8).

I. The instruments and vocalist which carry melody in both elaborate and more simple forms. This group can be divided into three groups:

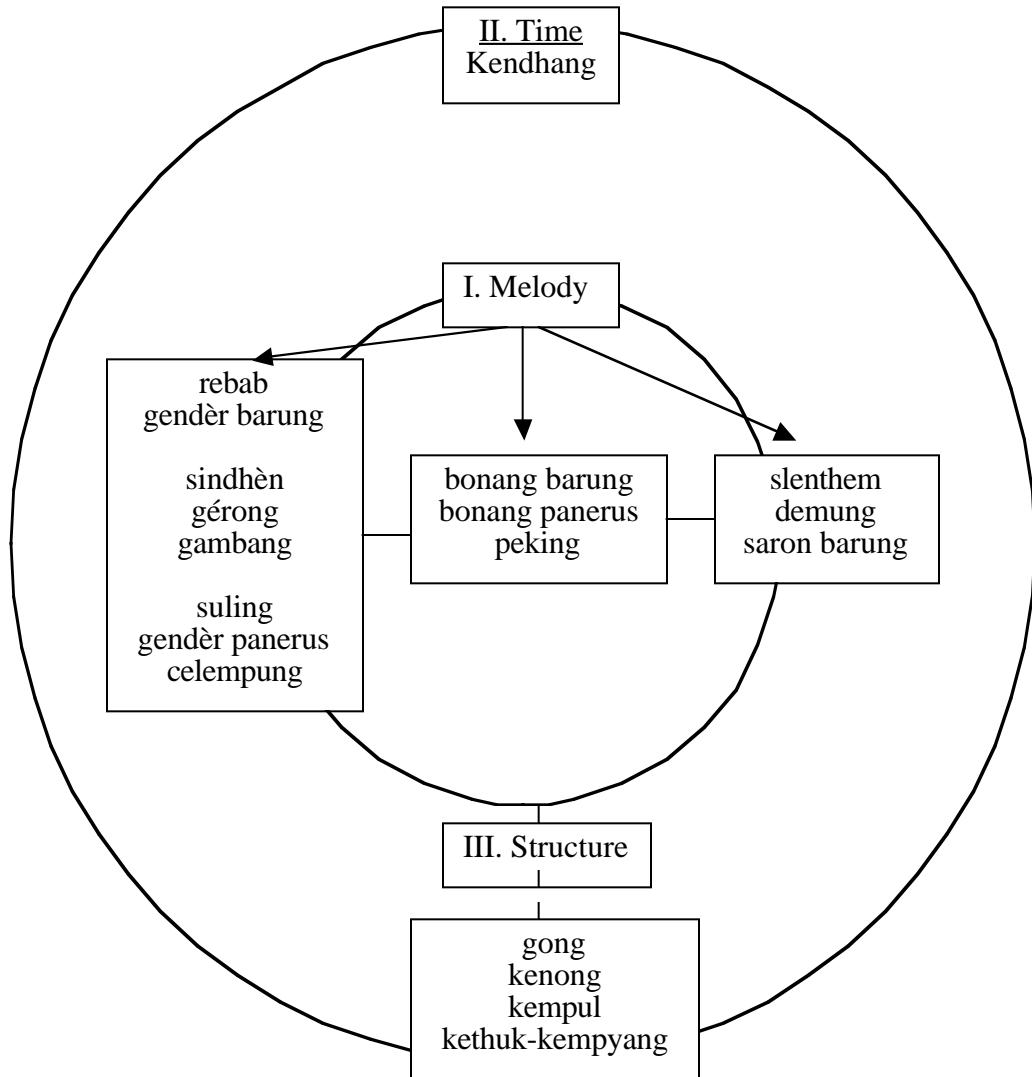
- a. The instruments and vocalists which represent elaborate melodies. Employing wide melodic range, rebab, gendèr barung, gambang, sindhèn, and gérong have the important function of determining the melodic essence of compositions.
- b. The instruments which play a melodic abstraction of a gendhing (balungan) within their one-octave range.
- c. The instruments which melodically mediate between group a and b.

II. The instruments which regulate musical time: to set up the appropriate timing for a composition, control trasition, and signal the end of the piece.

III. The instruments which underline musical structure.

The following descriptions of gamelan instruments are arranged according to the above musical categories.

### INSTRUMENTS OF THE GAMELAN: THEIR FUNCTION IN THE ENSEMBLE



## I. MELODY

### Ia. Elaborate Melodies



Rebab, a two-stringed bowed lute. It has a heart-shaped body of wood (or a round-shaped body of coconut shell) covered by a membrane made of parchment from cow bladder. A long wooden spike is pierced through the body, supporting the strings at the top, and serving as a foot at the bottom. The brass strings a stretched up across the membrane from a point on the leg just below the body to the elongated pegs in the upper part of the spike. When the rebab is bowed, a bridge (srenten) must be positioned between the strings and the upper part of the membrane.

Because the rebab has an elaborate melody and a difficult playing technique (i.e. the production of a clear sound, accurate intonation, bowing technique, and the position of fingers), the rebab player must be a musician with years of training. As one of the leading instruments, rebab is considered the melodic leader of the ensemble, especially in the soft style of playing gendhing. In most pieces, the rebab plays the introduction to the gendhing. This introduction determines the gendhing, laras, and pathet which will be played by the ensemble. The melodic range of the rebab constitutes the melodic range of any composition. Therefore, the flowing melody of the rebab gives a clear direction to the flow of the melody of a gendhing. The sléndro gendhing move within the range of two octaves and two notes:

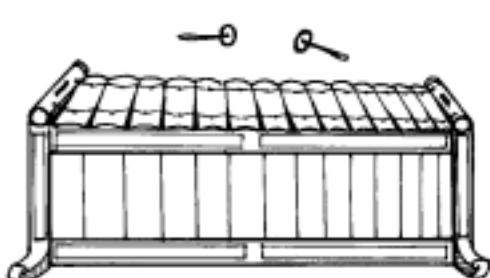
2 3 5 6 1 2 3 5 6 1 2 3 5

The pélog gendhing move within the range of two octaves and four notes:

1 2 3 4 5 6 7 1 2 3 4 5 6 7 1 2 3 4 5

In some gendhing the rebab gives musical cues to move from one section to another.

The strings of the rebab are tuned to an interval which is approximately equal to a fifth (kempyung): nem (6) and gulu (2) in sléndro and pélog gendhing, or limå (5) and penunggul (1) in pélog gendhing, depending on the pathet of the gendhing.



Gendèr, a metallophone with bronze keys suspended by cords in a wooden frame, over tube resonators. It is played with two tabuh of the disc type (i.e. padded disc which is attached to the end of a stick). There are two kind of gendèr: gendèr barung and gender panerus. The gendèr barung can have as few as twelve or as many as fourteen keys, encompassing more than two octaves. A sléndro gamelan has one gendèr. The pitches are:

|          |    |    |    |    |    |   |   |   |   |   |   |    |    |  |  |
|----------|----|----|----|----|----|---|---|---|---|---|---|----|----|--|--|
|          |    |    |    |    |    |   |   |   |   |   |   |    |    |  |  |
| <u>6</u> | 1. | 2. | 3. | 5. | 6. | 1 | 2 | 3 | 5 | 6 | i | 2̇ | 3̇ |  |  |

Note: some gamelan have gendèr without the lowest pitch 6.

