

INTRODUCTION, THEORY, AND ANALYSIS
:
JAVANESE GAMELAN

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Preface and Acknowledgement

When, in 1972, Wesleyan invited me to teach gamelan, no one predicted that I would end up staying in Middletown, Connecticut, for more than 50 years, expanding my career through teaching and performing gamelan. Certainly, my exposure to the world of academia has led me to expand my interest in academic works, although I had a seed of interest in academic work before I came to Wesleyan. My academic trajectory began to grow when, in 1972–1976, I enrolled in an MA program at Wesleyan, while also teaching. In the beginning, my interest was performance practice and theory, but it expanded to gamelan in the context of cultural history especially by the time I was a PhD student at Cornell.

Regarding my interest in performance practice and theory, I have published essays to instruct Wesleyan gamelan students, as a contribution to books, and for encyclopedia entries. Yet there are essays that remain unpublished. Having completed the manuscript of my forthcoming third book on interculturalism and interreligiosity in Javanese performing arts, I thought I should revisit my interest in performance practice and theory of gamelan, putting together published and unpublished essays in the present ebook format. Because each essay is written for a specific aim and context, the result is akin to Gado-Gado, a Javanese dish of mix vegetables and other foodstuffs. Like in Gado-Gado, there are overlaps, and mixing and matching of materials, among the chapters.

The first chapter, which I wrote in the late 1970s, with a number of revisions afterward (the most recent in 2002), was intended as reading material for students of MUSC451 (Javanese Gamelan – Beginners) at Wesleyan. When, in 1999, I made the essay freely accessible through the Wesleyan gamelan blog, many North American and European colleagues who teach gamelan or organize gamelan groups found it useful as a simplistic, elementary introduction for their own students or gamelan group members.

The second chapter is the English-language version of an essay I was commissioned to write for the Italian encyclopedia of world music. The Italian translation was published in Einaudi's *Enciclopedia della musica: L'unita della musica V* (Nattiez, et al, eds., 2003). The original English-language version has never been published, until now. The first

section of the essay is an elementary introduction to gamelan; it is drawn from the essay in the first chapter in this book. The second part is the theorization of the music, discussing various musical concepts of gamelan.

The third chapter covers the discourse surrounding the modal classification system (pathet) in Javanese gamelan. It was originally a keynote address I presented at the seminar “Rethinking Musical Mode” at the Institute for Ethnomusicology at Kunst Universität Graz. The paper contains a discussion of pathet during the transitional period, when gamelan instruction shifted from taking place in a traditional intellectual atmosphere to a setting influenced by Western modes of thought, exemplified by two contrasting authors: Poerbatjaraka, a scholar specializing in old Javanese language but also an amateur gamelan player, and Martopangrawit, a gamelan teacher/performer-cum-theorist.

The fourth chapter was published in *Thought and Play in Musical Rhythm*, edited by Richard K. Wolf, Stephen Blum, and Christopher Hasty (2019). Originally, the chapter was a paper I presented at the seminar on cross-cultural rhythm at Harvard University (March 3–4, 2012) organized by the editors of the book. The chapter discusses the concept of irama as defined by recursive or cyclical and linear musical experiences. Among the essays in this book, this essay is the one that has gone through the most intensive editing. Oxford University Press has given permission to reprint this essay here.

The last chapter is an unpublished essay on learning to play gender. Originally, I had it in mind to write a practical guide to learn to play gender. It includes gender notation for several pieces. However, I cannot resist mentioning my long experience learning gender since entering the gamelan conservatory and academy in Surakarta. Therefore, the essay is not only a manual to learn-to play gender, but also a critical review of learning and teaching gender.

As English is not my mother tongue, in writing all essays I have received help from many colleagues, students, and friends, to make my English clearer. I deeply thank all of them. In putting together these essays, Stephanie Elliott Prieto of Wesleyan University Press has edited my unpublished essays and set up my new website. Thanks so much, Steph.

1 January 2023

Introduction to Javanese Gamelan

Notes for MUSC451

Javanese Gamelan-Beginners

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Preface

In my experience teaching gamelan at Wesleyan University, it is always difficult to find a suitable reading for beginning gamelan students. 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.

As a performance course, the emphasis of gamelan class is to provide the student with firsthand, hands-on experience at playing gamelan. Thus, this booklet emphasizes 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 manuals 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 during the last century, 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 parts.

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 note 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 Mendonça, a graduate student in music, who were my technical assistants in producing this booklet.

Middletown,

October, 1988

Revised for Wesleyan's gamelan webpage, Fall 1999

Last revised, Fall 2002

Background

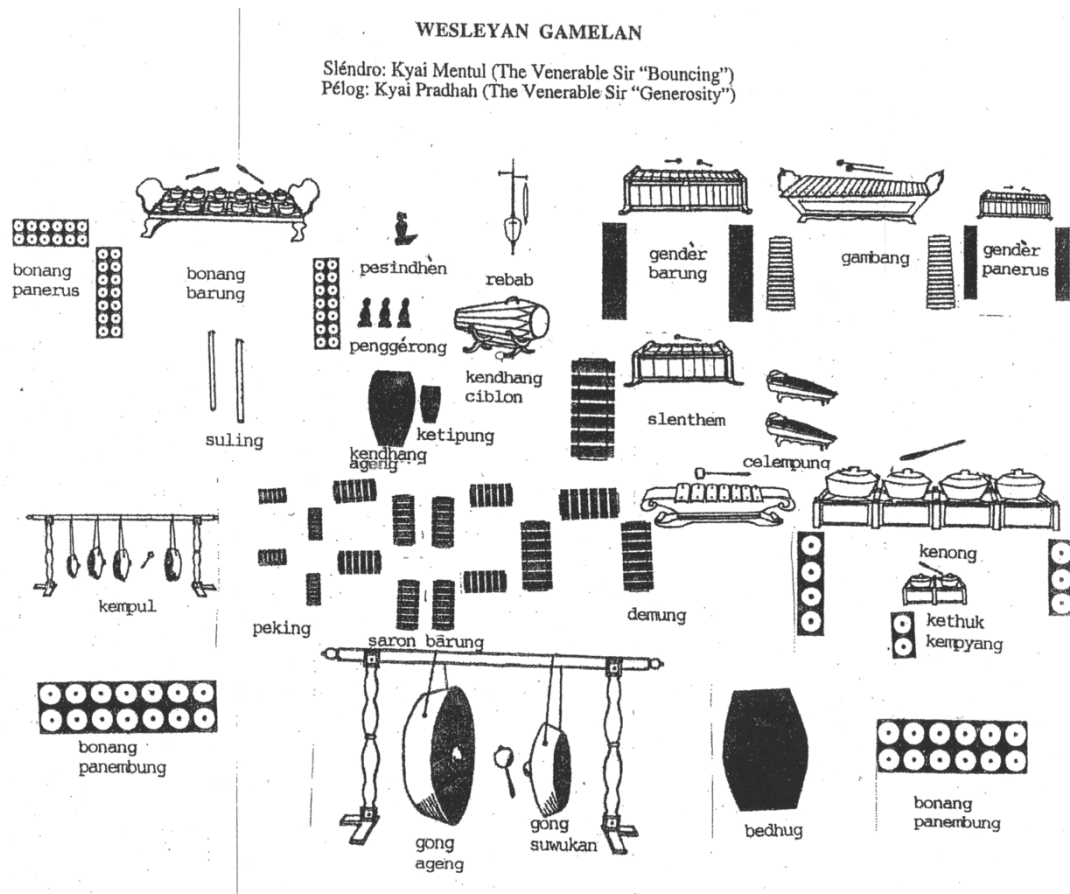
Tanah air, land and water, is an Indonesian expression equivalent to "fatherland". This is because the many thousand islands of Indonesia, locating in between the continents of Asia and Australia and stretching from northern Sumatra to western New Guinea, spreads across almost 3,400 miles of ocean (about 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. It is the most populated island in Indonesia. Almost one-half of one hundred seventy million Indonesian 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.¹



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.

¹ Solo or Surakarta and Jogja or Jogjakarta, 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, because 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.

The gamelan musicians should sit cross-legged (silå) before their instruments. Because of this sila 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.

Often, the Javanese consider a gamelan set as pusaka, an inherited object which is endowed with supernatural power. An honorific title, Kyai or "The Venerable Sir", and name is assigned to the gamelan.² 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 no 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.³

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 last century. In present-day Java, cipher notation is commonly used as a teaching device

² 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"].

³ 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.

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), dhâdhâ (3), limâ (5), nem (6)

Pélog tuning system (see below), from low to high:

penunggul (1), gulu (2), dhâdhâ (3), pélog (4), limâ (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.

Example: Notation of balungan ladrang *Pakumpulan sléndro sângâ* (excerpt)

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

Key: ○ = Gong
 ^ = Kenong
 ~ = Kempul

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

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.

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 described as equal or nearly equal intervals.

Figure 2 Sléndro pitches and approximate Western equivalents

pitch		pitch name		Western-pitch equivalent
1	=	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 and large steps. In other words, laras pélog is also pentatonic, but consists of not one but three basic five-pitch scales (see figure 3 below). 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
ĩ (penunggul) D#	ĩ (penunggul) D#	7 (barang) C#
6 (nem)	6 (nem) B	6 (nem) B
5 (limå)	5 (limå) A#-	5 (limå) A#-
	4 (pélog) A-	
3 (dhådha)		3 (dhådha) F#
2 (gulu)	2 (gulu) E	2 (gulu) E
1 (penunggul)	1 (penunggul) D#	

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

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

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

4	6	5	3	2	1̣	7
7̣	1	2̣	3̣	5̣	6̣	4̣

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 sângå, and pathet manyurå. In pélog, pathet limå, pathet nem, and pathet barang.

The progression of mood, from calm, solemn, or majestic to livelier, 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: iråmå, 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

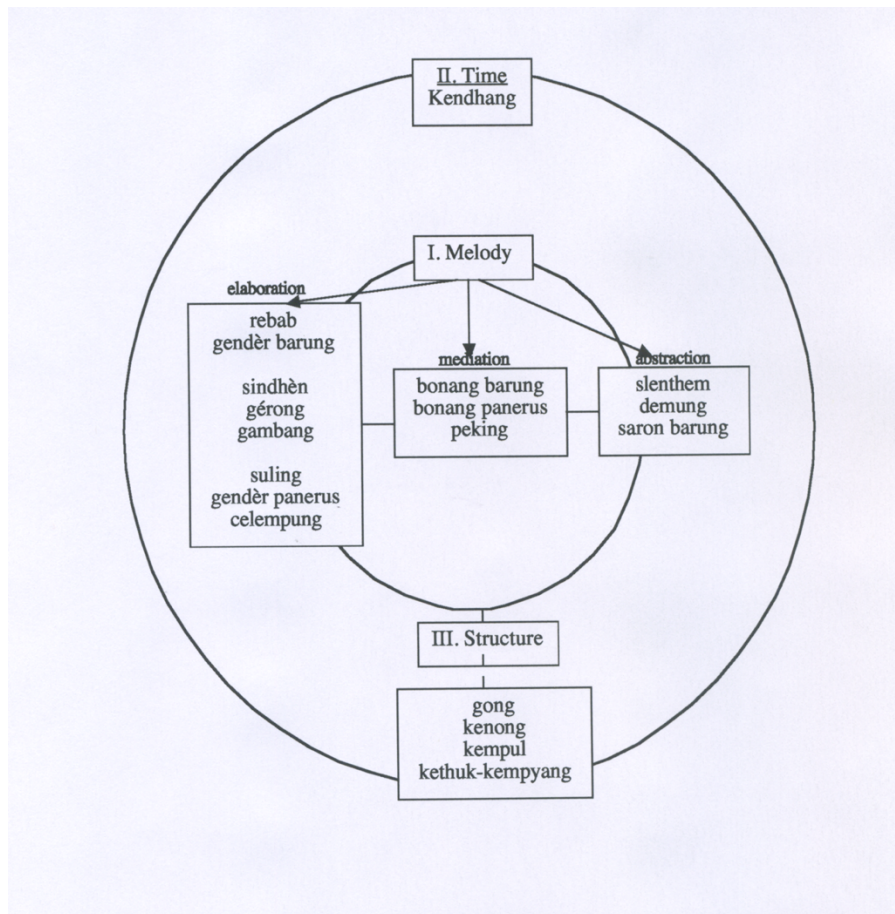
or her instrument and its performance technique when creating melodic patterns for a gendhing.⁴

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 14).

- 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 transition, and signal the end of the piece.
- III. The instruments which underline musical structure.

Figure 14 Instruments and vocalists of the gamelan: Their functions in the ensemble

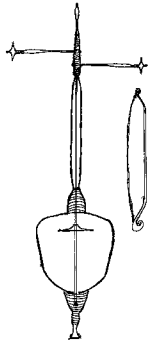
⁴ For further discussion on inner melody, see my "Inner Melody in Javanese Gamelan," in *Karawitan: Source Readings in Javanese Gamelan and Vocal Music* vol.1, pp.245-304. Ann Arbor: The University of Michigan, 1984.



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

I. MELODY

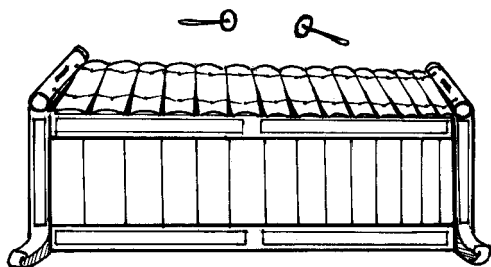
Ia. Elaborate Melodies



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 are 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 (2̣3̣5̣6̣12356̣1̣2̣3̣5̣), and the *pélog gendhing* move within the range of two octaves and four notes (1̣2̣3̣4̣5̣6̣7̣1234567̣12345). 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 kinds of gendèr: gendèr barung and gendèr panerus. The gendèr barung can have as few as twelve or as many as fourteen keys, encompassing more than two octaves. A sléndro gamelan, with or without the lowest 6. The pitches are:

<u>6</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>5</u>	<u>6</u>	1	2	3	5	6	1̇	2̇	3̇
----------	----------	----------	----------	----------	----------	---	---	---	---	---	----	----	----

Note: Many 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>	<u>1</u>	<u>2</u>	<u>3</u>	<u>5</u>	<u>6</u>	1	2	3	5	6	1̇	2̇	3̇
----------	----------	----------	----------	----------	----------	---	---	---	---	---	----	----	----

The pitches of a pélog barang gendèr are:

<u>6</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>5</u>	<u>6</u>	1	2	3	5	6	1̇	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*, puppeteer), and in *grimmingan* (*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)

(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	<u>3 1 2 1 6</u>
		yå ra-	ma-né			Sendhang ar-	gå
3	3	.	[~] .	6	5	3	[^] 2
1	<u>2 3</u>			6	<u>1</u>	<u>6 2 1 2</u>	6 3 <u>5 3 2 2</u>
go-nès				Argå	a- lit	Kartå- su-	rå

5	6	5	3	2	1	2	6
	6	6	1 2	6 5 3	3	2 3	5 3 2
							1 6
		yâ mas	yâ- mas		Tan pra-	yo-	gâ

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

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 argâ | Pool in the mountain (lake, in Javanese, <i>tlâgâ</i>) |
| 2. Argâ alit Kartâsurâ | The small mountain in Kartâsurâ (the name of this mountain is <i>wijil</i>) |
| 3. Tan prayogâ | It is not proper |
| 4. Ngongasken wijilirâ | To proudly announce your background |

As you can see in the example, the first and second lines (usually describing people, animals, or things) have hidden 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 *râmâ-râmâ* (oh father), *yâmas* (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 (excerpt, balungan and gérongan)

.	.	6	.	i	5	i	6̂
.	.	.	.	6	6	6̄i	5 . 6 i 2 . 3̄ 1̄2 i 6
				Pa- ra- bé sang		Smårå-	ba- ngun
3	5	6	i̇	6	5	3	2̂
.	.	.	.	3̇	3̇	3̄2̄	i̇ . 2̇ 1̄2̄6̄3̄ . 3̄5̄ 3̄ 2̇
				Se-pat dombå		ka- li	O- yå
6	6	.	.	i	5	i	6̂
.	.	.	.	6	6	6̄i	5 . 6 i 2 . 3̄ 1̄2̄ i 6
				Å- jå do- lan		lan wong	pri- yå
i	i	3	2̇	.	1	2	6̂
.	.	i	2̇	1̄6̄	3̄5̄	3̄	2̇ . . 3̄5̄3̄3̄ . 1̄2̄ 1̄ 6̇
		Nggera-	mèh	no-		ra pra-	så- jå

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

Example: *Kinanthi*

Nalikanirå ing dalu

Once, in the evening

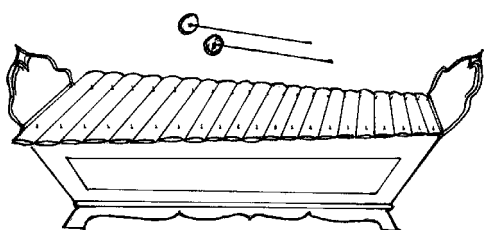
Wong agung mangsah semèdi

The honorable man (Rama) was meditating

Sirep kang bålå wanårå
 Sadåyå wus sami guling
 Nadyan ari Sudarsånå
 Wus dangu dènirå guling

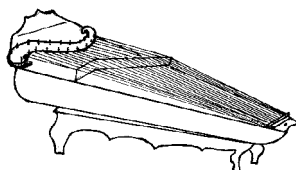
Silent was the monkey army
 They all have been sleeping
 Even Rama's brother Sudarsånå
 He has long been sleeping

In some sections of gendhing, penggérong will sing *senggakan* or *alok*, employing a word or words such as sooooooooo, 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.

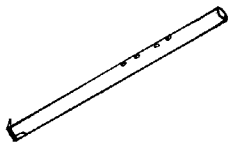
Like the rebab, the melody of the gambang reveals the melodic motion of the gendhing because of its wide melodic range. The high speed of the gambang part and its elaborate melody require years of training to master. In wayang performances, beside playing in the gendhing, the gambang player also plays 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 string consists 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 tibā, 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.

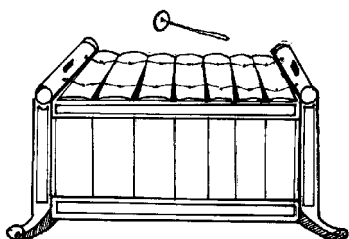
Example:

Balungan Mlaku

Balungan Nibani

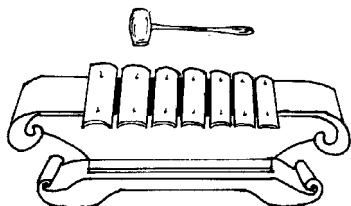
2 3 2 6̣	2 3 2 7̣
2 3 2 6̣	2 3 2 7̣
2 3 2 6̣	2 3 2 7̣
6̣ 7̣ 6̣ 5̣	3̣ 5̣ 6̣ 7̣

. 2 . 1	. 6̣ . 5̣
. 2 . 5	. 2 . 1
. 2 . 1	. 2 . 1
. 2 . 1	. 6̣ . 5̣



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 lowest 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

6̣	1	2	3	5	6	ī
----	---	---	---	---	---	---

Pélog saron

6̣	1	2	3	5	6	ī
----	---	---	---	---	---	---

The distribution of the sarons' registers:

Sléndro

Peking 6̣12356ī

Saron 6̣12356ī

Demung 6̣12356ī

Slenthem 6̣12356ī

Note: Saron in some gamelan do not have 6̣

Pélog

Peking 1234567

Saron 1234567

Demung 1234567

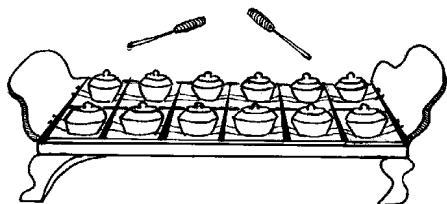
Slenthem 1234567

The slenthem is played with a disc type tabuh, like gendèr 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.



Bonang, two rows of horizontal gong-kettles, placed open side down, on cords stretched over a rectangular wooden-frame; the gong-kettles are made from bronze. In a complete sléndro-pélog gamelan set, there are two kinds bonang: bonang barung and bonang panerus. The sléndro bonang barung has ten or twelve gong-kettles which encompass two octaves, or two octaves and two tones. The pélog bonang barung has fourteen 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	$\dot{2}$
1	2	3	5	6	$\dot{1}$

Pélog bonang

4	6	5	3	2	$\dot{1}$	↔ 7
$\dot{7}$	↔ 1	$\dot{2}$	$\dot{3}$	$\dot{5}$	$\dot{6}$	$\dot{4}$

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 $\dot{1}$. For gendhing in pathet barang, pitch 7 should be interchanged with pitch 1, and 7 with $\dot{1}$.

Occasionally, in Jogjanese 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: gembyangan, pipilan, and imbal-imbalan. 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 lancar (especially in iråmå lancar) and srepegan pieces.

Example: Gembyangan playing technique in lancar piece. Note: the underlined 5 is gembyangan technique, an octave playing.

Balungan	. 3 . 5	. 6 . 5	. 6 . 5	. i . 6
Bonang barung	5 . 5 .	5 . 5 .	5 . 5 .	5 . 5 .
Bonang panerus	<u>.5.</u> 5 5	<u>.5.</u> 5 5	<u>.5.</u> 5 5	<u>.5.</u> 5 5

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.

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.

Balungan	6 6	. .
Bonang barung a simplified playing	<u>6</u> <u>6</u> <u>6</u> . <u>6</u> <u>6</u> . .	<u>6</u> <u>6</u> <u>6</u> . <u>6</u> <u>6</u> . .
a stylized playing	<u>6</u> <u>6</u> <u>6</u> . . <u>6</u> . .	<u>6</u> . . <u>6</u> . . <u>6</u> .
Bonang panerus a simplified playing	6 <u>6</u> 6. <u>6</u> 6.. <u>6</u> 6 <u>6</u> . <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> . <u>6</u> 6.. <u>6</u> 6 <u>6</u> .
a stylized playing	6 <u>6</u> 6. <u>6</u> 6. <u>6</u> 6. <u>6</u> 6. <u>6</u> 6.	6 <u>6</u> . <u>6</u> 6. <u>6</u> 6. <u>6</u> 6. <u>6</u> 6. <u>6</u> 6.

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 6̣
.3.6.3.6.3.6.3.6	.3̣.5̣.6̣.1.215̣.1.6̣
5.1̣.5.1̣.5.1̣.5.1̣.	3̣1̣3̣5̣6̣1̣6̣.3̣1̣3̣5̣6̣1̣6̣

Toward the end of the melodic phrases, the bonang might play a sekaran (“ornamentation”).

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.

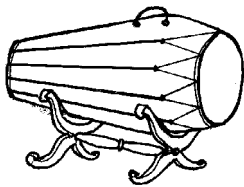
Example: Peking

Balungan	2 1	2 6̣
Peking, nacak lombå (double)	2 2 1 1	2 2 6̣ 6̣

Balungan	2 1	2 6̣
Peking, Nacak rangkep (quadruple)	2 2 1 1 2 2 1 1	2 2 6̣ 6̣ 2 2 6̣ 6̣

Balungan	. 1	. 6̣
Peking, Nacak rangkep (paraphrasing the gendhing)	2233223322112211	33223322116̣6̣116̣6̣

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* or *wirāmā*. 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 (kendhang kalih 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/p: 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/o: 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.

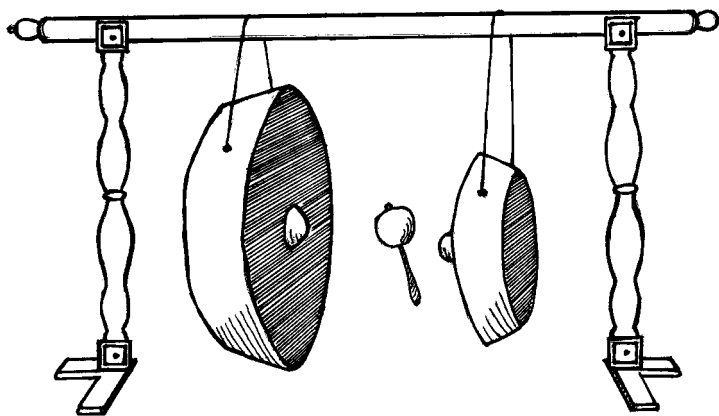
TAK/t: The sound produced on the small head of any kendhang. It is a closed stroke, performed by fingers and part of the palm. The right hand dampens the large head.

Example Notation for kendhang kalih style (Jogjakarta style, ladrang

\overline{k} \overline{t} ρ \overline{t} $\overline{\rho}$ \overline{k} \overline{t}	ρ b \overline{k} \overline{t} ρ
b \overline{t} $\overline{\rho}$ ρ ρ	b \overline{k} \overline{t} ρ b
\overline{k} \overline{t} ρ b \overline{t} $\overline{\rho}$	ρ ρ b ρ
\overline{b} $\overline{\rho}$ \overline{k} \overline{t} ρ b	\overline{k} \overline{t} ρ b ρ

III. MUSICAL STRUCTURE

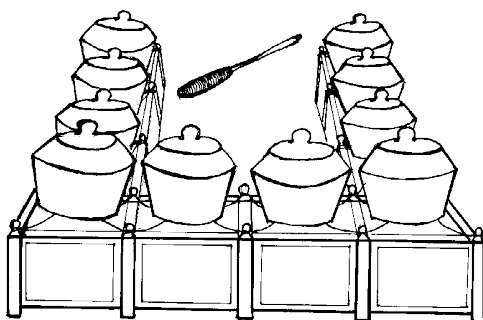
Gamelan compositions are composed in groups of equal metrical units. The shortest unit consists of four basic beats and is called gâtrâ ("embryo" or "semantic unit"). A gamelan composition is also composed in one of several structures. The number of gâtrâ per gongan (see below) and the stroke of gong, kenong, kempul, and kethuk, specify each of these gendhing structures.



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 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.

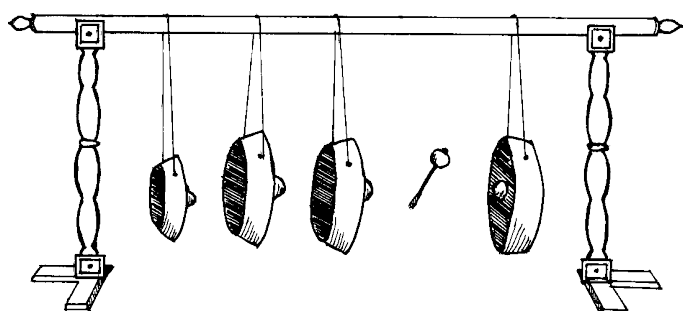


Kenong, a set of large horizontal gong kettles placed, open side down, on a rack. A complete gamelan set usually has as many as ten kenong. Sléndro kenong are 2 3 5 6 1, pélog kenong 2 3 5 6 7 1. In the tumbuk nem gamelan (where the tuning of pitch nem (6) in the sléndro set is the same as pitch nem 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.

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.



Kempul, small sized hanging

gongs. A complete gamelan set usually has as many as eight kempul. Sléndro kempul are 3 5 6 1, and pélog kempul 3 5 6 7 1. A gamelan set may, however, have fewer kempul (sléndro: 5 6 1, pélog: 5 6 7). The interchangeability 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 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 1 (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 structures

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

```

Ladrang

```

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
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 kerep⁵

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

Inggah ketuk 4

o	o	o	o	o	o	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				
o	o	o	o	o	o	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				
o	o	o	o	o	o	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				
o	o	o	o	o	o	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

Srepegan

o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		P		P			P		G										
N	N	N	N	N	N	N	N	N	N										
T	T	T	T	T	T	T	T	T	T										
o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		P		P		P		P		P		P		P		G			
N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			

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



Kemanak, a pair of banana-shaped instruments. They are played with padded sticks, and are used in the gamelan to accompany some of the *bedhaya* 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 *cempalå*.

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., *klenengan*, 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.

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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.

bedhaya: 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 = panunggul = 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.

buka: the opening phrase or introduction of a gendhing.

demung: the large-sized, low-register saron.

dhadha: one of the tones of the gamelan scale, dhadha = 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.

gatra: 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. gendèr barung.

gendèr barung: the middle-sized gendèr usually referred to simply as gendèr.

gendèr panerus or **penerus:** the smallest, highest-pitched gendèr.

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 gendèr or bonang to alert the players before the beginning of a piece.

grimingan: the playing of fragments of sulukan on the gendèr 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 Kapatihan 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 gatra 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-Chev  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 structures of gamelan gendhing.

lancaran: a formal structure of gamelan gendhing.

laras: 1. tuning system. 2. pitch.

lima: one of the tones of the gamelan scale, notated as '5'.

macapat: 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 Kapatihan 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 Kapatihan notation, pelong = 4.

penggérong: 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 gâtrå 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.

sindhènan 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 (gendèr family).

srepegan: tructure and name of gendhing as it is determined by its melody and the position of gong, kempul, kenong, and kethuk. Eachpathet 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 madya.

Theorizing About Music

The Case of Gamelan

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PREFACE

Like any music theory, gamelan theory developed in response to conditions of socio-musical life and technology at given periods of history. A seed of theoretical perspectives of gamelan can be found in the early Javanese literature. For example, some passages or sections of *Serat Tjenti* (a lengthy poetic work written in the early nineteenth century) discuss gamelan practices, repertoire, and performance contexts. Usually, the discussion of gamelan in these manuscripts is an integral part in the consideration of other topics. As history advanced, a handful of Javanese manuscripts focusing on gamelan emerged, such as *Sendhon Langen Swara* (mid nineteenth century) and Tondhakusuma's *Serat Gulang Rarya* (1870).

Most of the Javanese sources represent a compendium of knowledge and interests of the author rather than the exposition of an abstracted, unifying topic (Becker 1984: xii); they belong to partly oral partly typographic tradition. Another trait shared by these writings is the lack of notated musical examples. Therefore, these sources show us only an incomplete picture of musical practice of that time.

Nineteenth-century Java also witnessed the interaction between European intellectuals, learned Javanese courtiers, and leading court artists. The interaction created an atmosphere of a mixed Western-Javanese intellectual life. It was in this context that gamelan theory developed. Gamelan writings written by both Western researchers and Javanese theorists proliferated. There were also experiments in notation for gamelan. Subsequently, notation became a part of gamelan tradition. It is used for archiving pieces, musical analysis, and as a learning aid for rudimentary playing.

The mixed Western-Javanese intellectual life continued to be an important context for the development of twentieth-century gamelan theory. With the development of ethnomusicology, the mixed intellectual atmosphere was intensified in the mid-twentieth century, as a result of the increasing number of ethnomusicologists to study gamelan in Java and the opportunity of a number of Javanese theorists studying ethnomusicology in the West. Consequently, Western-Javanese intellectual interaction continues to produce a fruitful result in the development of gamelan theory. The present study is no exception.

SPELLING AND PRONUNCIATION

<u>Javanese</u>	<u>Pronunciation</u>	<u>Javanese example</u>
a	in a closed syllable, as in f <u>a</u> ther	d adi
å	in an open syllable, as in l <u>a</u> w	lim å
c	<u>ch</u> urch	c èngkok
d	dental sound	d emung
dh	palatal sound, as in <u>d</u> ay	gend dh ing
e	<u>a</u> bout	nem
é	<u>a</u> te	pélog
è	<u>l</u> et	gend è r
i	in an open syllable, as in f <u>e</u> et	dadi i
	in a closed syllable, as in <u>b</u> it	al i t
ny	can <u>y</u> on	man ny urå
o	in an open syllable, as in z <u>e</u> ro	slénd ro
	in a closed syllable, as in l <u>a</u> w	ken o ng
r	rolled r	siter r
t	dental sound	dh å dh å
th	palatal sound, as in l <u>a</u> ter	pat h et
u	in an open syllable, as in <u>t</u> oo	gulu u
	in a closed syllable, as in <u>p</u> ut	tab u h

Notation for each of the illustrations is presented in both Western Stave and **Kepatihan**.

I. INTRODUCTION

1.a Gamelan Instruments

Deriving from the root word “gamel” (lit. “to strike”), the term “gamelan” refers to an ensemble consisting of predominantly gong and metallophone type instruments which produce tones when struck with mallets (*tabuh*). Other types of percussion instruments in the gamelan ensemble are a wooden xylophone (*gambang*) and a set of three headed drums (*kendhang*). There are a few instruments in the gamelan which are not percussion instruments: a two-stringed bowed instrument (*rebab*), a plucked zither-type instrument (*celempung* or *siter*), and a horizontal bamboo flute (*suling*). A complete ensemble also includes a female singer (*sindhèn*) and a male chorus of two or more singers (*gérong*).

1.b Notation

Music notation is commonly used for illustrating musical examples. But notation for gamelan was not introduced until the late nineteenth century (Sumarsam 1995; Perlman 1991). The lack of musical notation might have restricted the elucidation of the complexity of gamelan melodic structure. It should be mentioned, however, that since notation has been used in gamelan, it has influenced the direction and character of gamelan theory, particularly the tendency to focus on the commonly notated “melodic theme” of *gendhing* (gamelan compositions), the middle strata of the gamelan texture.

Initially, notation was used for learning the music. Subsequently, in line with a notion of archiving old cultural artifacts to save them from extinction, notation was used for documenting *gendhing*. Whether used for documenting or learning the music, descriptive notation (i.e., notation with precise rhythmic and melodic representations) has never been important to gamelan musicians. A complete score of all the parts of the gamelan ensemble has never become necessary. The aural transmission of the music seems to keep gamelan notation in a prescriptive form, to be used as a learning aid or a mnemonic device. Although it is not uncommon nowadays to find young Javanese musicians learning gamelan from notation, it is always in combination with aural learning.

In the late nineteenth century and the beginning of this century, there were a number of experiments with notations for gamelan, modeled after Western notations (Sumarsam

1995: 107-113). Eventually, the Javanese chose *nut ongkå* (cipher notation) for its simplicity and efficiency. In the beginning of this century, the cipher notation was perfected with paraphernalia of the European Solfege system. This notation has been commonly used in Java since the beginning of this century to the present time.

In this notation, numbers represent pitches. The pitches for *sléndro* (see below), from low to high, are 1 2 3 5 6, representing named-pitch *barang*, *gulu*, *dhådhå*, *limå*, and *nem*; for *pélog*, 1 2 3 4 5 6 7, representing named-pitch *penunggul*, *gulu*, *dhådhå*, *pélog*, *limå*, *nem*, and *barang*. The paraphernalia of the notation includes: a dot or dots in line with the number indicate rests; a dot above or below a number to indicate upper or lower octave; a dash or dashes above the numbers indicate fractional duration of notes; groupings of four-note units (*gåtrå*) are indicated by a space, thus marking off these metrical units. Other symbols include:

-	= kempyang
^	= kethuk
~	= kenong
~	= kempul
0	= gong.

Figure 1 Balungan melody of ladrang Dirada Meta (Angry Elephant), an excerpt.

Key: G=gong, N=kenong, P=kempul

.5 $\bar{1}6$.5 $\bar{1}6$.5 $\bar{1}6$ 5 $\bar{1}$ 6

$\bar{1}$ 6 5 3 2 2 3 2

6 3 6 5 6 3 6 2

6 3 6 5 6 3 6 2

I.c *Laras*

One of the unique characteristics of gamelan music is its tuning system (*laras*). The two principal *laras*, *sléndro* and *pélog*, are pentatonic tuning systems, whose pitches cannot be located in the Western chromatic scale. Each *laras* is defined by its intervallic structure. *Sléndro* is an anhemitonic pentatonic tuning system: a pentatonic scale without semitones, sometimes described as an equipentatonic scale. In practice, however, subtle differences between narrow and wide intervals exist. Furthermore, the scale is not standardized from one set of gamelan instruments to another, although gamelan tunings follow a certain

configuration of wide and narrow intervals which relate to modal practice (Martopangrawit 1984: 44-45; Hatch 1980: 130-158).

Figure 2 Sléndro pitches and approximate Western equivalents

Named-pitches	Named-pitches in cipher notation	Western equivalences
barang alit	ī	do-
Nem	6	La
Limā	5	Sol
Dhādhā	3	mi+
Gulu	2	Re
Barang	1	do-

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.

A sléndro saron has a sequence of slabs with the ordering of tones of

1	2	3	5	6	ī
---	---	---	---	---	---

The five tones in a sléndro bonang are arranged as follow:

6	5	3	2	ī	2̇
1	2	3	5	6	1̇

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

I	II	III
		barang (7) si
nem (6) la	nem (6) la	nem (6) la
limå (5) sol#	lima (5) sol #	limå (5) sol #
	pélog (4) fa #	
dhådha (3) mi-		dhådha (3) mi -
gulu (2) re	gulu (2) re	gulu (2) re
penunggul (1) do+	penunggul (1) do +	

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

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

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

4	6	5	3	2	1 _.	7
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 (see figure 4 below). 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.

Figure 4 Pitch relations of two gamelan tumbuk

<u>Gamelan Tumbuk Nem (6)</u>		<u>Gamelan Tumbuk Lima (5)</u>	
Sléndro	Pélog	Sléndro	Pélog
2̇ ----- 2̇		2̇	
			2̇
1̇		1̇ ----- 1̇	
	7		
6 ----- 6		6 ----- 7	
	5		6
5 ----- 4		5 ----- 5	
			4
3		3	
	3		3
2 ----- 2		2	
	1		2
1		1 ----- 1	

1.d Classification of Gamelan Instruments, a Point of Departure

Gamelan instruments can generally be classified according to their functions in the ensemble. However, such classification cannot explain the full range of the performance practice of the instruments. This is because different types of compositional processes and different genres of gamelan pieces involve a variety of performance techniques on many instruments. Therefore, a precise classification of instruments will never be accomplished. The classification of instruments presented below should be viewed as a shorthand explanation; further detailed treatments will be found in the subsequent sections.

Gamelan has accurately been described as an ensemble based on melodic stratification (Hood 1963: 452): several layers of different horizontal melodic strata with different levels of density defined by the registers of the instruments (i.e., generally, the higher the register of the instrument, the higher its density levels.) It should be mentioned that melodic registers of the instruments themselves are also stratified: instruments may comprise different octave ranges, extending from one octave or less to two and one-half

octaves. The interplay between these two kinds of stratifications can be used to explain the melodic and rhythmic functions of the instruments.

