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Music in Central Java



EXPERIENCING
MUSIC,
EXPRESSING
CULTURE

A Sense of Time



Gong. Say it slow and low. The name of the instrument is its sound, so perfect that it passed into European languages from Malay (a close relative of Javanese) shortly after Europeans first came to Southeast Asia. Gongs from Java are highly prized and have been exported to other parts of Indonesia and Europe for centuries.

The deepest, most resonant sound in the gamelan emanates from the big gong, the *gong ageng*. Forged by hand from a disk of bronze by a crew of skilled artisans, it is also the most difficult instrument to manufacture. Slowly heating, hammering, reheating, and hammering again, the gong smiths thin the disk, stretching it ever wider, and then turn the edge inward to create a deep “lip” around the central disk, the diameter of which can be as much as a yard (see figure 2.1). As one man turns the disk with long tongs, others take turns striking in regular alternation. Each man’s hammer is tuned to a different note so that the pattern of striking creates a melody, which you can hear on CD track 8 (together with the sounds of a grinder and another hammer in the background). Further forging shapes the surface of the gong so that a sloping “shoulder” surrounds a flat central circle. In the center of that circle, the smiths add a half-dome bulge, a boss. It is this structure that gives the gong its well-defined pitch, unlike flat tam-tams and many Chinese gongs, which have a much less clearly defined pitch because so many frequencies are heard simultaneously. Just as important as the clear pitch and richness of a gong’s timbre is the way that its sound gradually decays, alternately swelling and fading in a wave-like pattern. Connoisseurs distinguish particular gongs by the speed of this alternation (called *ombak*, meaning “wave”) and how many times it swells before finally fading out.

The largest gongs are often given personal names, painted in Javanese script on the inside of the gongs, and honored with incense and flowers. They are usually suspended from ornately carved poles (see figure 2.2A). You play the gong by striking the boss with a large padded mallet or the fleshy part of your fist. The right touch is required: too soft a blow and the gong barely sounds; too hard and it roars. Some contemporary



FIGURE 2.1 *Gong forging in the smithy of Tentrem Saruwanto. (Photo by Ben Brinner.)*

Javanese musicians have experimented with distorted sounds as well as striking and scraping other parts of the gong, but in traditional gamelan only the boss is struck. Within the context of gamelan performance, the rich, low sound of the gong conveys a sense of completion and arrival, but it can also mark beginnings.



ACTIVITY 2.1 Listen to CD track 9, which consists of the beginning and ending of “Ladrang Asmaradana,” to hear how the gong 1) marks the point of entry for the full gamelan at the end of the introduction to the piece (played here on a bowed fiddle) and 2) gives a sense of resolution at the end of the piece. Compare to CD track 4.



MAKING AND MARKING MUSICAL TIME: GONGS AND DRUMS

Time is the primary axis in music. One of the more striking characteristics of Javanese gamelan in comparison to other musical ensembles is the large number of musicians and instruments involved in shaping