A pélog gamelan has two gendèr: the bem gendèr and the barang gendèr. The pitches of a pélog bem gendèr are:

|          |    |    |    |    |    |   |   |   |   |   |   |    |    |  |  |
|----------|----|----|----|----|----|---|---|---|---|---|---|----|----|--|--|
|          |    |    |    |    |    |   |   |   |   |   |   |    |    |  |  |
| <u>6</u> | 1. | 2. | 3. | 5. | 6. | 1 | 2 | 3 | 5 | 6 | i | 2̇ | 3̇ |  |  |

The pitches of a pélog barang gendèr are:

|          |   |    |    |    |    |    |   |   |   |   |   |    |    |  |  |
|----------|---|----|----|----|----|----|---|---|---|---|---|----|----|--|--|
|          |   |    |    |    |    |    |   |   |   |   |   |    |    |  |  |
| <u>6</u> | 7 | 2. | 3. | 5. | 6. | 7. | 2 | 3 | 5 | 6 | 7 | 2̇ | 3̇ |  |  |

The gendèr panerus is tuned one octave higher than the gendèr barung, thus its lowest section overlaps with the gendèr barung's highest section.

The melodic range of the gendèr is narrower than the full melodic range of a composition. Therefore, the gendèr melody sometimes moves in the opposite direction to the melody of a composition.

The gendèr playing technique (e.g. the technique of damping the keys), and its elaborate melody require highly skilled musicianship. The gendèr barung is accepted as a particularly important instrument in the ensemble, especially in the soft playing style of gendhing. Its presence creates the fullness or sonority of the ensemble and reinforces modal character (pathet) of gendhing. Some gendhing have a *buka* (introduction) which is played by the gendèr barung. In the shadow puppet (wayang) performance, the gendèr player has a demanding task to fulfill. He or she has to play in gendhing, in *sulukan* (a kind of chant sung by the dhalang, puppetter), and in *grimigan* (gendèr parts to fit the mood of the scene while the dhalang narrates or gives dialogue).

Pesindhèn or Sindhèn, a female “soloist” singer. The melody of pesindhèn is without strictly fixed tempi. The pesindhèn sings her melodic patterns intermittently, especially towards the end of melodic phrases. This is called *sindhènan baku* or “main sindhèn line”.

A pesindhèn might also sing near the beginning of melodic phrases. This is called *sindhènan isèn-isèn* or "optional sindhèn line".

*Example* Sindhènan ladrang Wilujeng, Sléndro manyurå (excerpt, balungan and sindhèn part). The first half of the phrase is sindhènan isèn-isèn, the second half, sindhènan baku)

2      1      2      3      2      1      2      6

2 2 3 3      2 3 3 1 2 1 6  
yå ra- ma-né      Sendhang ar- gå

3      3      .      .      6      5      3      2  
1 2 3      6 i      6 2 1 2      6 3 53 2 2  
go-nès      Argå a- lit      Kartå- su- rå

5      6      5      3      2      1      2      6  
6 6 i 2      653 3      2 3 5 32 1 6.  
yå mas      yå- mas      Tan pra- yo- ga

2      1      2      3      2      1      2      (6)  
3 3 2 5 3 1 2 1 6      6  
Ngongasken mring wijil- i- rå

For sindhènan baku, pesindhèn sings a poetic riddle, called wangsalan. Each stanza consists of four lines, alternating between four-and eight-syllable lines.

*Example:*

- |                              |  |
|------------------------------|--|
| 1. Sendhang argå             | Pool in the mountain (lake, in Javanese, <b>tlågå</b> )                      |
| 2. Argå alit Kartåsurå       | The small mountain in Kartåsurå (the name of this mountain is <b>wijil</b> ) |
| 3. Tan prayogå               | It is not proper   |
| 4. Ngongasken mring wijilirå | To proudly announce your background  |

As you can see in the example, the first and second lines (usually describing people, animals, or things) point to other meanings. The words implied by the first two lines will appear completely or incompletely in the third and fourth lines, but in different contexts. These lines usually contain moral ideas, the expression of the emotion of love, reverence to the nobility, satire, or other subjects. For sindhènan isèn-isèn, pesindhèn sings a word or words such as *råmå-råmå* (oh father), *yåmas* (yes brother), *radèn* (address to nobility), *kenès-nènès* (referring to a talkative girl), etc. If penggérong (see below) sings, pesindhèn will use the text which is sung by penggérong.

Penggérong or gérong, a small male chorus—two or three male singers. The melody of penggérong is in fixed tempo. The penggérong sings almost continuously; however, not every gendhing has a gérong part.

*Example* Gérongan ladrang Wilujeng, Sléndro manyurå (balungan and gérong part, excerpt)

. . . . 6 6 . i 5 . 6 i 2 . 3 i 2 i 6  
 . . . . Pa-rab-é sang Små- rå- ba- ngun

3 5 6 i 6 5 3 2 6 3 5 3 2  
 . . . . Se-pat dom-bå ka- li O- yå

6 6 . . i 5 6 i 2 . 3 i 2 i 6  
 . . . . Å-jå do-lan lan wong pri- yå

i i 3 2 . 1 2 (6)  
 . . i 2 1 3 5 3 2 . 3 53 3 . 1 2 1 6  
 Ngge- ra- mèh no- ra- pra- så- jä

Although some gendhing have their own texts, the most common texts used by penggérong are in the salisir or kinanthi forms. Like wangsalan, salisir is also a poetic riddle. The difference lies in the number of syllables; its syllable-scheme being eight-eight-eight-eight.

Parabé sang Småråbangun  
 Sepat dombå kali Oyå  
 Åjå dolan lan wong **priyå**  
**Nggeramèh** nora prasåjå

The nickname of Småråbangun (i.e., **Priyambada**)  
 Big fish in the Oya river (i.e., **guramèh**)  
 Don't play around with a man  
 It is trivial, but not proper

Kinanthi is one of the macapat songs. The texts used by penggérong may tell us about moral ideas, describe nature, a story or puzzle, express the emotion of love, or other subjects.

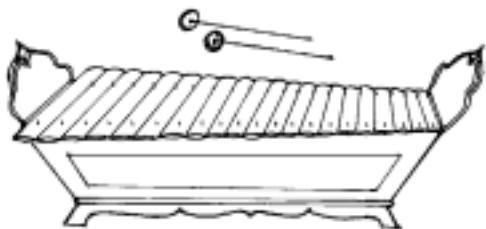
*Example*

Kinanthy

Nalikanirå ing dalu  
 Wong agung mangsah semèdi  
 Sirep kang bålå wanårå  
 Sadåyå wus sami guling  
 Nadyan ari Sudarsånå  
 Wus dangu dènirå guling

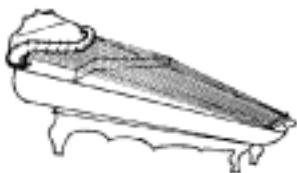
Once, in the evening  
 The honorable man (Rama) was meditating  
 Silent was the monkey army  
 They all have been sleeping  
 Even Råma's brother Sudarsånå (Laksmåna)  
 He has long been sleeping

In some sections of gendhing, penggerong will sing *senggakan* or *alok*, employing a word or words such as *sooooooo*, *haké*, *dua lolo*, etc. These short melodies or "stylized cries" are meant to excite the mood of the piece.