I. MELODY (see Figure 5a on page 56)

1. Instruments and vocalist that carry melody in both simple and elaborate forms.

1-a. Instruments with wider melodic registers that play from high to highest density levels perform melodies in elaborate forms. In this group, rebab and gendèr are considered to be the leading instruments in the ensemble. Gambang, sindhèn and gérong are the second in importance. In most cases, especially in the soft-playing style, these instruments are an important melodic reference from which the melodic identity and the proper melodic motion of a gendhing can be sought.

1-b. Suling, gendèr panerus, and celempung, whose melodic registers are narrow, carry melodies in elaborate form in the highest density level (except suling). They play melodic ornamentation, adding to the textural sonority of the music.

2. Instruments which play a melodic abstraction or the melodic skeleton of a gendhing (*balungan*). They are: slenthem, demung, and saron barung (they will be referred to as saron, for short) These instruments carry melodies at a medium density level, although in certain musical contexts they may play in a low density level. These instruments play *balungan* within their one-octave range.

3. Instruments whose function is to mediate between group 1 and 2 are: bonang barung, bonang panerus, and saron panerus (peking). These instruments play at higher (bonang barung and peking) and highest (bonang panerus) density levels. Bonang barung (the low octave bonang) is one of the leading instruments in the ensemble. With its two and one-half octave range, it mediates the instruments in group 1 and 2, guiding the melody of the ensemble.

II. GONGAN STRUCTURE

Gongs of different sizes, either hanging or standing, play at the lowest density level in the ensemble. They are: gong ageng, kenong, kempul, kethuk, and kempyang. Marking important accents, these gongs delineate the formal structure or *gongan* of the piece. The term “colotomic” is commonly used by Western scholars to describe this structure.

III. TIME

Kendhang of different sizes and different playing styles regulate temporal flow and temporal density (*irama*) of a gendhing. The kendhang also control transition and signal the end of a piece.

I.e Gamelan Setup (see Figure 5b on page 57)

The functions of the instruments circumscribe their placement in a performance space. The soft-sounding instruments are grouped together in the front row, with leading instruments (rebab and gendèr barung) in the middle. Bonang barung, another leading instrument, is also positioned in the front row, to the left or right of other leading instruments. To serve properly in its role to lead temporal aspects of the ensemble, the drum placed in the middle. The third row consists of a group of saron, whose function is to play balungan. Colotomic instruments are in the last row, with the gong in the middle or in the side, depending on the shape and the size of the space. The following descriptions of gamelan instruments are arranged according to the above musical categories.

Figure 5a Instruments of the Gamelan, Their Functions in the Ensemble

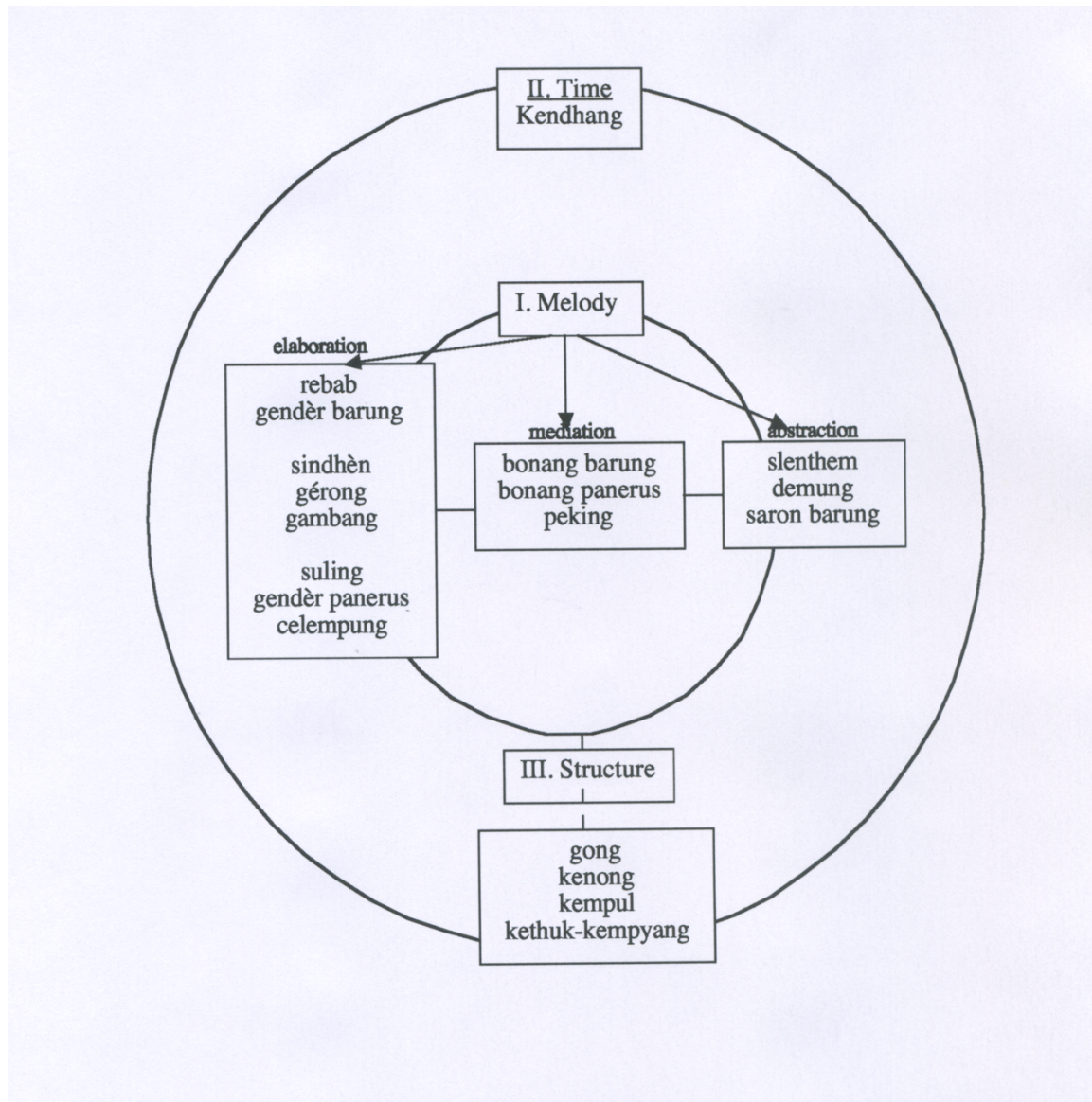
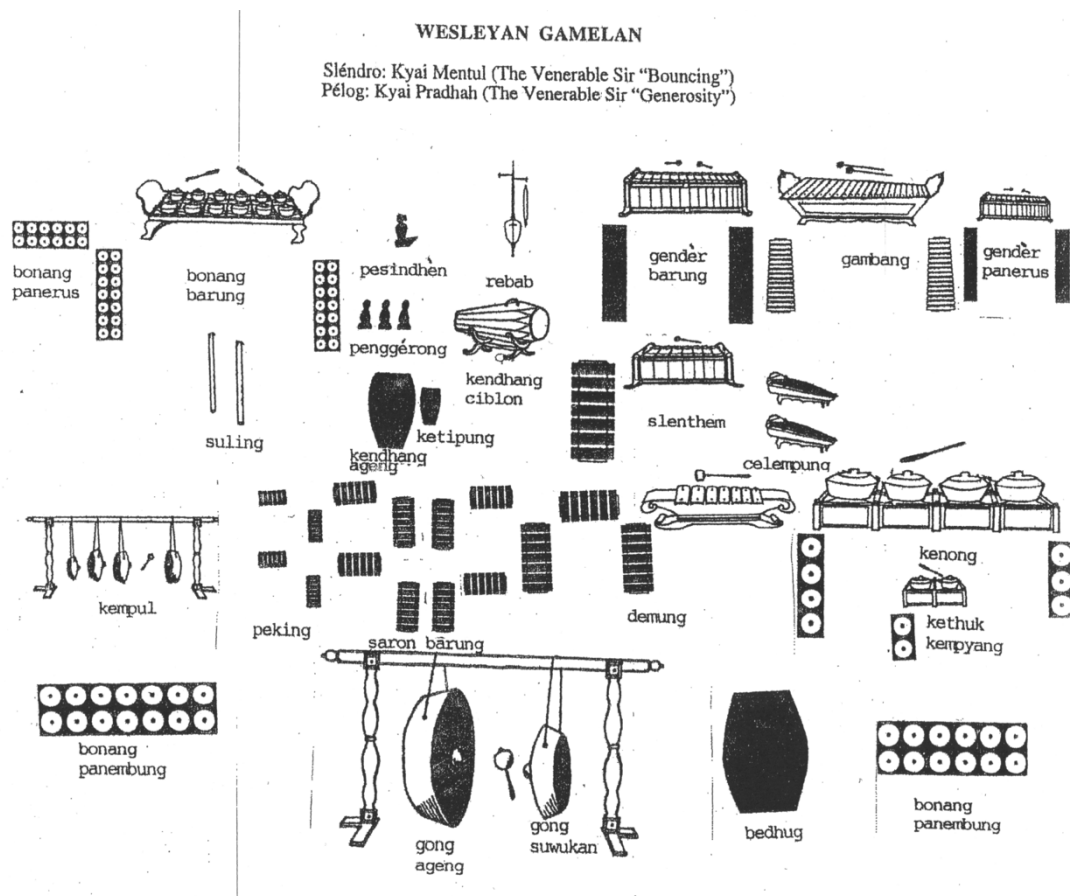


Figure 5b A gamelan setup

Note: each of the silhouettes represents a corresponding instrument.

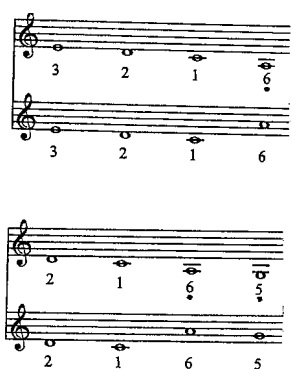


II. THEORIZING GENDHING: BACKGROUND

II.a Balungan

It has been very common to view *balungan* (melodic skeleton, the middle density level of the multi-layer gamelan texture) as an important element of the melodic structure of gamelan; hence, the basis for many theories of gendhing. However, our understanding of the concept of balungan has gone through a process of reinterpretation and has significantly changed our understanding of gamelan composition. In the beginning, scholars assumed that balungan was the melody played by a group of one-octave saron

instruments (Kunst 1973; Hood 1964). Balungan was said to be the principal melody from which other parts were derived. Subsequent studies show, however, that the balungan melody encompasses multi-octave register of gendhing (Sumarsam 1984); the saron instruments play balungan melody within their limited one-octave range. For example, the stepwise balungan melody of



when it is played on *saron*, becomes disjunctive melody of

becomes

The image shows two musical staves. The first staff represents a stepwise balungan melody with notes on a five-line staff. Below the notes are fingerings: 3, 2, 1, and 6. The second staff shows the same melody adapted for a saron, which has a one-octave range. The notes are shifted to fit the range, and the fingerings are 3, 2, 1, and 6. The text 'when it is played on saron, becomes disjunctive melody of' is placed between the two staves, and 'becomes' is placed to the right of the second staff.

Since no instrument can play balungan in its proper melodic register, it is assumed that the proper melodic directions of balungan exist only in the mind of the musicians (ibid., 1984). Bearing this in mind, however, the melodic structure of a gendhing is far more complex than an assumption which says that the melodies of different parts in the ensemble are based on the balungan. In addition, the construction of a balungan melody is an intricate process, involving a group consensus of melodic interpretation.

It is true that balungan is an important reference in discussing gendhing and is a useful part for learning the music. But the assumption of its supremacy as principal melody is a reified interpretation. The term balungan in reference to the melodic skeleton of a gendhing may be a recent invention; it is absent from older manuscripts on gamelan (ibid., 144-153). However, this does not mean that in the past such melodic skeleton did not exist. It is even possible that some other terms were used to refer to the skeletal melody. A manuscript from the court of Yogyakarta, *Serat Pakem Wirama* (1934) suggests that the term *wilet* may have referred to balungan (Perlman 1994: 557-558). An earlier source, *Serat Gulang Rarya* (1870) suggests that the term *cèngkok* refers to the melodic skeleton played by demung: “*demung dumunung ngirama, mangungkung cèngkok ngugeri*” (demung plays in appropriate tempi, sounding its *cèngkok* as a guidance....). In light of the overlapping use of these terms, it is safe to suggest that, in the course of the development

of gamelan practice, new gamelan terms have been invented, and the existing terms became interchangeable with new ones, or, were given new meanings.

In fact, the interchangeability of gamelan terms is still very common in contemporary gamelan practice. For example, the term *cèngkok* can mean “melodic style,” “melodic pattern,” or one gongan cycle; often, the term *wilet* (“melodic ornamentation”) is interchangeable with *cèngkok* (“melodic pattern”); the term *balungan* may refer to the melody played by *saron* or the melody played by the lowest *bonang* called *bonang panembung* (as in the Yogyakarta tradition). This is to suggest a rich variable of musical practices and the interconnectedness of different parts in the ensemble. The key to understanding gamelan musical structure, therefore, lies in the dynamic interaction of different instruments (each with its own musical idiom and melodic range) in the process of expressing the melody of a *gendhing*.

II.b *Gatra*

Another element which is important in contemporary theories of *gendhing* is *gatra* (a four-note unit of *balungan*). These theories have given *gatra* an important place in defining modal system (*pathet*) and compositional process in gamelan. Becker (1980) has viewed *gatra* as stock of melodic formulas which can creatively be recombined or manipulated in creating a *gendhing*. Expanding this notion, Sutton (1991) finds that different *gendhing* and different parts of the ensemble are seen as variations of each other. These theories are supported well by quantitative data. Reexamining the issue is worthwhile, however, since empirical descriptions of compositional process in the history of gamelan are lacking.

In contemporary gamelan discourse, *gatra* and *cèngkok* are seen as related to each other: *cèngkok* is the manifestation of *gatra* in the elaborating instruments. Familiarity with individual *gatra* and *cèngkok* is often helpful in learning to play these instruments or to sing. This is especially true with the *gendèr*. Musicians even identify some *gendèr cèngkok* with names. Martopangrawit (1972-76) has written an extensive classification of *gendèr* patterns. But other elaborating instruments only minimally use *cèngkok* classification and identification. The fact that classification of melodic patterns can be done rather successfully for certain instruments, but not for others, is an important question that needs

to be addressed. In any event, the richness of gamelan performance practice has brought about the study of another type of compositional process. Before pursuing this elucidation, it is necessary to provide a background on colotomic structures of gendhing and pathet.

II.c Gonggan

“*Gong jumeglug mandul-mandul / gumulung ombaking ririh*”[the booming and shimmering of the gong is as if the rolling of the soft-sounding ocean tide] (Tondhakusuma 1870: 5).

The passage above declares the beauty of the sound of the gong. It should be pointed out, however, that the passage refers to *gong ageng* (large gong), whose lowest sound in the ensemble is reverberating, waving, and gradually decreasing in volume, lasting as long as 12 seconds. Originally, the word gong is a Malay word. It is an onomatopoeic word, i.e., the name of the object derives from its sound: “Gong” is a vocal imitation of the low, reverberant sound of a large gong. Therefore, it is only a large hanging gong that should be called gong. But when the word is adopted into English, any circular-shaped instrument with a protruding knob on its center, despite its size or its sound, is called gong.

The remarkably powerful sound of the gong has given the instrument an important function in the gamelan ensemble. It is to mark the end of a formal rhythmic structure fundamental to the organizing principle of a gendhing. Because the gong is so important in giving a feeling of balance after the longest melodic section of a gendhing, this fundamental unit itself is called *gongan*. Musicians play the gongan section in repetition. Therefore, it is right to sense the gongan as moving cyclically.

There are several kinds of gongan or colotomic structures, each defined by a combination of two factors: its length (as determined by the number of the basic beats) and the position of the smaller gongs (kenong, kempul, and kethuk) in marking important structural points. According to the number of kenong per gongan, the structures are grouped into two: two kenongan and four kenongan per gongan.

Figure 6 Gongan structures of gamelan compositions

basic pulses per gongan	2 kenongan per gongan	4 kenongan per gongan	size
16	ketawang	lancaran	alit (small)
32	<u>mérong</u> <u>inggah</u> ketawang gendhing kethuk 2 kerep ladrang* or kethuk 4	<u>mérong</u> <u>inggah</u> 	tengahan (medium)
64	ketawang gendhing kethuk 4 kerep ladrang	gendhing kethuk 2 kerep ladrang or kethuk 4	
128	ketawang gendhing kethuk 8 kerep kethuk 16	gendhing kethuk 4 kerep ladrang, kethuk 4, or kethuk 8 gendhing kethuk 2 arang ladrang, kethuk 4, or kethuk 8	
256	-- --	gendhing kethuk 8 kerep kethuk 16 gendhing kethuk 4 arang ladrang, kethuk 4, or kethuk 8	ageng (large)

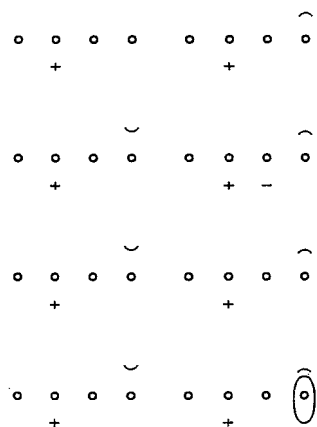
Note: (1) Although ladrang is classified as inggah, it can also be played independently.

(2) In its widest sense, the word gendhing means gamelan compositions. In its narrowest sense, it means the compositions with longer structure, consisting of two major sections, mérong and inggah.

The formal structure of a gendhing can be described as following the principal of binary and hierarchical subdivisions. For example, in a gongan cycle called *ladrang*, each gongan consists of 32 beats. The cycle is divided in quarters by the stroke of kenong, indicating the second most important structural points. Subdividing the kenong phrases are kempul and kethuk, respectively, indicating structural points of lesser importance (see

figure 7). In *ketawang*, each cycle consists of 16 beats. The stroke of kenong divides the cycle in half, which is then subdivided further by kempul and kethuk (see figure 8)

Figure 7 Ladrang



Presented in cyclical form

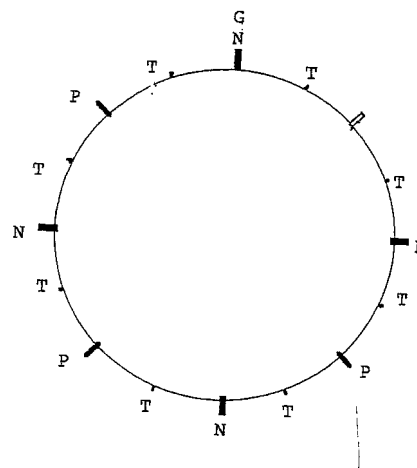
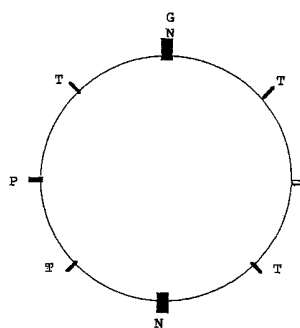
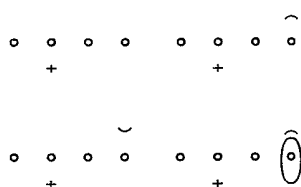


Figure 8 Ketawang

Figure 6 Ketawang



11

Key: G = gong; N = kenong; P = kempul, T = kethuk

In longer gongan structure, there are two major sections. The first section is *mérong*, portraying a peaceful or solemn melodic character. The second section is the *inggah*, which is lively in melodic character. In addition, both sections, especially *inggah*, can be subject to different treatments, such as playing in different *irama* (tempo and density level, see below). Each of the structures of *mérong* or *inggah* is named and defined by the number and the position of the kethuk in the gongan cycle. For example, in a *mérong* called

kethuk 2 kerep, the 64 beats of the gongan cycle is marked in quarters by the stroke of the kenong (i.e., a gongan consists of four kenongan). In each kenongan, the kethuk is played on the 4th and 12th beat. The word “kerep” means “often” or “close to each other,” indicating the distance between two kethuk as being close to each other (7 beats). This is in contrast to the structure called *kethuk arang* (“arang” means “seldom” or “far apart”), in which the distance between two kethuk is far apart (in kethuk 4 arang, the distance is 15 beats).

Figure 9 Mérong kethuk 2 kerep (one kenongan)

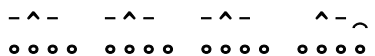


Figure 10 Mérong kethuk 2 arang (one kenongan)



The structure of inggah is also named after the number of kethuk per kenongan. For example, in inggah kethuk 4, each kenongan is divided in quarters by the stroke of the kethuk (see figure 11 below). In both mérong and inggah, the kempul is absent, although conceptually the middle of the kenongan is felt as a comma.

Figure 11 Inggah kethuk 4 (one kenongan)



II.d Pathet

Literally meaning “constraint,” pathet is a modal classification of gendhing. Each laras recognizes three pathet: sléndro nem, sanga, and manyura; and pélog lima, nem and barang. As modal practice, pathet circumscribes general mood or emotive content of a gendhing. The above sequence of pathet represents the progression of mood of gendhing, from solemn or majestic to lively mood, representing the ordering of pathet for a gamelan performance. During the daytime performance, however, calm pieces in sléndro pathet manyura or pélog pathet barang are played in the first period of the performance.

Pathet has been intensively studied by both Western and Indonesian theorists. Early studies looked at pathet in terms of a static abstraction of musical features. Pathet

distinctions are defined in terms of the hierarchical use of tones. It has been proposed that tone hierarchies are associated with the cycle of fifth (Kunst 1973). The terms tonic, dominant, and subdominant are often borrowed to explain gamelan tonality (see Hood 1954; 1988). For example, tone hierarchies in sléndro pathet sanga are: tonic = 5, dominant = 2, secondary dominant = 6, transitional = 1, enemy = 3 (Hood 1988: 41).

Subsequent studies took a more empirical approach, by identifying pathet in terms of not only tone hierarchies, but, more importantly, the character of gatra and the position of gatra within the formal structure of the piece (Becker 1980: 22). Using statistical analysis of the distribution of gatra patterns of 300 pieces, Becker establishes the profiles of patterns use in each pathet. The profile is determined by the frequency of the appearance of gatra in particular positions within the formal structure (i.e., the positions, in the order of importance: Gong, Kenong, and Kempul). For example, the important patterns in pathet manyura in Gong position are 3216 and 2126; In Kenong position: 2321, 5321, 3532, 6532, 3232, 5653, 6523, 3216, 2126; In Kempul position: 2321, 5321, 3561, 3532, 6532, 2222, 5653, 1653, 6123, 2123, 3532, 3333, 3265, 1216, 2126; Exclusive patterns in Gong position: 3126; In Kenong position: 5253, 1516, 3356; In Kempul position: 1123 (ibid. 181; for further discussion and tables of distribution of patterns in each pathet, see ibid. 78-88; 166-187). Other studies of pathet have taken into consideration the performance practice of certain instruments. For example, in analyzing sléndro pathet, gender playing is used to explain tones hierarchies and tone relations (Martopangrawit 1984; Sumarsam 1975)

Figure 12 Tone hierarchies and tone relations in sléndro pathet (drawn from Martopangrawit 1984: 53)

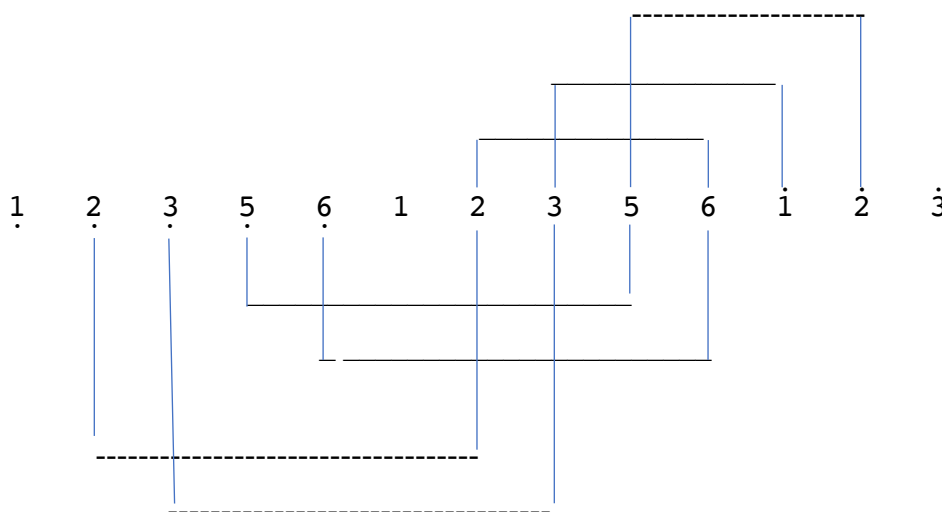
Pathet	dhung (lower kempyung)	dhong	dhang (upper kempyung)	dhèng (pelengkap)	dhing
Sângå	1	5	2	6	3
Nem	5	2	6	3	1 (see below)
Manyurå	2	6	3	1	5

As can be seen in figure 12, Javanese terms are used to describe tone hierarchies. The use of tone as *sèlèh* (goal-tone or cadential pitch) is important consideration for tone hierarchies. Dhong (the heaviest tone weight) is the most important tone to which the other tones are subordinate. Dhung, the lower kempyung of dhong is next in importance. Dhang, the upper kempyung of dhong, is next in importance after dhung. The next in importance after dhang is dhèng, which is also described as *pelengkap*, upholder. And the weakest tone is dHING (the lightest tone).

Pathet nem does not entirely conform to this scheme of tone hierarchies, however. Although it has special characteristics, commonly pathet nem is considered as a mixture of patterns from pathet sanga and manyura. Therefore, the tone hierarchies are not as rigid as the other pathet. In fact, pathet nem has no dHING.

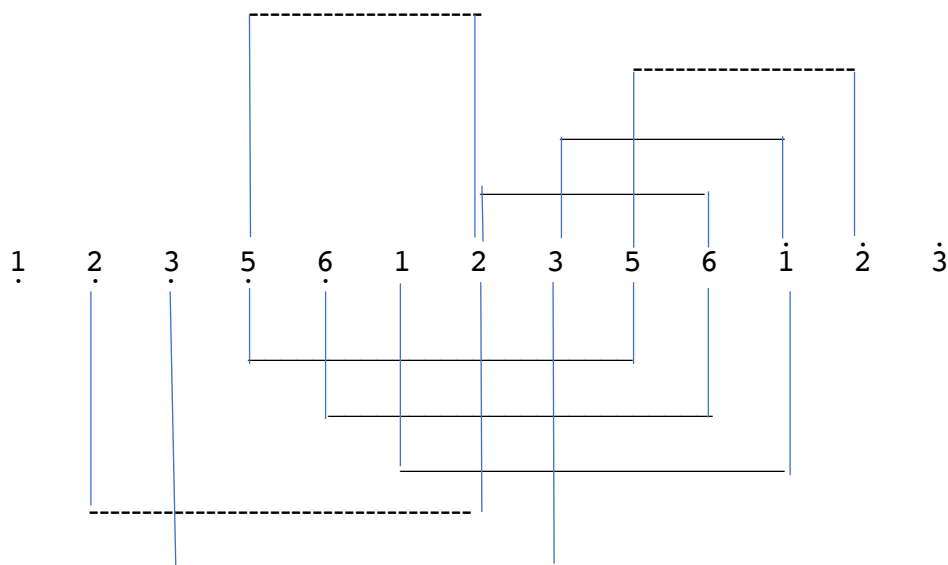
The use of the gradation of tone weights (dhong dhung dhang dhèng dHING) to explain tone hierarchies emphasizes the linear character of gamelan melodic structure, marginalizing vertical tone relations (i.e., harmony). There are only two terms which are commonly used to describe the vertical relationship of tones: *gembyang* (octave) and *kempyung* (combination of two notes separated by two tones or keys). These combinations of tones are used for the endings of gendèr patterns. In conjunction with the melodic character of a pattern, the use of gembyang and kempyung at the end of a pattern is an important factor for pathet distinctions.

Figure 13 Gembyang and kempyung for gendèr in pathet sanga (Sumarsam 1975: 167)



Key: Solid lines indicate the gembyang and kempyung which are used most often.
Broken lines indicate the gembyang and kempyung which appear less frequently

Figure 14 Gembyang and kempyung for gendèr pattern in pathet manyurå (ibid.)



Below are examples of pathet sângå and manyurå patterns of gendèr. They are transposable to each other, and each pattern ends on gembyang or kempyung.

Figure 15 Pathet manyurå and sângå transposable gendèr patterns

a manyura pattern ending on kempyung 3-1 a sângå pattern ending on kempyung 2-6



a manyura pattern ends on gembyang 6-6



a sanga pattern ends on gembyang 5-5



a manyurå pattern ending on kempyung 3-1 a sângå pattern ending on kempyung 2-6

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

a manyurå pattern ending on gembyang 6-6 a sângå pattern ending on gembyang 5-5

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

Comparison between the above gendër patterns reveals that patterns in pathet manyurå and sângå are transpositions of each other. This does not mean, however, that all pathet manyurå pieces can be transposed to pathet sângå (There are only a handful of pieces which have versions in both pathet). Other parameters, such as the extent of melodic range of a gendhing and the treatment of pattern on different instruments, enter into consideration for pathet distinctions.

As previously mentioned, tone hierarchies in pathet nem need a special consideration. It is true that pitch 2 tends to be the strongest tone in pathet nem. But the important characteristic of pathet nem lies in the ways sângå and manyurå patterns are linked to each other. In fact, a certain combination of two patterns even become specific identification of pathet nem.

Figure 16 A specific pattern of pathet nem, a special linkage of manyurå to sângå patterns



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

Tone hierarchies are also an important consideration for pélog pathet. However, pélog pathet need special attention. This is because, unlike sléndro, pélog gendhing uses three basic five-pitch scales. As previously mentioned, the three scales are: 123 56; 12

456; and 23 567). Pélog pieces using the third scales (23 567) are in pathet barang. Only a few pieces in pathet barang use pitch 4 (forming the scale 234 67) or 1 in a weak position. Although tone hierarchies exist, sub-pathet based on them are not identified. In pathet barang, 5 and 2 are the strongest tones; 6 is the next in importance, which is followed by 3 and 7.

Gendhing pathet limå and nem share the first and second scales. Therefore, the difference between these two pathet is very subtle. As with her study of sléndro pathet, Becker (1980) also analyzed pélog pathet in terms of the character of gâtrå and the frequency of particular gâtrå as they appear in strong or weak positions within the structure of the piece. Martopangrawit (1984) and Hastanto (1980) also examine tone hierarchies of pélog pathet. Significantly, they search for certain features of the ways the two scales in their complete octave registers are used and linked. The two scales with their complete octave registers are:

Figure 17

I. 1 2 3 5 6 1 2 3 5 6 1 2 3

II. 1 2 4 5 6 1 2 4 5 6 1 2

The following are some features which indicate where the strength of each pathet lies (drawn from Martopangrawit 1984: 158-162 and Hastanto 1980: 176-192).

Pathet Limå

The lowest tone (1) appears as a goal tone exclusively in pathet limå. It is used in either scale I (1̣2̣3̣ 5̣6̣) or scale II (1̣2̣ 4̣5̣6̣). Scale II in the low octave is also specific to pathet lima. In other words, pitch r never appears in pathet nem. In the medium range, pitch t in scale II (5̣6̣ 12 4) and pitch l in both scales (12 456 or 123 56) are important goal tones. The prevalent use of pitch 3 as a goal tone also strengthens the character of this pathet. This means that pitch 4 becomes less important as a goal tone.

Pathet nem

The lowest tone used in pathet nem is pitch w, appearing as a goal tone in only a few pieces. In this lowest octave range, pathet nem gendhing uses only pitch set I (2̣3̣ 5̣6̣ 12). Pitch 3̣ can also be a goal tone in this range, but pitch r is always absent from this pathet. In the medium range, the strength of pathet nem lies in the use of pitch 6̣ and 2̣ as goal tones. Pitch y appears in scale I (6̣ 123 5) and pitch 2 appears in either scale I (23 56 1̣) or scale II (2 456 1̣). Other pitches, especially 5̣, and 1, may also serve as goal tones. But their use is always in conjunction with other features of pathet nem.

Figure 17 Example of balungan of gendhing in pélog limå and nem (an excerpt)

Kombang Mara, pélog lima (excerpt)

Labels: N, N/G

Gendhing *Kombang Mārā*

...5 2165 2156 2165
 15.6 1.21 3212 .165\
 15.6 1.21 3212 .165
 ..56 1654 2456 216(5)

Sengkawa, pélog nem (excerpt)

Labels: N, N/G

Gendhing *Sengkawā*

.... 3123 .532 3123
 .532 5654 2.44 2126
 ...6 .2.6 .2.6 .123
 5676 5421 6123 5676

	.... 66.. 66.5 6356
...5 2165 2156 2165	.567 5676 .535 3212
15.6 1.21 3212 .165	.321 6132 .321 6123
15.6 1.21 3212 .165	56.. 6676 .535 3212
33.. 3353 6532 3123	
	.... 3123 .532 3123
.... 3356 7653 2123	.523 5654 2.44 2165
1235 5654 .521	.... 5535 66.. 1653
.561 .... .1.. 1156	22.. 2321 6123 2126
11.2 3216 5612 3212	..63 2132 3123 2123
	.... 33.. 33.2 3521
.... 22.4 5654 2165	.6.3 2132 3123 2126
15.6 1.21 3212 .165	.... 6676 .535 3212
15.6 1.21 3212 .165	
66.. 6656 .1.6 5323	umpak (transitional phrase)
	.6.3 2132 3123 2126
...3 .123 .123 .123	.5.5 .2.6 ..76 5421
.6.5 .421 ..12 4565	6653 2356 .653 2356
6542 1245 6542 1654	22.. 3216 3565 2232
.... 4456 1654 2121	

Baring a few exceptions, when pitch 7 appears in pathet lima or nem pieces, it is played by the saron and bonang as pitch 1. As evident in rebab and other soft sounding, elaborating instruments (including vocalist), the underlying melody of the passages in question employs pitch 1.

It is worth noting that sléndro gendèr playing can also be used to analyze the distinction between pélog pathet limå and nem (Martopangrawit 1984: 162). Gendhing of pélog pathet limå use gendèr pattern of sléndro pathet sangå. Paticularly, phrases with ending-pitch 5 and 1 should be treated as gendèr pattern in sléndro pathet sangå: in a phrase

ending on 5, this pitch should be treated as *gembyang* (see figure 15 on page 63), and ending-pitch 1 should be treated as *kempyung*. In *pélog*, a phrase ending on 2 should be treated as *gendèr* pattern in *sléndro manyurå*. For a phrase ending on 1, it can be treated by *gendèr* either as *kempyung* (as in *sléndro sângå*) or *gembyang* (as in *sléndro manyurå*), depending on its context.

Figure 18 Comparison of *gendèr* pattern ending on pitch 1 and 2 in *sléndro sângå* and *sléndro manyurå*



a *sângå* pattern ends on *kempyung* 1--5

6 $\dot{1}$ 6 .56 $\dot{1}$ 6 $\dot{2}$. $\dot{1}$. $\dot{2}$. $\dot{1}$ 6 5
 . . .6 $\dot{1}$ 2 1 2 . 6 . 5 6 $\dot{1}$ 2 $\dot{1}$ 6 $\dot{1}$

a *manyurå* pattern ends on *gembyang* 1- $\dot{1}$

$\dot{2}$. $\dot{1}$ $\dot{2}$ 6 $\dot{2}$ $\dot{3}$ $\dot{2}$ $\dot{1}$ 6 .56 $\dot{2}$. $\dot{1}$ $\dot{2}$ $\dot{1}$
 . 1 2 . 2 532 3 .2 $\dot{1}$ 2 . 1 $\dot{6}$ $\dot{1}$ 1 1

a *sângå* pattern ends on *kempyung* 2-6

$\dot{1}$.6 $\dot{1}$ 5 $\dot{1}$ $\dot{2}$ $\dot{1}$ 5 $\dot{1}$ 6 $\dot{1}$.6 $\dot{1}$ $\dot{2}$ $\dot{1}$ 6
 . 6 $\dot{1}$. 1 2 1 . . . 53 2 32 $\dot{1}$ 2

a *manyurå* pattern ends on *kempyung* 2-6

$\dot{1}$ $\dot{2}$ $\dot{1}$.6 $\dot{1}$ $\dot{2}$ $\dot{1}$ $\dot{3}$. $\dot{2}$. $\dot{3}$. $\dot{2}$ $\dot{1}$ 6
 . . $\dot{1}$ $\dot{2}$. 3 2 3 . 1 . 6 $\dot{1}$ 2 32 $\dot{1}$ 2

III. THEORIZING GENDHING: PROCESS

III.a *Melodic Precedent and Melodic Identity of Gendhing*

....*kang sinebut gendhèng-gendhing / gendhèng punikå angkahnyå / pangolahing swårå titis / ingkang ginandhèng gendhing / tuwin tembang sekaring rum / gantyå gendhing winahyå / angkahirå pangolah mrih / gitå swårå kang ginandhèng ing gamelan //*

[....What is gendhèng-gendhing? Gendhèng is intended for the cultivation of definable sound; it is connected to gendhing and beautiful sung poetry. About the term gendhing, it means the cultivation of singing as it is related to gamelan.] (*Serat Tjenti* (1912-15: 204)

The passage clearly suggests the importance of vocal music in gamelan. The following account gives a historical context to the above quotation.

In its early history, gamelan was not as large as the ensemble we know today (Sumarsam 1995: 17-18). There might have been various small ensembles in which singing was important. Others were strictly instrumental ensembles, consisting of only loud-sounding instruments, such as Monggang and Kodhok Ngorèk. These ensembles play a repetitive two to four note melodic pattern in a short cyclic structure. Gamelan pieces with shorter gongan structures and repeated two- or four-note melodic units, such as pieces composed in *lancaran* and *ladrang* structure, might have been directly inspired by these ensembles. Other early ensembles consisted of a few instruments suitable for accompanying singing (ibid. 15-16).

Throughout history, instrumental ensembles and vocal music have gone through continuous interaction, exchanging each other's musical idioms, and developing new musical forms and repertoire. Evidence of the process of these exchanges and the existence of early ensemble is scanty. A few evidence suggest that a compositional genre of *gendhing kemanak* represents an early type of ensemble, exemplifying an early development of gamelan repertoire.

The earliest mention of gendhing kemanak can be found in the eighteenth-century literature *Serat Pasindhèn Bedhåyå*. An accompaniment for women's court dances, gendhing kemanak are

performed by a mixed chorus accompanied by a small ensemble, consisting of colotomic instruments (gong, kenong, and kethuk); kemanak (a pair of bronze instruments with the shape of a hollow banana), providing the basic beat; and a pair of drums, guiding the tempi with simple rhythmic configurations. Musicians believe that gendhing kemanak represent ancient music. The rare use of kemanak strengthens this belief. In fact, this instrument was already mentioned in the twelfth century Javanese literature (Sumarsam 1995: 15).

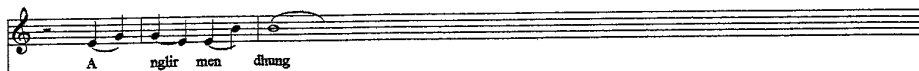
The piece used as an example here is *Anglir Mendhung* (Resembling a dark cloud), which was composed in the late eighteenth century. It exemplifies a creative way of recomposing vocal melody to fit into a fixed rhythmic structure. The process of recomposition involves the expansion of the original melody of an unaccompanied *mâcâpat* song *Durma* to accommodate the fixed length of the gongan structure of the piece.

Figure 19 Comparison of gendhing kemanak *Anglir Mendhung* and *mâcâpat Durma*

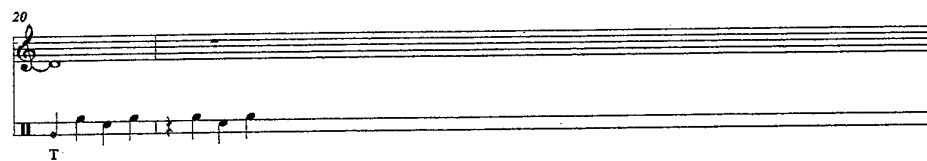
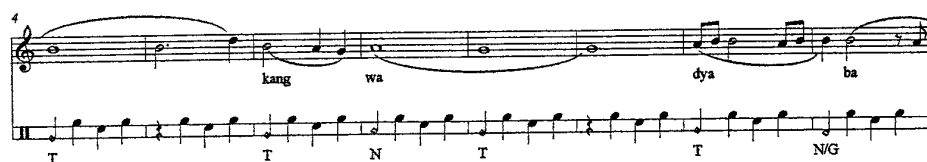
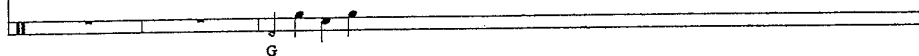
macapat Duma



chorus



kemanak



0 0 . 0 0 . 0 0 . 0 0 0

5etc.

wi

7 65

O

Melody below the texts is mǎcǎpat Durma

Another juxtaposition of two musical forms can be found in the eighteenth-century Kodhok Ngorèk ensemble of the court of Yogyakarta. The juxtaposition involves no vocal repertoire, but two groups of instruments, one group provides a gongan structure and its basic beats, another provides a melody. This example is useful here to show the variety of experiments in which cyclic structure and linear melody were juxtaposed.

Believed to be an ancient ensemble, Kodhok Ngorèk consists of loud-sounding instruments of gongs, kendhang, and a group of saron. The length of the gongan cyclic structure consists of 16 beats, which is divided in half by kenong. The two alternating, pélog-like tones of bonang articulate the basic pulses of the piece. A single tone bonang, whose pitch is higher than the other two, plays continuous drone. The piece starts in a fast speed. When the piece slows down, as guided by the drum, a group of sléndro saron (demung and saron barung) joins the ensemble. The sarons' melody consist of two melodic phrases.

Figure 20 Kodhok Ngorèk *Kyai Kebo Ganggang* (excluding kendhang and *rojèh* or cymbals)
(based on a recording by Brunet 1973)

The musical score for *Kodhok Ngorèk Kyai Kebo Ganggang* is presented in two systems, each containing four staves. The staves are labeled on the left as *bonang I*, *bonang II*, *bonang III*, and *saron sléndro*. The first system consists of four measures. The second system also consists of four measures, with a '6' and a '5' written above the first measure. The notation includes various musical symbols such as notes, rests, and bar lines, representing the cyclic structure and linear melody of the ensemble.

	banggèn		4		2		4		5		4		2		4		.
I	bonang I	6	.	6	5	6	.	6	5	6	.	6	5	6	.	6	5
	bonang II	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
II	sléndro saron	.	3	5	2	3	5	6	5	6	3	2	5	2	3	5	6
		.	5	6	3	5	6	1	6	2	1	6	1	6	5	3	5

The expansion and modification of vocal melody to fit the fixed length of a gongan structure become a common model in composing gendhing for a larger gamelan. For example, the melodic precedent of gendhing *Lobong* is the melody of an unaccompanied macapat song entitled *Kinanthi Sastradiwongsa*. *Serat Tjengṭini*, written in the early nineteenth century, mentions this piece. It means that *Lobong* must have been composed in the eighteenth century or before.

Figure 21 Comparison of macapat *Kinanthi Sastradiwongsa* and gendhing *Lobong* sléndro many (Sumarsam 1995: 185)

macapat

Si rep kang ba la wa na ra

rebab

balungan

Sa da ya wus sa mi gu ling

N

Na dyan a ri Su dar sa na

Wus da ngu den i ra gu ling

N/G

. 2	2 16	1 2	2 6	123	3	2 12	1 3	3 2	2	126	5312	1 2	1 .6	361	i
2	2	.	.	2	3	2	1	3	2	6	5	3	3	5	6

3 6	i 2	3	i i	i 2	i 6	3 3	2 2	1 3	3 1	2 1	6				
Na- li-	ka-ni-		rå ing	da-	lu	Wong a-	gung mang-	sah se-	mè-	di					
. i	16.	121	1 12	6 12	3	121	1 2	2163	2 16	1 2	2 12	1 2	1 .6	361	i
3	3	.	.	3	3	5	6	3	5	3	2	.	1	2	6

3 6	i 2	3	i i	i 2	i 6	3 3	2 2	1 3	5 3	2	2				
Sirep	kang bâ-		lå wa-	nå- rå		Sa- dã-	yå wus	sa-mi	gu-	ling					
. 6	2	121	1 12	6 12	3	121	1 2	2163	2 16	1 2	2 12	1 2	1 2	.261	2
3	3	.	.	3	3	5	6	3	5	3	2	.	1	2	6

3 5	3 6	5 3	3 5	3	2 1	3 3	2 2	1 3	3 1	2 1	6				
Nadyan	a- ri	Sudar-	så-	nå		Wus da-	ngu nggèn-	i- rå	gu-	ling					
. 2	2 1	232	2	123	3	2 12	1 3	3 2	2	126	5312	1 2	1 2	2 61	2
2	2	.	.	2	3	2	1	3	2	6	5	3	3	5	6

Note: The comparison begins from the second kenongan to the end of the piece. The first kenongan is a restatement of the last kenongan. Melody above the text is mǎcâpat Kinanthi Sastrådiwongsa; melody below the text is rebab and balungan.

The amalgamation of the interaction and experimentation of vocal and instrumental music described above eventually reaches its peak in the form of the present-day grander gamelan ensemble with its repertoire of hundreds of gendhing. This is to say that the origin of larger gamelan ensembles and gamelan pieces can be traced only from heterogenous and syncretic musical elements. Despite of the fact that today's grander gamelan ensemble consists predominantly of percussion instruments, vocal music is an important element in gamelan repertoire. Landmarking the importance of vocal idiom was the presence of the rebab, a vocally based, two-string fiddle of Middle Eastern origin, which became the most important melodic leaders of the ensemble.

The importance of the vocal element continued even when the grander ensemble was established. The creation in the nineteenth century of *gendhing gérongan* is a case in point. The melodic identity of pieces in this genre lies in the metric unison choral singing of male chorus, the *gérong*.

The style of this genre might have been inspired by a Javanized Islamic *terbangan* ensemble, an ensemble consisting of unison choral singing accompanied chiefly by frame drums (*terbang*) (Sumarsam 1995: 95-100). Furthermore, two factors are important reasons for the development of *gendhing gérongan*: the continuing interest of recomposing unaccompanied *mâcâpat* song into gamelan pieces and the urge to incorporate literary texts in gamelan pieces. The vigorous growth in written and oral literature in nineteenth-century Java has influenced this development (Ibid).

The importance of vocal melody is clearly stated in *Sendhon Langen Swârâ*, written during the reign of Mangkunegara IV (1853-81). The melodies of each of the nine pieces described in this manuscript are said to be based on sung poetry (ibid. 1). Other evidence offers similar justification for *gendhing gérongan* based on the unaccompanied *mâcâpat* song and *gendhing panembrâmâ* (Sumarsam 1995: 95-99; see below for further discussion of *gendhing gérongan*). The *panembrâmâ* pieces were composed to commemorate important events in the Central Javanese court of Surakarta, as described in the texts used by the singers.

III.b Performance Technique and Melodic Interpretation, Garap

“Tegesing gamelan nyekeli / Gendhing muni tinabuh kelawan tangan”

[The meaning of gamelan is to handle. / The sound of gendhing is produced by hands.]

(*Serat Tjenti* 1912-15: 204)

The passage above gives us a particular perspective on the meaning of the word gamelan: “gamelan” refers to the process of performing a gendhing. That is, gamelan instruments are the means for musicians to handle, render, or treat a gendhing in performance. Contemporary musicians call this process *garap* (“working” to produce something). It is the way in which musicians *creatively* utilize performance techniques in playing a gendhing. Interaction is

fundamental in garap. Therefore, the core competence of the musicians must include “knowledge of interactive networks, systems, and structures” (Brinner 1995: 208).

In the widest sense, the character of gendhing guides garap; it directs musician to create melodies on their instruments accordingly. On one level, the character of a gendhing is defined by its pathet and the length of its formal structure (The longer the structure of a gendhing, the more solemn is its character.) On another level, each gendhing embodies its own individual identity and character.

Garap in colotomic instruments

With different degrees of freedom and limitation, all instruments practice garap. For colotomic instruments, their garap lie in the right timing and the style of playing, as they are guided by the gongan structure of the gendhing. In large and medium size pieces (gendhing ageng and tengahan), in approaching gong, the ensemble slows down, towards a delayed gong stroke followed by the strokes of the other instruments (In the longest gendhing structures, such as gendhing kethuk arang, this practice is also found with kenong). The practice of delaying the strokes of kenong and kempul is also found in the playing of pieces in shorter gongan structures. In transitional phrases and in the playing of gendhing in *irāmā tanggung* (see below), however, the kenong and gong are played without delay.

Another aspect of garap for kenong and kempul is guided by the pathet and melodic register of the gendhing. Particularly gendhing in sléndro sângā, when a phrase ends on pitch 1, kenong or kempul play pitch 5, in order to strengthen the feeling of pathet. But if a kenong or kempul phrase end on pitch 1 (high 1), they play the same tone, reinforcing the melodic direction of the piece. These practices also apply to pélog pieces in pathet lima and nem.


Group garap, balungan

It is worth remembering here that the widest melodic range of gendhing encompasses two and one-half octaves. But most instruments in the gamelan, except rebab and gambang, have narrower ranges than the full gamut of the melodic register of gendhing. It is the effect of these range limitations in rendering the proper melodic motions of a gendhing and the performance idiom of individual instruments in which the concept of garap lies.

Instruments entrusted to play balungan are a group of one-octave saron. Since these instruments must play a unison melody, the *garap* happens in the process of conceiving it. Musicians from different groups or different regions (e.g. Surakarta and Yogyakarta) often play different passages of balungan melodies for the same *gendhing*. An individual's or group's aesthetic preference causes this difference.

In some cases, the limitation of the saron's range has a certain effect on considering the construction of balungan melody: the composing of a balungan melody which follows closely to the proper melodic register of the piece and the construction of balungan based on the smoothing out of a melodic passage whose motion is constrained by the one-octave saron. The former produces a disjunctive saron melody, the second, a conjunct saron melody.

Figure 22 Balungan is in congruence with the rebab, creating a disjunct passage on the saron



rebab

balungan

saron I

saron II

disjunct *saron* melody

conjunct *saron* melody

rebab	.	2	2	121	216	5
balungan		2	1	6	5	
saron I		2	1	6	5	disjunct saron melody
saron II		3	5	6	5	conjunct saron melody

III.c Conceptual Melodic Leader and Melodic Identity, Rebab

The above discussion is viewing garap in the widest sense of the concept. The most common narrower sense of garap is the musician's interpretation of melodies on the elaborating instruments. First, a comment on the term "elaborating" (a classificatory term for a group of instruments), is in order. The term is said to be associated with a Javanese term "panerusan" or filling in (Kunst 1973: 247), a term that is rarely used by Javanese musicians. The term "elaborating", and others like it (such as "paraphrasing"), is used in the context of a particular view of gamelan melodic structure. This view emphasizes the important role of balungan as the "theme" or "principal melody" of a gendhing; it is used as a basis for elaboration by instruments such as rebab, gendèr, gambang, and bonang; hence, the "elaborating instruments." There is some truth to this idea. The melody of some pieces or passages of a piece may derive from balungan. Balungan is also an important melodic reference for the ensemble. But balungan is not necessarily the entire basis from which other instrumental melodies are derived. Therefore, the use of the term "elaborating instrument" here should be understood to mean instruments that play elaborate melodies in their own right; it does not necessarily refer to the process of elaborating the balungan.

Leading instruments in the ensemble, especially rebab, gendèr, and bonang barung, are commonly used to illustrate garap. Other elaborating instruments are rarely used to discuss garap, because of their supporting roles and their limited melodic vocabulary.

Musicians consider rebab as *pamurbå lagu*, that which has authority over melody. Its role as a melodic leader includes determining which gendhing is to be played by the ensemble by playing the *bukå* (melodic introduction) and cueing the ensemble for some types of transitions. Significantly, the importance of the rebab in the ensemble relates to its melodic character and melodic representation: a vocally inspired melodic line with a complete and proper melodic register.

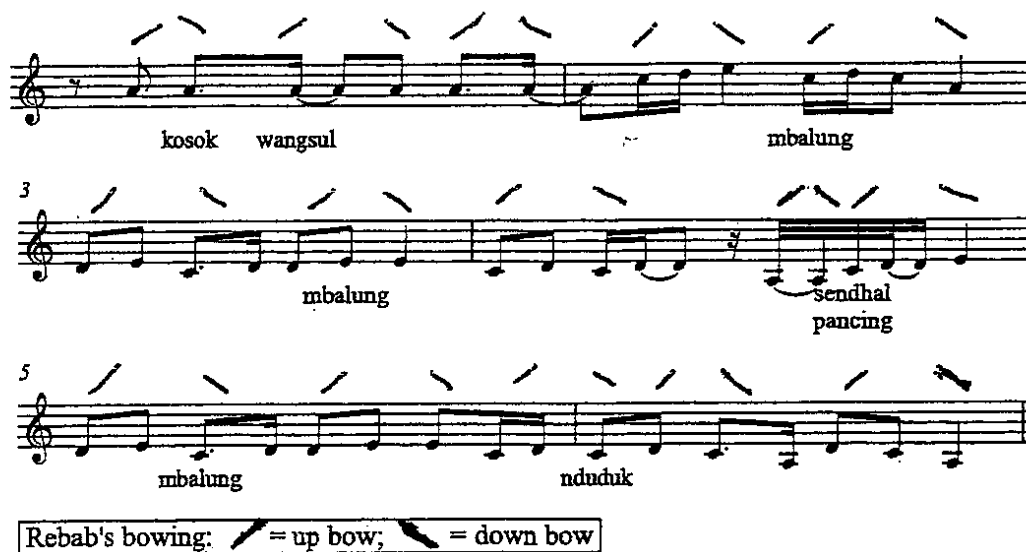
It is true that rebab does not provide melodic guidance in term of note-per-note, "real time" (Perlman 1994: 140). But musicians insist that rebab is constantly giving clues to the course of the gendhing (ibid. 144). Essentially, the rebab's authority over melody should be understood on a conceptual level. The vocally inspired rebab melody is closely associated with the identity and the proper melodic range of a gendhing, the manifestation of which is to be seen as emanating from within (Brinner 1995: 216). If the rebab cannot be heard clearly, or, if it is absent from the ensemble, the voice-like melody will always be present in the minds of the musicians, as one of

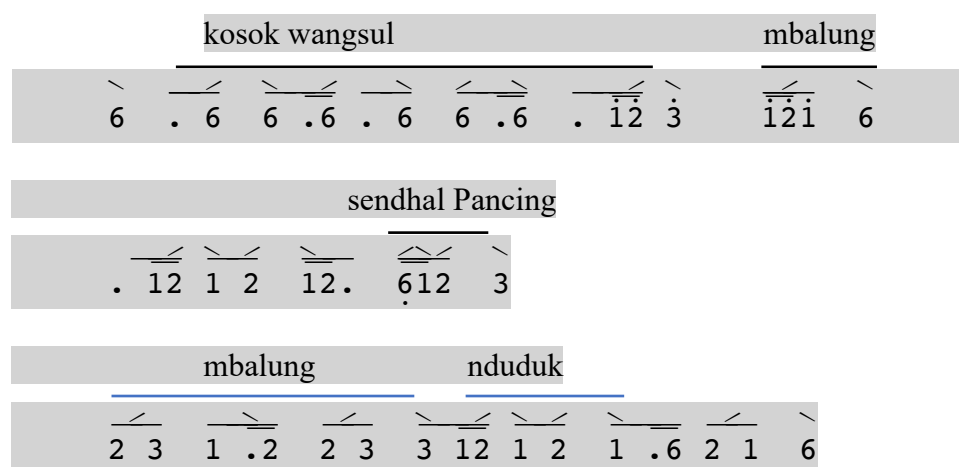
the important references. Even in *gendhing bonang* (a group of pieces whose presentation does not include the participation of soft-sounding instruments and singing), musicians also conceptualize its melodic flow as voice-like melody (Sumarsam 1995: 216-118).

Like other instruments, the melodic treatment of rebab is based on four considerations: the player's knowledge of repertoire, idioms, transformational procedure, and pathet frameworks and procedures (Brinner 1995: 64). The rebab player is expected to have a great knowledge of repertoire (hence, a trustworthy memory), since the ensemble will rely on him if other players' memory fails them (Perlman 1994: 143). In this context, the rebab player must have a thorough knowledge of hundreds of pieces and their characters. The character of a piece will guide the rebab player for creating appropriate melodic interpretation. For example, the rebab player must know when to play *barang miring* for certain passages of a *gendhing*. Commonly evoking a sad feeling, *barang miring* is a vocally oriented tuning whose creation is based on lowering two of the five notes in sléndro, resulting in a pélog-like tuning to be performed in sléndro gamelan.

There are two other elements associated with the melodic idioms of rebab, related directly to technical application: bowing technique and finger positions. In his manual on how to play rebab Djumadi (1972) lists ten bowing techniques (a few are given below). These different bowing techniques and their articulations will help to convey the melodic character of a *gendhing*.

Figure 23 Three different kinds of bowing techniques

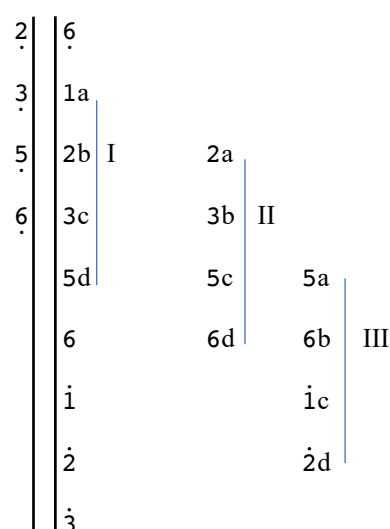




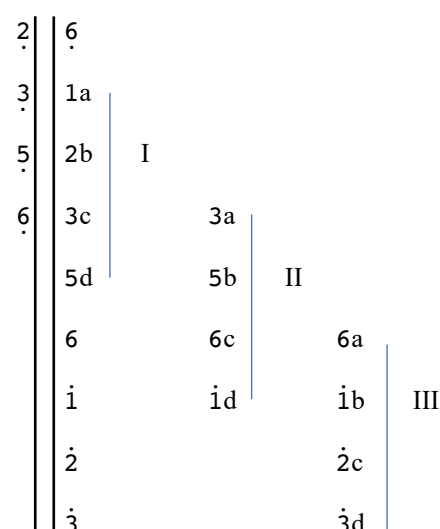
Finger positions are set forth so that the pitches produced by fingers can be accomplished with ease, i.e., the comfortable way the player's fingers spread in stopping the strings (Martopangrawit 1984: 141). Significantly, the finger position is determined in the framework of pathet. In sléndro, the rebab strings are tuned to pitch 6 and 2. The finger positions for pathet sângâ and manyurâ differs in the two positions of medium and higher octaves, and the finger positions of pathet nem are a mixed of sângâ and manyurâ positions.

Figure 24 Finger positions in sléndro

pathet sângâ



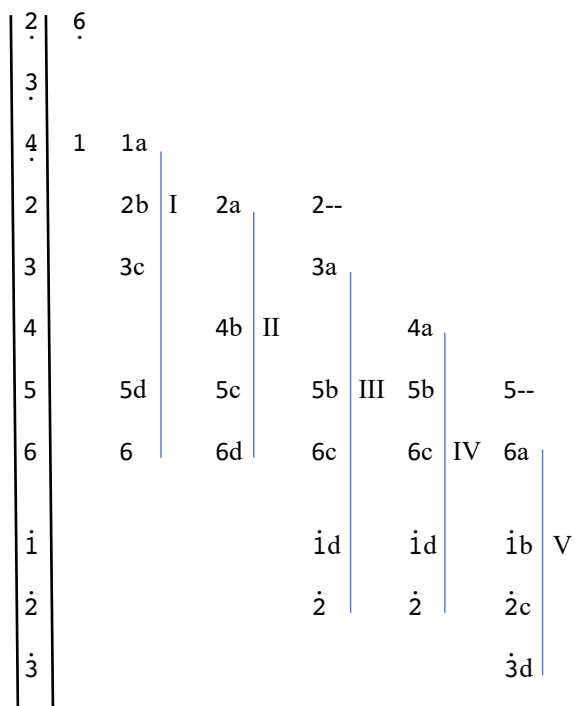
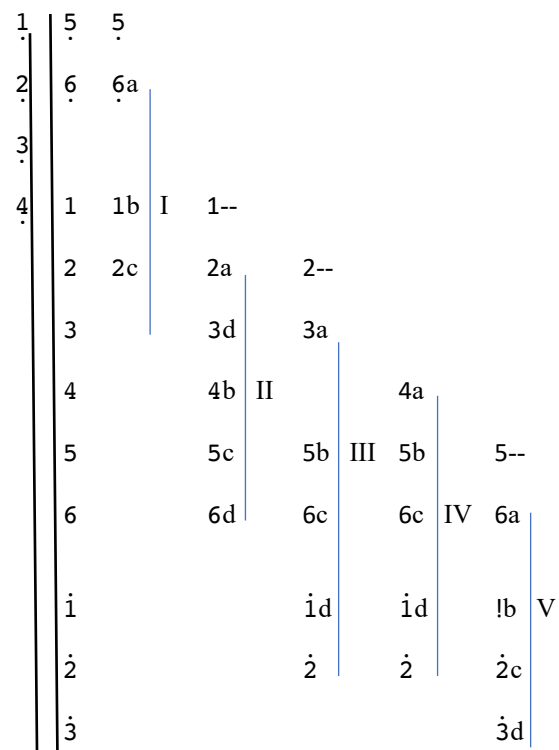
pathet manyurâ



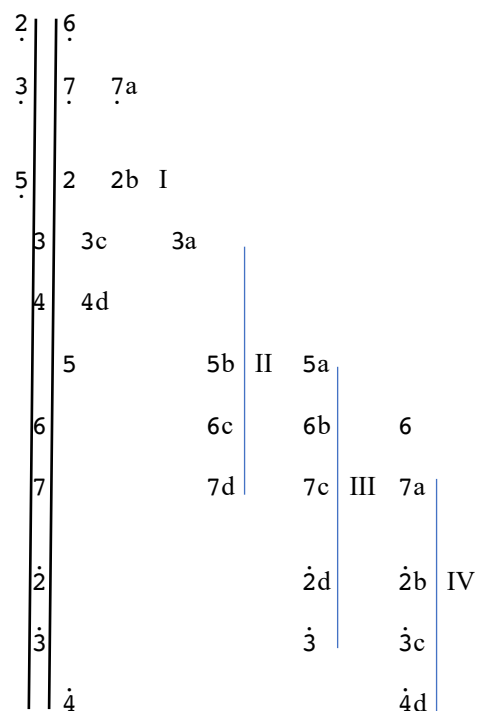
Key: a, index finger; b, middle finger; c, ring finger; d, little finger

In pélog pathet lima, the strings are tuned to pitch 1 and 5. In pathet nem and barang, the strings are tuned to 6 and 2.

Figure 25 Finger positions in three pélog pathet



pathet barang



It should be mentioned that the importance of the rebab's role in playing the underlying melody of a gendhing does not always hold true for all genres of compositions. The case in point is gendhing gérongan. As previously mentioned, the melodic identity in these gendhing is not a rebab-like melody, but rather a gérongan melody.

In performing gendhing gérongan, the rebab does not imitate the gérongan, rather, it plays its own melodic idioms. Its function to guide proper melodic direction remains the same, however. In fact, the rebab is crucial in providing melodic bridges between the gérongan lines.

gérongan

rebab

balungan

Kembang ken - cur Ka -

N

5

car - yan ang - gung ci - na - tur

N/G

9

Sè - dhet kang sa - ri - ra

N

13

Gan - dhes ing wi - ca - ra

N/G

17

Kè - wes yèn ngen - di - ka

N

21

A - nge - nga - nyut ji - wa

N/G

Figure 26 Puspå Warnå (balungan, rebab, gérongan)

System 1:

Top line: . 6 . . 2̇ 3̇ 2̇ 1̇ 3̇ 2̇ 6 5̇ 2 3 5 (3)

Middle line: . 6 1̇2̇.2̇. 2̇ 2̇ .2̇ . 1̇ 6 1̇2̇1̇ 1̇ 1̇2̇ 6 1̇ 2̇ 6 3̇ 5̇6̇5̇5̇ 3̇5̇ 3̇ 5̇6̇6̇ 1̇6̇5̇ 3̇

Bottom line: 3̇ 3̇ 1̇3̇2̇ 2̇ 1̇ . 6̇1̇2̇ .3̇1̇2̇6̇ 5̇ . 6̇ 6̇ 1̇2̇6̇ 1̇6̇5̇3̇

Lyrics: Kembang ken- cur Ka car- yan ang- gung ci- na- tur

System 2:

Top line: . . 3 2 5 3 2 1̇ . 3 . 2̇ . 1̇ . (6)

Middle line: . 6 1̇ 2̇ 6̇ 1̇ 2̇1̇2̇ 1̇6̇3̇ 2̇ .1̇1̇ 2̇ 1̇ . 3̇ 3̇ 2̇3̇2̇ 2̇ 1̇2̇ 1̇ 2̇ 1̇ .6̇2̇ 1̇6̇

Bottom line: . . 6̇ 1̇2̇2̇ 3̇ 1̇2̇6̇3̇ 3̇ 5̇3̇2̇1̇ . . 3̇ .5̇2̇ 3̇5̇3̇ 3̇ 1̇2̇1̇ 6̇

Lyrics: Sè- dhet kang sa- ri- rà Gan- dhes ing wi- rà- gâ

System 3:

Top line: . 2 . 3 . 2 . 1̇ . 3 . 2̇ . 1̇ . (6)

Middle line: 3̇ 5̇6̇6̇ 1̇6̇5̇ 3̇ 2̇ 3̇ 2̇ .1̇1̇ 2̇ 1̇ . 1̇ 3̇3̇ 2̇3̇2̇ 2̇ 1̇2̇ 1̇ 2̇ 1̇ .6̇2̇ 1̇6̇

Bottom line: . . 3̇ 5̇6̇3̇ . 5̇ 6̇ 3̇ 5̇3̇2̇1̇ . . 3̇ .5̇2̇ 3̇5̇3̇ 3̇ 1̇2̇1̇ 6̇

Lyrics: Kè- wes yèn ngen- di- kâ A- nge- nga- nyut ji- wâ

Key: ➤ indicates how the rebab directs the melody of the gérongan by anticipating the tone or tones which will be approached.

It is clear that gendhing gérongan has made the melodic directions of gendhing clearer, strengthening the melodic identity of a gendhing. In the development of gamelan practice, this genre became quite popular, so much so that new gérongan melodies were composed for non-gérongan gendhing (Sumarsam 1995: 99).

There are other genres of gendhing in which the vocal part is featured, including *jineman* and *palaran*. In both genres, the melodic feature is the solo female singing of the *sindhèn*, while the instruments accompany it.

III.d Melodic Fragmentation, Gendèr

The vocal-like, continuous, or smoothly flowing quality of the rebab melody characterizes the underlying melody of a gendhing. Therefore, rebab melody is less susceptible to fragmentation. In modern learning of this instrument, the teacher has to write out the whole rebab part of a gendhing. In describing the rebab melody, the terms *cèngkok* (melodic pattern) and *wilet* (melodic ornamentation) are often used interchangeably. This is not the case with other elaborating instruments. For example, the fragmentation of melody into melodic patterns is necessary in theorizing and learning the gendèr. This melodic fragmentation came about because the gendèr with the limitation of its range, must coordinate its melodies with the proper melodic direction of a gendhing (Although the gendèr range encompasses more than two octaves, because it is played with two mallets, its range is reduced to one and one-half octaves.) Like *gatra* in *balungan*, gendèr playing evolved and a group of individual gendèr patterns emerged.

The range limitation of gendèr brings about two types of gendèr patterns: patterns whose melodic direction are in congruence or divergence with the proper melodic motion of a gendhing. A congruent gendèr pattern is created when it is possible for the gendèr range to express the proper melodic motion of a passage. When gendèr range cannot attain this, divergent gendèr patterns (patterns which move in the opposite direction from the proper melodic motion) become inevitable. In addition, the gendèr will also have to find *rambatan* (creeping), a smooth way to link its patterns when situation demands.

The view of the importance of *gâtrå* of *balungan* and gendèr patterns in creating or performing gendhing has influenced the development of gamelan theory. Classifying gendèr patterns and naming them individually has become a trend in learning gendèr. Apparently, the original idea of naming patterns was to allow a senior musician to casually call out patterns by name to inexperienced gendèr players. Not all gendèr patterns have names, however. Most of the names refer only to those patterns which have evocative meanings relating to exciting vocal melodies (e.g., *ayu kuning*, *jarit kawung*).

Figure 27 Gendèr pattern “ayu kuning,” sléndro manyurå

vocal

A yu ku ning bén trok maya ma ya

gèndèr

lh.

rh.

vocal 6 . 1̣ . 2̣ 3̣ 3̣ . . 5̣ 2̣ . . . 3̣ . 1̣ 6 3 . . 3 3 . 5̣ 3̣ 2̣ 1̣

a- yu ku- ning bén- trok ma-ya ma- ya

gèndèr 2̣ . 1̣ 2̣ 6 2̣ 3̣ 2̣ 1̣ 6 . 5̣ 6 1̣ . 6 1̣ 6 5 . 5 6 5 . 5 3 6 . 5̣ 6 3 6 5 6 1̣

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

To certain extents, the classification of patterns can help one to learn to play the instrument. However, it may also create an impression that the musical system of gamelan is based on the manipulation of inflexible melodic patterns. Patterns are the means to express the melody of a gendhing, but they are always in constant interplay with and susceptible to the vocally inspired, proper melodic direction of the piece.

Another element pertinent to conveying the mood of a gendhing is the style of gendèr playing. Basically, there are two styles: *lombå* (single or regular) and *rangkep* (double) style. The speed of the *lombå* style is around 104-176 on the Maelzel Metronome, and the *rangkep* style, 208-320. The feeling of a gendhing and the effect of *iråmå* (see below) guide the player in his decision to render his gendèr playing in one style or another.

Figure 28 Comparison of a gendèr pattern in *lombå* and *rangkep* style, sléndro sångå

rh.

lh.

lomba	3	5	3	.	3	5	3	2	5	.	3	5	2	5	3	5	6
	.	.	.	5	6	1	6	1	.	.	5	3	2	.	5	1	6

rangkep	.	3	5	.	3	2	.	3	5	.	3	2	.	5	3	5	.	1	5	.	6	.	1	5	.	6		
	1	.	1	6	5	6	1	.	1	.	1	6	5	6	1	.	.	1	6	1	.	.	.	2	1	6	.	6

III.e Mediating and Guiding, Bonang

The idiomatic character and the playing technique of an instrument is the basis for determining its function in the ensemble. For example, because of its limited range, the *gendèr* can only indirectly function as a guide to the proper melodic direction of a *gendhing*; rather, *gendèr* serves more to create a fullness in the sonority of the ensemble. Bonang barung, another melodic leader of the ensemble (second in importance after the *rebab*), directly leads the melody of the ensemble. Unlike *rebab*, the bonang guides the melody not on a conceptual level, but in “real-time” performance (Perlman 1994: 148). In the playing technique called *pipilan* (to pick off single notes one at a time), the bonang guides the saron players in which tones to play by anticipating the *balungan* two tones at a time (see figure 29 below). Another bonang technique is *gembyangan* (octave playing); it is played to express sustaining melodic passages (*gantungan*). Bonang also has certain ways to give a clue for the melodic character or the proper melodic direction of a *gendhing*. For example, the *gembyangan* can be used to emphasize the arrival of a goal tone or to indicate the higher register of the melody unattainable on the bonang (The range of the bonang is less than two octaves; therefore, the bonang will never be capable of conveying the whole range of melodic motion, especially the highest octave of melodic passages).

Figure 29 Gembyangan and pipilan techniques on bonang

	gembyang	pipilan		gembyang												
Bonang	3..3..3.353..53.636..36.565..65.353..53.616..16.21666..6..6..6..	3	3	3	6	6	6	6								
Balungan	.	.	3	5	6	3	5	6	3	5	6	1	3	2	1	6

Note: The first gembyang is to convey the sustaining melodic passage; the second gembyang, to emphasize the arrival of a goal tone and to convey the higher register unattainable on the bonang. Also notice the anticipatory nature of pipilan to guide the balungan tones.

Besides pipilan, there is another bonang playing technique called *imbal* or *imbal-imbalan*. In this technique, bonang barung and bonang panerus play interlocking patterns with melodic ornamentation (*sekarun*) usually at the end of the phrase, creating a playful melody. Thus imbal bonang is played in joyful pieces (or a section of them) according to the *irâmâ* and the drumming treatment. Unlike the pipilan technique, the imbal bonang does not provide melodic guidance to the ensemble.

Figure 30 Imbal bonang

	imbal	sekarun
Bonang barung	.1.3.1.3.1.3.1.3.6.3.6.1.216.1.2	
Bonang panerus	2.5.2.5.2.5.2.5.6123535321612.12	

instruments. When the *irāmā* of a piece is changed, the pulse and the melody of *balungan* may or may not change, depending on the *irāmā* in which a piece resides (see below),

The instrument whose function is to guide and set up *irāmā* is the drum (*kendhang*). There are three drumming styles, each corresponding generically to the mood of a *gendhing* (or a section of it) or to the character of a dance or the mood of a theatrical performance. These drumming styles consist of rhythmic patterns, ranging from the repetition of a simple pattern with an underlying regular beat (*kendhang satunggal* and *kendhang kalih*) to elaborate patterns with underlying regular but elusive beats (*kendhang ciblon* and *wayangan*) (see figure 32). In a medley presentation, two or more *kendhang* styles may be used in different sections of the performance of a *gendhing*.

Actually, the change of *irāmā* has wider musical implication than the change of density levels alone. Most significantly, it allows a single piece to assume different lengths, different degrees of instrumental or vocal embellishment, different playing styles of some instruments, and, therefore, different moods. In other words, the change of *irāmā* (as guided by the change of drumming style) affects the melodic content of the piece, the playing technique, and the melodic embellishment of instrumental or vocal parts. For example, in playing the first section of *ladrang Pangkur*, *kendhang* plays a less elaborate configurative rhythmic pattern in the *kendhang kalih* style; *gendèr* plays in the *lomba* technique; and *bonang* plays *pipilan*. When the drum cues the ensemble to change to *irama wilet* (by guiding the ensemble to slow down with the livelier *kendhang ciblon* style), the *gendèr* will change its playing from *lomba* to *rangkep* style; and the *bonang* playing changes from *pipilan* to *imbal* technique

Figure 32 Comparison of a passage from *Pangkur* played in *irama dadi* and *wilet*

Irāmā dadi (*gendèr lomba*, *bonang pipilan*, *kendhang kalih*)

The musical score for Figure 32 shows a comparison of a passage from *Pangkur* played in *irama dadi* and *wilet*. The score is for five instruments: *kendhang kalih*, *gendèr*, *rebab*, *bonang*, and *balungan*. The *kendhang kalih* part is written on a single staff with a series of rhythmic notations (p, b, k, a, k, a, p, p, b, p, b). The other instruments are written on standard musical staves with notes and rests. The *gendèr* part is written on two staves (rh and lh). The *rebab*, *bonang*, and *balungan* parts are written on single staves. The score is in 5/8 time and consists of 16 measures.

ḃ = dhe	ṭ = tak
Ṗ = thung	ḷ = lung
d = dang	ḽ = lang
ḅ = dhet	◦ = tong
k = ket	. = rest

The fact that a single piece can be played in different irama implies a fluidity in the melodic identity of the piece. It should be pointed out, however, that the original melodic identity of most pieces resides in irāmā dadi and irāmā wilet (the latter is true only for some gendhing gérongan). This is to say that other irāmā have particular performative functions.

In most cases, irāmā tanggung is a temporary irāmā, used for particular purposes: (1) making transition from one section to another, or, from one piece to another; (2) performing a section of dance which requires lively drumming in a repeated short cyclic structure; and (3) performing a piece or a section of it (such as a sesegan section in a gendhing bonang) to be played in instrumental, loud style playing, as the conclusion of the piece.

The inggah section for many pieces can also be played in irāmā wilet. The original melodies of the inggah also reside in the irāmā dadi. In fact, many inggah melodies derive from the corresponding mérong melodies. The need to accompany animated dance movements, whose drumming requires a lively style called ciblon, have originally been the reason for playing inggah in irāmā wilet. As has been mentioned earlier, the rhythmic patterns of this drumming are directly related to dance movements.