Gambang, a wooden-xylophone with seventeen to twenty one keys with a range of two octaves or more. The gambang is played with two disc type beaters, which have long, horn handles. Most of the time the gambang plays in octaves (gembyangan). Sometimes, however, a kempyung (playing two notes separated by two keys), playing two notes separated by six keys, and a few other ornamental styles of playing are substituted.

Like the rebab, the melody of the gambang reveals the melodic motion of the gendhing because of its wide melodic range. The high speed of the gambang part and its elaborate melody require years of training to master. In wayang performances, beside playing in the gendhing, the gambang player also plays in the pathetan and sendhon (two kinds of sulukan or chant sung by the dhalang).



Celempung, a plucked-zither set on four legs. The two front legs are higher than the two rear legs. Therefore, the instrument slopes downward toward the player. Its strings consist of thirteen pairs, stretched between the tuning pins at the lower side of the instrument. The bridge is placed on the middle across the sound board (body of the instrument). The celempung is played with thumbnails. In addition, damping is required using the other fingers - right hand fingers damp from below the strings, left hand fingers damp above the strings.

The sound of the celempung enriches the total sound of the ensemble. The most suitable use of celempung is in a kind of chamber gamelan (gamelan klenèngan, gamelan gadhon, gamelan cokèkan), or in a siteran performance. Siter is similar to celempung but has no legs, and is smaller in size. Siteran is an ensemble consisting of celempung, siter, siter panerus, siter slenthem, kendhang ciblon, and gong kemodhong.

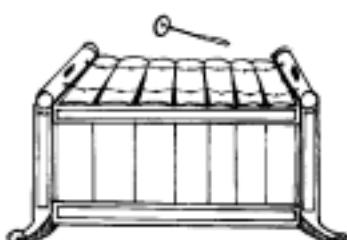


Suling, end-blown flute made of bamboo. The sléndro suling has four finger-holes and the pélog, five. The suling encompasses a range of more than two octaves. The lowest octave, however, is rarely played. Suling melodies are characteristically played in free rhythm. They are played intermittently, usually toward the end of melodic phrases, but also at the beginning and in the middle of melodic phrases.

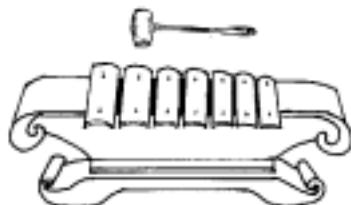
### Ib. Melodic Abstraction

Among the many layers of melodies in a gamelan ensemble, there is a melodic line which is considered as the melodic skeleton or balungan of a gendhing. Balungan is the abstraction of the melody of a gendhing. In general, a group of saron instruments (see below) plays balungan within the limitation of their ranges. Basically, there are two kinds of balungan: *balungan mlaku* and *balungan nibani*. Mlaku means “walking”; balungan mlaku expresses the abstraction of the gendhing melody clearly. Nibani, from the root word tiba, means “fall down”; the notes of balungan nibani fall only at certain points. Within these two basic categories, there are also a number of variants of balungan melody, e.g. *balungan gantung*, *balungan rangkep*, *balungan ngrancak*, etc.

| <i>Example</i> | Balungan Mlaku       | Balungan Nibani      |
|----------------|----------------------|----------------------|
|                | 2 3 2 6      2 3 2 7 | . 2 . 1      . 6 . 5 |
|                | 2 3 2 7      2 3 2 7 | . 2 . 5      . 2 . 1 |
|                | 2 3 2 6      2 3 2 7 | . 2 . 1      . 2 . 1 |
|                | 6 7 6 5      3 5 6 7 | . 2 . 1      . 6 . 5 |



Slenthem, Demung, Saron Barung, and Saron Panerus (Peking), commonly called by the generic name of saron. They are metallophones with six or seven bronze keys placed on a wooden frame which serves as a resonator (except for the slenthem). Although the slenthem has the same number of keys as the other saron, its construction is similar to that of the gendèr. It is sometimes called gendèr panembung. The slenthem with its large and thin keys, provides the lowest octave of the saron group. The demung, which has thick keys (narrower than the slenthem's keys) provides the medium octave of the saron group.



The saron barung, which has thick keys (narrower than the demung's keys) provides the high octave of the

saron group. The saron panerus or peking, which has thick keys narrower than the saron barung, provides the highest octave of the saron group.

Sléndro saron

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 6 | 1 | 2 | 3 | 5 | 6 | i |
|---|---|---|---|---|---|---|

Pélog saron

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|

The distribution of of the sarons' registers:

Sléndro (Note: Saron in some gamelan do not have 6)

Peking

6 1 2 3 5 6 i

Saron barung

6 1 2 3 5 6 i

Demung

6 1 2 3 5 6 i

Slenthem

6 1 2 3 5 6 i

Pélog

Peking

1 2 3 4 5 6 7

Saron Barung

1 2 3 4 5 6 7

Demung

1 2 3 4 5 6 7

Slenthem

1 2 3 4 5 6 7

The slenthem is played with a disc type tabuh, like gender tabuh but bigger in size. The demung and the saron barung are played with wooden mallets, and the saron panerus is played with a mallet made of a horn. These four instruments are played with the right hand holding the mallet slanting a little to the right to produce a full sound. (This does not apply to the slenthem, which is struck with a vertical movement of the mallet). The left hand acts as a damper by grasping the key with thumb and forefinger. The damping of the key must be done at the same time the right hand strikes the next key. Except for the saron panerus (see page 15-16), the saron family of instruments plays the balungan within their range. There are other techniques through which the sarons create interlocking patterns. These techniques are *pinjalan* and *imbal-imbalan*.

#### Ic. Melodic Mediators

Instruments and vocalists in group Ia express elaborate and multi-octave melodies. Instruments in group Ib play a melodic abstraction or the melodic skeleton of a composition in simple rhythm and within the limits of a one-octave range. Bonang and saron panerus play melodies which offer guidance to the instruments in groups Ia and Ib, regarding the melody of a composition.



gong-kettles, encompassing two octaves. The bonang panerus is pitched one octave higher than the bonang barung; its lowest octave overlaps with the bonang barung's highest octave.

Sléndro bonang

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 6 | 5 | 3 | 2 | 1 | 2 |
| 1 | 2 | 3 | 5 | 6 | 1 |

Pélog bonang

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 4 | 6 | 5 | 3 | 2 | 1 | 7 |
| 7 | 1 | 2 | 3 | 5 | 6 | 4 |

In the pélog bonang, the positions of tones 1 and 7 are interchangeable, depending on the pathet of the gendhing. The above setting is to be used for playing gendhing in pathet nem. For gendhing in pathet lima, the player must switch pitch 1 with 1. For gendhing in pathet barang, pitch 7 should be interchanged with pitch 1, and 7 with 1.