Playing inggah in irāmā wilet with ciblon drumming became a common practice in *klenengan* (gamelan performances for listening), although no dancing is present. It is a way to create a livelier mood for the performance. In expanding their melodies, musicians of the elaborating instruments focus more on the treatment of individual patterns. In doing so, a single gatra pattern becomes two patterns. To create a lively mood, musicians will change their technique and melodic ornamentation accordingly. For example, in a piece played in irāmā wilet with ciblon drumming style, gender will play rangkep style and bonang will play imbal.

Believed to be the most recent invention, *iråmå rangkep* gives rise to the liveliest melodies and moods. This *iråmå* does not link itself only to *iråmå wilet*; it also links to *iråmå dadi*. *Iråmå rangkep* does not transform a single pattern to become two patterns, but to double the density level of the existing melodic patterns by repeating sections of a pattern and adding more whimsical melodic ornamentation. The drum also plays animated rhythmic patterns by repeating elaborate patterns associated with dance movements, playing them in tempo faster than the tempo in *iråmå wilet*. Other practices which contribute to the lively moods of the performance of *iråmå wilet* include *andhegan* (a stop in the middle of the piece and resuming again after the singer sings an interlude), the highlighting of certain evocative melodies or rhythms by elaborating instruments and singers, an occasional jocular pattern created by *bonang*, and playful *senggakan* (stylized cries) by male singers while performing interlocking claps.

Figure 34 The application of different *iråmå* to gendhing of different gongan structures.

GONGAN STRUCTURE	IRÅMÅ
Gendhing Mérong	tanggung ← dadi
Inggah	tanggung ← dadi → wilet → rangkep
Ladrang	tanggung ← dadi ↔ wilet → rangkep
Ketawang	tanggung ← dadi → rangkep
Lancaran	lancar ↔ tanggung ↔ dadi

Note: Each gendhing has its own limitations as to how different *iråmå* can be applied to it. The original melody of a piece resides in one of the *iråmå* printed in bold.

Figure 35 The effect of *iråmå* and drumming style on the gendèr and bonang playing technique

IRÅMÅ	PERFORMANCE STYLE		
	KENDHANG	GENDÈR	BONANG
tanggung	kalih or satunggal	lombå.....	pipilan
	ciblon	rangkep	imbal
dadi	kalih or satunggal	lomba	pipilan

	ciblon	rangkep	imbal
wilet	kalih or satunggal.....	lomba	pipilan
	ciblon	rangkep	imbal
rangkep	ciblon	rangkep	imbal

In the present study of compositional processes, certain features emerge. The most important feature is the heterogenous and syncretic nature of the development of gamelan, consisting of a continuous interaction and juxtaposition of different types of musical idioms, both instrumental and vocal. Significantly, the vocal element has a strong influence in the development of gamelan compositions. The highly hybridized musical forms present in today's grander gamelan with its repertoire of hundreds of gendhing epitomize the peak of the evolutionary process of the gamelan. In essence, gamelan composition embodies a complex relationship of different strands of musical idioms. Framed by the colotomic structure, these idiomatic strands are interacting with each other in an elaborate musical language that cannot be encapsulated within a single musical grammar.

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Discourse on Pathet of Javanese Gamelan

The Period of Socio-cultural Transition

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Preface

In October 2021 the Institute for Ethnomusicology at Kunst Universität Graz organized a symposium with the theme “Rethinking Musical Mode.” The abstract of the symposium points to the definition of mode as “either a ‘particularized scale’ or a ‘generalized tune’ depending on the specific musical and cultural context,” put forward by one of the towering figures in ethnomusicology and musicology, Harold Powers, in the 1980 edition of the *New Grove Dictionary of Music and Musicians*. The aim of the symposium was “to recenter the performer, their performance practices, and their aesthetic preferences in our analyses and our reassessment of the word ‘mode’ in its many musical meanings,” which the organizers felt was lacking in Powers’ definition. I was invited to be one of the keynote speakers. (Thanks to Professor Sarah Weiss for inviting me). I must acknowledge that my presentation does not directly relate to Powers’ works; but, one of the topics of my presentation concerns the performer-cum-theorist’s perspective which Powers often refers to, in addition to addressing his intensive reference to gamelan theory in general (for example, see Powers 190).

I should also mention that Powers had a special relationship with Wesleyan’s gamelan program. In the late 1970s, he invited the Wesleyan gamelan ensemble to perform at Princeton University. Before the performance, the 12-page program notes he wrote were given to the audience as background material for his introductory lecture on gamelan. I would say, it is rare to encounter 12-page program notes at any concert. Around the time he published his entry for “Mode” in the *New Grove Dictionary of Music and Musicians*, the Wesleyan Music Department invited him to teach a graduate seminar on mode. Commuting from New Jersey (he was a Professor of Music at Princeton University), he taught his seminar on Monday; but he traveled to Middletown on Sundays, to take lessons on bonang from me and to join our gamelan rehearsals. He played bonang and sang *gérong* for our end-of-semester concert. He also joined our gamelan ensemble to perform a concert at the Metropolitan Museum of Art in New York. It was a privilege for me to have had this close relationship with one of the towering figures in musicology/ethnomusicology.

My presentation at the Graz symposium dealt with an example of discourses of pathet in the mid- to late-20th century, by which time Western modes of thought had influenced Javanese intellectual modes of thought. Pathet in Javanese gamelan has been intensively studied by both Western and Indonesian theorists (see Hood 1977 [1954], Hastanto 1985). Like any study of music theory, the study of pathet develops in response to certain conditions of socio-musical life at a

given period in history and the interest of certain individuals whose familiarity with music varies—from casual gamelan enthusiasts to professional musicians; from professional scholars of specific disciplines to self-taught scholars; or various combinations of the aforementioned.

Focusing on the study of *pathet* by two contrasting authors, Poerbatjaraka and Martopangrawit (intimately known as Pak Marto), I will show the ways scholars define *pathet* in terms of its tonal constraint (tonal hierarchies and relationships) and show their uniqueness and creativity in defining *pathet*—spanning from linguistic departures in interpreting the naming of *pathet* to viewing *pathet* from the performance practice of certain instruments.

Poerbatjaraka

Let me begin with a brief biography of Poerbatjaraka (see Pigeaud 1966). Growing up during the colonial and post-colonial periods as the son of a middle-high ranking court official of the Kasunanan court of Surakarta, Poerbatjaraka had the opportunity to receive an education from the Dutch school in Java and in the Netherlands. He received his doctorate degree in literature at Leiden University, specializing in the Old Javanese language. Returning to Java, he became a professor at a number of universities in Indonesia, spending much of his teaching and research time at the Universitas Gajah Mada in Yogyakarta.

Poerbatjaraka's study of *pathet* was inspired by a lecture on gamelan by a Professor of Engineering at Gadjah Mada University, Poerbadiningrat, whose presentation included a list of the definitions of *pathet*. Given his linguistics background, Poerbatjaraka felt unsatisfied with the explanations given in Poerbadiningrat's ten definitions (see in the footnote).⁶ In this context, he

⁶ Here is the list of 10 definitions of *pathet* Poerbatjaraka refers to:

1. R.T. Djodipoero (1921): *pathet* is the place of a *gendhing*.
2. Tuan Djakoeb and Wignyaromaksa (1913): the purpose of *pathet* is to give place to a *gendhing*.
3. Tuan Sperjapoetra: *pathet* is a rhythmic relationship between the tessitura (*tingginya*) of a melody (*lagu*) and the vibration in the air at certain times of day or night.
4. R.M. Sarwaka: the difference between one *pathet* and another is based on certain differences in *cengkok*.
5. Tuan Soelardi (1918): *pathet* is *pangrambyangan* [playing of the *grambyangan*] of an instrument according to certain rules from which the characteristics of the *gendhing* to be played are determined.
6. Tuan Sastrasoewignya (1931-32): *pathet* is the singing of the *dhalang* during *wayang*, accompanied by *rebab*, *gendèr*, *gambang*, *suling*, *kendhang*, and occasionally *gong*.
7. Tuan Jaap Kunst: we approach the meaning of *pathet* when we determine the predominant pitches of a *gendhing*.
8. R. Kodrat determines *pathet* from *kenong*. The first *kenong* tone constitutes the starting point (*titik pangkal*).
9. Ki Hadjar Dewantara (*pathet* 1936) gives the following diagram:

remembered passages from the 15th-century literary work *Panji Semirang* mentioning the term “patut.”

Raden Inu played rebab, Pangeran Anom the kromong, and Raden Brajadenta beat the drum, Jurudheh played saron, Punta the Salukat, Kartala the kangsi, and Semar the calapita. Cemuris played the gong. And Raden Inu played the rebab Asmara-ing-pegulingan. And it (*the rebab*) is tuned to (*dipatut*) with the kromong by Pangeran Anom. They were in tune indeed. (*Satala sekali bunyinya*) (Poerbatjaraka 1987[1957], 265-66. Translated by Stanley Hoffman)

I highlight the phrase “(*the rebab*) is tuned to (*dipatut*) with the kromong” in relation to Poerbatjaraka’s remarks on how the word patut should be pronounced, as it relates to the meaning of pathet in gamelan. After consulting another piece of literature, the 19th-century *Serat Tjenti*, he was convinced that the Javanese would not pronounce it as patut (“t” as it is pronounced with your tongue-tip touching inside upper teeth), but *pathut* or *pathet* (“th” as it is pronounced with your tongue-tip touching palate). This happened because Javanese people often spoke while chewing beetle nut. Therefore, they were not pronouncing the word patut properly; hence patut was and is now pronounced as pathet. Poerbatjaraka noted (it is true) that Balinese people would say “th” for any “t” until recent times.

pathet nem: gdlnb; pathet sanga: lnbgd; pathet manyura: nbgdl

oxxxx

oxxxx

oxxxx

10. According to the schema found in Mantle Hood’s *The Nuclear Theme as a Determinant of Patet in Javanese Music*

[1954: 8, 145], the arrangement on the keys of the saron can be illustrated as follows.

pathet nem		G1	G2	D	
	b	g	d	l	n b

pathet sanga	G2	D	G1	
	b	g	d	l n b

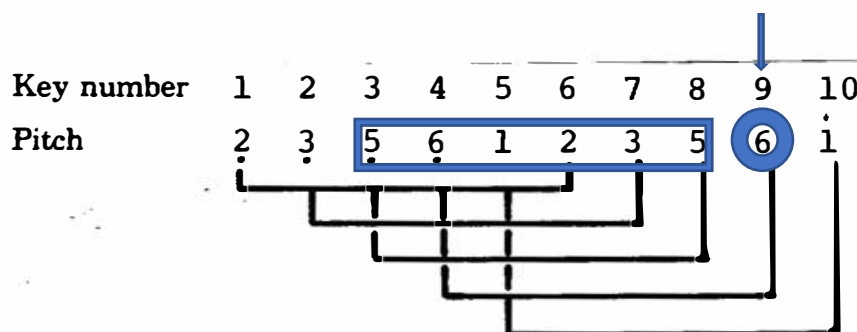
Pathet manyura	G2	D	G1	
	b	g	d	l n b

Poerbadiningrat 1987[1957]: 254-55. Translated by Stanley Hoffman.

Note: b, g, d, l, n -- these are abbreviation of the names of gamelan pitches: b, barang (pitch 1), g, gulu (pitch 2), d, dhâdhâ (pitch 3) l, limâ (pitch 5), and n, nem (pitch 6).

Growing up in the circle of royal family, Poerbatjaraka and his brother used to join the Surakarta court musicians to play gamelan. He remembered when he played rebab, he tuned the main string to tone Nem (6), a standard practice until recently. He speculated that Inu, in the story *Panji Semirang*, must have tuned the main rebab string in the same way he (Poerbatjaraka) did. Hence “dipatut” means that the main string of rebab is tuned to pitch Nem. Then he hypothesized the genesis of the name of one of the pathet: pathet Sângâ (Sângâ means nine).⁷ First, he proposed that the old *gendèr* has only 10 keys,⁸ from which five octaves can be established (see figure 1 below). He then speculated that the principal octave (the *ur* octave) must have been the central octave (5̣6̣1̣2̣3̣5̣). Now, since the main rebab string was tuned to pitch Nem (medium Nem), and the tone medium Nem was the ninth key of the old *gendèr*, he concluded that that is why the pathet was called pathet Sângâ, i.e., the pathet of the ninth key of the *gendèr*, which the main rebab string was tuned (fitted) to. Clever, isn’t he? As far as I know, he is the only person to explain the name of one of the pathet (Sângâ) the way he did.

Figure 1 Five octaves of the ten-keyed *gendèr*, and the rebab’s main string is tuned to the ninth-key of the the *gendèr*



What about the other pathet: pathet Nem and Manyurâ? Poerbatjaraka doesn’t have good explanation, except to say that for pathet Nem, the left string of the rebab is tuned to the sixth key

⁷ There are three pathet in sléndro gamelan: Pathet Nem, Sângâ, and Manyurâ. There has not been any good explanation why a pathet is called Nem (six), Sângâ (nine) and Manyurâ (peacock?).

⁸ This old ten-keyed sléndro *gendèr* was played especially for accompanying wayang performance. This is still true until now in Bali. And in Java, *gendèr* is the main instrument for accompanying wayang performance—the *gendèr* player does not play only on *gendhing*, but also accompanying song by the *dhalang* and *grimingan* (performing melodic passages to heighten the content of the scene).

(i.e., pitch 2) of the ten-keyed *gendèr*. For *pathet Manyurå*, he acknowledges that the meaning is even less clear.

In describing *pathet*, Poerbatjaraka also refers to other scholars' works, for example, to Jaap Kunst's work on the function of gong-tones to define *pathet*, as you can see his chart below. (He based his chart on his reading of Jaap Kunst's work.)

Figure 2

- [1.] Of 53 *gendhing* in *pathet nem*, most gong tones fall on the note *gulu* [2] (64.2 percent); 32 percent fall on *lima* [5]; and 61 percent fall on *nem* [6].
- [2.] Of 98 *gendhing* in *pathet sanga*, the gong tones of 51 percent fall on *barang* [1], and 84.7 percent fall on *lima* [5].
- [3.] Of 122 *gendhing* in *pathet manyura*, 41 percent fall on *gulu* [2], 33.6 percent on *dhadha* [3], and 59 percent on *nem* [6]

(Poerbatjaraka 1987[1957], 253. Translated by Stanley Hoffman)

Another fascinating hypothesis of Poerbatjaraka relates to the origin of *gendèr*. He suggested that *gendèr* must have derived from *Gandhara*, a region in India known as the center of art and culture in the context of Mahayana Buddhism. This Indian religious tradition was introduced to and adapted by people in Southeast Asia in the early centuries of Southeast Asian history (Ibid, 275). His linguistic perspective led him to propose that the name of the instrument *gendèr* was derived from *Gandhara*, by way of wordplay. He argued that (1) a number of words ending in the syllables *èk*, *èl*, *èt*, and *èr* originally ended in *ak*, *al*, *at*, and *ar* (e.g., *suwèk* – *suwak*; *dhèdèl* – *dhadhal*; *sèrèt* – *sarat*; *cèrèt* – *carat*); and (2) the final *a* of many Indian words has disappeared: *Singapura* – *Singapur*; *daca* – *das*. Therefore, *gendèr* must have derived from *gendara* (another spelling for *gandhara*) by way of *gendar*—which happens to be a word that means cracker—*karak gendar*, the shape of which is similar to the slab of the instrument *gendèr*. Purbatjaraka strengthens his argument by pointing out that (1) *gendara* in Javanese *wayang* refers to a land of the birthplace of Dewi Gendari (the mother of the Kurawa brothers in the *Mahabharata* story), and (2) in an Old Javanese story (*Wiratha Parwa*), the word *gandhara* means a musical instrument.

I hope readers find Poerbatjaraka's work fascinating and entertaining. His hypothesis makes sense from his linguistic point of view; but there is no way to confirm or deny its validity. More corroborating evidence is needed. In any event, his work is part of the landscape of the discourse of musical analysis which happened during the transitional period of the Javanese intellectual atmosphere, from a traditional modality to one influenced by 20th-century western intelligentsia. As a scholar specializing in Old Javanese literature, I learned a great deal from his close attention to the topic of Java-India literary encounters.

Martopangrawit

Now, I would like to turn to Bapak Martopangrawit (Pak Marto), who also lived during the transitional period. But, his intellectual foundation was shaped by his position as a professional musician.⁹ He grew up as the son and grandson of well-known court musicians, which led the way for him to become a court musician himself. Then, in the 1950s, he became a civil servant of the Republic of Indonesia, as an employee of the gamelan conservatory. Thus, his musical and intellectual development were shaped by ideological, cultural, and political transitions as Java/Indonesia changed from a traditional, feudal state to a Westernized democratic society—a change that bore the fruit of the founding of the gamelan conservatory and academy.

In the 1950s and 1960s, his work at the gamelan conservatory was not as a teacher of gamelan, but as a member of the research division, whose work was creating study material for gamelan and to engage in documentation and research with his colleagues, who were musicians and gamelan theorists. Occasionally members of the research division performed gamelan for public audiences and for special gamelan events, such as accompanying lectures given by gamelan theorists.

His position in the research division at the conservatory had prepared him for his next assignment. In 1965, the gamelan academy (ASKI) was founded. Pak Marto was appointed as a *dosen* (lecturer), teaching gamelan theory and gamelan performance. He was the only gamelan teacher who was also a gamelan theorist. From 1967 to 1977 he published seven monographs. Many of them are collections of notations (sometimes with some explanations), others are on the

⁹ Pak Marto's biography is based on my manuscript of "Learning to Play Gender," an essay which is now published in this book

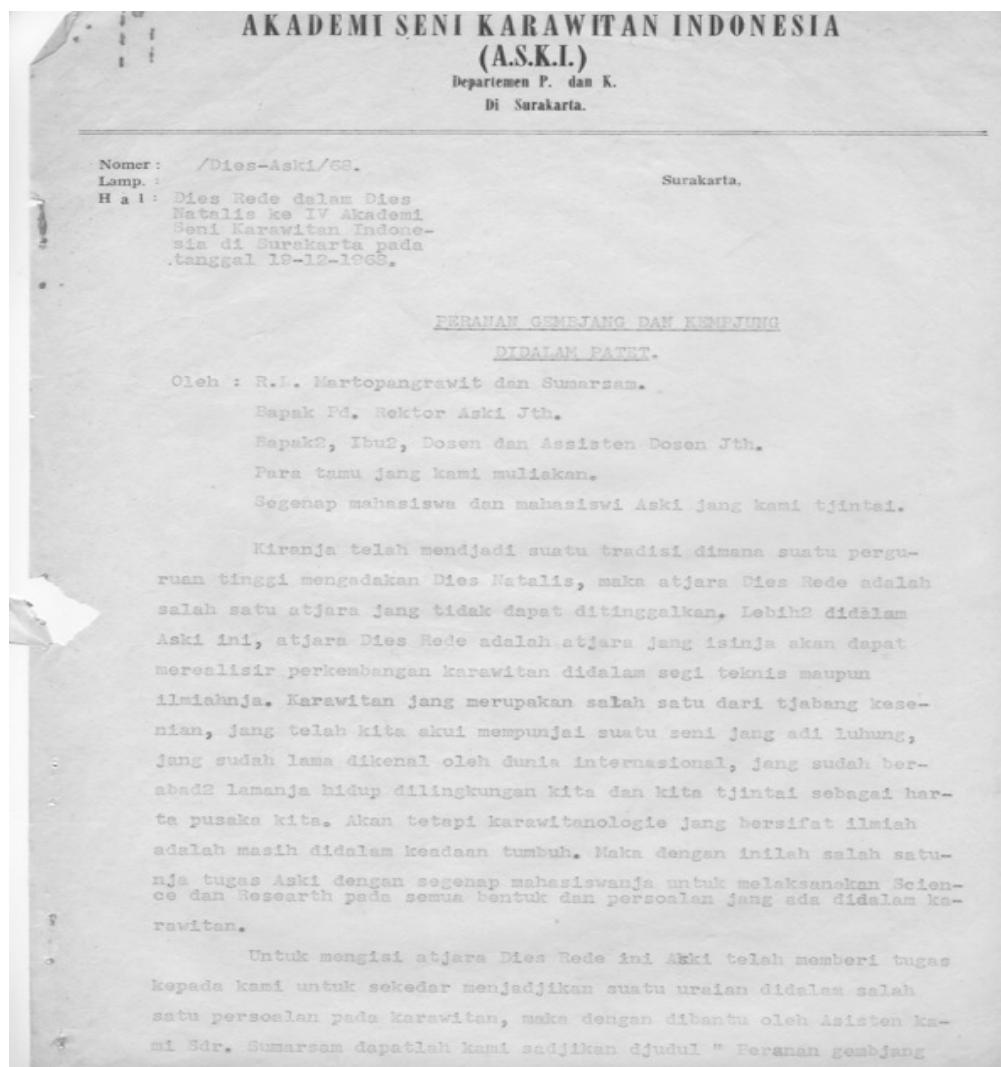
theory of gamelan.¹⁰ So, Pak Marto went through a number of transitional periods: from court musician, to member of a research division, to becoming a gamelan teacher and theorist. During his search for suitable gamelan pedagogy, I was Pak Marto's assistant.¹¹

One of the topics Pak Marto was interested in, which I considered one of the most important and original topics coming from his creative thought, was his analysis of *pathet* from the perspective of the function of *gendèr* in the ensemble. When, in 1968, ASKI asked him to deliver a commencement speech for the graduation ceremony of its first generation of students, he chose this topic for his speech. The title of his speech was “Peranan Gembyang dan Kempyung didalam Pathet” [The function of *gembyang* and *kempyung* in *pathet*]. He generously acknowledges me as his collaborator in writing his speech (see Figure 3 below). *Gembyang* means an octave interval; *kempyung* is usually defined as approximately a fifth interval—actually, it refers to any combination of two pitches in between two slabs of *gendèr*.

¹⁰ One of them, the two-volume monograph on gamelan theory, are known to many of us in its English translation (1986).

¹¹ I must mention that the reason for appointing students as assistant lecturers was not because they were exceptional students; but primarily because the academy was desperate to find more teachers, to teach the growing number of students enrolling in the academy.

Figure 3 The first page of the text of Pak Marto's speech



When I wrote my first book (Sumarsam 1995), I was very happy to find an old photo of Pak Marto delivering his speech as I played *gendèr* to provide examples (see figure 4 below). Notice, there is a diagram attached to the *gendèr*, also written on the blackboard (see Figure 6 below). The diagram shows how many *gembyang* and how many *kempyung* you can find in the *gendèr*. According to Pak Marto, the *gembyang* and *kempyung* as *sèlèh* (end tone) of *cèngkok* (melodic patterns) of *gendèr* playing differentiates one *pathet* from another.

Figure 4 The author played gender, providing illustrations for Pak Marto's speech in the 1968-ASKI graduation ceremony



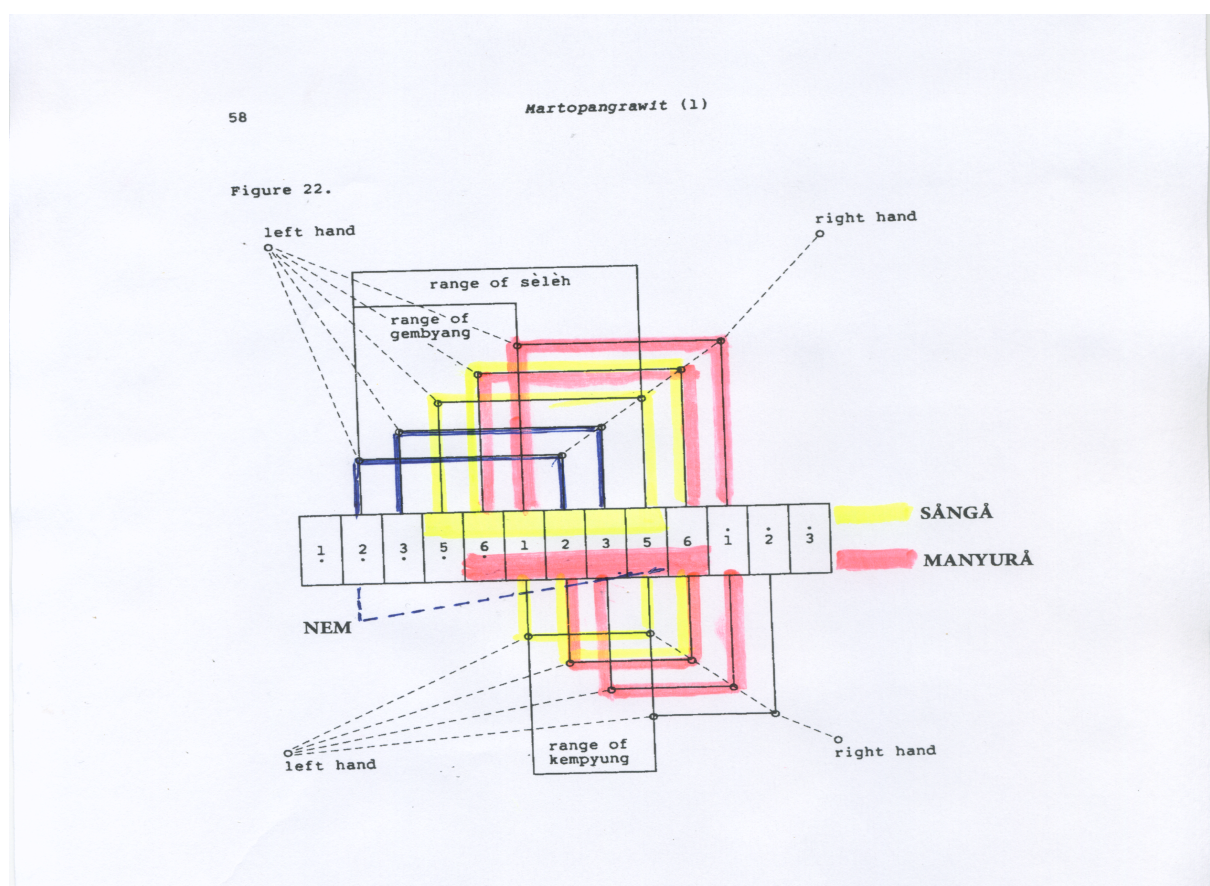
Now, I will discuss Pak Marto's analysis. First, he establishes the tonal hierarchies of each pathet. That is, each pathet designates a particular tone as *dong* or *nada dasar* (basic tone), which, if used as *sèlèh* (end-tone of a melodic pattern), gives the feeling of resolution. The next important tone after *dong* is lower kempyung, which also gives the feeling of resolution, but not as strong as the *dong* tone. Next, upper kempyung gives a weaker *sèlèh* tone. *Pelengkap* (supporter) tone is also a weaker *sèlèh* tone. Finally, *ding* is the weakest tone; it is never used as a *sèlèh* tone.

Figure 5 Tones hierarchy determining pathet (Martopangrawit 1984, 53)

pathet	lower kempyung	upper kempyung	dhing	dhong	pelengkap
pathet sanga	1	2	3	5	6
pathet nem	5	6	1	2	3
Pathet manyura	2	3	5	6	1

The reason for using *gendèr* to analyze *pathet* is because *gendèr* is the only instrument in the ensemble using both *gembyang* and *kempyung* intensively. The diagram attached to the *gendèr* in the photo shows the number of *gembyang* and *kempyung* available on the instrument. Within the range as defined by the tones used for ending the *cèngkok* (*sèlèh* tones), there are five *gembyang* and four *kempyung* (see the diagram below).

Figure 6 Yellow *Sàngå*; Red, *Manyurå*; Blue, *nem* – indicating certain *gembyang*- or *kempyung*-end-tone of *cèngkok* as one of the markers of *pathet* identification.



Certain *gembyang*-end-tone or *kempyung*-end-tone of *cèngkok* inform *pathet* of *gendhing*—see examples below (Figure 7).

Pangkur pathet Manyurå

3	2	3	1	3	2	1	$\widehat{6}$																							
$\dot{2}$	$\overline{.1\dot{2}}$	6	5	6	5	3	6	$\dot{1}$	6	$\overline{.56}$	5	6	$\dot{1}$	6	$\overline{.56}$	$\dot{1}$.	6	$\dot{1}$	6	6									
.	1	2	.	6	$\overline{126}$	5	3	.	3	6	5	$\overline{216}$	1	.	2	3	.	$\overline{212}$	2	2	$\overline{.16}$	5	3	.	5	.	6	6		
$\dot{1}$	6	3	~ 2	5	3	2	$\widehat{1}$																							
$\dot{1}$	$\dot{2}$	$\dot{1}$	$\overline{.6\dot{1}}$	$\dot{2}$	$\dot{1}$	$\dot{3}$.	$\dot{2}$.	$\dot{3}$.	$\dot{2}$	$\dot{1}$	6	5	6	5	.	5	6	5	3	6	5	6	3	6	5	6	$\dot{1}$
.	.	$\overline{.12}$	3	2	3	.	1	.	6	1	2	$\overline{321}$	2	.	.	$\overline{.61}$	2	1	2	.	$\overline{.65}$	3	.	6	$\overline{216}$	1	6			
3	5	3	~ 2	6	5	3	$\widehat{2}$																							
6	$\overline{.56}$	$\dot{1}$.	6	$\dot{1}$	6	$\dot{1}$	$\dot{2}$	$\dot{1}$	$\dot{3}$.	$\dot{2}$	$\dot{1}$	6	$\dot{1}$	$\dot{2}$	$\dot{1}$	$\overline{.6\dot{1}}$	$\dot{2}$	$\dot{1}$	$\dot{3}$.	$\dot{2}$.	$\dot{3}$.	$\dot{2}$	$\dot{1}$	6	
.	2	3	.	$\overline{212}$	2	2	$\overline{.16}$	5	3	.	5	.	6	.	.	$\overline{.12}$	3	2	3	.	1	.	6	1	2	$\overline{321}$	2	6		
5	3	2	~ 1	3	2	1	$\textcircled{6}$																							
5	6	5	.	5	6	5	3	6	$\overline{.56}$	3	6	5	6	$\dot{1}$	6	$\overline{.56}$	$\dot{1}$.	6	$\dot{1}$	6	5	3	5	$\dot{1}$.	6	$\dot{1}$	6	
.	.	$\overline{.61}$	2	1	2	.	$\overline{.65}$	3	.	6	$\overline{216}$	1	.	2	3	.	$\overline{212}$	2	2	$\overline{.16}$	5	3	.	5	.	6	6			

Figure 12 Ladrang *Sobrang* Pathet Nem, pathet analysis

1	6	5	3	2	3	5	6
5 3 5 1̣ . 6 5 3 2 1 2 5 . 3 5 3	5 3 5 .35 6 5 1̣ . 6 . 1̣ . 6 1̣ 6						
. 1 . 5 6 . 5 6 .53 5 . 323 3 3	. . .16 1 6 1 . 5 . 3 5 6 1 2 6						
Pathet nem							
1	6	5	3	2	3	5	6
5 3 5 1̣ . 6 5 3 2 1 2 5 . 3 5 3	5 3 5 .35 6 5 1̣ . 6 . 1̣ . 6 1̣ 6						
. 1 . 5 6 . 5 6 .53 5 . 323 3 3	. . .16 1 6 1 . 5 . 3 5 6 1 2 6						
1	6	5	3	2	3	5	6
5 3 5 1̣ . 6 5 3 2 1 2 5 . 3 5 3	5 3 5 .35 6 5 1̣ . 6 . 1̣ . 6 1̣ 6						
. 1 . 5 6 . 5 6 .53 5 . 323 3 3	. . .16 1 6 1 . 5 . 3 5 6 1 2 6						

Pathet nem

. 2 1 6	. . 5 6
. . i 6 2̣ i 2̣ 6 5 3 5 i . 6 i 6	. . 5 6 5 .35 6 5 3 5 i . 6 i 6
<hr/>	<hr/>
. . . 6̣12 2 2 . .16̣ 1 . 6̣56̣ 6̣ 6̣	. . . 2 .16̣ 6̣ . .16̣ 1 . 6̣56̣ 6̣ 6̣
i i 6 i	5 6 i 6
i . 6 .56̣ .56̣ i 2̣ i 6 2̣ . i i i	6 . 6 i . 6 i 2̣ 3̣ . 2̣ 3̣ . 2̣ i 6
<hr/>	<hr/>
. 1 . 3 .21̣ 1 . .21̣ 2 . 16̣1̣ 1 1	. 2 3 . 21̣2̣ 2 2 3 . 2 3 . 2 1 6̣
manyurā	
. . 6 .	6 6 5 6̂
. 3 5 .35̣ 3 5 6 2̣ .12̣ 6 2̣ .12̣ 6	5 3 5 i . 6 5 3 5 6 5 i . 6 i 6
<hr/>	<hr/>
. . .21̣ 6̣ 6̣ 6̣ . .56̣ 6̣ . .56̣ 6̣ .	.16̣ 1 . 6̣56̣ 6̣53̣ . 1 . 5̣ 6̣ 3̣ 5̣ 6̣
i i 6 i̇	6 5 2 3̂
i . 6 .56̣ .56̣ i 6 5 6 2̣ . i 2̣ i	2̣ i 3̣ 2̣ 6 5 3 2 5 6 i .6̣1̣ 6 5 3
<hr/>	<hr/>
. 1 . 3 .21̣ 1 . .21̣ 2 . 16̣1̣ 1 1	2̣ 123̣ 2 6 5 3 5 5 6 .1̣.6̣1̣ 6 5 3
. 3 5 i̇	i 6 5 3̂
5 3 5 .35̣ 6 5 i . 6 . i . 6 i 6	5 3 5 i . 6 i 6 5 3 2 5 . 3 5 3
<hr/>	<hr/>
. . .16̣ 1 5̣ 6̣ 3̣ . 5̣ 3̣ 5̣ 6̣ 3̣ 5̣ 6̣	. 1 . 5̣ 6̣ 3̣ 5̣ 6̣ .5̣3̣ 5̣ . 3̣23̣ 3̣ 3̣
2 1 6 i̇	1 2 1 6̂
5 .35̣ 6 . 5 6 5 3 2 3 6 . 5 6 5	i .6̣1̣ 5 i 2̣ i 6 5 3 5 i . 6 i 6
<hr/>	<hr/>
. 1 2 . 16̣1̣ 1 1 .6̣5̣ 3̣ 2̣ . 3̣ .5̣ . 6̣ 1 . 1 321̣ 2 .16̣ 1 . 5̣ 16̣5̣ 6̣	
Transition to sāṅgā then back to nem	

The function of *gembyang* and *kempyung* as one of the indicators of *pathet* goes beyond the realm of *gendèr*. It is also applicable to the way two punctuating instruments (i.e., instruments whose function is to delineate rhythmic structure of a composition), namely *kenong* and *kempul*, play their punctuating tones. That is, in the case where the melody of a piece is in the middle octave, when for example *kenong* and *kempul* should play tone 1 in a piece of *pathet Sanga*, they will play 5 (*kempyung* interval), instead of 1 (*gembyang* interval). In a composition in *pathet mayurā*, when a melodic phrase ends on pitch 2, *kenong* and *kempul* play 6 (*kempyung* interval).

This practice will make the sound of *gembyang* and *kempyung* produce a rich musical affect, especially in the case of older gamelan ensemble whose *kenong* and *kempul* is limited to only three tones: pitch 5, 6, and 1.

Conclusion

In conclusion, what do we learn from Poerbatjaraka and Pak Marto? Poerbatjaraka's interesting analysis gives us a hint that one can learn about *pathet* from passages from the Middle Javanese *kidung*. In addition, his mention of *gendèr* being derived from the Indian *Gandhara* reminds us of the intensive India-Java cultural interaction since the early centuries to the 14th century AD, especially in the realms of religion and literature. The appearance of passages of Indian music theory in a number of Sanskrit-based Old Javanese *kakawin* lead us to ponder the influence of Indian music on Javanese music at the time. Studies by Richard Widdess, Amrit Gomperts, and others have dealt with this topic.

Pak Marto's contribution to the discourse of *pathet*, which has been documented by himself and his disciples, informs us of the journey of a professional musician, from the era of traditional gamelan education to an educational system based on a Western modality, from aural to written tradition. The mixture of traditional learning and the idea of scientific study of music has brought about Pak Marto's hybrid theoretical perspective, sometimes resulting in an analysis which leans more towards traditional learning, but at other times leaning more towards the perspective of Western codification.

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Temporal and Density Flow in Javanese Gamelan

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PREFACE

Compared with theory of other musics such as Chinese and Indian music, gamelan theory has a short history. It began to emerge only in the late 19th century with the writing of Dutch scholars, such as the work of Groneman and Land (1890). The writing expanded in the early to mid-20th century with the work of both Dutch and Javanese scholars, such as Djakub and Wignyaremeksa (1913), Radèn Bagoes Soelardi (1918), Jaap Kunst (1973[1949]), Ki Hadjar Dewantara (1930), and Ki Sindusawarno (1955).

It is worth noting that some of the concepts developed by gamelan theorists are not used by musicians, or are used differently. In some cases theorists who were not gamelan practitioners, such as Sindusawarno (see below), had close relationships with musicians. There are also important differences in perspective between conservatory-trained musicians and those with traditional training, although nowadays traditional musicians intermingle closely with conservatory-trained musicians.

As a consequence of the burgeoning of ethnomusicology, in the mid-20th century gamelan theory was gaining momentum. Concurrently, more and more cross-cultural and interdisciplinary approaches to gamelan theory developed. For example, Judith Becker's work on the melodic structure of *gendhing* (gamelan composition) was inspired by the study of Albert Lord (1960) on Serbo-Croatian epics singing. Becker's research, in collaboration with Alton Becker (1979), draws on linguistics. For another example, Sutton (1993) asserts a parallel in musical processes between gamelan melody and Gregorian chant.

Also in the mid-20th century, there was a tendency for Western scholars to search for indigenous gamelan theory. The prevalence of a Western perspective in the production of gamelan theory ("outside looking in") might have been the reason for this trend. The most crucial aspect in indigenizing gamelan theory has been the search for the musicians' perspectives. Their perspectives were seen to represent "insider" or "emic" understanding of the music—"inside looking in."

In light of the above development, I suggest that the study of gamelan theory should not be only about "outside looking in," but also "inside looking in and out," or, better yet, "inside and outside looking in and out." In any event, this challenging emic-etic consideration should be part of the investigation of gamelan theory.