Occasionally, in Yogyanese gamelan, a complete gamelan set might have a bonang panembung. This bonang is one octave lower than the bonang barung; its higher octave overlaps with lower octave of bonang barung.

The bonang is played with two long sticks padded with cord at the striking end. Basically, there are three kinds of bonang playing techniques: *gemyangan*, *pipilan*, and *imbali-balimbalan*. On the bonang barung, the gembyangan or octave playing technique is the simultaneous playing of two tones one octave apart, played on every off beat of the balungan (melodic skeleton of gendhing) pulse. The tone being played is the last tone of each gatra (metrical unit of four beats) of the balungan. Here the bonang panerus also plays gembyangan technique, but in a different rhythm than the bonang barung. This style of gembyangan is played in lancaran (especially in irama lancar) and srepegan pieces.

*Example* gembyangan playing technique in lancaran piece (Note: the underlined 5 is gembyangan technique, an octave playing)

|                |                                |                                |                                |                                |
|----------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Balungan       | . 3 . 5                        | . 6 . 5                        | . 6 . 5                        | . 1 . 6                        |
| Bonang barung  | <u>5</u> . <u>5</u> .          |
| Bonang panerus | . <u>5</u> . <u>5</u> <u>5</u> |

Pipilan or mipil literally means “to pick off one by one” or to play single tones one at a time. In pipilan technique, the bonang barung leads the saron player by anticipating or giving melodic cues. The bonang panerus is played using the same principle as bonang barung, but at double the speed.

*Example* Pipilan bonang in the balungan mlaku (2321) and balungan nibani (.5.3)

|                |                        |                        |
|----------------|------------------------|------------------------|
| Balungan       | 2      3               | 2      1               |
| Bonang barung  | 2 3 2 . <u>2</u> 3 2 . | 2 1 2 . <u>2</u> 1 2 . |
| Bonang panerus | 232.232.232.232.       | 212.212.212.212.       |

Note: For a stylized playing, 2 should be treated as rest :

|                        |                        |
|------------------------|------------------------|
| 2 3 2 . <u>2</u> 3 2 . | 2 1 2 . <u>2</u> 1 2 . |
|------------------------|------------------------|

Within the pipilan style, the bonang may also use the gembyangan technique, but in a different rhythm than the gembyangan in the lancaran pieces. The gembyangan technique is used for gantungan (sustained single tone) melody in the medium or high range. When the gantungan melody is in the low range, the bonang will use the nduduk tunggal (syncopated single tones) technique. The gembyangan technique and its variations may also be used for melodies in the high register which go beyond the highest pitches of the bonang's range. It also serves to refine the flow of the bonang melody itself.

*Example* Gembyangan bonang in the context of the pipilan style

|  |   |  |
|--|---|--|
| Balungan                               | 6      6  | .      .   |
| Bonang barung<br>a simplified playing  | 6 6 <u>6</u> . 6 <u>6</u> ..                                  | 6 6 <u>6</u> . 6 <u>6</u> ..                                 |
| a stylized playing                     | 6 6 <u>6</u> . . <u>6</u> ..                                  | 6 . . <u>6</u> . . <u>6</u> .                                |
| Bonang panerus<br>a simplified playing | 66 <u>6</u> .6 <u>6</u> ..66 <u>6</u> .6 <u>6</u> ..          | 66 <u>6</u> .6 <u>6</u> ..66 <u>6</u> .6 <u>6</u> ..         |
| a stylized playing                     | 66 <u>6</u> .6 <u>6</u> .6 <u>6</u> .6 <u>6</u> .6 <u>6</u> . | 6 <u>6</u> .6 <u>6</u> .6 <u>6</u> .6 <u>6</u> .6 <u>6</u> . |

Because of the anticipatory nature of the bonang melody in the pipilan and gembyangan technique, bonang (especially bonang barung) are considered important and leading instruments in the ensemble. The bonang player must be a musician who is confident in his or her playing of gendhing.

There is also another bonang playing technique called imbal-imbalan (“interlocking”), in which the bonang barung and bonang panerus play interlocking patterns. In this imbal-

imbalan technique, the bonang does not lead the saron, but creates a lively background which adds to the excitement of the piece. Thus, the imbal-imbalan technique is played during a gendhing or sections of a gendhing which are lively in mood.

*Example* Bonang imbal-imbalan

|                |                  |   |                  |   |
|----------------|------------------|---|------------------|---|
| Balungan       | 2                | 3 | 2                | 1 |
| Bonang barung  | .1.3.1.3.1.3.1.3 |   | .1.1.1...1.1.1.. |   |
| Bonang panerus | 2.5.2.5.2.5.2.5  |   | 2.2.2.2.2.2.2.2. |   |

|                  |   |                  |   |
|------------------|---|------------------|---|
| 3                | 2 | 1                | 6 |
| .3.6.3.6.3.6.3.6 |   | .3.5.6.1.215.1.6 |   |
| 5.i.5.i.5.i.5.i. |   | 3135616.31356166 |   |

Toward the end of the melodic phrases, the bonang might play a *sekaran* ("ornamentation"), as indicated in the second half of each phrase above.

Another instrument included in the group of melodic mediators is saron panerus. Although the saron panerus has the same construction as the demung and saron barung (see page 11-13), its functions differ. Its melody anticipates and doubles or quadruples the melody of the balungan. It also often attempts to paraphrase the balungan in the context of the melody of a composition.

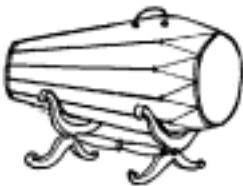
*Example* Peking

|                                    |   |   |   |   |
|------------------------------------|---|---|---|---|
| Balungan                           | 2 | 1 | 2 | 6 |
| Peking,<br>nacah lomba<br>(double) | 2 | 2 | 1 | 1 |

|   |   |   |   |   |
|---|---|---|---|---|
| Balungan                                | 2 | 1 | 2 | 6 |
| Peking,<br>Nacah rangkep<br>(quadruple) | 2 | 2 | 1 | 1 |

|   |                  |   |                  |   |
|---|------------------|---|------------------|---|
| Balungan  | .                | 1 | .                | 6 |
| Peking,<br>Nacah rangkep<br>(paraphrasing the gendhing) | 2233223322112211 |   | 3322332211661166 |   |

## II. MUSICAL TIME



Kendhang, a two headed asymmetrical drum on leather hoops and laced in a “Y” pattern. The kendhang is held horizontally on the kendhang stand and played with bare hands (part of palm and/or fingers). Usually the small head is played with the left hand, and the large head with the right.

The concept involving the articulation of time in the playing of gendhing is called *irāmā*. It is the concept concerning the interaction of tempo (fast, medium, slow) and density level of melodic instruments (i.e. the number of beats of these instruments in ratio with the basic beats of the gendhing). It is the responsibility of the kendhang to set *irāmā* and lead tempi (i.e. keep the steady tempi, control transitions to faster and slower tempi, and end the piece). In the playing of gendhing in a particular *irāmā*, the drummer may set the tempo in slow, medium, or fast speed, as long as the players of melodic instruments are comfortable playing at that density level. However, when the drummer sets the speed so slow or so fast, so that the melodic instruments must adjust their density level to either double or half, the composition is considered to be played in a different *irāmā*.