To a certain extent, Indian musical concepts have given impetus to the development of gamelan theory. We learn from history that Indonesian culture has long been heavily imbued with Buddhism and Hinduism, starting in the early centuries before the Islamization of Javanese people in the 15th century. Many aspects of Hinduism were synthesized into Indonesian culture. For example, stories from the Indian *Mahābhārata* and *Rāmāyaṇa* epics have been told in the Javanese shadow puppet show (*wayang*) until today. The hand gestures of Indian dancers, *mudras*, can still be found in Javanese dance, although they have lost their meaning. A few Javanese musical terms that can be traced back to Indian terms are still used in gamelan theory, for example *kekawin*, from *kawya* (poetry); *laya*, from *lay* (tempo); and *irama*, from *wirama* (pauses).

In spite of the significance of Indian cultural influence on Indonesia, Indian music has only marginally impacted gamelan and gamelan theory.¹² One of the Indian terms stands out, however, namely *irama*. The term became an important concept in gamelan rhythm, although its original meaning has been localized.

IRAMA AND RHYTHM

As Indonesia has long been exposed to Western music, Western musical terminology is not alien to many Indonesian gamelan theorists, although traditional gamelan musicians have only a limited or no understanding of them. Use of the term rhythm (Indonesian, *ritme*) is very limited. As Supanggah states in his recent book (2011, 104), the concept of rhythm is not too well-known in *karawitan* (the art of Javanese gamelan and vocal music). I must say, however, that his understanding of “rhythm” is rather ambiguous.¹³ In any event, he feels that *irama* encompasses everything about time and space in gamelan; hence the term *irama* represents the term rhythm as well.

¹² For a possible historical link between Indian music and gamelan during the *Nāṭyaśāstra*’s time, see Richard Widdess’s “*Sléndro* and *Pélog* in India” (1993).

¹³ It seems that to him a rhythm consists of repetitions and regular rhythmic patterns: “The concept of rhythm is not too well-known in *karawitan*, although when playing together or individually, each instrument uses fairly complex, even irregular, rhythms. Rhythm is a part of melody; this means that a melody is created because there is pitch and rhythm. Perhaps only the *bonang barung*, *bonang panerus*, and *siter* play repetitions of regular rhythmic patterns” (Supanggah 2011, 104).

Writing in the late 1950s, a theorist at the gamelan conservatory, Ki Sindusawarno,¹⁴ begins his discussion of *irama* by stating that

Nowadays, the word *irama* is commonly used to translate "rhythm." However, originally, the term used in karawitan is *wirama*, the meaning of which has never changed. The term *wirama* has its specific meaning. *Irama* in European music, in the sense of rhythm, has a different meaning. *Irama* also has another meaning in every day conversation (Sindusawarno 1955, 31-32).

Sindusawarno then uses the term *matra* (Indonesian) to indicate meter in music and literature. The Javanese term *gatra* is preferred when referring to a unit of four notes in gamelan composition; *matra* is used when discussing music generally. According to Sindusawarno, *matra* or *gatra* is the ordering of alternating moments perceived as light-heavy-light etc., or soft-loud-soft, etc. He then explains the meaning of *wirama*. Implying the same meaning as the Indian term, he defines *wirama* as pauses between the pulses, the absence of activity, or the moments of silence. This means that *wirama* refers to the length of pauses between the pulses during the movement of a *gatra*. In playing a *gendhing* (gamelan composition), the moment of silence between the pulses is filled with the forms of playing intended to fill in the pauses. Thus, *wirama* is a musical process in which certain instruments fill in the pauses in between the basic pulses.

Sindusawarno goes on to say that the determining factor to fill in the pauses is a change of the *laya* (tempo) of the piece. I should mention that although Indonesian gamelan theorists use the term *laya*, musicians don't use this term. *Laya* (from *lay*) is also an Indian term, usually referring to temporal flow. Clayton (2000, 75-92) points out however, that *lay* actually encompasses both temporal and density flow, similar to the concept of *irama* in gamelan. In any event, the tempo

¹⁴ Sindusawarno was a student at the Bandung Institute of Technology. He was also affiliated to the indigenous Javanese educational system (Taman Siswa). Moving to Solo, he became the head of the Central Department of Culture. He was one of the founders of the gamelan conservatory in Solo, which was founded in the 1950s. I don't know what literature he read about Indian musical culture, but occasionally his writing refers to Indian music and uses a few Indian musical terms. He read and spoke Dutch and English. Most likely he read Jaap Kunt's *Music in Java*. He befriended Mantle Hood, who did his research in the late 1950s and early 1960s. As a student at the conservatory taught by Sindusawarno for three years, I know that he was not a gamelan practitioner. It is important to mention, however, that his knowledge about gamelan came from his close relationship with musicians and gamelan teachers at the conservatory, mostly Javanese but also Balinese and Sundanese musicians.

itself is one of three different speeds (fast, medium, and slow), but the density of the pulses that fill in the pauses stays constant. Only when the density level of some instruments changes, can one say that a *wirama* has changed. In other words, two processes are working hand-in-hand in *wirama*: temporal flow (the duration of the successive pulses) in coordination with the changes in density level of certain instruments. Benamou (2010, 225) argues convincingly that *irama* is one of the most confusing concepts in Javanese gamelan, with no equivalent in Western music.

The closest analogy in Western music to a section of a *gendhing* played in multiple *irâmâs* might be a set of variations in different time signatures but with all variations having the same number of measures and a fairly constant eighth-note value, so that the variations would take varying amounts of time to perform. The *irâmâ*, in this case, would then correspond to the ratio between the density of the melodic figuration and the length of the measure (or, say, the harmonic rhythm). Imagine, for instance, a 2/2 variation with eighth-note figuration going to a 4/4 variation with sixteenth-note figuration: the “theme” would be twice as long in 4/4 as in 2/2, but the figuration would be going by at about the same speed in both.

In gamelan conversation and in subsequent writings on gamelan theory, the word *wirama* used by Sindusawarno is not common; instead, the term *irama* becomes the encompassing term for both temporal flow and density changes. In other words, within the context of a conversation, musicians will know whether one is talking about the change of temporal flow or the change of density level.

The change of temporal and density flow—the changes of pulses in relation to the basic beats—explains *irama* only on a technical or mechanical level of analysis; change in melodic aspects of the piece is actually more essential to the concept of *irama*.

IRAMA AND MELODY

As I mentioned earlier, Sindusawarno asserts in passing that *irama* in gamelan differs from rhythm in Western music. However, in the same work he also says that *irama* could have a sense of a Western rhythm, though he admits that it is difficult to explain. He illustrates this point by first

showing a lively song for accompanying a deer dance in a scene of the *Rāmāyaṇa* dance drama staged in front of the Prambanan temple (although he does not mention this source). This lively song is full of syncopated beats (see Example 7.1a below). He explains:

Some of the tones in this melody are low; others are high. Some are loud and some are soft....The tones are alternating in an orderly manner (*bergilir-ganti*), going up and down, coming and going. The tones move in the *matra*. Against the *matra*, some tones fall precisely on the beat, slip about the beat, going slightly ahead of, or behind the beat. There are moments when the tones crowd together in an orderly manner like stringbeans (*urut kacang*); there are times when they are dispersed. They move, they flow, they are alive, because of *irama* (Sindusawarno 1955, 39, as translated by Hatch in Becker 1987, 356 with a few modifications).

So to him rhythm is a lively, irregular phrasing, and unsteady pulses of the movement of tones against *matra* (meter). To prove his point, he eliminates the syncopated rhythms in the piece, resulting in only the skeletal melody of the song on steady pulses (Figure 7.1b). Then he asks his readers to compare them. He suggests that the second melody has lost its rhythm; hence, rhythm is a patterned configuration of beats conceived and perceived against meter.

It seems that this definition resonates with the definition of rhythm in a general sense of Western rhythm: rhythm is the pattern of movement in time, inextricably linked with meter and tempo. Furthermore, rhythm “is necessarily a part of the pitch and textural aspects of music, and one can speak of durational rhythm, accentual rhythm, textural rhythm, harmonic rhythm, melodic rhythm, or timbral rhythm, depending on which aspect is to the fore in any particular context” (Powers 1986, 701). I would say that one can discuss gamelan rhythm in terms of all of these, except harmonic rhythm.

| 6 6 | . 5 5 6 1 6 | . 0 1 2 1 | . 6 5 2 . (
 | 2 2 2 3 2 | . 6 . 5 1 2 6 | . 0 2 3 1 | . . 0
 | . 1 5 3 2 | . 6 . 5 1 2 6 | . . 5 6 1 2 |
 | . 3 5 2 3 2 2 1 | 6 1 2 1 6 | . 5 1 6 5 | . 0

Figure 7.1a A song for accompanying a deer dance: the original song.

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

Figure 7.1b A song for accompanying a deer dance: Sindusawarno's version of the melodic skeleton of the song.

Returning to gamelan, *irama* in the sense of the coordination of temporal flow and density adjustment brings about a processual dynamic of rhythmic and melodic interplay among the multiple layers of a gamelan ensemble. What follows is an elucidation of how *irama* works and in what ways it has an impact on the melodies and the ensemble's interplay.

There are four levels of *irama*: *tanggung*, *dadi*, *wilet*, and *rangkep* (see illustration for the density level of the elaborating instruments in relation to the pulses of the melodic skeleton).¹⁵ A transition from one *irama* to another is led by the drum. First, the drum leads the ensemble to gradually speed up or slow down the tempo. In the case of changing to a more expansive *irama*, when the elaborating instruments reach a point where playing their instruments is uncomfortably too slow, then they have to make an upward adjustment of their tempo, accompanied by expanding

¹⁵ Sindusawarno identifies one more *irama*: *irama lancar*, the ratio of which is one beat of elaborating instruments per one beat of the *balungan*. But this *irama* is only used in passing, for example the piece has to go through this *irama* briefly after the *gong* of the *buka* (introduction) and *suwuk gropak*, ending the piece in a fast speed. The only sustainable *irama lancar* is the playing a piece in the *lancaran* structure (eight pulses per *gongan*) in which the elaborating instruments play two beats per one beat of the *balungan*.

the number of pulses within the *gongan* structure of the piece. In essence, when an *irama* changes, the tempo returns back to the same tempo before the change, but the piece becomes more expansive since the *gongan* structure is expanded.

The change of *irama* has wider musical implications than the change of temporal and density flow alone. As Becker (1981) rightly pointed out, it allows a single piece to assume different lengths, different degrees of instrumental or vocal embellishment, different playing styles of some instruments, and therefore, a different mood. Here is where the identity of the melody of a *gendhing* becomes a moot question. Focusing on only one of the multiple-lines of gamelan composition, namely *balungan* (melodic skeleton), previous gamelan scholars paid less attention to this identity of melody of *gendhing* and the interactions between the instruments in the ensemble. Recent works have explored the interconnection and interplay of the instruments in this multi-layered ensemble (Sumarsam 1995, Sutton and Vetter 2006, Perlman 2004) and the melodic sources from which a *gendhing* is composed (Sumarsam 1995). Regarding the latter, my research leads me to conclude that the original identity of the melody of most *gendhing* resides in *irama dadi* or *wilet*.

It is beyond the scope of this essay to say more about this topic, but it is important to mention it, as we cannot ignore the aspects of melody in discussing *irama*. What is clear is that the interaction, interconnection, or interplay among the instruments is the heart of gamelan playing; hence, the execution of melody in coordination with *irama*. That is, a shift in one musical domain can both trigger idiomatic changes in instrumental performance style and produce a change in the entire ensemble's interplay. A shift in *irama* means a process of change in temporal and density flow, a transformative renewal, bringing about the change of the elaboration, the moods, and the identity of the melody.

In his article on "Temporal Transformation in Cross-Cultural Perspective," Tenzer (2011c, 170) refers to this temporal transformation as musical augmentation. He asserts that "The moment of augmentation is often a goal of the individual composition, while the clarity it confers is a goal of musical perception itself." According to him, in Bali, this musical augmentation attains a strong association with the sacred.

The moment of augmentation in Javanese gamelan, especially in a composition with an expansive structure, brings about a different kind of aural disposition. As Keeler (1987, 225) observes, "As one passes from *wirama* one to two to three to four, which is like shifting gears, the

strokes on the *saron* and *slenthem*, which play the skeletal line, become rarer. This permits the other ‘inner’ or embellishing instruments—the *gendèr*, *gambang*, *clempung*, and *rebab*, each of which has a highly distinctive tonal quality—plus the female singer (*pesindhen*), to superimpose increasingly long and complex variations.”

It is true that the augmentation in the more expansive *irama* brings about a greater aural richness, but less aural clarity (*ibid.*). However, to the musicians, this does not mean that the melody becomes less clear. Unlike in Balinese music as explained above by Tenzer, the expansive augmentation does not necessarily signify deeper spiritual experience. On the contrary, it could bring about lively, animated musical moods, such as in the augmentation that happens when a composition is performed in *irama wilet* and *rangkep*.

Now I would like to explain *irama* in the context of the interaction between instruments, especially the impact of drumming style in the ensemble’s play. Different styles of drumming affect the rhythmic and melodic configuration of other instruments. There are four drumming styles, each corresponding generically to the mood of a *gendhing* (or a section of it), the character of a dance, or the mood of a theatrical performance. These drumming styles consist of rhythmic patterns ranging from the repetition of a simple pattern with an underlying regular beat (*kendhang satunggal* and *kendhang kalih*) to elaborate patterns with an underlying regular but elusive beat (*kendhang ciblon* and *kendhang wayangan*). In playing a *gendhing* or in a medley presentation, two or more *kendhang* styles may be employed. For example, in playing the first section of *ladrang Pangkur*, *kendhang* plays a less elaborate configurative rhythmic pattern of the *kendhang kalih* style; *gendèr* plays in the *lomba* technique (See Figure 7.2a and b; Audio.7.1) and *bonang* plays *pipilan*—the player plays each pair of the notes in moderate tempo, anticipating and guiding the melodic skeleton (*balungan*). When the drum cues the ensemble to change to *irama wilet* (by guiding the ensemble to slow down, using the more lively *kendhang ciblon* style), the *gendèr* will change its playing from *lomba* to *rangkep* style; and the *bonang* playing changes from *pipilan* to *imbal* (interlocking) technique (Audio 7.2), an excerpt of *ladrang Pangkur*, from the introductory movement to *irama tanggung*, *dadi*, and *wilet*).

Listening guide I to [Audio 7.1](#)

Recording of *ladrang* PANGKUR *Sléndro Sângå*, focusing on the *gendèr*—see the earlier discussion and musical examples of this piece.

- 0:00 – 0:07 *Senggrèngan*, a brief melodic cue from the *rebab*, announcing the tuning system of the piece.
- 0:07 – 0:16 *Buka*, an introductory movement of the piece played on *rebab*. *Gendèr* and *kendhang* join in. At the end of the *buka*, on the stroke of the large *gong*, the other instruments join in.
- 0:17 – 0:25 The piece begins in *irama tanggung*. Immediately, the drum cues the ensemble to slow down gradually, moving toward *irama dadi* after the stroke of the first *kenong*. During the *irama* transition and in *irama dadi*, *gendèr* plays less elaborate rhythmic configurations in moderate tempo—*lomba* style; *kendhang* plays simple rhythmic patterns in a moderate tempo, using two drums—*kendhang kalih* style.
- 0:25 – 0:54 The piece stays in *irama dadi*. On the stroke of the third *kenong* the drum switches to an animated *ciblon* style.
- 0:54 – 1:13 The *ciblon* drumming signals the ensemble to slow down gradually, moving toward *irama dadi* on the *gong*. After the stroke of the *gong*, the piece enters *irama wilet*.
- 1:13 – 3:11 During the playing of *irama wilet*, *gendèr* plays lively and elaborate rhythmic configurations in fast tempo—*rangkep* style; *kendhang* plays animated rhythmic patterns in faster tempo—*kendhang ciblon*—based on the patterns that accompany lively movements of *gambyong* dance.
- 3:11 ----- If you continue listening to the piece past 3:11, you will hear another transition from *irama wilet* to *irama rangkep*, with a number of *andhegan* (a stop in the middle of the piece, which resumes again after a *pesindhèn* singer sings an interlude), back to *irama wilet* until the end of the piece.

Listening guide II ([Audio 7.2](#))

The same recording but focusing on the *bonang*.

- 0:00 – 0:07 *Senggrèngan*, a brief melodic cue from *rebab*, announcing the tuning system of the piece.
- 0:07 – 0:16 *Buka*, an introductory movement of the piece played by *rebab*. *Gendèr* and *kendhang* join in. At the end of the *buka*, on the stroke of the large *gong*, the other instruments join in—you can hear clearly both *bonang barung* (middle-range *bonang*) and *bonang panerus* (high-range *bonang*).
- 0:17 – 0:25 The piece begins in *irama tanggung*. Immediately, the drum cues the ensemble to slow down gradually, moving toward *irama dadi* after the stroke of the first *kenong*. During the *irama* transition and in *irama dadi*, *bonang* plays less elaborate rhythmic configurations in moderate tempo—*lomba* style (the player plays a pair of notes, anticipating and guiding the skeleton of the melody, *balungan*).
- 0:25 – 0:54 The piece stays in *irama dadi*. On the stroke of the third *kenong* the drum switches to an animated *ciblon* style.
- 0:54 – 1:13 The *ciblon* drumming signals the ensemble to slow down gradually, moving toward *irama dadi* on the *gong*. After the stroke of the *gong*, the piece enters *irama wilet*.
- 1:13 – 3:11 During the playing of *irama wilet*, two *bonang* play animated interlocking patterns (*imbal*), with lively rhythmic configurations performed at cadences.
- 3:11 ----- If you continue listening past 3:11, you will hear the piece making another transition from *irama wilet* to *irama rangkep*, with a number of *andhegan* (a stop in the middle of the piece, and resuming again after a *pesindhèn* singer sings an interlude), back to *irama wilet* until the end of the piece.

The fact that a single piece can be played in different *irama* implies the fluidity of its melodic identity. As I suggested earlier, the original melodic identity of most pieces resides in *irama dadi* and *irama wilet*. This means that the other *irama* have particular performative functions. In most cases, *irama tanggung* is a temporary *irama* used for particular purposes: (1) to make a transition from one section to another or from one piece to another; (2) to accompany a section of dance which requires lively drumming in a repeated short cyclic structure; and (3) to be applied to a section of a piece, such as the *sesegan* section in an instrumental piece *gendhing bonang*, a section that should be performed in loud-style playing as the conclusion of the piece.

Figure 7.2 b

balungan	.	2	.	1	.	6	.	5
gendèr right hand	.5..35.6	.3.5.6.5	.6.656.1	..6.6.65	.3.5.3.2	.3.5.3.2	..3.23.5	..6.6.65
gendèr left hand	..12.161	2.165.5.	.6.6.5.6	.1.2.16.	1.16561.	1.16561.	.3.3.2.3	.5.6.1.5
bonang barung	.6.2.6.2	.6.2.6.2	.6.2.6.2	.6.2.6.2	.6.2.6.2	.6.2.6.2	.5.6.1.2	.216.1.5
bonang panerus	1.3.1.3.	1.3.1.3.	1.3.1.3.	1.3.1.3.	1.3.1.3.	1.3.1.3.	5i56i6i2	22i656i5
kendhang	.p̣p̣°p̣kṭp̣	ṭp̣ḷ°p̣kṭp̣	.ḳp̣ṭp̣ḷḍp̣	ḷḅḍḅḍḅḅ	.°ḅḍḅḍ.	ḅ.p̣p̣ḷḅḍ.	ḅkṭḅ.ḅḷḳ	ḅ.p̣ṭp̣p̣.p̣

Figure 7.2 (a) Example of the melodies of elaborating instruments (*rebab*, *gendèr*, *bonang*) and *kendhang* (drum) in *irama dadi*. (b) Example of the melodies of elaborating instruments (*rebab*, *gendèr*, *bonang*) and *kendhang* (drum) in *irama wilet*: *gendèr rangkep*, *bonang imbal*, *kendhang ciblon*.

Key to Figure 7.2a and b: the strokes of the kendhang drum

ḅ = dhe	ṭ = tak	p̣ = thung	ḷ = lung	ḍ = dang
Ḷ = lang	ḅ = dhet	° = tong	ḳ = ket	. = rest

Believed to be the most recent invention, *irama rangkep* gives rise to the most lively melodies and moods. *Irama rangkep* does not transform a single pattern to become two patterns, however, but doubles the density level of the existing melodic patterns by repeating sections of a pattern and adding more whimsical melodic ornamentation. Since this *irama* does not change the melodic content of the piece—that is, the players of an elaborating instrument only whimsically repeat different sections of each pattern—*irama rangkep* might not be considered as an *irama*, but a “treatment” (Supanggah 2011, 295). In fact, any piece in whatever *irama* can be performed in *rangkep*. In any event, in *irama rangkep* the drum plays animated rhythmic patterns associated with dance movements, repeating and extending each pattern, and playing them in a faster tempo than that of *irama wilet*.

Other common practices which contribute to the lively moods of the performance of *irama rangkep* include the following: (1) *andhegan* (a stop in the middle of the piece, which resumes again after a *pesindhèn* singer sings an interlude); (2) highlighting certain evocative melodies or rhythms of elaborating instruments and singers, an occasional jocular pattern created by elaborating instruments and *kendhang*; and (3) male singers performing playful *senggakan* (stylized cries) while doing interlocking rhythmic claps.

To recapitulate: The rendering and shaping of melody and rhythm in gamelan music are determined by the changes in temporal and density flow. This makes gamelan rhythm distinctive from that of other music. On the face of it, according to Powers (1986, 724), the “Javanese concept of *irama* (temporal density) seems more complex than Hindustani *laya* (tempo) or European rhythm (patterned succession of attacks), not only because tempo is always coordinated with *irama*, but also because two layers of attack pattern are explicit, a primary sequence moving faster perceived against a secondary sequence moving slower. But in fact, both tempo (*laya*) and rhythm (in the sense of ‘a rhythm’) also imply at least two layers of motion even where only one is explicit.”

Powers also emphasizes the necessity of understanding rhythm as a part of the pitch and textural aspects of music; hence one can speak of durational rhythm, accentual rhythm, textural rhythm, harmonic rhythm, melodic rhythm, and timbral rhythm. I would say that durational and accentual rhythms are directly connected to the rendering of melody. That is, musicians can vary the duration and pulsation of the succession of notes to express a certain rhythmic play. In this regard, a gamelan theorist and composer, Supanggah, offers us a concept called *rampak-rempeg*.

Unity and synchrony (*rampak-rempeg*) is a concept which involves working together and togetherness but not sameness. In karawitan, when the musicians play together, they follow a horizontal line. All of them are moving or oriented toward a particular goal: the *sèlèh* or gong note, not paying much attention to the vertical line....Examples which shows a preference for "non -togetherness" can be seen in the clasing sound of a *sekatèn* performance, in a *suwuk* or ending, and in aesthetical terms or expression such as *nggandul* (playing late: for the gong, *kempul*, *kenong*, *sindhèn*, *gendèr*, *rebab*, and so on), *nungkak* (playing early or anticipating): for the

bedhug and rebab), mbanyu mili (like flowing water, foe the gambang), nyelå irama (offbeat, for the handclapping or kepok), and so on . . . (Supanggah 2011, 103).

Supanggah's elucidation parallels Feld's idea of "*simultaneously in-synchrony while out-of-phase*." By "in-synchrony," Feld means "that the overall feeling is of togetherness, of consistently cohesive part coordination in sonic motion and participatory experience. Yet the parts are also 'out-of-phase,' that is, at distinctly different and shifting points of the same cycle or phrase structure at any moment, with each of the parts continuously changing in degree of displacement from hypothetical unison" (Feld 1988, 82). Feld's descriptions suit well the overall processual dynamics of the multi-layered gamelan ensemble, a musical style which is in line with his characterization of the dynamic in Kaluli music that creates "nuances of *textural densification*—of attacks and final sounds; decays and fades; changes in intensity, depth, and presence; voice coloration and grain; interaction of patterned and random sounds; playful acceleration, lengthenings, shortenings; . . ." (ibid.).

As can be seen from the foregoing discussion, *irama* (in the sense of both temporal and density flow) guides the player in the overall rendering of melodies to impart the specific character of a *gendhing* or its different sections. Musicians know that a particular *irama* determines in what way a *gendhing* or section of a *gendhing* should be rhythmically and melodically treated. Supanggah (2011, 134) sees the importance of *irama*; so much so that he thinks of it as the "breath" of gamelan. Furthermore, aside from confirming the function of *kendhang* as the leader of *irama* (*pamurba irama*), he sees the steady and constant pulses of a composition, which are constantly present in the mind of a *kendhang* player (overtly or implied), to analogically represent the beats of human heart, the *keteg*.

IRAMA, A MACRO FORM

Earlier I mentioned Sindusawarno's point on perceiving *irama* as alternating patterns of tones and/or pulses. He also sees this alternating pattern in the natural world (for example, the occurrence of day and night, the rising and setting of the sun, the appearance and disappearance of the moon, etc.) and in human behavior (for example, sleeping and

walking [wakening], eating and excreting, etc.). This is all connected to a notion that all things have opposites and occur in alternation—that is dualism. He says that this is the rhythm of our life. Therefore, “the creations of man are also rhythmically ordered, for example, darkness and light in painting, movement and stillness in dance, loudness and softness in melody, fastness and slowness in pace,” etc.

It seems that Sindusawarno’s proposition of a macro-rhythm resonates with the meaning of rhythm in general. Hasty observes that rhythm is not limited to phenomena that exhibit periodicity. “We speak of the rhythm of a tickling clock, the rhythm of the seasons, and the rhythm of birth and death, ” but in addition “we can use the word rhythm to characterize phenomena in which periodicity is not apparent: a fluid gesture of the hand, a still life, the course of a narrative, the ‘shape’ of a musical phrase” (1997: 4). Hasty relates this second usage to aesthetic judgment. Sindusawarno explains the same phenomenon as follows: each time an alternation of elements happens, “there is certain to be a difference—perhaps in time, perhaps in form, perhaps in the environment, the atmosphere, or the condition” (357). It is in these “differences” that one of the keys to understanding rhythm lies.

In gamelan, musicians have known the melodic identity and character of the piece, its *gongan* structure, its *pathet* (modal classification), and the idiomatic vocabularies of each instrument and of singing that musicians apply to the piece. All of these are to be made audible and to be manifest in accordance to the kind of interrelationship and interaction between the instruments—the networking that evokes the ensemble’s play, which I mentioned earlier.

Two of the differences constituting the musical processes in gamelan are textural (thick and thin) and timbral (soft and loud) change. Now I would like to illustrate the rhythmic flow as a manifestation of this textural and timbral change by examining a process during which a *gendhing* is performed from the beginning to the end, from the introduction proceeding to different sections, or from one set of *gendhing* to another. With regard to the timbral change, the general practice is as follows: When the piece is performed in a fast temporal flow (say, in *irama tanggung*), the musicians play their instruments (especially the loud-sounding instruments) louder. When the piece is performed in a slower temporal flow, a softer sound of the loud-sounding instruments is required as the softer-sounding

instruments play a central role in the aesthetic. What follows is a description of a performance of the piece called *Jaladara*, from beginning to end). This performance is by musicians of the Institute of the Arts in Surakarta, directed by Rahayu Supanggah, recorded in a CD entitled *Mengenang Empu Karawitan Pasca Merdeka* (Commemorating Post-independence Masters of Karawitan). The piece was composed by the late R.L. Martopangrawit, one of the most prominent musicians, gamelan theorists and composers of Java (Audio 7.3).

Listening guide III ([Audio 7.3](#))

- I. The piece begins with the *rebab* playing a *senggrèngan* (0:00-0:06), a brief melodic cue, announcing to the musicians what will be the tuning system (in this case *pélog*) of the piece to be performed. Then the *rebab* plays *buka*, the introductory movement of the piece (0:06-0:34). Traditionally, this introduction is the only hint for the musicians to figure out what piece they are about to perform.
- II. In the middle of the introduction, the drum joins in with the strokes of low sound, *dhah* (0:27) and *thung* (0:30); and thereafter the drum initiates a steady pulse. At this moment, the *gendèr* joins in (0:29). As the introduction is about to conclude, the rhythmic play of the whole ensemble begins: the large *gong* is struck with a slight delay from its beat, and the other instruments play the *gong*-tone slightly after the stroke of the *gong* (0:35). This kind of rhythmic play is a standard practice for any piece composed in a longer structure (with 64, 128, or 256 pulses per *gongan*). In the intro, we also notice a textural change: the melody of the solo *rebab* is then joined by the *kendhang* and *gendèr*. The thick textural disposition happens on the stroke of the *gong* when all instruments play simultaneously with their *gong*-tone. The *senggrèngan* and the first half of the introduction is in free rhythm. Then the drum sets the steady pulses of the introduction, a precursor to the pulsation of the piece; this happens in *irama tanggung*, a transitional *irama*.
- III. After the *gong*-intro, the drum cues the ensemble to gradually slow down. At a certain point, after about $\frac{3}{4}$ of the first *kenongan* (one *kenong* phrase = 32 beats), the *irama* changes to *irama dadi* (*dadi* means "settled in"). This is the *irama* of the rest of the first section (*Mérong*) of the piece, before the drum cues the ensemble

for a transition to the second section (*Inggah*). During the *Mérong*, every time the *kenong* stroke is about to arrive, the ensemble slows down slightly and the *kenong* plays with a slight delay (2:18; 3:28; 5:52; 7:04). When the piece approaches the *gong*, on and after the *gong* stroke (4:34-4:41), the same kind of rhythmic play happens as when the ensemble approaches the *gong*-intro which I mentioned earlier.

- IV. The entire *Mérong* section is repeated. In about one *gatra* after the second *kenong* (7:14) the drummer cues the ensemble to accelerate gradually, a signal for the ensemble to make a transition to the *Inggah*. When the piece reaches a little after the first half of the third *kenong* (7:41), *irama dadi* changes to *irama tanggung*. The piece moves to *Ompak*, a transitional section (7:48). As the piece approaches the *gong* (beginning at 8:08), it slows down and changes to *irama dadi* on the *gong* (8:21).
- V. In the *Inggah*, each stroke of the *kenong* is always slightly delayed, but the ensemble does not slow down as much as in the *Mérong*. When the piece approaches the second *kenong* (11:18), the drum cues the ensemble to slightly speed up, keeping the piece in a moderate tempo. As the piece reaches the middle of the third *kenongan* (15:04), the drum once more cues the ensemble to slightly speed up. The drum-cues them to speed up again before the *kenong* (15:18). The piece continues in this moderate tempo, but gradually speeds up. Three *gatra* before the *gong* (15:50), the piece changes to *irama tanggung*. After the *gong* (16:01), all soft-sounding instruments (*rebeb*, *gendèr*, *gambang*, and *suling*) drop out. After the gradual speed up occurs, the ensemble gradually changes to louder sonic presentation. After the *gong*, the piece is in the fast and loud style of playing—the *sesegan*. Here the interlocking of *demung*, which started earlier, becomes prominent. In the meantime, the *slenthem* changes from playing a regular *balungan* to a form of abstraction of the *balungan*—it plays on every other beat.
- VI. The *sesegan* is the climax of the piece. It is a treatment of the *Inggah*, in which the musicians are playing from moderately bright (16:01-17:00) to extremely loud (17:18-18:58) as this section goes through different tempos. The intense, percussive sound of the bronze becomes the focus of the enjoyment.

- VII. At a certain point in the *Inggah*, when the piece approaches the third *kenong* (i.e., in the middle of that *kenongan*), the drummer cues the ensemble to slow down (19:56)—a signal for *suwuk*, ending the piece. The ensemble responds by playing the loud-sounding instruments softer—the timbral change. As the tempo slows down more, on the stroke of the *kenong* all soft-sounding instruments resume. Toward the end of the piece, the tempo continues to slow down gradually. The final *gong* (19:51) is struck on an extremely delayed beat, followed by the stroke of the *gong*-tone by all of the instruments in the ensemble (19:52).
- VIII. As a postlude, a free rhythmic and non-metric *pathetan* is played by a small ensemble of *rebab*, *gendèr*, *gambang*, and *suling* (19:56-22:28)—a textural and timbral change from large ensemble to small ensemble.

The changes of *irama* can be seen as a rhythmic flow of the composition from the beginning to the end; metaphorically it is like the rhythm of life. All sorts of rhythmic configurations come to the fore as the drummer changes the *irama* of the piece.

CONCLUSION

Musical time exhibits two complementary aspects. One is periodicity, regularity, and recurrence, corresponds to the domain of metre, and gives rise to the concept of cyclicity. The other is gestural, figural, and (in principle) unpredictable and relates to the domain of rhyth (Clayton 2000, 23).

Ethnomusicologists have noted the importance of the cyclic recurrence of the melodic/temporal unit, the colotomic structure in gamelan composition (*gongan*). The assumption is that the gamelan system always consists of multiple cycles operating simultaneously. When the cycle and subcycles are coinciding, meaning and power are

created (Becker 1979).¹⁶ Another side of the system is a process of interaction or networking of different instruments in the ensemble, resulting in the gestural, figural, and unpredictable transformation that Clayton refers to. *Irama* is a concept that concerns regulating the working process of this binary system, hence the life of the music in continuing transformation of its rhythmic and melodic configurations. In other words, the *gongan* structural system and the networking of various instruments are working in tandem; one provides a subjective or formal reality, the other is the domain of immanence, existential, or practical.

The change of *irama* is the change of density and temporal flow. But most significantly, as I mentioned earlier (quoting Becker 1981), the change of *irama* allows a single piece to assume different lengths and different degrees of instrumental or vocal embellishment. As it usually requires different playing styles for some instruments, it affects melodic and rhythmic content, and thus effects changes in mood. Thus, a shift in one musical domain can both trigger idiomatic changes in instrumental performance style and produce a change in the entire ensemble's interplay. This is a musical process that relies on, in the words of Supanggah, "the importance of dialogue."

The notion of musical dialogue is so deeply engrained in the gamelan system that even the large *gong*—the instrument whose function is limited to marking the end of *gongan* structure—also participates in this dialogue as the *gong* is struck with a slight delay from the beat of the piece. The point of coincidence in gamelan is not only to mark the flow of time toward the point of stasis and stability, but also to tell the listeners the moods of that coincidence as shaped by the playfulness of temporal and melodic treatment surrounding the *gong*. In essence, the cyclic motion in gamelan is not really an absolute "steady state" without any sense of linearity.

This is not to deny that cyclic structure pervades gamelan music, but the music often consists of a series of recurrent cycles. As one cycle move to another, with the alteration of *irama* as well as timbral and textural change, the listeners perceive a sense of

¹⁶ Contextualizing gamelan in this teleological domain is a thought-provoking and very persuasive argument: human actions are inherent in the rest of nature; the coincidence in the gamelan musical processes parallels the coincidence of two or more different days of Javanese calendrical systems. As I explain below, complementing this notion is a notion that human actions bring about interaction or social networking. In music, this is manifested in the interaction of different parts in the ensemble.

linear motion, as our listening to *gendhing Jaladara* indicates. The sense of linearity in experiencing time is revealed as the instruments are interacting with each other, following the alteration of *irama*, textural and timbral changes, and fashioning the instruments' rhythmic configuration.

Perhaps any musical system allows for both linear and recursive or cyclical experience. It is in the degree of linearity or recursiveness that one system differs from another. In gamelan, the cyclic structure maintains its function as a subjective or formal reality of the music. But as the music passes through a series of recurrent cycles and changing *irama*, bringing about variegated transformation of melodic and rhythmic configurations, the cyclic structure is only conceived as background.

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Learning to Play, Reviewing to Teach Gendèr

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ASKI AND BAPAK MARTOPANGRAWIT: IN SEARCH OF PEDAGOGY

During a transitional state, one must go through feelings of anxiety and ambivalence. But there is also excitement for the opportunity to experience and incorporate new elements in one's life. I was an 18-year-old boy from a small village in East Java when I moved to Surakarta in Central Java, pursuing my study of gamelan at the conservatory. Surakarta (also known as Solo) is a city known as the center of Javanese culture; it is one of the court-capital cities in Java. For a village boy, city life was exciting. Playing the large gamelan ensemble made of bronze instead of the iron gamelan commonly found in my village was amazing. The change of pedagogy in learning music also marked this transition: from orally informal learning music to learning with notation, learning the bowed-string instrument rebab for the first time (since gamelan in my village does not have one), and playing the drum by placing the large drumhead facing to your left (instead of to your right.)

A transitional state and incorporating new elements in one's life was also an experience my teacher Raden Lurah Martopangrawit (Pak Marto, born in 1914, died in 1986) had to go through. Although his transition was in a different context and more significant than mine. He grew up as a son and grandson of well-known court musicians. Then he became a civil servant of the Republic of Indonesia, assigned to be part of the teaching staff at the gamelan conservatory. In other words, his experience was within the scheme of larger ideological, cultural, and political transition as Java/Indonesia moved from a traditional, feudal state to a modern democratic society.

This broader socio-political and cultural transformation was the catalyst for Pak Marto's transition, from his role as an accomplished court musician to his position as a gamelan teacher, theorist, and researcher in the state's sponsored gamelan conservatory. In the late 1950s to 1960s, his assignment at the conservatory was not so much teaching gamelan, but to work as a member of the "staff" division, who were employed to carry out collaborative research and write notation of gamelan and song repertoires. Pak Marto's note-worthy colleagues included musicians (Pak Mloyowidodo, Pak Joyomloyo, and Pak Sukanto Sastrodarsono); and gamelan theorists Ki Sindusawarno and Pak Wiranto. Occasionally, members of the staff division performed gamelan for public audience, for a special gamelan event, or to accompany lectures by gamelan theorists at the conservatory.

According to my observation, being a member of the staff division at the conservatory had prepared Pak Marto for his next assignment. In 1965 the gamelan academy (ASKI) was opened. I was one of the first students. Pak Marto was appointed as *dosen* (lecturer), teaching gamelan theory, gamelan performance, and individual lessons for lead instruments. He was the only gamelan teacher to become a gamelan theorist in a significant way. From 1967 to 1977 he published seven monographs. Most of them are collections of notations for *kendhang*, *gendèr*, and the songs of *santiswaran* (a frame drum ensemble associated with Islamic music). But some of his works are on gamelan theory. One of them, the two-volume monograph on gamelan theory, is known to many of us in its English translation (Becker 1984).

So, Pak Marto had gone through another important and significant transitional experience, from researcher and member of the staff division to becoming a lecturer and gamelan teacher and theorist. Was he ready for the challenge? He was, and he worked tirelessly. It was on him, by himself, to search for suitable methodology to transmit his knowledge of gamelan to his students. He had a lot to consider, to carry out the new assignment. How should one teach gamelan theory? What pieces should be taught in this academic level? How should one codify *gendèr* patterns and teach *gendèr*? These were among pertinent questions that he had to answer.

During his search for suitable pedagogy, a young, second-year student at ASKI (the author of this essay) was assigned to be Pak Marto's assistant (*asisten dosen*). I was not the only student being appointed as *asisten dosen*; there are others. The reason for this appointment was a matter of convenience: because of the desperate need of the academy to have more teachers teaching the first-year students, some ASKI students who also taught gamelan at the conservatory were appointed as lecturer assistants. This means that I had three positions. I taught gamelan at the conservatory in the morning; in the afternoon, I was a student of ASKI; and I also worked as Pak Marto's assistant.

Certainly, it was a privilege for me to be Pak Marto's assistant. Aside from taking his class on theory of gamelan, I often had discussions with him outside of class time. One of the topics of the discussion was *gendèr* playing, especially revolving around two topics: (1) the function of *gendèr* in defining *pathet* (modal classification) of *gendhing* (composition) and (2) the naming of *gendèr* melodic patterns (*cèngkok*).

On the first topic, Pak Marto was very interested in looking at the function of *gembyang* (octave interval) and *kempyung* (“fifth” interval) in the *gendèr* playing. He was of an opinion that *gembyang* and *kempyung* as an ending dyad of *gendèr* pattern strengthens the identification of *pathet* of a *gendhing*. In 1968, when the academy asked him to deliver a commencement speech for the first graduation of ASKI students, he chose this *pathet-in-gendèr* topic for his speech. I typed his speech based on the discussion I had with him. On the second topic, which I benefited a lot from my discussion with Pak Marto, is on an idea of the names of and naming *gendèr* patterns. Because of this discussion, I published a simple, thin monograph on *gendèr* playing (Sumarsam 1971).

Upon closer examination of Pak Marto’s idea of teaching *gendèr* and his monumental work on the codification of *gendèr* patterns (Martopangrawit 1973), I concluded that the transition from individual to institutional concerns (which I have alluded to earlier) influenced his pedagogical trajectory. The transitional state had caused feelings of excitement in encountering new and challenging tasks, but also ambivalence or ambiguity. This is what I observed in both Pak Marto’s and my own search for suitable pedagogy through analytical and notational means of teaching music, the music which traditionally was transmitted orally.

This ambiguity arose because of a tension between his search for the rules of *gendèr* playing and the actual teaching of *gendèr* itself. Perhaps Pak Marto’s understanding of the scientific study of music (*studi secara ilmiah*) led to his pedagogical search for new rules; hence bringing about the creation of his monumental work, especially in his two-volume book (Martopangrawit 1973 & 1975) of codified massive *gendèr* patterns and complex rules on how to put together the sequence of patterns to play *gendèr*, to guide student to play *gendèr* for an entire piece. However, his notations of *gendèr* melodies are not for *gendèr* playing in performance style. Instead, Pak Marto’s and other teachers’ notation of *gendèr* are for teaching a simplified version of *gendèr* melodies. One might describe this simplified *gendèr* pattern as “square playing” since rhythmic syncopations are absent. Later, I will give examples of these simplified *gendèr* patterns.

MY EXPERIENCE LEARNING & TEACHING GENDÈR

The late 1970s were a turning point for my intellectual development. After six years of residency at Wesleyan University, as I began to have a better grasp of English, I wrote more and more on gamelan and *wayang* puppet plays, with a lot of help from my students and colleagues. This manuscript on “Learning to Play Gendèr” is one example.

I started learning to play gendèr when I was a student at the gamelan conservatory in Solo in the early 1960s. Though I played gamelan since my childhood in the small village of Dander (my birthplace), in East Java, gendèr was absent from the village gamelan set. If there was one, no one could play it. This manuscript is my reflection on learning gendèr from scratch, from my perspectives as a teacher and player of gamelan at the gamelan conservatory and academy in Solo, and at Wesleyan. Pak Marto was prominent in my thinking while writing this manuscript since he played an important role in introducing new ways to learn to play gendèr; and I was not only his student, but also his teaching assistant.

How did I learn gendèr? How did my teachers use cèngkok (gendèr melodic patterns) to teach? What was the genesis of the names of gendèr melodic patterns? How can a student become a good gendèr player? These are among the questions I had in mind when writing this manuscript. Despite how cognitively useful it is to refer to cèngkok melodic patterns), listening to a lot of gamelan and playing in the ensemble is what makes a successful gendèr player. I hope thatt the technical guide to learning gendèr and the notation of gendèr for number of gendhing in this manuscript will help anyone learning gendèr. And that readers understand my teacher’s and my own work to search for better pedagogy to explain gendèr playing in the context of the ensemble.

I have had this manuscript for decades. Due to other commitments in my research and writing, I never publish it, except a short version of it that appeared in the British gamelan newsletter *Seleh Notes*. I also introduced this manuscript to the gamelan circle during my presentation, in the summer of 2020, through the online “Gamelan Master Guest Lecture Series,” sponsored by the Buffalo Nusantara Arts gamelan group.¹⁷

¹⁷ Readers can watch the video of the lecture through this link:
<https://www.youtube.com/watch?v=hkqRea6UIbE>

Review

I would like to begin by reviewing methods of teaching *gendèr* at the gamelan conservatory (KOKAR, now SMKN) and gamelan academy (ASKI, now ISI). Traditionally, when someone wanted to become a *gendèr* player, he would have to spend much time listening to and observing *gendèr* playing. While listening, he would observe how *gendèr* players hold the mallets and how the keys are dampened. He might already know how to play other instruments, e.g., *saron*, *gong*, *kempul*, *kenong*, *kethuk-kempyang*, or *bonang*. Therefore, his observation of *gendèr* playing would be done mostly while he was simultaneously playing another instrument. Sometimes he might also listen to the *gendèr* playing in gamelan concerts.

Eventually, when this future *gendèr* player felt ready to try to play *gendèr*, most likely for a short composition, he would try to play as much as he could, or as much as he could remember to approximate what he had heard and observed. If in some sections of a composition he really did not know what to do, he might try to reconstruct the part as well as he could. An experienced *gendèr* player might correct him if he made mistakes or did not know the *gendèr* part of a section of a composition. The experienced player would correct him by singing the vocal melody of the phrase which the inexperienced player could not figure out. These vocal parts usually have exciting melodies and are given attractive names such as *ayu kuning* (“pretty yellow,” meaning a pretty, light-skinned girl), *jarit kawung* (batik shirt of kawung design), and others (see below).

However, not all phrases used in *gendèr* playing have vocal melodies related to them, nor does every *gendèr* pattern have a name. Thus, the experienced *gendèr* player cannot always help the inexperienced one: he can do so only if the phrase which is troubling the inexperienced player can be sung or has a name. Even this guidance is given only casually. Therefore, the success of the future *gendèr* player will depend on his independent study. In addition, his experience in playing other instruments will help him to understand the relationship between the *gendèr* and the rest of the ensemble. Gradually, he would feel that the melodies of other instruments in the ensemble often guide his *gendèr* playing or remind him of the proper *gendèr* patterns.

When gamelan schools were instituted in the middle of the twentieth century, the gamelan teachers were asked by the schools to create a new method of teaching appropriate

to a classroom setting. As a result, in learning *gendèr*, the students in these schools are taught to play the piece by breaking it down phrase by phrase (*cèngkok* by *cèngkok*). This method is very reasonable considering the difficulty of *gendèr* technique in which the player must coordinate the two hands, each playing independent but related melodies, and each dampening the keys. Consequently, a new way toward the method of teaching *gendèr* has developed—one where the *gendèr*'s melodic patterns are classified.

The Rumus System

R.M. Pandji Soetopinilih is considered by many the first to start teaching *gendèr* by breaking down the *gendèr* part *cèngkok* by *cèngkok*. He called his teaching method the *rumus* system. The word *rumus* is not musical term and is not Javanese but an Indonesian word for an algebraic formula. Below is an explanation of how the *rumus* system works.

First, in consideration of the complexity of *gendèr* melodies, the *rumus* system viewed simplification as necessary, so that the melodies can be easily learned by the beginning student. The rhythmic movement was first simplified by eliminating syncopation. This obviously leads to melodic simplification as well.

Furthermore, each melodic pattern is identified with letter S, L, T, M, N, G, or P, which has been taken either from the Javanese name of the ending note (*sèlèh*) of the pattern or from the name of the pattern itself. S = *Siji* = one, a pattern ending on pitch 1; L = *Loro* = 2; T = *Telu* = 3; M = *Limā* = 5 (M is used instead of L to avoid confusion with L = *Loro*); N = *Nem* = 6; G = *Gantungan* = 'hanging', a sustained note; P = *Puthut gelut*, a special pattern in which the player's two hands, each holding a mallet, move close to each other like *puthut* (disciples in wayang story) *gelut* (fighting or running at each other).

An example of the traditional performance style of *gendèr* melodies; excerpt from Ladrang *Wilujeng Sléndro Manyurå*:

$\begin{array}{c} \dot{2} \ \overline{\dot{1}\dot{2}} \ 6 \ \dot{2} \ \dot{3} \ \dot{2} \ \dot{1} \ 5 \ . \ \dot{1} \ . \ 6 \ \overline{\dot{5}6} \ \dot{1} \\ \hline \cdot \ 1 \ 2 \ . \ \underset{\cdot}{6} \ \overline{21\underset{\cdot}{6}} \ 1 \ . \ 3 \ . \ 1 \ . \ 2 \ . \ 3 \end{array}$	$\begin{array}{c} 6 \ 5 \ 6 \ \overline{\dot{5}} \ 6 \ 5 \ 6 \ \dot{1} \ . \ 6 \ . \ \dot{1} \ . \ 6 \ \dot{1} \ 6 \\ \hline \cdot \ . \ \overline{\dot{2}1} \ \underset{\cdot}{6} \ \overline{21\underset{\cdot}{6}} \ 1 \ \underset{\cdot}{5} \ . \ \underset{\cdot}{3} \ \underset{\cdot}{5} \ \underset{\cdot}{6} \ \underset{\cdot}{3} \ \underset{\cdot}{5} \ \underset{\cdot}{6} \end{array}$
$\begin{array}{c} 5 \ \dot{1} \ 5 \ 3 \ 6 \ \overline{\dot{5}6} \ \dot{1} \ 5 \ 6 \ 5 \ \dot{1} \ . \ 6 \ \dot{1} \ 6 \\ \hline \underset{\cdot}{3} \ \underset{\cdot}{3} \ \underset{\cdot}{3} \ . \ . \ 1 \ 2 \ 3 \ . \ 1 \ . \ \underset{\cdot}{5} \ \underset{\cdot}{6} \ \underset{\cdot}{3} \ \underset{\cdot}{5} \ \underset{\cdot}{6} \end{array}$	$\begin{array}{c} \dot{1} \ \dot{2} \ \dot{1} \ \overline{\dot{6}} \ \dot{1} \ \dot{2} \ \dot{1} \ \dot{3} \ . \ \dot{2} \ . \ \dot{3} \ . \ \dot{2} \ \dot{1} \ 6 \\ \hline \cdot \ . \ \overline{\dot{1}2} \ 3 \ 2 \ 3 \ . \ 1 \ . \ \underset{\cdot}{6} \ 1 \ 2 \ \overline{321} \ 2 \end{array}$
$\begin{array}{c} \dot{2} \ \overline{\dot{1}\dot{2}} \ 6 \ \dot{2} \ \dot{3} \ \dot{2} \ 6 \ \dot{2} \ \dot{1} \ \overline{\dot{2}\dot{1}} \ \dot{2} \ \dot{3} \ \dot{2} \ \dot{1} \\ \hline \cdot \ 1 \ \underset{\cdot}{6} \ . \ 2 \ 3 \ 5 \ . \ . \ . \ \overline{\dot{6}5} \ 3 \ \overline{532} \ 3 \end{array}$	$\begin{array}{c} 6 \ 5 \ 6 \ \overline{\dot{5}} \ 6 \ 5 \ 6 \ \dot{1} \ . \ 6 \ . \ \dot{1} \ . \ 6 \ \dot{1} \ 6 \\ \hline \cdot \ . \ \overline{\dot{2}1} \ \underset{\cdot}{6} \ \overline{21\underset{\cdot}{6}} \ 1 \ \underset{\cdot}{5} \ . \ \underset{\cdot}{3} \ \underset{\cdot}{5} \ \underset{\cdot}{6} \ \underset{\cdot}{3} \ \underset{\cdot}{5} \ \underset{\cdot}{6} \end{array}$
$\begin{array}{c} \dot{2} \ \overline{\dot{1}\dot{2}} \ 6 \ \dot{2} \ \dot{3} \ \dot{2} \ \dot{1} \ 5 \ . \ \dot{1} \ . \ 6 \ \overline{\dot{5}6} \ \dot{1} \\ \hline \cdot \ 1 \ 2 \ . \ \underset{\cdot}{6} \ \overline{21\underset{\cdot}{6}} \ 1 \ . \ 3 \ . \ 1 \ . \ 2 \ . \ 3 \end{array}$	$\begin{array}{c} 6 \ 5 \ 6 \ \overline{\dot{5}} \ 6 \ 5 \ 6 \ \dot{1} \ . \ 6 \ . \ \dot{1} \ . \ 6 \ \dot{1} \ 6 \\ \hline \cdot \ . \ \overline{\dot{2}1} \ \underset{\cdot}{6} \ \overline{21\underset{\cdot}{6}} \ 1 \ \underset{\cdot}{5} \ . \ \underset{\cdot}{3} \ \underset{\cdot}{5} \ \underset{\cdot}{6} \ \underset{\cdot}{3} \ \underset{\cdot}{5} \ \underset{\cdot}{6} \end{array}$

An example of the simplified system of *gendèr* melodies, used for teaching in the rumus system; excerpt from Ladrang *Wilujeng*, Sléndro Manyurå:

$\begin{array}{c} \dot{2} \ \dot{1} \ \dot{2} \ 6 \ \dot{2} \ \dot{3} \ \dot{2} \ \dot{1} \ 6 \ 5 \ 6 \ \dot{1} \ 6 \ 5 \ 6 \ \dot{1} \\ \hline \cdot \ 1 \ 2 \ . \ \underset{\cdot}{6} \ \underset{\cdot}{5} \ \underset{\cdot}{6} \ 1 \ . \ 2 \ 1 \ 2 \ 3 \ . \ 3 \ . \end{array}$	$\begin{array}{c} 5 \ 6 \ 5 \ . \ 5 \ 6 \ 5 \ \dot{1} \ 5 \ 6 \ 5 \ \dot{1} \ 5 \ 6 \ \dot{1} \ 6 \\ \hline \cdot \ . \ \underset{\cdot}{5} \ \underset{\cdot}{6} \ 1 \ . \ 1 \ . \ . \ \underset{\cdot}{5} \ \underset{\cdot}{3} \ \underset{\cdot}{5} \ \underset{\cdot}{6} \ 1 \ 2 \ \underset{\cdot}{6} \end{array}$
$\begin{array}{c} 3 \ 3 \ 3 \ 3 \ 6 \ 5 \ 6 \ \dot{1} \ 5 \ 6 \ 5 \ \dot{1} \ 5 \ 6 \ \dot{1} \ 6 \\ \hline \underset{\cdot}{3} \ . \ . \ . \ . \ 1 \ 2 \ 3 \ . \ \underset{\cdot}{5} \ \underset{\cdot}{3} \ \underset{\cdot}{5} \ \underset{\cdot}{6} \ 1 \ 2 \ \underset{\cdot}{6} \end{array}$	$\begin{array}{c} \dot{1} \ \dot{2} \ \dot{1} \ . \ \dot{1} \ \dot{2} \ \dot{1} \ \dot{3} \ \dot{1} \ \dot{2} \ \dot{1} \ \dot{3} \ \dot{1} \ \dot{2} \ \dot{1} \ 6 \\ \hline \cdot \ . \ 1 \ 2 \ 3 \ . \ 3 \ . \ . \ 1 \ \underset{\cdot}{6} \ 1 \ 2 \ 3 \ 5 \ 2 \end{array}$
$\begin{array}{c} \dot{2} \ \dot{3} \ \dot{2} \ . \ \dot{2} \ \dot{3} \ \dot{2} \ \underset{\cdot}{6} \ \dot{2} \ \dot{1} \ \dot{2} \ \dot{1} \ \dot{2} \ \dot{3} \ \dot{2} \ \dot{1} \\ \hline \cdot \ . \ 2 \ 3 \ 5 \ . \ 5 \ . \ . \ . \ 6 \ 5 \ 3 \ 5 \ 6 \ 3 \end{array}$	$\begin{array}{c} 5 \ 6 \ 5 \ . \ 5 \ 6 \ 5 \ \dot{1} \ 5 \ 6 \ 5 \ \dot{1} \ 5 \ 6 \ \dot{1} \ 6 \\ \hline \cdot \ . \ \underset{\cdot}{5} \ \underset{\cdot}{6} \ 1 \ . \ 1 \ . \ . \ \underset{\cdot}{5} \ \underset{\cdot}{3} \ \underset{\cdot}{5} \ \underset{\cdot}{6} \ 1 \ 2 \ \underset{\cdot}{6} \end{array}$
$\begin{array}{c} \dot{2} \ \dot{1} \ \dot{2} \ 6 \ \dot{2} \ \dot{3} \ \dot{2} \ \dot{1} \ 6 \ 5 \ 6 \ \dot{1} \ 6 \ 5 \ 6 \ \dot{1} \\ \hline \cdot \ 1 \ 2 \ . \ \underset{\cdot}{6} \ \underset{\cdot}{5} \ \underset{\cdot}{6} \ 1 \ . \ 2 \ 1 \ 2 \ 3 \ . \ 3 \ . \end{array}$	$\begin{array}{c} 5 \ 6 \ 5 \ . \ 5 \ 6 \ 5 \ \dot{1} \ 5 \ 6 \ 5 \ \dot{1} \ 5 \ 6 \ \dot{1} \ 6 \\ \hline \cdot \ . \ \underset{\cdot}{5} \ \underset{\cdot}{6} \ 1 \ . \ 1 \ . \ . \ \underset{\cdot}{5} \ \underset{\cdot}{3} \ \underset{\cdot}{5} \ \underset{\cdot}{6} \ 1 \ 2 \ \underset{\cdot}{6} \end{array}$

There is more than one pattern ending on each of the notes 1, 2, 3, 5, 6, as well as *gantungan* pattern (patterns indicating sustaining note). Numbers (subscripts) are used to differentiate the individual patterns.

As an example, below is three melodic patterns ending on pitch *Telu* (T = 3):

T1	$\begin{array}{cccccccccccccccc} \dot{2} & \dot{1} & \dot{2} & 6 & \dot{2} & \dot{3} & \dot{2} & \dot{1} & 6 & 5 & 6 & \dot{1} & 6 & 5 & 6 & \dot{1} \\ \hline . & 1 & 2 & . & \underset{\cdot}{6} & \underset{\cdot}{5} & \underset{\cdot}{6} & 1 & . & 2 & 1 & 2 & 3 & . & 3 & . \end{array}$
T2	$\begin{array}{cccccccccccccccc} \dot{2} & \dot{3} & \dot{2} & . & \dot{2} & \dot{3} & \dot{2} & 6 & \dot{2} & \dot{1} & \dot{2} & \dot{1} & \dot{2} & \dot{3} & \dot{2} & \dot{1} \\ \hline . & . & 2 & 3 & 5 & . & 5 & . & . & . & 6 & 5 & 3 & 5 & 6 & 3 \end{array}$
T3	$\begin{array}{cccccccccccccccc} \dot{2} & \dot{1} & \dot{3} & \dot{2} & 6 & 5 & 3 & 2 & 5 & 6 & 5 & \dot{1} & 5 & 6 & 5 & 3 \\ \hline 2 & 1 & 3 & 2 & \underset{\cdot}{6} & \underset{\cdot}{5} & \underset{\cdot}{3} & \underset{\cdot}{5} & . & \underset{\cdot}{2} & . & \underset{\cdot}{1} & . & \underset{\cdot}{2} & . & \underset{\cdot}{3} \end{array}$

After each melodic pattern is taught and identified with a letter and subscript, then the melodic skeleton of the *gendhing* is written alongside the letters and numbers indicating the sequence of the *gendèr*'s melodic pattern.

The rumus of the *gendèr* melody for Ladrang *Wilujeng*:

$\frac{2 \ 1 \ 2 \ 3}{T1}$	$\frac{2 \ 1 \ 2 \ \dot{6}}{N1}$	$\frac{3 \ 3 \ . \ . \ 6 \ 5 \ 3 \ 2}{P}$	
$\frac{5 \ 6 \ 5 \ 3}{T2}$	$\frac{2 \ 1 \ 2 \ \dot{6}}{N1}$	$\frac{2 \ 1 \ 2 \ 3}{T1}$	$\frac{2 \ 1 \ 2 \ \dot{6}}{N1}$

Sometimes only the *gendèr* melodic patterns represented by the sequence of letters and numbers is written out:

T1 - N1 - P
T2 - N1 - T1 - N1

Identification of Patterns by Names

Another method of teaching gendèr was offered by Pak Marto when he was appointed gamelan teacher at the gamelan academy (ASKI). As his assistant at that time, I had many discussions with him about his method. Eventually, in 1971, I wrote a booklet dealing with the classification of gendèr melodic patterns, entitled *Tjèngkok Gendèran* (Gendèr Melodic Patterns). In 1972, Pak Marto (1984[1972]) wrote a book entitled *Catatan Pengetahuan Karawitan* (Notes on the Knowledge of Gamelan Music), published by ASKI, and republished in 1975. In the last chapter of this book, he discussed the classification of gendèr melodic patterns and their identification. Also in 1972, his assistants Parsana, I.M. Harjito, and Sutarno compiled a book of notation of gendèr melodies for several gendhing entitled *Titilaras Gendèran* (Notation of Gendèr Melodies), also published by ASKI, which also follows Pak Marto's method. Later, Pak Marto wrote another, more complete, catalogue of gendèr melodic patterns entitled *Titilaras Cèngkok Gendèran Dengan Wiletannya* (Notation of Gendèr Melodic Patterns and their Variations), published by AKSI in 1973, followed by a second volume published in 1976.

Pak Marto's teaching method makes a more extensive use of classification than did the method of Pak Pandji. It is the result of his analytical work of gendèr playing to establish the rules of arranging gendèr patterns in performing a gendhing. But the notations in his monumental book on gendèr were rarely (if ever) used by his students to learn gendèr. This is because the book focuses on establishing rules rather than on being suitable for learning to play gendèr.

This leads me to a larger perspective on the production of knowledge by native scholars. My concern is about an expectation that a body of knowledge produced by native scholars would only contain insider perspectives, and nothing else. The truth of the matter is that it is almost impossible to sort out insider and outsider perspectives in the production of knowledge by anyone working in a post-colonial society such as Indonesia. It goes without saying that colonial legacy and post-colonial trajectory have brought about a complex Indonesian society in which individuals' and institutions' viewpoints cannot be sorted out simply, and only in terms of insider/outsider dichotomy. However, this does not mean that the insider's perspective is completely non-existent. I would say to some extent, Pak Marto's gendèr cèngkok classification based on the names of gendèr patterns falls

under this insider perspective, but not his work on Notation of Gendèr Melodic Patterns and their Variations published in 1973 and 1976.

In the first volume of his *Catatan Pengetahuan Karawitan*, Pak Marto listed fifteen names of gendèr melodic patterns. If we sort the names according to their sources, we arrive at five groups:

I. Patterns with names based on vocal imitations of the *gendèr* patterns.

1. *Dhebyang dhebyung* or *Nyå tali nyå emping*

The syllables *byang* and *byung* are used to punctuate the accents of the first two-thirds of the pattern when the musician sings this pattern.

Nyå tali nyå emping (give the string, give the *emping* cracker) is an excerpt from a children's song. It is sung to a melody which imitates the first two thirds of the *gendèr* melodic pattern.

2. *Gendhuk kuning* (light-skinned girl) is sung to a melody which imitates the last two-thirds of the *gendèr* melodic pattern. The complete line is *Gendhuk kuning adang katul* (the light-skinned maiden is cooking rice).

II. Patterns with names based upon a vocal part heard in the ensemble (either solo female vocal melody (*sindhènan*) or the ensemble male vocal, *gérongan* or *senggakan*).

1. *Ayu kuning* (pretty light-skinned girl), *jarit kawung* (a batik cloth of *kawung* design), and *ora butuh* (do not need thing) are often sung by *pesindhèn* (female solo singer) at certain points in various *gendhing*. The complete line of *ayu kuning* is: *Ayu kuning béntrok mǎyå-mǎyå* (pretty light skinned [girl] is perceptively a bit plump). And the complete line of *ora butuh* is: *Ora butuh åpå-åpå, butuhé sabar narimå* (we do not need anything, what we need is patience and acceptance) or *Ora butuh godhong kayu, butuhé golonging kalbu* (we do not need leaves or wood, what we need is hearts uniting).

2. *Kacaryan* and *tinandur* are from *gérong* melodies: *Kacaryan* is taken from the *penggérong* (male singers) melody of *Ketawang Puspå Warnå Sléndro Manyurå*. The complete line is: *Kacaryan anggung cinatur* (those who we honorably admire). The complete line of *tinandur* is: *Tinandur pinggiring sumur* (planting it near the well).

3. *Dua lolo*, *Éla-élo*, and *Ayo yok oyokan* derive from *senggakan* (optional) melodies to enliven the mood of the piece, sung by *penggérong*. *Dua lolo* translates to “two, two”; *dua* is an Indonesian word and *lolo* is a form of the Javanese word *loro* as pronounced by a person who cannot roll his *r*. The complete line is: *Dua lolo lolo lohing*. *Éla-élo* is the word to describe an indecisive person. The complete line of *ayo yok oyokan* is: *Ayo yo, ayo, yo, ayo yok oyokan* (let go, let go, let us fight for something in the crowd).

III. Patterns with names based on vocal repertoire, in particular children’s songs, whose melodies are related to the *gendèr* melodies.

1. *Tumurunå* (please come down), from the children song telling the story of *Andhé-andhé lumut* from Panji story. The complete line is: *Tumurunå nggèr sedhélå baé* (please my child, come down just for a minute).

2. *Kemul adhem* (blanket for coldness), from the children song *Nini katisen* (grandmother has a cold). The complete line is: *nJaluk kemul kemul adhem* (asking for blankets for coldness).

3. *Yå surakå* (let us cheer), from the children song *Ilir-ilir*. The complete line is: *Yå surakå surak iyo* (let us cheer hurray).

IV. Patterns with names derived from gamelan terminology, indicating melodic characteristics of the composition (*gendhing*).

1. Plèsèdan (slippery spot), an anticipation, leading to the next note.
2. Gantungan (hanging), sustaining a particular note of a melody.

V. Patterns with names derived directly from descriptions of gendèr performance technique.

1. Puthut gelut, the movement of the player's two hands, with the mallets close to one other is like puthut (disciples) gelut (fighting or running to each other). There is another melodic pattern called *puthut semèdi* (disciples meditate), which is usually considered to be one half or a compressed form of puthut gelut.

In Martopangrawit's later publication (1973), most of these names reappear, except *éla-élo* and *kemul adhem*. A new name is added: *tinandur* (being planted). It is taken from penggèrong melody, the complete line of which is: *tinandur pinggiring sumur* (planting it near the well). He classifies gendèr melodic patterns into six major groups:

- I. *Gendèran cèngkok umum* (general gendèr melodic patterns).
- II. *Gendèran cèngkok khusus* (special gendèr melodic patterns).
- III. *Gendèran cèngkok gantungan* (gendèr melodic patterns with sustaining melody).
- IV. *Gendèran cèngkok plèsèdan belakang sèlèh* (gendèr melodic patterns with melodic anticipation after the end of the preceding melodic pattern).
- V. *Cèngkok-cèngkok gendèran pin sèlèh/pin pertama-pin akhir* ('gendèr melodic patterns for phrases ending with a rest/phrases beginning and ending with a rest').
- VI. *Cèngkok-cèngkok gendèran separo gâtrâ yang lain* (gendèr melodic patterns in which a half gâtrâ (a unit of four notes) is taken from another melodic pattern).

Most of the named melodic patterns from his initial list of fifteen general gendèr melodic patterns are also found in this second group of special melodic patterns.

DISCUSSION

As someone who has been involved in the proliferation of the methods of teaching gendèr, I would humbly like to make a few comments. First, I believe that the melodic simplification involved in the methods mentioned above could be eliminated. We should offer the gendèr student a gendèr playing style that is closer to the actual performance style. The rhythmic syncopation should be included.

As some faculty members in the gamelan conservatory have often pointed out, Pak Pandji's method often ignores the proper connections between patterns and thus results in awkward gendèr melodies. The use of numbers and letters for melodic pattern identification might encourage the student to memorize only the rumus (the sequence of letters and numbers indicating the sequence of gendèr melodic patterns), instead of concentrating on the gendèr melody itself. It should be mentioned that the use of Pak Pandji's method has been decreasing through the years, especially following Pak Pandji's retirement from the gamelan conservatory.

The problem of identifying melodic patterns in Pak Pandji's method probably inspired Pak Marto's alternative method. Pak Marto, and I as well at that time, felt that his method was an extension of the traditional way of learning gendèr. Pak Marto's book *Titilaras cèngkok cèngkok gendèran dengan wiletannya* is considered by many to be the most complete catalogue of gendèr melodic patterns. It is like a dictionary of gendèr playing, containing the notation of gendèr melodic patterns, how the patterns are connected properly, and how to select the proper patterns based on the ending notes (sèlèh) of the previous patterns. However, the book is not of practical use. To learn the gendèr melody for a given gendhing, one must select proper melodic patterns and their proper connections from the vast range of possibilities. Although the listing of massive melodic patterns is conceptually understandable, it does not make it easier to know which patterns should be selected when performing.

To add the complexity of playing gendèr, there are two kinds of gendèr playing styles: *lombå* and *rangkep*. *Lombå* (single, one at a time) refers to the usual or regular

speed (MM.104-176) and creates calm moods. *Rangkep* (double) creates animated moods (MM. 208-320). I prefer to use these terms because their application is more general. Pak Marto, however, uses the term *laku*, which has a more specific meaning: the ratio between the basic gendèr beat and the basic balungan (melodic skeleton) beat. A confusion of using the term *laku* arises when we want to describe the gendèr playing in *irama tanggung* in which the gendèr plays rangkep style. This means that the ratio is four gendèr beats per one balungan beat, instead the ratio of two gendèr beats per one balungan beats. However, it is uncommon to say that this is laku 4 gendèr playing, it is simply called gendèran rangkep. The same problem may happen in describing the gendèr playing of rangkep style in *irama dadi*. The basic definition of *irama dadi* is four gendèr beats per one balungan beat. When it is performed in rangkep style of gendèr, the ration becomes 8 beats of gendèr per one balungan beat. But it is not common to say this as laku 8. In other words, the gendèr playing style is a matter of speed (MM) rather than the ratio between the gendèr beat and the balungan beat.

I mentioned in the beginning of the essay that the classification of gendèr melodic patterns is a new approach to gendèr teaching, and the practice of naming the gendèr melodic patterns was inspired by the traditional way of learning gendèr. Ideally, the names will help gendèr student to remember the melody of the gendèr in the context of the melody of the gendhing being performed. However, my close examination of the relationship between the names of gendèr melodic patterns and the melody of those melodic patterns in their musical context reveals that the names of the patterns do not always function appropriately. In many cases they are made to serve as labels within a classification system. This is because certain melodic pattern names correspond to the melodies of the patterns, they are relevant to only certain playing styles and certain musical contexts. There are only four gendèr melodic pattern names which function well, in that their melodies correspond to the gendèr melodies in both playing styles (*lombå* or rangkep) and in all musical contexts. These patterns names are: *ayu kuning*, *yå surakå*, *kacaryan*, and *tinandur*.

Yå surakå

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

 . 6̣ . 1̣ . . 2̣ 6̣ . 5̣ 3̣ 5̣ . . . 6̣ . 2̣ 5̣ 3̣ . . 2̣ 1̣ 2̣ 1̣ . 6̣
 yå su- rak- å su- rak i- yå

The melody of the melodic pattern tinandur is the same as that of kacaryan. It is clear that kacaryan is taken from the *gérong* vocal line of Ketawang *Puspå Warnå* in which the line *kacaryan agung cinatur* is sung within two gâtrå. But tinandur is designed to fit within one gâtrå (a unit of four notes)—in other words, tinandur is a compressed form of kacaryan. Therefore, the tinandur melody does not correspond (to the vocal pattern) as clearly as the kacaryan melody does.

Kacaryan 3̣ 2̣ 6 5 1̣ 6 5 3
 1̣ 2̣ 6 1̣ 2̣1̣2̣ 6 3̣ 5̣6̣5̣ 5̣ 3̣ 5̣ 3̣ . 5̣ 6̣ 6̣ . 1̣ 6̣ 5̣ 3̣
 6̣ . 5̣6̣ 1̣ . 6̣ 1̣ 2̣ . 1̣ 3̣ 2̣ 6̣ 5̣ 3̣ 2̣ 5̣ . 3̣5̣ 2̣ 5̣ 6̣ 5̣ 3̣ 2̣ 1̣ 2̣ 5̣ . 3̣ 5̣ 3̣
. 2̣ 3̣ . 2̣1̣2̣ 2̣ 2̣ . 1̣2̣3̣ 2̣ 6̣ 5̣ 3̣ 5̣ . 3̣ 2̣ . 5̣ 1̣6̣5̣ 6̣ . 5̣3̣ 5̣ . 2̣ 1̣ 2̣ 3̣
.6̣..5̣6̣.1̣...6̣.1̣.2̣...1̣.3̣.2̣.6̣.5̣.3̣.2̣ .5̣.3̣.5̣.2̣.5̣.6̣.5̣.3̣.2̣.1̣.2̣.5̣.2̣.3̣.5̣.3̣
..2̣3̣.2̣1̣2̣3̣2̣1̣2̣.2̣.2̣...1̣.3̣.2̣.6̣.5̣6̣5̣3̣5̣ ..5̣3̣2̣.2̣.5̣.1̣.1̣6̣5̣6̣..5̣3̣5̣.5̣.2̣.1̣2̣3̣.3̣.

6̣ 1̣ 2̣ . 3̣ 1̣ 2̣ 6̣ 5̣ . . 6̣ 6̣ 1̣ 2̣ 6̣ 1̣6̣5̣ 3̣
 ka- car- yan ang- gung ci- na- tur

Tinandur

2 1 2 3
 3 5 3 5 6 6 . 1 6 5 3
 2 1 3 2 6 5 3 2 5 6 1 6 1 6 5 3
 2 123 2 6 563 5 . 2 1 2 3 5 6 3
 . 2 1 6 1 6 3 5 3 2 5 3 2 5 2 3 5 3
 2 2 1 2 3 5 2 6 6 5 5 3 5 . 2 3 5 5 5 6 5 3 3 .
 6 1 2 3 6 5 6 6 6 5 3
 ti- nan- dur pinggir-ing su- mur

There are two other named patterns whose melodies correspond well with the gendèr melodies of both playing styles: tumurunå and dua lolo. However, in certain musical contexts, the names are not very helpful because they have little relationship to the specific melodic motion of the gendhing.

Tumurunå, in its original musical context.

Notice the close relationship between the melody of balungan, rebab, the pesindhèn, the gendèr (lombå and rangkep), and the melody of tumurunå of a children's song.

Tumurunå

3 2 1 6
 3 3 . 232 2 121 2 1 . 62 1 6
 . . 3 3 352 2 2 2 253 3 1 126
 tiwas tiwas nglabuhi wong ora nggagas
 6 . 56 1 . 6 1 6 5 . 35 1 . 6 1 6
 . 2 3 . 212 2 2 . 16 5 3 . 5 . 6
 . 6 . 56 . 1 . . 6 . 1 6 5 . . 35 . 1 5 6 . 1 6
 . . 23 . 2 1 2 3 2 1 2 . 2 1 . 2 . 16 . 5 6 3 . . 35 6 . 6 .
 3 3 3 2 . 1 2 1 6 2 1 6
 tumurunå nggèr sedhelå baé

Tumurunå, played in different context

Here, as in most cases, the gendèr must adjust its melody to the melodies of the *rebab*, the *pesindhèn*, and the *balungan*. The fixed tumurunå melody, by contrast, does not relate to this particular musical context. The term tumurunå thus cannot be used in this situation except as a classificatory label. It is still all right for the gendèr player to play the regular tumurunå pattern, but the original melodic essence of tumurunå is unrecognized.

3	2	1	6
<u>1 2</u> 6	<u>1 2</u> 3	.	<u>1 2</u> 1 6
2 2 3 <u>1 2</u> 6 5 <u>3 6</u> 6			
yèn la- liå marang si- rå			
6 . <u>56</u> 1 . 6 1 2	<u>.3.</u> 2 3 . 2 1 6		
<hr/>			
. 2 3 .	<u>212</u> 2 2	<u>.3.</u> 2 3 . 2 1 6	
<hr/>			
.6..56.1...6.1.2..3..2.3...2.1.6			
<hr/>			
..23.2123212.2.2..3..2.3..216.6.			
3 3 3 2	.	<u>1 2</u> 1	6 2 1 6 [original melody]
tumurunå nggèr sedhèlå baé			

Dua lolo, in its original musical context.

Notice the close relationship between the melody of dua lolo, and the melodies of the *rebab*, the *pesindhèn*, and the *balungan*.

Dua lolo

2	3	2	1
2	3	2	. 1 1 2 1
. . . . 2 2 3 3 3 3 3 2 1 2 231			
rujak nanas pantesé wadhahi gelas			
5 . 5 6 5 . 5 3 6 .56 3 6 5 6 i			
. 1 2 . 6 1 2 . .65 3 . 6 216 1			
.5.6.5.3.5.6.5.3.6.5.6. .6.6.6i			
2.21612.2.21612.6.35.56.356.2161			
. . 2 2 . . 3 3 . . . 3 . 532 1			
dua lolo lo- hing			

Dua lolo, in a different musical context.

Although here the gendèr uses a different version of the dua lolo pattern (also called *dua lolo alit*), this version can also be played in the context shown in the previous example. The use of the term ‘dua lolo’ here shows that it is functioning as a mere symbol in a classification system.