Javanese gamelan recognizes four different levels of *irāmā*: *Irāmā I* (lancar or tanggung), *irāmā II* (dadi), *irāmā III* (wilet), and *irāmā IV* (rangkep).

Beside setting the *irāmā* in the dance and wayang performance, the kendhang also accompanies the movements of the dancer or puppet. Because of these functions, kendhang playing is a demanding task, and the kendhang is considered to be an important or leading instrument in the ensemble.

There are four kinds of kendhang:

1. Kendhang ageng (ageng—“large”), is the largest kendhang. It is played in those gendhing or sections of gendhing which have a peaceful or majestic feeling.
2. Kendhang wayangan, a medium-sized kendhang played for the accompaniment of the wayang performance.
3. Kendhang ciblon, a small-sized drum used to accompany dance. It is also used in concert music, where it plays rhythmic patterns derived from the dance.
4. Kendhang ketipung, the smallest drum. It is played in combination with the kendhang ageng.

There is also another type of drum, called bedhug. It is a large symmetrical barrel drum with two nailed heads of the same diameter. The bedhug is hung on a stand (or placed on a frame) and played with a beater. It is occasionally played in conjunction with other drum to accompany dance. It is also used in the gendhing which are played to welcome guests.

The kendhang uses a tuning which suits the kind of drum and the drumming style to be played. Its pitches need not exactly agree with the pitches of the other instruments in the ensemble.

*Example* Basic drum syllables and their notational symbols ( for kendhang kalih or satunggal style)

- DHAH/b The sound produced on the edge of the large head of any kendhang other than kendhang ketipung. It is an open stroke, performed by fingers and part of the palm.
- THUNG/ρ 1. The sound produced on the large head of kendhang ketipung. It is an open stroke, performed by index or thumb.  
2. The sound produced on the middle of the large head of any kendhang other than kendhang ketipung. It is an open stroke, performed by fingers.
- KET/k The sound produced in the middle of the large head of any kendhang. It is a closed stroke, performed by the tip of the fingers, especially index, ring and middle fingers.
- TONG/◦ The sound produced on the edge of the small head of any kendhang. It is an open stroke, performed by the tip of the fingers, especially middle and ring fingers.
- TAK/t The sound produced on the small head of any kendhang. It is a closed stroke, performed by fingers and part of the palm. The right hand dampens the large head.

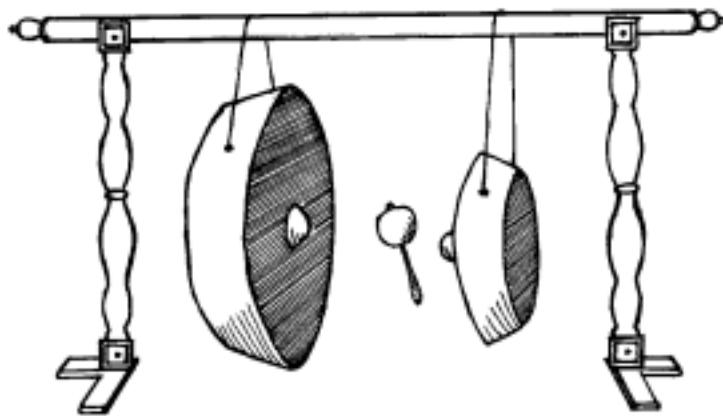
*Example* notation for kendhang kalih style (Yogyanese style), ladrang

|                                      |                                  |                                  |        |        |   |
|--------------------------------------|----------------------------------|----------------------------------|--------|--------|---|
| $\overline{k} \ \overline{t} \ \rho$ | $\overline{t} \ \overline{\rho}$ | $\overline{k} \ \overline{t}$    | $\rho$ | $b$    | $\overline{k} \ \overline{t} \ \rho$            |
| $b$                                  | $\overline{t} \ \overline{\rho}$ | $\rho$                           | $\rho$ | $b$    | $\overline{k} \ \overline{t} \ \rho \ b$        |
| $\overline{k} \ \overline{t} \ \rho$ | $b$                              | $\overline{t} \ \overline{\rho}$ | $\rho$ | $\rho$ | $b \ \rho$                                      |
| $\overline{b} \ \overline{\rho}$     | $\overline{k} \ \overline{t}$    | $\rho$                           | $b$    | $\rho$ | $\overline{k} \ \overline{t} \ \rho \ b \ \rho$ |

### III. MUSICAL STRUCTURE

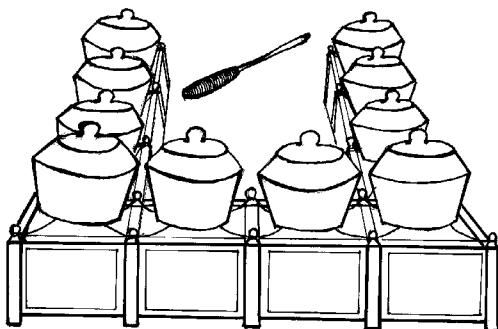
Gamelan compositions are composed in groups of equal metrical units. The shortest unit consists of four basic beats and is called gatra ("embryo" or "semantic unit"). A gamelan composition is also composed in one of several structures. The number of gatra per

gongan (see below) and the stroke of gong, kenong, kempul, and kethuk, specify each of these gendhing structures.



pélog gamelan, they are tuned to 2 (gulu) and (rarely) 7 (barang). The gong is played with a round, padded beater.

The gong has an important function in the ensemble. It marks the beginning and end of the piece and gives a feeling of balance after the longest melodic section of a gendhing. The gong is so important in marking the fundamental unit of a gendhing structure that this unit, i.e. the space between two gong strokes, is called a gongan.

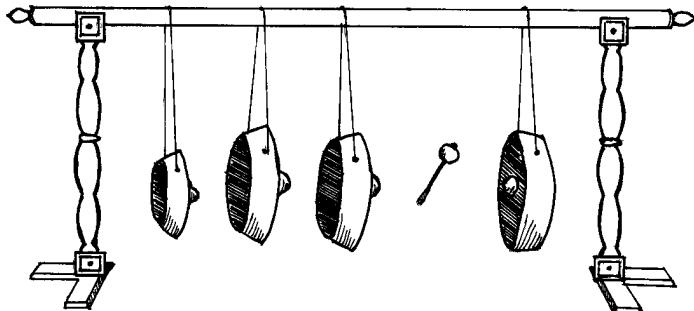


Kenong, a set of large horizontal gong kettles placed, open side down, on a rack. A complete gamelan set usually has as many as ten kenong. Sléndro kenong are 2 3 5 6 1, pélog kenong 2 3 5 6 7 1. In the tumbuk nem gamelan (where the tuning of pitch nem (6) in the sléndro set is the same as pitch nem in the pélog set), kenong 6 sléndro is interchangeable with kenong 6 pélog. Kenong 5 sléndro can also be used as kenong 4 pélog. In the tumbuk lima gamelan, kenong 5 sléndro is interchangeable with kenong 5 pélog. Kenong 7 pelog can also be substituted for kenong 6 sléndro. A gamelan set may, however, have fewer kenong. If so, the sléndro kenong will usually be 5 6 1, and the pélog kenong will be 5 6 7.