Dua lolo

3	5	6	i
. . 6	1 2 .	1 2 i	i
i 2 6 5 6 3 i			
ra- mané dhéwé			
2 .12 6 2 3 2 i 6 .56 2 . i 2 i			
. 1 2 . 2 532 3 .21 2 .16 1 1 1			
.2.1.2.6.2.3.2.1.6.5.6.2.6.1.2.1			
..216.6.2.5.532.3.212.2.2.321.1.			
. . 2 2 . . 3 3 . . . 3 . 532 1			
dua lolo lo- hing [original melody]			

There are six pattern names which are associated with only one kind of playing style: *gendhuk kuning-lombå* style (it is also called *kuthuk kuning*, ‘yellow chicken’), *jarit kawung-rangkep* style, *dhebyang-dhebyung-rangkep* style, *ora butuh-rangkep* style, *puthut gelut* and *puthut semèdi-rangkep* style. Below is an example of the melodic *gendhuk kuning* in the *lombå* style. The relationship between the vocal imitation and the melodic pattern is obscured when the pattern is played in the *rangkep* style.

lombå	$\begin{array}{cccccccccccccccc} 6 & \dot{1} & 6 & \overline{.5} & 6 & \dot{1} & 6 & \dot{2} & . & \dot{1} & . & \dot{2} & . & \dot{1} & 6 & 5 \\ \hline . & . & \overline{.6} & 1 & 2 & 2 & 2 & . & \dot{6} & . & \dot{5} & \dot{6} & 1 & 2 & 1 & \dot{6} & 1 \end{array}$
vocal imitation	$\begin{array}{cccccccccccccccc} 2 & 2 & 2 & 2 & . & \dot{6} & . & \dot{5} & . & \dot{6} & . & 1 \\ \text{gendhuk kuning a-dang} & & & & & & & & & \text{ka-} & & \text{tul} \end{array}$
rangkep	$\begin{array}{cccccccccccccccc} ..6.6.65..6.56.5..6.56.\dot{1}..6.6.65 \\ \hline .2.2.2...21\dot{6}.1.\dot{5}.\dot{6}.\dot{6}.\dot{5}.\dot{6}.1.2.1\dot{6}1 \end{array}$

Below is another example, the pattern *nyå tali nyå emping*, which is also based on the vocal imitation of the *gendèr* melody itself, in *rangkep* playing style. The relationship between the vocal imitation and the melodic pattern will be obscured, even obliterated, when the pattern is played in the *lombå* style.

rangkep	$\begin{array}{cccccccccccccccc} ...6...5...6...5...6...5...3.3.35 \\ \hline .\dot{6}121\dot{6}1.1\dot{6}121\dot{6}1.1\dot{6}121\dot{6}1..2\dot{3}.3\dot{2}\dot{3}5 \end{array}$
vocal imitation	$\begin{array}{cccccccccccccccc} .\dot{6}121\dot{6}11 & 1\dot{6}121\dot{6}11 & 1\dot{6}122\dot{2}\dot{3}5 \\ \text{nyå tali-} & \text{enyå tali-} & \text{njaluk tali-} \\ \text{ennyå emping} & \text{ennyå emping} & \text{jobang jabing} \end{array}$
lombå	$\begin{array}{cccccccccccccccc} . & . & 6 & 5 & \dot{1} & \overline{.6} & \dot{1} & 5 & 3 & . & 3 & 2 & 3 & \overline{.5} & 6 & 5 \\ \hline . & . & . & \overline{5\dot{6}} & 1 & 1 & 1 & . & . & \dot{6} & 1 & . & . & 1\dot{6} & 1 & \dot{5} \end{array}$

The melodic pattern names *puthut gelut*, *puthut semèdi*, *plèsèdan* and *gantungan* are not problematic like the other pattern names because they have no correlation with vocal melodies. A melodic pattern which needs special attention is the pattern *jarit kawung*. The

name is clearly designed to correspond only to the rangkep playing style. Although there is a melodic pattern in lombå style which is comparable to the pattern in rangkep style, it has no relationship to the jarit kawung melody. Furthermore, the gender pattern in rangkep style can be called jarit kawung only in certain musical contexts. The ending notes of the previous and succeeding patterns will determine whether we may validly call it jarit kawung. In sléndro pathet sângå, the ending notes of the previous and succeeding patterns should be 6, and the jarit kawung itself ends on 1 (see the following example of the *inggah* section of *Gambir Sawit*, *iråmå wilet*). In sléndro pathet manyurå, the jarit kawung pattern ends on 2, the preceding pattern should end on 1, and the succeeding pattern should end on 3, 6, or 1 (examples: gendhing *Kutut Manggung*, inggah *iråmå wilet*, and gendhing *Widåsari*, inggah *iråmå wilet*).

Gambir Sawit, *iråmå wilet*, first kenongan of the inggah section (balungan, gender, and sindhèn lines):

. . . 6 . . . 5	. . . 1 . . . 6
I	II
.3.5.3.2.3.5.3.2.5.3.5.6..5.5.56	.5..35.6...5.6.5.3..2..6...5.6.5
1.1.6561.1.1.6561.5.23.35.235.165.	6.12.1612161.1..1.65.3.2.3235.5.
1 1 2 2 2 2 2 1 6 1 126	. . . . 2 2 231 1 1 3 2 2 6 615
rujak nanas pantesé wa dhahi gelas	tiwas tiwas nglabuhi wong ora nggagas
. . . 1 . . . 6	. . . 1 . . . 6
III	IV
..6.56.5..6.56.5..6.56.1..6.6.65	.3.5.3.2.5.3.5.6.5.3.5.6..5.5.56
61.1....61.1.....5.6.5.6.1.2.16.	1.1.6561.5.23.3532353235.235.1656
1 65 6 1	1 2 2 3 2 1 6
yå mas	lalu mong- sâ

<p>V</p> <p style="text-align: center;">. . . 1</p> <p>.5..35.6.3.5.6.5..6.56.i..6.6.65</p> <hr/> <p>..12.1612.165.5..6.6.5.6.1.2.16.</p> <p style="text-align: center;">6 i 5 5 1 1</p> <p style="text-align: center;">yâ ra- ma- né</p> <p style="text-align: center;">(ja- rit ka- wung)</p>	<p>VI</p> <p style="text-align: center;">. . . 6</p> <p>.3.5.3.2.3.5.3.2.5.3.5.i.5.6.i.6</p> <hr/> <p>1.16561.1.16561...161.1.1.216.6.</p> <p style="text-align: center;">1 2 2 1 6 6</p> <p style="text-align: center;">la-lu mong- sâ</p>		
<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>VII</p> <p style="text-align: center;">. . . 2</p> <p>..i.i.i.16.i.i.6i2 222222 16.6...6</p> <hr/> <p>.216.6..1.151652.....5.235.</p> <p style="text-align: center;">66 1 2</p> <p style="text-align: center;">gonès</p> </td> <td style="width: 50%; vertical-align: top;"> <p>VIII</p> <p style="text-align: center;">. . . 1</p> <p>i.i2i.2i.6..6.56.56.56.5.2...235</p> <hr/> <p>.6...6..5.5323.23.23.23.1.561.1.</p> <p style="text-align: center;">i2 i6i 5 2 32 1 1</p> <p style="text-align: center;">panusuling magut yu- dâ</p> </td> </tr> </table>		<p>VII</p> <p style="text-align: center;">. . . 2</p> <p>..i.i.i.16.i.i.6i2 222222 16.6...6</p> <hr/> <p>.216.6..1.151652.....5.235.</p> <p style="text-align: center;">66 1 2</p> <p style="text-align: center;">gonès</p>	<p>VIII</p> <p style="text-align: center;">. . . 1</p> <p>i.i2i.2i.6..6.56.56.56.5.2...235</p> <hr/> <p>.6...6..5.5323.23.23.23.1.561.1.</p> <p style="text-align: center;">i2 i6i 5 2 32 1 1</p> <p style="text-align: center;">panusuling magut yu- dâ</p>
<p>VII</p> <p style="text-align: center;">. . . 2</p> <p>..i.i.i.16.i.i.6i2 222222 16.6...6</p> <hr/> <p>.216.6..1.151652.....5.235.</p> <p style="text-align: center;">66 1 2</p> <p style="text-align: center;">gonès</p>	<p>VIII</p> <p style="text-align: center;">. . . 1</p> <p>i.i2i.2i.6..6.56.56.56.5.2...235</p> <hr/> <p>.6...6..5.5323.23.23.23.1.561.1.</p> <p style="text-align: center;">i2 i6i 5 2 32 1 1</p> <p style="text-align: center;">panusuling magut yu- dâ</p>		

In the example above, there is no difficulty in following the sequence of *gendèr* melodic patterns since all the patterns conform to the *gendèr* playing style and with the musical context. The sequence of the *gendèr* melodic patterns is:

- I. dua lolo
- II. tumurunâ
(The sequence of dua lolo and tumurunâ could also be identified as the rujak-rujukan pattern, derived from a pesindhèn part in which she sings a melody with rujak [spicy fruit salad] as the theme of her text.)
- III. gantungan (hanging/sustained note of the melody)
- IV. dua lolo
- V. jarit kawung (It is interesting that pesindhèn never use the word jarit kawung, but instead sing the words ya ramané. The association of this exciting pesindhèn melody with the word jarit kawung was perhaps the creation of a clown in the clown scene of the dance drama in which musical jokes are often part. The clown chose the word jarit kawung as an expression of satire (pasemon) because kawung is the name of a simple design of batik skirt which is often worn by common, or lower-class people.)

VI. dua lolo (Note that the patterns before and after jarit kawung both end on 6.)

VII and VIII. puthut gelut

Below is an example of the gendèr melodic pattern jarit kawung (III; at the beginning of the second line). But because its musical context is different from the jarit kawung pattern in the example above, it has no sense of jarit kawung. A pesindhèn would never sing the jarit kawung melody here.

Ladrang *Pangkur*, Sléndro Sångå, the first and second kenongan (balungan, rebab, and gendèr):

<p> $\begin{array}{ccccccc} & . & & 2 & & . & & 1 \\ & . & . & 2 & 2 & . & 1 & 1 & 2 & 1 \\ \text{I} & & & & & & & & & \end{array}$ </p>	<p> $\begin{array}{ccccccc} & . & & 2 & & . & & 6 \\ & 2 & 1 & \overline{232} & 2 & . & 1 & 1 & 2 & 6 \\ \text{II} & & & & & & & & & \end{array}$ </p>
<p> $\begin{array}{l} \dots 6.6.65\dots 6.56.5\dots 6.56.\dot{1}\dots 6.6.65 \\ \hline \dots 2.2.2\dots 2\dot{1}6.1.5.6.6.5.6.1.2.16. \end{array}$ </p>	<p> $\begin{array}{l} \dots 3.5.3.2.3.5.3.2.5.3.5.6\dots 5.5.56 \\ \hline \dots 1.16\dot{5}6\dot{1}.1.16\dot{5}6\dot{1}.5.2\dot{3}.3\dot{5}.2\dot{3}\dot{5}.16\dot{5}. \end{array}$ </p>
<p> $\begin{array}{ccccccc} & . & & 2 & & . & & 1 \\ & . & . & 2 & 2 & . & 1 & 1 & 2 & 1 \\ \text{III} & & & & & & & & & \end{array}$ </p>	<p> $\begin{array}{ccccccc} & . & & 6 & & . & & 5 \\ & 2 & 6 & \overline{122} & . & 5 & 6 & 6 \\ \text{IV} & & & & & & & & & \end{array}$ </p>
<p> $\begin{array}{l} \dots 5\dots 35.6.3.5.6.5\dots 6.56.\dot{1}\dots 6.6.65 \\ \hline \dots 6.12.16\dot{1}2.16\dot{5}.5\dots 6.6.5.6.1.2.16. \end{array}$ </p>	<p> $\begin{array}{l} \dots 3.5.3.2.3.5.3.2\dots 3.23.5\dots 3.3.35 \\ \hline \dots 1.16\dot{5}6\dot{1}.1.16\dot{5}6\dot{1}\dots 2.3.2.3.5.2.3.5 \end{array}$ </p>
<p> $\begin{array}{ccccccc} & 6 & & 6 & & . & & . \\ & . & . & 6 & 6 & . & 5 & 6 & \dot{1} & 6 & 6 \\ \text{V} & & & & & & & & & & \end{array}$ </p>	<p> $\begin{array}{ccccccc} & 5 & & 5 & & 6 & & \dot{1} \\ & 5 & . & 5 & \overline{6\dot{1}} & \overline{\dot{1}} & . & \dot{1} & \dot{1} \\ \text{VI} & & & & & & & & & & \end{array}$ </p>
<p> $\begin{array}{l} \dots 3.5.6\dots \dot{1}.\dot{1}.\dot{1}6\dots \dot{1}.\dot{1}.\dot{1}6\dots \dot{1}.\dot{1}.\dot{1}6 \\ \hline \dots 3\dot{2}\dot{3}.3\dot{5}6.2\dot{1}6.6\dots 56.6.6\dots 56.6.6\dots \end{array}$ </p>	<p> $\begin{array}{l} \dots 5\dots 35.6.3.5.6.5\dots 6.56.\dot{1}\dots 6.6.65 \\ \hline \dots 12.16\dot{1}2.16\dot{5}.5.6.6.5.6\dots 1.2.16. \end{array}$ </p>

2	1	5	2	.	1	.	6
. <u>1</u> .	6 <u>6</u> <u>1</u>	5 2 3 3	5 5 2 1	. <u>6</u> 2	. <u>1</u> <u>2</u> <u>6</u>		

VII	VIII
. <u>1</u> . <u>1</u> . 5 6 5 . <u>1</u> . <u>1</u> . 5 6 5 . <u>1</u> . <u>1</u> . 5 6 5 . 3 . 5 . 3 . 2	. 3 . 5 . 3 . 2 . 3 . 5 . 3 . 2 . 5 . 3 . 5 . 6 . . 5 . 5 . 5 6
1 . 1 2 1 6 1 . 1 . 1 2 1 6 1 . 1 . 1 2 1 6 1 . 1 . 5 6 . 6 1 .	1 . 1 6 5 6 1 . 1 . 1 6 5 6 1 . 5 . 2 3 . 3 5 . 2 3 5 . 1 6 5 6

The sequence of melodic patterns in the example above is:

- I. gendhuk kuning (whose difficulty has been explained above, i.e. the name of this pattern is associated with only one playing style, namely the lombå playing style.)
- II. dua lolo
- III. jarit kawung
(Notice that in the jarit kawung pattern in the inggah section of *Gambir Sawit* (the previous example), the ending notes of the previous and succeeding patterns are both 6. Here, in contrast, the previous pattern ends on 6 while the pattern following ends on 5. Therefore, the jarit kawung in this musical context does not have a strong sense of the jarit kawung melody).
- IV. dua lolo
- V. gantungan, a sustained note
- VI. jarit kawung (This is yet more problematic. The pattern before jarit kawung ends on a high 6 and the succeeding pattern ends on a high 1. Although the gender plays the jarit kawung pattern, there is no sense conveyed of the jarit kawung melody).
- VII. nyå tali nyå emping (However, toward the end of the melodic pattern, the melody deviates from the original nyå tali nyå emping melody. Here the melodic pattern ends on 2 while the original nyå tali nyå emping melody ends on 5).
- VIII. dua lolo

In the example below, we can see that the pattern called jarit kawung in the rangkep playing style is very much comparable to the pattern of the same name in the lombå style.

However, in most cases, the jarit kawung pattern in the lombå style conveys no sense of the jarit kawung melody at all.

<i>jarit kawung,</i>	<u>.6...56.i.5.6.i.6...i.6i.2...i.i.i6</u>
<i>rangkep style</i>	..23.2123.216.6...1.1.6.1.2.3.212
	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> $\dot{1} \ \dot{2} \ 6$ ja- rit </div> <div style="text-align: center;"> $\dot{6} \ \dot{2} \ 2$ ka- wung </div> </div>

<i>jarit kawung,</i>	<u>6 .56 i . 6 i 6 i 2 i 3 . 2 i 6</u>
<i>lombå style</i>	. 2 3 . 2 1 2 6 . 3 . 1 2 3 212
	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> $\dot{1} \ \dot{2} \ 6$ ja-rit </div> <div style="text-align: center;"> $\dot{6} \ \dot{2} \ 2$ ka-wung </div> </div>

Ladrang *Mugi Rahayu* Sléndro Manyurå (balungan and gendèr). The Jarit kawung pattern is underlined.

$ \begin{array}{cccccccc} & 3 & & 6 & & 1 & & . \\ 5 & . & 5 & 6 & 5 & . & 5 & 3 & 6 & \dot{1} & \overline{.6.5} & 6 & 5 & 6 & \dot{1} \\ \hline . & 1 & 2 & . & \dot{6} & \overline{126} & 5 & 3 & . & 3 & 5 & 6 & \overline{216} & 1 \end{array} $	$ \begin{array}{cccccccc} & 3 & & 6 & & 1 & & 2 \\ 6 & . & 5 & 6 & \dot{1} & . & 6 & \dot{1} & 6 & \dot{1} & 2 & \dot{1} & 3 & . & 2 & \dot{1} & 6 \\ \hline . & 2 & 3 & . & 2 & 1 & 2 & \dot{6} & . & 3 & . & 1 & 2 & \overline{321} & 2 \end{array} $
$ \begin{array}{cccccccc} & 3 & & 6 & & 1 & & . \\ 5 & . & 5 & 6 & 5 & . & 5 & 3 & 6 & \dot{1} & \overline{.6.5} & 6 & 5 & 6 & \dot{1} \\ \hline . & 1 & 2 & . & \dot{6} & \overline{126} & 5 & 3 & . & 3 & 5 & 6 & \overline{216} & 1 \end{array} $	$ \begin{array}{cccccccc} & 3 & & 6 & & 1 & & 2 \\ 6 & . & 5 & 6 & \dot{1} & . & 6 & \dot{1} & 6 & \dot{1} & 2 & \dot{1} & 3 & . & 2 & \dot{1} & 6 \\ \hline . & 2 & 3 & . & 2 & 1 & 2 & \dot{6} & . & 3 & . & 1 & 2 & \overline{321} & 2 \end{array} $
$ \begin{array}{cccccccc} & 3 & & 5 & & 2 & & 3 \\ 5 & . & 6 & \dot{1} & \overline{.6.56} & \dot{1} & 5 & \overline{.56} & \dot{1} & \overline{.6.56} & \dot{1} \\ \hline . & 3 & . & 3 & 1 & 1 & . & . & 2 & 1 & 2 & 3 & 3 & . & . \end{array} $	$ \begin{array}{cccccccc} & 6 & & \dot{1} & & 6 & & 5 \\ 6 & 5 & 6 & \overline{.5} & 6 & \dot{1} & 6 & 5 & 3 & \overline{.23} & 6 & . & 5 & 6 & 5 \\ \hline . & . & \overline{.21} & \dot{6} & 2 & 3 & 1 & \overline{.65} & 3 & 2 & . & 3 & . & 5 \end{array} $
$ \begin{array}{cccccccc} & \dot{1} & & 6 & & 5 & & 3 \\ \dot{1} & \overline{.6\dot{1}} & 5 & \dot{1} & 2 & \dot{1} & 6 & 5 & \overline{.56} & \dot{1} & 6 & \overline{.56} & \dot{1} \\ \hline . & \dot{6} & 1 & . & 5 & \overline{165} & 6 & . & 3 & . & 1 & . & 2 & . & 3 \end{array} $	$ \begin{array}{cccccccc} & 6 & & 1 & & 3 & & 2 \\ . & 6 & . & \dot{1} & 5 & 6 & \dot{1} & 6 & \dot{1} & 2 & \dot{1} & 3 & . & 2 & \dot{1} & 6 \\ \hline . & \overline{212} & 2 & \overline{23} & \overline{.21} & 2 & \dot{6} & . & 3 & . & 1 & 2 & \overline{321} & 2 \end{array} $

The underlined gendèr melodic patterns could be classified as jarit kawung patterns. However, because of their musical contexts, none of them maintain the feeling of the jarit kawung melody. This is due to the following reasons:

1. The jarit kawung pattern in the first and second kenongan: although the previous and succeeding melodic patterns end on 1 (see the explanation above), because they are played toward the strong accent of the *kenong* tone, they lose their sense of the jarit kawung melody. The jarit kawung pattern in the last kenongan: the previous pattern ends on 3, and the succeeding pattern ends on 2, therefore, it does not give the feeling of the jarit kawung melody. Moreover, it is played at the strongest accent, the gong, which results in the loss of its sense of the jarit kawung melody.

2. The jarit kawung pattern is especially designed to correspond with the rangkep playing style in which the pesindhèn sings the jawit kawung melody. In the example above, in none of gendèr patterns does the pesindhèn ever sing the jarit kawung melody. Although sometimes the gendèr player may play in the rangkep style for ladrang *Wilujeng*, the sense of jarit kawung melody will never be felt.¹⁸

There are two melodic pattern names whose melodies vaguely relate to the melody of the pattern; they are patterns ayo yok oyokan and jawâtå.

¹⁸ There is a certain performance technique in which the jarit kawung in lombå style could have the feeling of the jarit kawung melody. If, for example, the inggah of gendhing *Gambirsawit* (see example above) is played in irama wilet using the *kosek alus* drumming style, the gendèr player should play lombå style.

Ayo yok-oyokan (Martopangrawit 1973, 23)

gendèran rangkep

..53235.1656165...53235.16561656

gendèran lombå

5	6	5	6	5	6	5	2	5	.	5	.	5	.	5	6
<hr/>															
.	.	2	3	5	6	1	.	.	3	2	1	6	1	5	6

a-yo yok oyokan

Jawāta (Martopangrawit 1973, 43-44).

<i>gendèran rangkep</i>	.6.5.6.ḁ.6.ḁ.6.3.6.5.6.3.6.5.6.ḁ
	..212.2...61.12...6.5.3...621.61

<i>gendèran lombā</i>	.	6	5	2	.	ī	6	3	6	5	6	.	6	5	6	ī
	2	1	2	.	6	1	2	.	.	.	3	2	1	2	6	1

Jawātā melody . 3 . 3 . 3 . 2 . 2 . 1 . 6 2 1
Ja- wā- tā ing ar- cā pā- dā

This Jawâta pattern is like the dua lolo pattern.

In summary, within a given playing style and in certain musical contexts, the names of gendèr melodic patterns can represent the melodic patterns they designate. However, the use of pattern's names as the basis for classification would seem to change the function of these names, until they are classification symbols only.

Looking at the analysis above has led me to think that gendèr playing is not just a matter of putting together melodic patterns. It is important that the gendèr player achieves integration with the ensemble. This integration will lead him to discover the unity of spirit of the ensemble and the melodic essence of a gendhing. How much of the melodic patterns are consistently realized by the gendèr player while playing a gendhing? To answer this question, more observations must be made. However, the analysis presented above suggests that the gendèr player does not always realize every single melodic pattern

consistently. Sometimes the gendèr player realizes how clear the sequence of the melodic patterns is in the playing of a section of a gendhing (see the example above of the inggah section of *Gambir sawit*—first kenongan). But, at other times, the gendèr player cannot clearly follow the boundary between one pattern and the other.

Related to this matter, Sindusawarno (undated, 43) uses a metaphor to describe the flow of melodic pattern suggesting a similar answer: '*Kalimat lagu dalam karawitan Indonesia itu berjalanurut katjang, urut seperti kacang didalam kelopaknja*' (The melodic patterns in Indonesian gamelan music flow consecutively, consecutively like beans in their pod). This metaphor gives us an idea that the beans represent melodic patterns. While playing a gendhing, the flow of melodic patterns is always covered by the unbroken pod—indicating continuous flow. We do not know exactly what the pod represents. I can only say that the significance of the individual melodic patterns (the single beans) is open to question, because they are covered by the unbroken pod.

Another way to explain this cèngkok-melody interaction is to think of the difference between *éling* (remember in an active form) and *kelingan* (recall in a passive form). Metaphorically, the single bean is essential melody (see below) which musician must *éling* (recall in an active form), the pods are the collections of cèngkok which the musician should *kèlingan* (recall, in a passive form). In playing gendèr, the musician should always recall the piece in its proper melodic form by playing cèngkok. But because cèngkok are the fragmentation of melody of gendhing, they are susceptible to change according to the proper melody of a gendhing.

Essential Melody

As I said earlier, I started learning gendèr only when I began studying at the conservatory, because my village gamelan has no gendèr. This means that I started learning gendèr from Pak Panji, using the rumus system. After one year of learning in that way, I noticed that any gendèr playing I listened to outside of the classroom was very different than what I learned from Pak Panji. I was fortunate that I live in my teacher's house, and he happened to have a gamelan set. So, instead of following closely to Pak Panji's rumus system, occasionally I spent time learning gendèr by myself, listening and imitating the “real” gendèr playing, even experimenting by adding notes or varying rhythm. The result

was that my *gendèr* playing became closer to performance style; though sometimes *rumus* snuck into my playing.

Learning *gendèr* through understanding how *cèngkok* are put together is cognitively helpful. But I should point out that this way of learning applies only to learning *gendèr*. It does not apply for learning *rebab*. Instead of writing down the sequence of melodic patterns as one can do in learning *gendèr*, the *rebab* teacher must write down all the melodies of *rebab* of a *gendhing*, from *bukå* (introduction) to the end of the piece. I explain why this is the case in the second chapter of this booklet, the main reason for which I quoted below.

The vocal-like, continuous, smoothly flowing quality of the *rebab* melody characterizes the underlying melody of a *gendhing*. Therefore, *rebab* melody is less susceptible to fragmentation. In modern learning of this instrument, the teacher has to write out the whole *rebab* part of a *gendhing*. In describing the *rebab* melody, the terms *cèngkok* (melodic pattern) and *wilet* (melodic ornamentation) are often used interchangeably. This is not the case with other elaborating instruments. For example, the fragmentation of melody into melodic patterns is necessary in theorizing and learning the *gendèr*. This melodic fragmentation came about because the *gendèr*, with the limitation of its range, must coordinate its melodies with the proper melody of a *gendhing*. (Although the *gendèr* range encompasses more than two octaves, because it is played with two mallets, its range is reduced to one and one-half octaves.) Like *gatra* in *balungan*, *gendèr* playing evolved and a group of individual *gendèr* patterns emerged.

The range limitation of *gendèr* brings about two types of *gendèr* patterns: patterns whose melodic direction are in congruence or divergence with the proper melodic motion of a *gendhing*. A congruent *gendèr* pattern is created when it is possible for the *gendèr* range to express the proper melodic motion of a passage. When *gendèr* range cannot attain this, divergent *gendèr* patterns (patterns which move in the opposite direction from the proper melodic motion) become inevitable. In addition, the *gendèr* will also have to find *rambatan* (creeping), or a smooth way to link its patterns when situation demands.

How can one learn *gendèr* successfully? My answer would be a mixture between learning *gendèr* by recognizing *cèngkok* and by listening and imitating *gendèr* playing. It is also more beneficial when learning *gendèr* is done in the context of listening to the rest of the ensemble. With this premise in mind, I began to realize how effective learning *gendèr*, *rebab*, or *kendhang* at the conservatory is. I will explain this in the following pages.

THE *GENDE*R LESSON AT ASKI

The reader, having followed my survey of *gendèr* teaching methods this far, might find this section a little disappointing. The reader may have assumed that the methods I described above are formally used at ASKI. On the contrary, they are never precisely used. The *gendèr* books have never been applied carefully; they are only used as supplemental reading material. When I was still studying in ASKI (1965–1968), the situation of the *gendèr* lesson was as follows below.

To teach the *gendèr* part for a *gendhing*, first, two or three teachers will play the *gendhing* on the *gendèr*, *rebab*, *kendhang*, and sometimes *slenthem*. Then, if some students feel that they are ready they will try to play *gendèr*, *rebab*, or *kendhang*. Or, if they already know the piece from performance experience outside the school, they will volunteer to play. Meanwhile, the teachers listen, offer suggestions, or play examples. The students who are not able to play at that time will just listen. Outside the class hours, they will spend much of their time in independent study (to practice the *gendèr* themselves, ask their friends for help, or get together with their friends for rehearsal).

The techniques of holding the mallets or of dampening have never been carefully taught by the teacher. Instead, the students must learn by themselves. This situation of the *gendèr* lesson at ASKI has continued to the present day. Supanggih (one of the *gendèr* teachers there at that time) emphasizes learning through listening and copying. A learning stage of *gendèr* playing (including holding the mallets and dampening technique) has never been established. Learning through listening to cassette recordings is also done but is limited only to the students being upgraded to teaching assistants or to those preparing for their examination. Another important aspect of learning gamelan at ASKI is the student's involvement in rehearsals outside the class hours, or in public performances. For example,

a student might find that in his village there is a gamelan club that he can join, thus he will be able to spend much time rehearsing or performing with them. Very often, there are also public performances which are organized by the school. Other gamelan performances might be organized by friends in the school for the celebration of a wedding, circumcision, or other ceremonies for relatives. Usually, the students who are often involved in the performances will become recognized players on *gendèr* or other leading instruments. It is obvious that the more time the student spends music making, the more musical experience he or she will gain. In Java, there are still vast opportunities to listen to gamelan music. Almost daily we can listen to the gamelan music broadcast from the government radio station (R.R.I., Radio Republik Indonesia) or from private radio stations (*radio amatir*). Gamelan is still often played for many kinds of celebration, from wedding celebration to Independence Day or other patriotic holidays, from circumcision celebrations to the celebrations of the opening of new bridges or new villages, etc. Nowadays, the increasing number of commercial cassette recordings of gamelan music has provided more opportunities to listen to gamelan music. I hope that the process of learning gamelan I explain in this booklet will be enriched by the increasing opportunities to listen to gamelan music. The last section of this booklet is a practical guide to learn *gendèr* and the *gendèr* notation of several pieces.

LEARNING GENDÈR AND GENDÈR NOTATION

Damping Technique

Considering the difficulty of damping technique in *gendèr* playing, I feel that I should provide detailed descriptions and exercises for it. In my experience teaching *gendèr*, such descriptions and exercises have proven to be both very helpful and necessary for the student.

The *gendèr* is played with two mallets, one held in each hand. In learning to play *gendèr*, the damping technique must first be learned. Because we must do it without thinking about it. For the right hand, the fingers are bent inward into a fist, palm side down, thumb straight. The handle of the mallet is held between the index and middle fingers, and the end of the handle touches the center of the palm. The stroke of the mallet is controlled by up-and-down motions of the wrist in coordination with the up-down and side-to-side

motions of the hand. In playing, when the hand moves to the right (striking the key with the right side of the hand), the thumb or part of the palm near the thumb will act as a damper. When the hand moves to the left, striking the key with the left side of the hand, the ring finger and little finger or the part of the palm near the little finger will damp the keys. For the left hand, the thumb and index fingers are on top, with the palm facing right, the fingers are slightly bent. The handle of the mallet is held between the index finger and middle finger, and the end of the handle is held by the thumb which is bent around it. The stroke of the mallet is controlled by the motion of the wrist, the rotation of the arm (especially when striking the keys with the left side of the hand) in coordination with the side-to-side and up-down motions of the hand. When the hand moves to the left, striking the key with the left side of the hand, the little finger and the ring finger will act as dampers. When the hand moves to the right, the palm near the wrist will damp the keys.

There are two kinds of damping technique:

1. The key is damped an instant after playing the following pitch (i.e., delayed damping). For example, when playing pitch 2 followed by pitch 3: strike pitch 2, let it ring; then strike pitch 3, let it ring, but an instant after striking pitch 3, pitch 2 must be damped. If pitch 3 is followed by pitch 5, an instant after striking pitch 5 you must damp pitch 3, etc. If you must play two notes separated by one or two keys, the damping should be done in the same way as described above, therefore the hand must move quickly from key to key.

2. The key is damped at the same time as the next pitch is played (exact-timing damping). For example, when playing pitch 6 followed by pitch 7: strike pitch 6, then strike pitch 7, at the same time damping pitch 6. This kind of damping should only be done in situations in which damping technique #1 is impossible because our hands cannot move fast enough to do instant damping as required by the duration of the notes. Therefore, this damping is used especially in the rangkep playing style.

Exercises

Keeping the damping technique #1 in mind, different kinds of exercises can be created, for example:

1. Right hand. Each set of notes below can be repeated.

[3̣ 2̣]	[1̣ 6̣]	[3̣ 2̣ 1̣ 6̣ 1̣ 2̣]
[2̣ 1̣]	[6̣ 5̣]	[2̣ 1̣ 6̣ 5̣ 6̣ 1̣]
[3̣ 1̣]	[2̣ 6̣]	[3̣ 1̣ 2̣ 6̣]
[2̣ 6̣]	[1̣ 5̣]	[2̣ 6̣ 1̣ 5̣]

2. Left hand:

[3 2]	[1 6̣]	[3 2 1 6̣ 1 2]
[2 1]	[6̣ 5̣]	[2 1 6̣ 5̣ 6̣ 1]
[3 1]	[2 6̣]	[3 1 2 6̣]
[2 6̣]	[1 5̣]	[2 6̣ 1 5̣]

We should remember that in actual gender playing, the right hand and left hand dampen the keys in different ways. Therefore, exercises for the coordination between both hands are necessary. For example, right hand and left hand playing *gembyangan* (an octave apart) use the melodic exercises above.

1. Right and left hands play together:

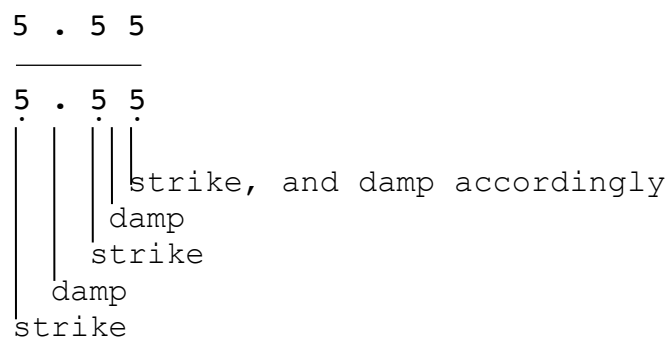
right	<u>3̣ 2̣</u>	<u>1̣ 6̣</u>	<u>3̣ 2̣ 1̣ 6̣ 1̣ 2̣</u>
left	3 2	1 6̣	3 2 1 6̣ 1 2 etc.

2. Right and left hands play in alternation:

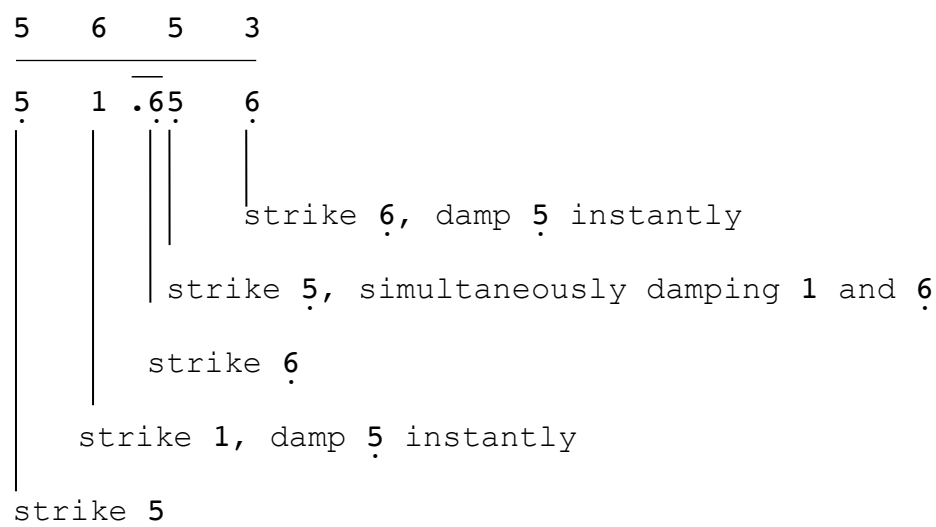
right	<u>3̣.2̣.</u>	<u>1̣.6̣.</u>	<u>3̣.2̣.1̣.6̣.1̣.2̣.</u>
left	.3.2	.1.6	.3.2.1.6.1.2 etc.

There are additional damping techniques:

1. If the same pitch is played two or more times consecutively, the key should be damped in-between strokes, except the last stroke which should be damped according to context.



2. If two notes are played in a single beat (e.g. 1 $\overline{.6}$), they should be damped together.



3. If the striking of note is followed by a rest (indicated by one or more dots), this note should be allowed to ring untill the next note is played.