Kenong is the next important instrument after the gong in delineating the structure of a gendhing. It divides the gongan into two or four kenong phrases or kenongan. Besides its function to underline the musical structure, the kenong also relates to the melody of gendhing. It may play the same note as the balungan; it may anticipate the following balungan note to guide the melodic flow; or it may play a note in a kempyung interval with the balungan note, to support the feeling of the pathet.

Gong, large and medium gongs hung on a stand. The largest hanging gong (usually black) is called gong ageng (ageng—large), and has the lowest pitch among the gamelan. The medium sized hanging gongs are called gong suwukan. If there is only one gong suwukan, it is tuned to pitch 2 (gulu). However, a gamelan set may have two gong suwukan. In sléndro gamelan, they are tuned to 2 (gulu) and 1 (barang). In a

In ayak-ayakan, srepegan, and sampak pieces, the kenong playing guides the melodic flow of the gendhing. For example, in srepegan the kenong is played on every beat of the balungan, but the note it plays is the important note in each gatra. This fast moving kenong playing of srepegan and sampak results in a tense musical feeling.



gong-type beater. In fast moving kempul playing, damping with the beater is required.

Like the kenong, the kempul subdivides the melodic flow of the gendhing into musical phrases. It is played at points of secondary importance in the gendhing melody (the kenong plays at the primarily important points). In relation to the gendhing melody, the kempul may play the same note as the balungan; occasionally, it may anticipate the following balungan note; sometimes, it plays a note which forms a kempyung interval with the balungan note, to enhance the feeling of the pathet.

In ayak-ayakan, srepegan, and sampak, the kempul is played on every other beat of the kenong. Especially in srepegan and sampak, the fast-moving kempul part contributes to the tense musical feeling.



Kethuk-Kempyang, two small horizontal gong-kettles placed, open side down, on a rack. In sléndro the kethuk is tuned to 2 (gulu), and the kempyang is tuned to i (barang). In pélog, the kethuk is tuned to 6 (nem), and the kempyang is tuned to high 6 (two octaves above the kethuk).

The kethuk also subdivides the melodic flow of gendhing into shorter musical phrases. In fast moving styles of kethuk playing (sampak, srepegan, ayak-ayakan, and lancaran pieces), the kethuk plays between the balungan beats (i.e. off-beat). Therefore, it results in a rapid interlocking pattern.

#### *Example Gendhing structure*

Keys: o o o o = basic pulses (the pulses of balungan); G = Gong; N = Kenong; P = Kempul; T = Kethuk; p = Kempyang

#### Ketawang

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| o | o | o | o | o | o | o | o |
| p | T | p |   | p | T | p | N |
| o | o | o | o | o | o | o | o |
| p | T | p | P | p | T | p | N |

G

Kempul, small sized hanging gongs. A complete gamelan set usually has as many as eight kempul. Sléndro kempul are 3 5 6 i, and pélog kempul 3 5 6 7 i. A gamelan set may, however, have fewer kempul (sléndro: 5 6 i, pélog: 5 6 7). The interchangability of pélog kempul and sléndro kempul follows the same system as that of the kenong. The kempul is played with a round, padded beater, a smaller size of the

## Ladrang

**o o o o o o o o**  
**p T p p T p p N**

**o o o o o o o o**  
**p T p P p T p N**

**o o o o      o o o o**  
**p T p P      p T p N**

**o o o o      o o o o**  
**p T p P      p T p N**  
                  **G**

## Gendhing: Mérong kethuk 2 kerep<sup>5</sup>

$$0 \quad 0 \quad 0 \quad 0 \quad T \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad T \quad 0 \quad 0 \quad 0 \quad 0 \quad N$$

o o o o o o o o o o o o T o o o o o N

$$\begin{array}{ccccccccc} o & o & o & o & o & o & o & o & o \\ & & & T & & & & T & N \end{array}$$

o o o o      o o o o      o o o o      o o o o  
T                T                T                T

## Inggah ketuk 4

o N

p T p p T p p T p p T p p T p p T p p T p

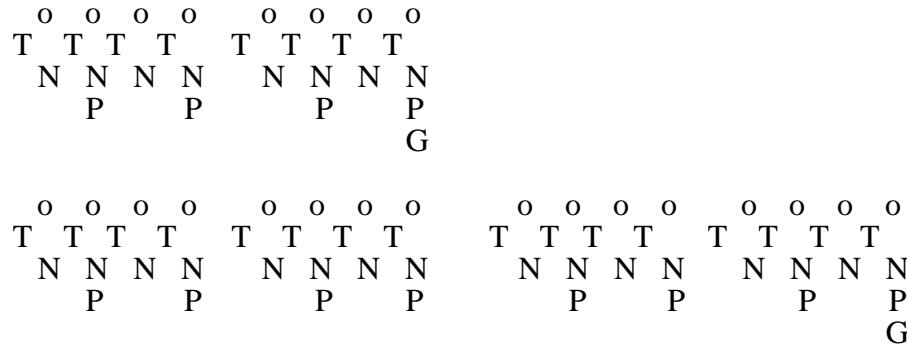
o o o o o o o o o o o o o o o o o o o N  
 p T p p T p p T p p T p p T p p T p p N

o o o o o o o o o o o o o o o o o o N

o o o o      o o o      o o o o      o o o  
 p T p      p T p      p T p      p T p N G

<sup>5</sup> The term gendhing has two meaning. (1). Generic term for gamelan compositions. (2). Name of structure of agamelan composition which always consists of two major sections, *mérong* and *inggah*.

# Srepegan



Kemanak, a pair of banana-shaped instruments. They are played with padded sticks, and are used in the gamelan to accompany some of the bedhåyå and serimpi, genres of female court dance.

Keprak, a wooden-box or slit wooden-box. It is played in the gamelan to accompany dance and direct the dancers. Keprak usually has kepyak, that is three bronze plates hung loosely on the keprak. For dance accompaniment, keprak and kepyak are played with a mallet. In wayang performance, a larger kepyak is used. It is hung loosely on the wayang box and kicked by dhalang's toes or small cempala (a kind of mallet) held between his toes. The dhalang also strikes the wayang box with a bigger cempala.

Kecèr, an instrument consisting of two pairs of small cymbals. One pair is permanently fixed in a wooden frame, and is struck with the other pair. This kind of kecèr is played in the gamelan to accompany wayang performance. There are also other kinds of kecèr, found in the archaic gamelan ensemble. They are played with mallets.

*Social and Performance Context*

Besides its independent function (i.e. klenèngan, a gamelan performance to be held for its own sake), gamelan is an essential accompaniment for dramatic forms, such as dance, dance drama, and wayang performance. Whether accompanying a theatrical form or not, gamelan is performed in Java in many different contexts. The most common involve gamelan in ritual celebrations (e.g. wedding receptions, circumcisions, village ceremonies, etc.). As history has evolved and technology advanced, other contexts have been created, such as performances for independence day, broadcasts from radio or television stations, etc. Occasionally, there is also an informal "jam" session which is sponsored by gamelan patrons or connoisseurs. At any rate, the concept of a "music concert" in which the music is listened to attentively and in which the separation between the performer and audience is reinforced, is still alien in gamelan performance in present-day Java. Gamelan is to be enjoyed and appreciated, rather, as a part of ritual celebrations.

One of the characteristics of gamelan music is the wide range of its difficulty, both in playing technique and repertoire. On the one hand, one can learn to play the simplest instrument and melodic and rhythmic structure of a gendhing, so that he or she can master it within a short time. On the other hand, one must go through years of experience in order to play the most elaborate instrument and the most sophisticated melodic and rhythmic

structure of a gendhing. For this reason, gamelan is accessible to a variety of groups at different levels and with different purposes. There are gamelan clubs, for example, whose function is social rather than professional, such as gamelan clubs of post-office employees, gamelan clubs of doctors' wives, and gamelan clubs of the army, among others. Apart from these informal gamelan clubs, there are professional groups, such as the Radio Republik Indonesia (R.R.I.) gamelan group. Gamelan also has an important role in education. There are gamelan lessons in schools and colleges; there are also schools and academies of gamelan.

## *Bibliography*

### General, on gamelan, wayang and/or dance

- Becker, Judith. *Traditional Music in Modern Java*. Honolulu: The University Press of Hawaii, 1980.
- Brakel-Papenhuyzen, Clara. *Classical Javanese Dance*. Leiden: Koninklijk Instituut voor Taal-, Land- en Volkenkunde, 1995.
- Brandon, James. *On Thrones of Gold*. Cambridge, Mass.: Harvard University Press, 1970.
- Groenendaal, Victoria M. Clara van. *The Dhalang Behind the Wayang*. Leiden: Koninklijk Instituut voor Taal-, Land- en Volkenkunde, 1985.
- Holt, Claire. *Art in Indonesia: Continuities and Change*. Ithaca: Cornell University Press, 1967.
- Keeler, Ward. *Javanese Shadow Puppets*. Kualalumpur: Oxford University Press, 1992.
- \_\_\_\_\_. *Javanese Shadow Plays, Javanese Selves*. Princeton, NJ.: Princeton University Press, 1987.
- Sumarsam. "Gamelan Music and the Javanese Wayang Kulit. In *Aesthetic Tradition and Cultural Transition in Java and Bali*. (pp.105-116), edited by Stephanie Morgan and Laurie Jo Sears. Madison: University of Wisconsin Center for Southeast Asian Studies, 1984.

### Specific, on gamelan

- Becker, Judith and Alan Feinstein, eds. *Karawitan: Source Readings in Javanese Gamelan and Vocal Music*. 3 vols. Ann Arbor: Center for South and Southeast Asian Studies, The University of Michigan, 1987.
- Brinner, Benjamin. *Knowing Music, Making Music: Javanese Gamelan and the Theory of Musical Competence and Interaction*. Chicago: University of Chicago Press, 1995.
- Lindsay, Jennifer. *Javanese Gamelan*. 2nd.ed. Kualalumpur: Oxford University Press, 1992.
- Sorrell, Neil. *A Guide to the Gamelan*. London: Faber and Faber Limited, 1990.
- Sumarsam. "Inner Melody in Javanese Gamelan." In *Karawitan: Source Readings in Javanese Gamelan and VocalMusic*, volume 1: 245-304, edited by Judith Becker and Alan H. Feinstein. Ann Arbor: Center for South and Southeast Asian Studies, The University of Michigan, 1984.
- Sumarsam. *Gamelan: Cultural Interaction and Musical Development in Central Java*. Chicago: University of Chicago Press, 1995.
- Vetter, Roger. "Flexibility in the Performance Practice of Central Javanese Music." *Ethnomusicology*, XXV, 2 (May 1981): 199-214.

### *Discography*

- Gamelan from the Sultan's Palace in Jogjakarta.* In the series "Musical Traditions in Asia", Archive 2723-017.
- Javanese Court Gamelan from the Pura Paku Alaman,* Jogyakarta. Nonesuch, H72044.
- Javanese Court Gamelan,* Vol. II. Recorded at the Istana Mangkunegaran Surakarta, Nonesuch H72074.
- Javanese Court Gamelan,* Vol. III. Recorded in the Kraton of Yogyakarta, Nonesuch H72074.
- Street Music of Central Java.* Lyrichord Stereo LLST 7310.

### *Glossary*

- alok:** lit., 'to shout/yell'. Short vocal phrases of indefinite or indeterminate pitch inserted within a gendhing to enhance the mood.
- arang:** lit., 'infrequent, sparse'. Refers to the kethuk marking of gendhing structure: 'kethuk 2 (or 4) arang (awis)'.
- ayak-ayakan:** structure and name of gendhing as it is determined by its melody and the position of gong, kempul, kenong, and kethuk. Each pathet has its own ayak-ayakan.
- balungan:** lit., 'skeleton, frame'. Melodic abstraction of gendhing played by slenthem, demung, and saron barung.
- balungan mlaku:** stepwise balungan in which there are no regular rest as in balungan nibani.
- balungan nibani:** balungan characterized by alternating ciphers and rests, e.g., .2.1 .6.5 .
- barang:** one of the tones of the gamelan. In the Kepatihan system of notation, sléndro,tone barang = 1; pélog,tone barang = 7.
- bedhåyå:** a classic dance of the palaces of Surakarta and Yogyakarta. It is performed by seven or nine women dancers. Historically, it is also performed by boys.
- bedhug:** a large pegged drum suspended from a rack and played with a padded mallet.
- bem:** 1. one of the tones of the pélog tuning system, bem = panungkul = 1; 2. a deep-sounding, right-hand stroke of the kendhang ageng.
- bonang:** a rack of ten, twelve or fourteen small horizontally suspended gongs arranged in two rows.
- bonangan:** the loud playing style of gendhing in which the bonang is the principal melodic instrument.
- bonang barung:** a mid-range of bonang gongs.
- bonang panembung:** a low-range, larger set of bonang gongs.
- bukå:** the opening phrase or introduction of a gendhing.
- demung:** the large-sized, low-register saron.
- dhådhå:** one of the tones of the gamelan scale, dhådhå = 3.
- dhalang:** the puppeteer in the wayang performance.
- embat:** the nuances or of a tuning system.
- gambang:** a xylophone with wooden keys.
- gamelan:** generic term for ensemble.
- gantungan:** lit. 'hanging". Sustaining melody.
- garap:** way of working or fashioning melodies by the elaborating instruments.
- gåträ:** lit., 'embryo'. A metrical unit of gamelan gendhing meaning four beats usually manifested as strokes of the saron.
- gembyang:** an octave.
- gembyangan:** a playing technique involving octave playing.