NOTATION OF THE GENDÈR

Ketawang *Subå Kaståwå* Sléndro Sångå

Bukå . 5 . 6 2 . 2 6 2 5 . 1̇ . 6 5 . 56 5
 $\overline{165}$. 6 2 . 2 6 2 5 . 1 . 6 5 1 6 5

tanggung

 . 1 . 6 . 1 . 5̂
 i . 6i 5 i 2̇ i 6̇ . 5 . 6 . 5 6 5
 . 6 1 . 5 . 165 6̇ 3 . 2 3 5 2̇ 3 5

 . 1 . 6̇ dadi . 1 . 5̂
 i . 6i 5 i 2̇ i 6̇ 5 . 35 6 . 5 3 5 3 2 3 6 . 5 6 5
 . 6 1 . 5 . 1 65 6̇ . 1 2 . 161 1 1 . 65 3 2̇ . 3 . 5

 . 1 . 6̇ . 1 . 5̂
 i . 6i 5 i 2̇ i 6̇ 5 3 5 i . 6 i 6 5 . 35 6 . 5 3 5 3 2 3 6 . 5 6 5
 . 6 1 . 1 321 2̇ . 16̇ 1 . 656̇ 6̇ 6̇ . 1 2 . 161 1 1 . 65 3 2̇ . 3 . 5

 . 1 . 6̇ . 1 . 5̂
 i . 6i 5 i 2̇ i 6̇ 5 3 5 i . 6 i 6 5 . 35 6 . 5 3 5 3 2 3 6 . 5 6 5
 . 6 1 . 1 321 2̇ . 16̇ 1 . 656̇ 6̇ 6̇ . 1 2 . 161 1 1 . 65 3 2̇ . 3 . 5

Ngelik

5 . 35 6 . 5 6 i 2̇ . i 2̇ . i 6 5
 . 1 2 . 161 1 1 2̇ . i 2̇ . 1 615

 . 2̇ . i . 6 . 5̂
 6 5 6 . 56 i 6 2̇ . i . 2̇ . i 6 5 3 2 3 . 23 5 3 6 . 5 . 6 . 5 6 5
 . . . 21 2 6 1 5 . 6 5 6 1 216̇ 1 . . . 65 6̇ 3 5 2̇ . 3 2̇ 3 5 2̇ 3 5

 . 2 . 1̇ . 6̇ . 5̂

6 5 6 $\overline{.56}$ $\dot{1}$ 6 $\dot{2}$. $\dot{1}$. $\dot{2}$. $\dot{1}$ 6 5	3 2 3 $\overline{.23}$ 5 3 6 . 5 . 6 . 5 6 5
$\overline{. . .21}$ 2 6 1 $\dot{5}$. $\dot{6}$ $\dot{5}$ $\dot{6}$ 1 $\overline{216}$ 1	$\overline{. . .65}$ 6 3 5 2 . 3 2 3 5 2 3 5
. 2 . 1	. 6 . $\widehat{5}$
6 5 6 $\overline{.56}$ $\dot{1}$ 6 $\dot{2}$. $\dot{1}$. $\dot{2}$. $\dot{1}$ 6 5	3 2 3 $\overline{.23}$ 5 3 6 . 5 . 6 . 5 6 5
$\overline{. . .21}$ 2 6 1 $\dot{5}$. $\dot{6}$ $\dot{5}$ $\dot{6}$ 1 $\overline{216}$ 1	$\overline{. . .65}$ 6 3 5 2 . 3 2 3 5 2 3 5
. 2 . $\widetilde{1}$	. 6 . $\textcircled{5}$
6 5 6 $\overline{.56}$ $\dot{1}$ 6 $\dot{2}$. $\dot{1}$. $\dot{2}$. $\dot{1}$ 6 5	3 2 3 $\overline{.23}$ 5 3 6 . 5 . 6 . 5 6 5
$\overline{. . .21}$ 2 6 1 $\dot{5}$. $\dot{6}$ $\dot{5}$ $\dot{6}$ 1 $\overline{216}$ 1	$\overline{. . .65}$ 6 3 5 2 . 3 2 3 5 2 3 5
. 2 . 1	. 2 . $\widehat{6}$
2 . 3 5 3 $\overline{.23}$ 5 6 $\dot{1}$ 6 $\dot{2}$. $\dot{1}$ 6 5	3 5 3 . 3 5 3 2 5 $\overline{.35}$ 2 5 3 5 6
$\overline{. 1 . 5 . 6 . 1 . 2 . 6}$ 1 $\overline{216}$ 1	$\overline{. . .56}$ 1 6 1 . $\overline{.53}$ 2 . 5 $\overline{165}$ 6
. 2 . $\widetilde{1}$	. 6 . $\textcircled{5}$
5 $\overline{.35}$ 6 . 5 6 5 6 $\dot{1}$ 6 $\dot{2}$. $\dot{1}$ 6 5	3 2 3 $\overline{.23}$ 5 3 6 . 5 . 6 . 5 6 5
$\overline{. 1 2 . .16}$ 1 $\dot{5}$. 2 . 6 $\overline{121}$ 6 1	$\overline{. . .65}$ 6 3 5 2 . 3 2 3 5 2 3 5

Ladrang *Gonjang-Ganjing* Sléndro Sångå

Bukå gendèr

(5)

. 5 . 6 . 5 i 6 i 5 i 6 i 5
 .165 . 2 . 1 . 216 1 . 65165

tanggung

. 2 . 1 . 6 . 5 . 2 . 5 . 2 . 1
 6 i 6 2 . i 6 5 3 2 3 6 . 5 6 5 3 6 3 2 3 5 6 5 6 i 6 2 . i 6 5
 . 2 . 6 1 216 1 . 63 3 2 . 3 . 5 2 2 2 . 3 2 3 5 . 2 . 6 1 216 1

dadi . 2 . 1 . 2 . 1
 6 i 6 .56 i 6 2 . i . 2 . i 6 5 3 2 3 . 2 5 2 6 . 5 . 6 . 5 6 5
 . . .21 2 6 1 5 . 6 5 6 1 216 1 . . .65 6 3 5 2 . 3 2 3 5 2 3 5

. 2 . 1 . 6 . 5
 6 5 6 .56 i 6 2 . i . 2 . i 6 5 3 2 3 .23 5 3 6 . 5 . 6 . 5 6 5
 . . .21 2 1 2 . 6 . 5 6 1 216 1 . . .65 6 5 6 . 3 . 2 3 5 2 3 5

[. . 2 . 1 . 6 . 5
 6 5 6 .56 i 6 2 . i . 2 . i 6 5 3 2 3 .23 5 3 6 . 5 . 6 . 5 6 5
 . . .21 2 1 2 . 6 . 5 6 1 216 1 . . .65 6 5 6 . 3 . 2 3 5 2 3 5

. 2 . 5 . 2 . 1
 3 6 3 2 5 .35 6 . 5 . 6 . 5 6 5 6 5 6 .56 i 6 2 . i . 2 . 1 6 5
 2 2 2 . . 6 1 2 161 1 12.16 1 5 . . .21 2 6 1 5 . 6 5 6 1 216 1

. 2 . 1 . 2 . 1
 6 i 6 2 . i 6 5 6 i 6 2 . i 6 5 6 i 6 .56 i 6 2 . i . 2 . 1 6 5
 . 2 . 2 .16 1 5 . 2 . 6 1 216 1 . . .21 2 1 2 . 6 . 5 6 1 216 1

$$\begin{array}{rcl}
& \cdot & 2 \quad \cdot \quad \overset{\sim}{1} \quad \cdot \quad \overset{\circ}{6} \quad \cdot \quad \textcircled{5} \\
\hline
6 \ i \ 6 \ \dot{2} \cdot \ i \ 6 \ 5 \ 6 \ i \ \overline{\dot{2}.\dot{1}\dot{2}} \ i \ 6 \ 5 & 3 \cdot \ 3 \ 2 \ 5 \ 3 \ 5 \ 6 \cdot \ 5 \cdot \overline{.6.5}6 \ i \ 6 \ 5 \\
\hline
\cdot \ 2 \cdot \overline{.16} \ 5 \ 5 \ 5 \cdot \cdot \ 2 \cdot \cdot \ \overset{\circ}{6} \ 1 \ \overline{216} \ 1 & \cdot \ \overset{\circ}{6} \ 1 \cdot \cdot \ \overset{\circ}{5} \ \overline{165} \ 6 \ 3 \cdot \cdot \ \dot{2} \ 3 \ 5 \ 2 \ 3 \ 5
\end{array}$$

$$\begin{array}{rcl}
& \cdot & 2 \quad \cdot \quad 1 \quad \cdot \quad \overset{\circ}{6} \quad \cdot \quad \overset{\circ}{5} \\
\hline
6 \ i \ 6 \ \dot{2} \cdot \ i \ 6 \ 5 \ 6 \ i \ \overline{\dot{2}.\dot{1}\dot{2}} \ i \ 6 \ 5 & 3 \cdot \ 3 \ 2 \ 5 \ 3 \ 5 \ 6 \cdot \ 5 \cdot \overline{.6.5}6 \ i \ 6 \ 5 \\
\hline
\cdot \ 2 \cdot \overline{.16} \ 5 \ 5 \ 5 \cdot \cdot \ 2 \cdot \cdot \ \overset{\circ}{6} \ 1 \ \overline{216} \ 1 & \cdot \ \overset{\circ}{6} \ 1 \cdot \cdot \ \overset{\circ}{5} \ \overline{165} \ 6 \ 3 \cdot \cdot \ \dot{2} \ 3 \ 5 \ 2 \ 3 \ 5
\end{array}$$

$$\begin{array}{rcl}
& \cdot & 2 \quad \cdot \quad \overset{\sim}{5} \quad \cdot \quad 2 \quad \cdot \quad \overset{\circ}{1} \\
\hline
3 \ 6 \ 3 \ 2 \ 5 \cdot \overline{.35} \ 6 \cdot \ 5 \cdot \cdot \ 6 \cdot \cdot \ 5 \ 6 \ 5 & \cdot \ 6 \cdot \cdot \ 5 \cdot \cdot \ 6 \cdot \cdot \ 5 \ 6 \ i \ 6 \ \dot{2} \cdot \cdot \ i \ 6 \ 5 \\
\hline
\dot{2} \ \dot{2} \ \dot{2} \cdot \cdot \cdot \ \overset{\circ}{6} \ 1 \ 2 \cdot \cdot \ \overset{\circ}{6} \cdot \overline{.12} \ 1 \ 6 \ 1 \ 5 & 2 \cdot \cdot \ 2 \cdot \cdot \ \overline{216} \ 1 \ 5 \cdot \overline{.21} \ 2 \cdot \cdot \ \overset{\circ}{6} \ \overline{56.6}1
\end{array}$$

$$\begin{array}{rcl}
& \cdot & 2 \quad \cdot \quad \overset{\sim}{1} \quad \cdot \quad 2 \quad \cdot \quad \overset{\circ}{1} \\
\hline
6 \ i \ \overline{\dot{2}.\dot{1}\dot{2}} \ i \ 6 \ \dot{2} \cdot \cdot \ i \ \overline{\dot{2}.\dot{1}\dot{2}} \ i \ 6 \ 5 & 6 \ i \ \overline{\dot{2}.\dot{1}\dot{2}} \ i \ 6 \ 5 \ 6 \ i \cdot \cdot \ \dot{2} \cdot \cdot \ i \ 6 \ 5 \\
\hline
\cdot \cdot \ 2 \ 1 \ 2 \ 1 \ 2 \cdot \cdot \ \overset{\circ}{6} \cdot \cdot \ \overset{\circ}{5} \ \overset{\circ}{6} \ 1 \ \overline{216} \ 1 & \cdot \cdot \ 2 \ 1 \ 2 \ 1 \ 6 \ 5 \cdot \cdot \ 2 \cdot \cdot \ \overset{\circ}{6} \ 1 \ \overline{216} \ 1
\end{array}$$

$$\begin{array}{rcl}
& \cdot & 2 \quad \cdot \quad \overset{\sim}{1} \quad \cdot \quad \overset{\circ}{6} \quad \cdot \quad \textcircled{5} \\
\hline
6 \ 5 \ 6 \cdot \overline{.56} \ i \ 6 \ \dot{2} \cdot \cdot \ i \cdot \cdot \ \dot{2} \cdot \cdot \ i \ 6 \ 5 & 3 \ 2 \ 3 \cdot \overline{.23} \ 5 \ 3 \ 6 \cdot \cdot \ 5 \cdot \cdot \ 6 \cdot \cdot \ 5 \ 6 \ 5 \\
\hline
\cdot \cdot \cdot \ \overline{.21} \ 2 \ 1 \ 2 \cdot \cdot \ \overset{\circ}{6} \cdot \cdot \ \overset{\circ}{5} \ \overset{\circ}{6} \ 1 \ \overline{216} \ 1 & \cdot \cdot \cdot \ \overset{\circ}{65} \ 6 \ 5 \ 6 \cdot \cdot \ 3 \cdot \cdot \ \dot{2} \ 3 \ 5 \ 2 \ 3 \ 5
\end{array}$$

$$\begin{array}{rcl}
& \cdot & 2 \quad \cdot \quad \textcircled{1} \\
\hline
i \ i \ i \ i \ \overset{\circ}{6} \ i \ \overset{\circ}{6} \ \dot{2} \cdot \cdot \ i \cdot \cdot \ \dot{2} \cdot \cdot \ i \ 6 \ 5 & \\
\hline
\cdot \cdot \cdot \cdot \ 2 \ 1 \ 2 \cdot \cdot \ \overset{\circ}{6} \cdot \cdot \ \overset{\circ}{5} \ \overset{\circ}{6} \ 1 \ \overline{216} \ 1 &
\end{array}$$

$$\begin{array}{rcl}
& \cdot & \dot{3} \quad \cdot \quad \dot{2} \quad \cdot \quad 6 \quad \cdot \quad \overset{\circ}{5} \\
\hline
1 \cdot \overline{.6i} \cdot \cdot \ i \ \dot{2} \ i \ 5 \ i \ 6 \ i \cdot \overline{.6i} \ \dot{2} \ i \ 6 & \cdot \ 5 \cdot \cdot \ 6 \cdot \cdot \ 5 \ 6 \ 5 \ 3 \ 2 \ 3 \ 6 \cdot \cdot \ 5 \ 6 \ 5 \\
\hline
\cdot \ \overset{\circ}{6} \ \overset{\circ}{5} \cdot \cdot \ 1 \ 2 \ 3 \cdot \cdot \cdot \cdot \cdot \ \overline{.53} \ 2 \ \overline{321} \ 2 & \overline{161} \ 1 \ \overline{12161} \ 1 \ 1 \cdot \overline{.65} \ 3 \ \dot{2} \cdot \cdot \ 3 \cdot \cdot \ 5
\end{array}$$

$$\begin{array}{rcl}
& \cdot & i \quad \cdot \quad \overset{\sim}{6} \quad \cdot \quad 5 \quad \cdot \quad \overset{\circ}{6} \\
\hline
i \cdot \overline{.6i} \ 5 \ i \ \dot{2} \ i \ 6 \ 5 \ 3 \ 5 \ i \cdot \cdot \ 6 \ i \ 6 & i \ \dot{2} \cdot \overline{.i.6i} \ \dot{2} \ i \ 6 \ 5 \ 3 \ 5 \ i \cdot \cdot \ 6 \ i \ 6 \\
\hline
\cdot \ \overset{\circ}{6} \ 1 \cdot \cdot \ 1 \ \overline{321} \ 2 \cdot \overline{.16} \ 1 \cdot \cdot \cdot \ \overline{656} \ 6 \ 6 & \cdot \cdot \ 5 \ 6 \ 1 \ \overline{321} \ 2 \cdot \overline{.16} \ 1 \cdot \cdot \cdot \ \overline{656} \ 6 \ 6
\end{array}$$

Ketawang *Puspå Warnå* sléndro manyurå

Bukå rebab 6 $\overline{123}$ 2 1 3 3 $\overline{232}$ 2 $\overline{16216}$

Gendèr . $\hat{1}$. 6 $\hat{1}$ 6

$\overline{653}$. 5 . 6

tanggung

 . 2 . 3 . 2 . $\hat{1}$. 3 . $\hat{2}$

3 . 5 6 5 . 5 3 6 5 6 3 6 5 6 $\hat{1}$ 6 . $\overline{56}$ $\hat{1}$. 6 $\hat{1}$ 6

. 2 . 2 . 1 2 . 6 5 3 . 6 $\overline{216}$ 1 . 2 3 . $\overline{212}$ 2 2

dadi . 1 . ⑥

5 3 5 . $\overline{35}$ 6 5 $\hat{1}$. 6 . $\hat{1}$. 6 $\hat{1}$ 6

. . . $\overline{16}$ 1 5 6 3 . 5 3 5 6 3 5 6

⌈: . 2 . 3 . 2 . $\hat{1}$

3 . 5 6 5 . $\overline{35}$ 6 $\hat{2}$ $\hat{3}$ $\hat{2}$ 6 $\hat{2}$ $\hat{3}$ $\hat{2}$ $\hat{1}$ 6 5 6 . $\overline{56}$ 5 6 3 6 5 6 3 6 5 6 $\hat{1}$

. 2 . 6 . 1 . 2 . 3 5 . 2 $\overline{532}$ 3 . . . $\overline{21}$ 6 1 2 . . $\overline{65}$ 3 . 6 5 6 1

 . 3 . $\hat{2}$. 1 ⑥

6 . $\overline{56}$ $\hat{1}$. 6 $\hat{1}$ 6 $\hat{1}$ $\hat{2}$ $\hat{1}$ $\hat{3}$. $\hat{2}$ $\hat{1}$ 6 5 3 5 . $\overline{35}$ 6 5 $\hat{1}$. 6 . $\hat{1}$. 6 $\hat{1}$ 6

. 2 3 . 2 1 2 6 . 3 . 1 2 $\overline{321}$ 2 . . . $\overline{16}$ 1 5 6 3 . 5 3 5 6 3 5 6

5 3 5 . $\overline{35}$ 6 $\hat{1}$ $\hat{2}$ $\hat{3}$. $\hat{2}$ $\hat{3}$. $\hat{2}$ $\hat{1}$ 6

. . . $\overline{16}$ 1 6 6 $\overline{12}$ 3 . 2 3 . $\overline{21}$ 2 6

 . . 6 . $\hat{2}$ $\hat{3}$ $\hat{2}$ $\hat{1}$

. 3 5 . $\overline{35}$ 3 5 6 $\hat{1}$ $\hat{2}$ $\hat{1}$ $\hat{3}$. $\hat{2}$ $\hat{1}$ 6 $\hat{2}$ $\hat{3}$. $\overline{2.12}$ $\hat{3}$ $\hat{2}$ $\hat{1}$ 6 5 6 $\hat{2}$. $\hat{1}$ $\hat{2}$ $\hat{1}$

. . . $\overline{21}$ 6 6 6 . . 3 . $\hat{1}$ 2 $\overline{321}$ 2 . . 6 1 2 $\overline{532}$ 3 . $\overline{21}$ 2 . $\overline{161}$ 1 1

$\hat{3}$ $\hat{2}$ 6 $\hat{1}$ 6 5 ③

6 . $\overline{56}$ $\hat{1}$. 6 $\hat{1}$ $\hat{2}$. $\hat{1}$ $\hat{3}$ $\hat{2}$ 6 5 3 2 5 6 . $\overline{5.35}$ 6 5 3 2 1 2 3 . 3 5 3

. 2 3 . $\overline{212}$ 2 2 . $\overline{123}$ 2 6 5 3 5 . . 2 3 5 $\overline{165}$ 6 . $\overline{53}$ 5 . $\overline{323}$ 3 3

3	3	.	.	6	5	3	2
5 i 5 3 6 .56 i 5 6 5 i . 6 i 6	i 6 i .6i 2 i 3 . 2 . 3 . 2 i 6						
3 3 3 . . 1 2 3 . 1 . 5 6 3 5 6	. . .32 3 1 2 6 . 1 6 1 2 321 2						
5	6	5	3	2	1	2	6
2 .i2 6 2 3 2 6 2 i 2 .i2 3 2 i	6 5 6 .56 5 6 i . 6 . i . 6 i 6						
. 1 6 . 2 3 565 3 532 3	. . .21 6 216 1 5 . 3 5 6 . 6 6						
2	1	2	3	2	1	2	6
2 .i2 6 2 3 2 i 5 . 6 i 6 .56 i	6 5 6 .56 5 6 i . 6 . 1 . 6 i 6						
. 1 2 . 6 216 1 . 3 . 1 . 2 . 3	. . .21 6 216 1 5 . 3 5 6 . 6 6						
Ngelik				. 6 . i . 6 i 2 3 . 2 3 . 2 i 6			
				212 2 23212 2 2 3 . 2 3 . 2 126			
.	.	6	.	i	5	i	6
. 3 5 .35 .35 6 . 3 5 .35 3 5 6	5 3 5 .35 6 i 2 3 . 2 3 . 2 i 6						
. . . 2 .16 6 2 .16 6 .	. . .16 1 6 612 3 . 2 3 . 2 126					
3	5	6	i	6	5	3	2
2 .i2 6 2 3 2 i 6 5 6 2 . i 2 i	6 .56 i . 6 i 6 i 2 i 3 . 2 i 6						
. 1 2 6 2 532 3 .21 2 . 161 1 1	. 2 3 . 2 1 2 6 . 3 . 1 2 321 2						
6	6	.	.	i	5	i	6
.i.6i 6 2 .i2 6 2 .i2 6 2 .i2 6	5 3 5 .35 6 i 2 3 . 2 3 . 2 i 6						
6 6 6 . .56 6 . .56 6 . .56 6 .	. . .1.61 6 612 3 . 2 3 . 2 126					
i	i	3	2	.	1	2	6 :]
i . 6 .56 5 6 i 6 5 6 i . 6 i 6	5 3 5 .35 6 5 i . 6 . i . 6 i 6						
. 1 . 3 .21 1 . . 2 3 . 212 2 2	. . .16 1 5 6 3 . 5 3 5 6 3 5 6						

Ladrang *Remeng* Sléndro Nem
gendèran lombâ (balungan and gendèr)

Bukâ: rebab

5 $\overline{6}$ 1 2 $\overline{1\ 2\ 5}$ $\overline{6\ 1\ 1}$ 1 1 1 2 6 $\overline{1\ 6}$ (6)

gendèr

. . 6

2 1 6

tanggung:

. 6 6 . 6 6 5 $\widehat{6}$

$\overline{. 3\ 5\ .3\ 5\ 3\ 5\ 6}$ $\overline{5\ 3\ 5\ 1\ .\ 6\ 1\ 6}$

 $\overline{. .\ .2\ 1\ 6\ 6\ 6\ .}$ $\overline{. 1\ .\ 5\ 6\ 3\ 5\ 6}$

1 6 5 $\widetilde{3}$ dadi 2 2 3 $\widehat{2}$
 $\overline{5\ 3\ 5\ 6\ 5\ 1\ 5\ 3}$ $\overline{2\ .\ 5\ 6\ .1\ .6\ 1\ 6\ 1\ 2\ 1\ 3\ .\ 2\ 1\ 6}$

 $\overline{. 1\ .\ 6\ 3\ 3\ 3\ .}$ $\overline{. 2\ .\ .\ 6\ 6\ .\ .\ .\ 3\ .\ 1\ 2\ 3\ 2\ 1\ 2}$

[. . 6 $\widetilde{1}$ 2 2 3 $\widehat{2}$
 $\overline{. .\ 1\ 6\ 2\ .1\ 2\ 6\ 5\ .\ 5\ 3\ 6\ 5\ 6\ 1}$ $\overline{.6\ .6\ 1\ 6\ 2\ .1\ 2\ 6\ 1\ 2\ 1\ 3\ .\ 2\ 1\ 6}$

 $\overline{. .\ .\ 6\ 2\ 2\ .\ .\ .\ 1\ 2\ .\ 6\ 2\ 1\ 6\ 1}$ $\overline{2\ 2\ .\ 6\ 1\ 2\ 2\ .\ .\ .\ 3\ .2\ 1\ 2\ 3\ 2\ 1\ 2}$

3 2 1 $\widetilde{6}$ 5 6 1 (2)
 $\overline{1\ 2\ 1\ 3\ .\ 2\ 1\ 6\ 5\ .3\ 5\ 1\ .\ 6\ 1\ 6}$ $\overline{1\ 2\ 1\ 3\ .\ 2\ 1\ 6\ 1\ 2\ 1\ 3\ .\ 2\ 1\ 6}$

 $\overline{. 3\ .2\ 1\ 2\ .\ 2\ 1\ 2\ .1\ 6\ 5\ 3\ .\ 5\ .\ 6}$ $\overline{. 3\ .\ .\ .2\ 1\ 2\ 6\ 3\ .\ .\ 1\ 2\ 3\ 2\ 1\ 2}$

3 2 1 6 5 6 1 $\widehat{2}$
 $\overline{1\ 2\ 1\ 3\ .\ 2\ 1\ 6\ 5\ .3\ 5\ 1\ .\ 6\ 1\ 6}$ $\overline{1\ 2\ 1\ .6\ 1\ 2\ 1\ 3\ .\ 2\ .\ 3\ .\ 2\ 1\ 6}$

 $\overline{. 3\ .2\ 1\ 2\ .\ 2\ 1\ 2\ .1\ 6\ 5\ 3\ .\ 5\ .\ 6}$ $\overline{. .\ .3\ 2\ 3\ 2\ 3\ .2\ 1\ .\ 6\ 1\ 2\ 3\ 2\ 1\ 2}$

3 2 1 $\widetilde{6}$ 3 3 5 $\widehat{3}$

$$\begin{array}{r}
\begin{array}{cccccccccccccccc}
\dot{1} & \dot{2} & \dot{1} & \dot{3} & . & \dot{2} & \dot{1} & 6 & 5 & \overline{.35} & \dot{1} & . & 6 & \dot{1} & 6 & 5 & \dot{1} & 5 & 3 & \overline{.5.35} & 3 & 2 & 1 & 2 & 5 & . & 3 & 5 & 3 \\
\hline
. & 3 & \overline{.21} & 2 & . & \overline{212} & \overline{.16} & 5 & 3 & . & 5 & . & 6 & 3 & 3 & 3 & \overline{653} & 3 & . & . & . & 5 & \overline{.32} & 3 & 1 & 2 & 3
\end{array} \\
\begin{array}{cccccccccccccccc}
. & & & 3 & & & 5 & & & \overline{6} & & & \dot{1} & & 6 & & 5 & & \widehat{3} \\
. & 1 & 2 & \overline{.12} & 1 & 2 & 3 & 5 & 6 & 5 & \dot{1} & . & 6 & \dot{1} & 6 & 2 & \dot{1} & \dot{3} & \dot{2} & 6 & 5 & 3 & 2 & 5 & 6 & \overline{.1.61} & 6 & 5 & 3 \\
\hline
. & . & \overline{.65} & 3 & 3 & 3 & . & . & 1 & \overline{.65} & 6 & 1 & 2 & \overline{61} & 2 & \overline{123} & 2 & 6 & \overline{563} & 5 & . & 2 & 1 & 2 & 3 & 5 & \overline{653}
\end{array} \\
\begin{array}{cccccccccccccccc}
5 & & 6 & & 1 & & \overline{6} & & 5 & & 3 & & 2 & & \textcircled{3} \\
5 & 6 & 5 & \overline{.35} & 6 & 5 & \dot{1} & . & 6 & . & \dot{1} & . & 6 & \dot{1} & 6 & 2 & \dot{1} & \dot{3} & \dot{2} & 6 & 5 & 3 & 2 & 5 & 6 & \overline{.1.61} & 6 & 5 & 3 \\
\hline
. & . & \overline{.16} & 1 & 5 & 6 & 3 & . & 5 & 3 & 5 & 6 & 1 & 2 & \overline{61} & 2 & \overline{123} & 2 & 6 & \overline{563} & 5 & 3 & 2 & 1 & 2 & 3 & 5 & \overline{653}
\end{array} \\
\begin{array}{cccccccccccccccc}
6 & & 5 & & 2 & & 1 & & 6 & & 1 & & 2 & & \widehat{3} \\
2 & \overline{.12} & 3 & . & 2 & 3 & 5 & 6 & \dot{1} & 6 & 3 & 6 & 5 & 6 & \dot{1} & 2 & \dot{3} & \dot{2} & \overline{.12} & 3 & 2 & 6 & 2 & \dot{1} & 2 & \overline{.12} & 3 & 2 & \dot{1} \\
\hline
. & 5 & 6 & \overline{.53} & 5 & 5 & 5 & . & 1 & 2 & \overline{.16} & 2 & 3 & 1 & . & . & \overline{.53} & 2 & 5 & 2 & . & . & . & \overline{.65} & 3 & 5 & \overline{323}
\end{array} \\
\begin{array}{cccccccccccccccc}
5 & & 6 & & \dot{1} & & \overline{6} & & 5 & & 3 & & 2 & & \widehat{1} \\
. & 6 & . & \dot{1} & . & 6 & \dot{1} & 6 & 5 & \overline{.35} & \dot{1} & . & 6 & \dot{1} & 6 & \dot{1} & . & 6 & \dot{1} & 6 & \dot{1} & 6 & 3 & 6 & \overline{.56} & 3 & 6 & 5 & 6 & \dot{1} \\
\hline
212 & 2 & \overline{232} & 12 & \overline{212} & \overline{.16} & 5 & 3 & . & 5 & . & 6 & . & 1 & . & . & 2 & 1 & 2 & . & \overline{.65} & 3 & . & 6 & \overline{216} & 1
\end{array} \\
\begin{array}{cccccccccccccccc}
. & & 1 & & 1 & & \overline{1} & & 2 & & 3 & & 2 & & \widehat{1} \\
. & 5 & 6 & \overline{.56} & 5 & 6 & \dot{1} & \dot{3} & \overline{.23} & \dot{1} & 2 & \overline{.12} & \dot{1} & 2 & \dot{3} & \overline{.2.12} & 3 & 2 & \dot{1} & 6 & \overline{.56} & 2 & . & \dot{1} & 2 & \dot{1} \\
\hline
. & . & \overline{.32} & 1 & 1 & 1 & . & \overline{.61} & . & \overline{321} & 1 & . & . & . & . & 6 & 1 & 2 & \overline{532} & 3 & \overline{.21} & 2 & \overline{.16} & 2 & 3 & 1
\end{array} \\
\begin{array}{cccccccccccccccc}
3 & & 2 & & 1 & & \overline{2} & & . & & 1 & & 6 & & \textcircled{5} \\
6 & \overline{.56} & \dot{1} & . & 6 & \dot{1} & 6 & \dot{1} & \dot{2} & . & \dot{3} & . & \dot{2} & \dot{1} & 6 & . & 5 & . & 6 & . & 5 & 6 & 5 & 3 & \overline{.23} & 6 & . & 5 & 6 & 5 \\
\hline
. & 2 & 3 & . & 2 & 1 & 2 & 6 & . & 3 & \overline{.21} & 2 & \overline{321} & 2 & 161 & 1 & \overline{121} & 161 & 1 & 1 & \overline{.65} & 3 & 2 & . & 3 & . & 5
\end{array} \\
\begin{array}{cccccccccccccccc}
. & & 6 & & 1 & & 2 & & . & & 1 & & 6 & & \widehat{5} \\
\dot{1} & \overline{.61} & 5 & \dot{1} & \dot{2} & \dot{1} & 6 & 3 & . & 6 & . & 5 & \overline{.35} & 6 & . & 5 & . & 6 & . & 5 & 6 & 5 & 3 & \overline{.23} & 6 & . & 5 & 6 & 5 \\
\hline
. & 6 & 1 & \overline{.65} & 1 & 2 & 6 & . & 2 & \overline{.16} & . & 1 & . & 2 & 161 & 1 & \overline{121} & 161 & 1 & 1 & \overline{.65} & 3 & 2 & . & 3 & . & 5
\end{array} \\
\begin{array}{cccccccccccccccc}
. & & 6 & & 1 & & \overline{2} & & . & & 1 & & 6 & & \widehat{5}
\end{array}
\end{array}$$

Ladrang *Pangkur* Sléndro Sångå (balungan and gendèr)
gendèran lombå and rangkep

Bukå gendèr

(5)

. 5	. 6 . 5	i 6 i 5 i 6 i 5
.165	. 2 . 1	. 216 1 . 65165

tanggung

2	1	2	6	2	1	6	5	6	5	2	1
i 6 i 5 i 2 i 6	. 5 . 6 . 5 6 5	6 i 6 2 . i 6 5									
. 6 1 . 5 165 6	3 . 2 3 5 2 3 5	. 2 . 6 1 216 1									

dadi

3	2	1	6								
3 . 3 5 3 . 3 2 5	.35 2 5 3 5 6										
. 6 1 . 5 6 1 .	.53 2 . 5 165 6										

2	3	2	1	5	3	2	1				
5 . 5 6 . 5 6 5 6 i 6 2 . i 6 5	6 i 6 .56 i 6 2 . i . 2 . i 6 5										
. 1 2 . 1 6 1 5 . 2 . 6 1 216 1	. . .61 2 1 2 . 6 . 5 6 1 216 1										

3	2	1	6	2	1	6	(5)				
3 . 3 5 3 . 3 2 5	.35 2 5 3 5 6	5 . 5 6 . 5 6 5 3 2 3 6 . 5 6 5									
. 6 1 . 5 6 1 .	.53 2 . 5 165 6	. 1 2 . 161 1 1 .65 3 2 . 3 . 5									

2	1	2	6	2	1	6	5				
i .6i 5 3 . 3 2 5	.35 2 5 3 5 6	5 . 5 6 . 5 6 5 3 2 3 6 . 5 6 5									
. 6 1 . 5 615 3 2 . 2 3 5 165 6	. 1 2 . 161 1 1 .65 3 2 . 3 . 5										

6	5	2	1	3	2	1	6				
6 i 6 .56 i 6 2 . i . 2 . i 6 5	3 . 3 5 3 . 3 2 5	.35 2 5 3 5 6									
. . .61 2 1 2 . 6 . 5 6 1 216 1	. 6 1 . 5 6 1 .	.53 2 . 5 165 6									

2	3	2	\sim 1	5	3	2	$\widehat{1}$
5 . 5 6 . 5 6 5 6 i 6 2̇ . i 6 5	6 i 6 .56 i 6 2̇ . i . 2̇ . i 6 5						
<u>. 1 2 . 1 6̇ 1 5̇ . 2 . 6̇ 1 216̇ 1</u>	<u>. . .6̇1 2 1 2 . 6̇ . 5̇ 6̇ 1 216̇ 1</u>						

3	2	1	\sim 6̇	2	1	6̇	(5)
3 . 3 5 3 . 3 2 5 .35 2 5 3 5 6	5 . 5 6 . 5 6 5 3 2 3 6 . 5 6 5						
<u>. 6̇ 1 . 5̇ 6̇ 1 . .54̇ 2̇ . 5̇ 16̇5̇ 6̇</u>	<u>. 1 2 . 16̇1 1 1 .6̇5̇ 3̇ 2̇ . 3̇ . 5̇</u>						

Transition to wilet 323.3536.5.6.565

...6̇5̇6̇3̇5̇2̇.3̇2̇3̇5̇2̇3̇5̇

Gendèran rangkep

⌈:	.	2	.	1	.	2	.	6̇
...6...5...6...5...6.5.6i...6.6.65	.3.5.3.2.3.5.3.2.5.3.5.6...5.5.56							
<u>.2...2...216̇.1.5̇.6̇.6̇.5̇.6̇.1.2.16̇.</u>	<u>1.16̇5̇6̇1.1.16̇5̇6̇1.5̇.2̇3̇.3̇5̇.2̇3̇5̇.16̇5̇.</u>							

.	2	.	1	.	6̇	.	$\widehat{5}$ 5̇
.5...35.6.3.5.6.5...6.56.i...6.6.65	.3.5.3.2.35.35.6...5.3.6.3.5.6.5						
<u>6̇.12.16̇12.16̇5̇.5̇...6̇.6̇.5̇.6̇.1.2.16̇.</u>	<u>1.16̇5̇6̇1....2.21.6̇5̇3̇5̇6̇.6̇.3̇.2̇3̇5̇.5̇.</u>						

6	6	.	.	5	5	6	\sim i
...3.5.6...i.6i.6...i.6i.6...i.6i.6	.5...35.6.3.5.6.5...6.56.i...6.6.65						
<u>.32̇3̇.3̇5̇.5̇6̇.6̇.6̇...5̇6̇.6̇.6̇...5̇6̇.6̇.6̇..</u>	<u>..12.16̇12.16̇5̇.5̇.6̇.6̇.5̇.6̇..1.2.16̇.</u>						

2̇	i	5	2	.	1	.	$\widehat{6}$ 6̇
.i.i.565.i.i.565.i.2̇.i.5.6i.6i.6	.3.5.3.2.3.5.3.2.5.3.5.i.5.6.i.6						
<u>1.1216̇1.1.1216̇1.1.123.3....5.532</u>	<u>1.16̇5̇6̇1.1.16̇5̇6̇1...16̇1.1.1.216̇.6̇.</u>						

.	.	.	2	.	.	.	\sim 1
i.i.6i.6.i.6.i.2̇.2̇2̇2̇.2̇2̇2̇i6.6i.56	i.i.2̇i.2̇i.6..6..6.56.56.5.2...235						
<u>.216̇.6̇..1.16̇16̇5̇2̇.....5.23..</u>	<u>.6...6...5.5323523.23.2351.5̇6̇1.1.</u>						

$$\begin{array}{r}
 \begin{array}{cccccccc}
 & 2 & & 1 & & 3 & & 2 \\
 \dots 6 \dots 5 \dots 6 \dots 5 \dots 6 \dots 5 \dots 3 \dots 5 \dots 6 \dots 5 & & & & & & & \widehat{1} \\
 \hline
 .6\dot{1}2\dot{1}6\dot{1}.1\dot{6}\dot{1}2\dot{1}6\dot{1}.1\dot{6}\dot{1}2\dot{1}.1.2.1\dot{6}\dot{5}.5. & & & & & & & \\
 \hline
 \end{array}
 &
 \begin{array}{cccccccc}
 & 5 & & 3 & & 2 & & \widehat{1} \\
 .6\dots\dot{6}\dot{1}.\dot{2}\dot{1}.\dot{1}.6\dots5\dot{6}.5\dot{6}.5.2\dots235 & & & & & & & \\
 \hline
 2.235.5\dots6.5.523.23.23.1.5\dot{6}\dot{1}.1. & & & & & & & \\
 \hline
 \end{array}
 \\
 \\
 \begin{array}{r}
 \begin{array}{cccccccc}
 & 5 & & 6 & & \dot{2} & & \dot{1} \\
 .3.5.6.5.\dot{1}.\dot{2}.\dot{1}.6.5\dots35.6\dots5.6.5 & & & & & & & \widehat{6} \\
 \hline
 2.1\dot{6}\dot{5}.5\dots2.\dot{3}\dot{5}\dot{3}\dot{5}\dot{6}\dots12.1\dot{6}\dot{1}2\dot{1}6\dot{1}.1\dots & & & & & & & \\
 \hline
 \end{array}
 &
 \begin{array}{cccccccc}
 & 5 & & 2 & & 1 & & \widehat{6} \\
 .3.5.3.2.3.5.3.2.5.3.5.\dot{1}.5.6.\dot{1}.6 & & & & & & & \\
 \hline
 1.1\dot{6}\dot{5}\dot{6}\dot{1}.1.1\dot{6}\dot{5}\dot{6}\dot{1}\dots1\dot{6}\dot{1}.1.1.2\dot{1}\dot{6}.6. & & & & & & & \\
 \hline
 \end{array}
 \\
 \\
 \begin{array}{r}
 \begin{array}{cccccccc}
 . & & 2 & & . & & 1 & & \textcircled{5} : \\
 .5\dots35.6.3.5.6.5\dots6.5\dot{6}.\dot{1}\dots6.6.65 & & & & & & & \\
 \hline
 6.12.1\dot{6}\dot{1}2.1\dot{6}\dot{5}.5\dots6.6.5.6.1.2.1\dot{6}. & & & & & & & \\
 \hline
 \end{array}
 &
 \begin{array}{cccccccc}
 . & & 6 & & . & & & & \textcircled{5} : \\
 .3.5.3.2.35.35.6\dots5.3.6.3.5.6.5 & & & & & & & \\
 \hline
 1.1\dot{6}\dot{5}\dot{6}\dot{1}\dots2.2\dot{1}.\dot{6}\dot{5}\dot{3}\dot{5}\dot{6}.6.3.2\dot{3}\dot{5}.5. & & & & & & & \\
 \hline
 \end{array}
 \end{array}
 \end{array}$$

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