- gendèr:** 1. an instrument with 10 to 13 thin bronze keys, each suspended over a tube resonator. 2. gender barung.
- gender barung:** the middle-sized gender usually referred to simply as gender.
- gender panerus:** the smallest, highest-pitched gender.
- gendhing:** 1. a generic term for any gamelan composition. 2. the designation of a class of formal gamelan structures characterized by relatively greater length (minimum kethuk 2 kerep) and the absence of kempul, and consisting of two major sections-mérong and inggah.
- gendhing bonang:** gendhing in which the bonang plays introduction, the bonang is the principal melodic instrument, and the other elaborating instruments do not play.
- gérong:** a unison male chorus which sings with a gamelan.
- gérongan:** the part for male chorus sung with the gamelan.
- gong:** 1. a generic term for any kind of vertically suspended gong, especially large- or medium-sized hanging gong. See gong ageng and gong suwukan.
- gong ageng** (gedhé): the largest hanging gong.
- gong suwukan:** a medium-sized hanging gong
- grambyangan:** a melodic unit indicating the pathet, played by the gender or bonang to alert the players before the beginning of a piece.
- grimungan:** the playing of fragments of sulukan on the gender in a wayang performance, indicating pitch and pathet register to the dhalang and to support the moods of the scenes.
- gulu:** one of the tones of the gamelan scale, notated 2 in the Kepatihan system.
- imbal (imbal-imbalan):** a style of playing in which two identical or similar instruments play interlocking parts forming a single repetitive melodic pattern.
- inggah:** the section of a gendhing which follows a mérong.
- iråmå:** 1. tempo. 2. refers to the different tempo relationships within a gongan or gendhing. It is the expanding and contracting of structural units and the degree or level at which the gåträ is subdivided (or filled in).
- karawitan:** gamelan music and associated singing.
- kecèr:** cymbals, hit with mallet or to each other.
- kemanak:** a small bronze instrument in the shape of a hollow banana, slit on one side, held in the left hand and struck with a mallet held in the right hand.
- kembangan:** see sekaran.
- kempul:** a small hanging gong.
- kempyang:** one or two small horizontally suspended gong(s). Also see kethuk-kempyang.
- kempyung:** an interval separated by two pitches or keys.
- kendhang:** a generic term for “drum.” It is two-headed drum placed horizontally on a wooden frame and played with bare hands (fingers and palm).
- kendhang ageng:** the largest of the kendhang.
- kendhang ciblon:** a medium-sized drum for lively drum playing and for dance accompaniment.
- kendhang kalih:** lit., ‘two drums’. The drum style played on kendhang gendhing and ketipung.
- kendhang satunggal:** lit., ‘one drum’. The drum style played on the kendhang gendhing alone.
- kendhang wayangan:** 1. the drum used to accompany wayang kulit, slightly larger than the kendhang ciblon. 2. the style of drumming used to accompany wayang kulit.
- kenong:** a large, horizontally suspended gong.
- kenongan:** 1. a section of a gongan marked at the end by a stroke on the kenong. 2. a style of playing the kenong.
- Kepatihan:** a system of cipher notation devised ca. 1900 at the Kepatihan in Surakarta, based upon the Galin-Paris-Chevé system of 1894.

- keprak:** a small wooden slit gong, or box, struck with a wooden mallet to direct or accompany the dance movements.
- kepyak:** a set of three or four bronze plates mounted on a box and struck by a dhalang, or a keprak player (in the dance performance), with a wooden mallet.
- kerep:** lit., 'frequent, at short intervals'. Refers to the spacing of the strokes of the kethuk in a gendhing, indicating its formal structure.
- ketawang:** one of the formal structures of gendhing.
- kethuk:** a small horizontally suspended gong.
- ketipung:** a small drum used in conjunction with the kendhang ageng.
- kinanthi:** one of the macapat sung poetry.
- ladrang:** one of the formal structure of gamelan gendhing.
- lancaran:** a formal structure of gamelan gendhing.
- laras:** 1. tuning system. 2. pitch.
- limå:** one of the tones of the gamelan scale, notated as '5'.
- måcåpat:** poetic meters and associated melodies.
- mérong:** the first section of a formal structure of gendhing which cannot be played alone (must be followed by an inggah).
- mipil:** a style of playing bonang. See pipilan.
- panunggul:** one of the tones of the pélog scale. In Kepatihan notation, panunggul = 1.
- pathet:** a model classification system implying tonal range, melodic patterns, and principle notes.
- pathetan:** one of the categories of songs (sulukan) sung by a dhalang during a wayang performance accompanied by rebab, gendèr, gambang, and suling. Pathetan are often played by the instruments alone as preludes or postludes to gendhing outside the context of a wayang performance.
- pélog:** 1. the tuning system in which the octave is divided into seven nonequidistant intervals. 2. one of the tones of the pélog tuning system. In Kepatihan notation, pelong = 4.
- penggerong:** see gérong.
- pesindhèn:** 1. the solo female singer in the gamelan.
- pipilan:** 1. a gendèr technique in which the tones are not struck simultaneously, but in succession, producing a single melodic line. 2. see mipil.
- rebab:** two-stringed fiddle. In a complete gamelan there are two rebab.
- salisir:** a poetic meter sung by the pesindhèn.
- sampak:** tructure and name of gendhing as it is determined by its melody and the position of gong, kempul, kenong, and kethuk. Each pathet has its own sampak.
- saron:** a metallophone whose keys rest on a low trough resonator.
- saron barung:** the middle-sized, medium-register saron.
- saron demung:** the large-sized, low-register saron. Also known as demung.
- saron panerus:** the small-sized, high-register saron.
- saron peking:** see saron panerus.
- senggakan:** nonsense syllables inserted within the main vocal melody of a gendhing sung by members of the gérong. They may be one, two, or four gatra in length.
- serimpi:** a ceremonial dance from the Central Javanese court tradition usually performed by four females.
- sindhèn:** 1. see pesindhèn. 2. songs sung by the pesindhèn.
- sindhènan:** songs sung by the pesindhèn.
- sindhenan baku:** 'basic' sindhènan-sindhènan which has the same importance as any other instrument of gamelan.
- sindhènan isèn-isèn:** short phrases sung by the pesindhèn at unstressed positions within a gendhing.
- siter:** a zither.
- sléndro:** the tuning category in which the octave is divided into five intervals which are more uniform than those of the pélog category.

**slenthem:** a large-keyed, single-octave metallophone, tuned one octave below the saron demung, whose thin keys are suspended over bamboo or zinc resonators (gender family).

**srepegan:** structure and name of gendhing as it is determined by its melody and the position of gong, kempul, kenong, and kethuk. Each pathet has its own srepegan.

**suling:** a vertical bamboo flute.

**suwuk:** end or ending.

**tabuh:** 1. mallet for striking instruments of the gamelan.

**tumbuk:** the common tone or tones between a particular sléndro gamelan and a particular pélog gamelan.

**wangsalan:** poetic riddle.

**wayang:** lit., ‘shadow’. 1. wayang kulit. 2. a generic term referring to any traditional dramatic performance accompanied by gamelan.

**wayang kulit:** 1. a shadow puppet performance, traditionally accompanied by a sléndro gamelan and depicting stories from the Mahabharata and Ramayana epics. 2. any shadow puppet theater, e.g., wayang gedhog or wayang madyå.