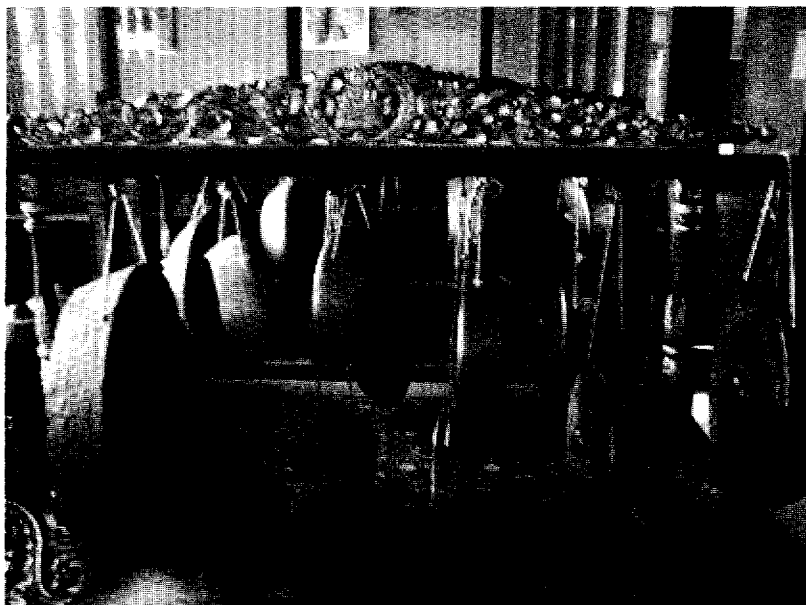


FIGURE 2.2A *Gongs of Gamelan Kyai Udan Mas: Gong ageng, kempul, and gong suwukan. (Photo by Ben Brinner.)*

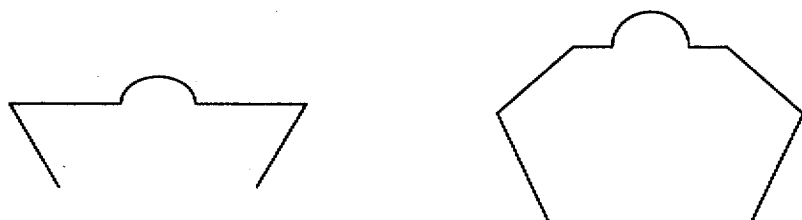


FIGURE 2.2B *Gongs of Gamelan Kyai Udan Mas: Schematic comparison of kethuk and kenong cross-sections.*

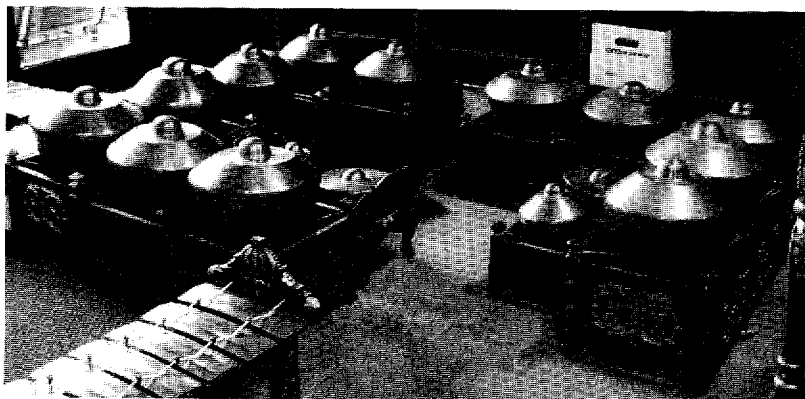


FIGURE 2.2C Gongs of *Gamelan Kyai Udan Mas*: *Kenong* (large kettles) with *kempyang* and *kethuk* (small kettles). (Photo by Ben Brinner.)

and marking movement along this temporal axis. In a widely cited classification of the instruments of the gamelan, Martopangrawit recognizes two basic subsets (1984): the instruments that cradle the melody and those that cradle the *irama* (a rhythmic concept crucial for understanding Javanese musical time, which I shall explain shortly).

What does Javanese musical time feel like? Most of this music has an underlying pulsation that is very even in character for considerable stretches of time. To the extent that there are regular accents, these occur every 2, 4, 8, or 16 beats. Thus the rhythmic organization is fundamentally binary and the stress is end-weighted (i.e., it falls on the second of two beats, the fourth of four, and so on).

In this chapter you will learn about the various types of gongs that are played to mark off units of time both large and small. Together, the sounds of these gongs interlock in patterns that serve as the temporal frameworks for hundreds of compositions.

You will also learn about drums and basic aspects of drumming. The drummer regulates time, controlling the ensemble's speed, marking progress through a musical form, and creating a sense of excitement, calm, or some intermediate mood. The patterns of sounds played on the drums are closely tied to the colotomic patterns played on the gongs.

Cyclicity and Colotomic Function. In the course of most gamelan pieces, the big gong is heard every time the end of a large section is reached. Because the end of the section is also its beginning, this kind of musical organization in time is called cyclical. It is this cyclicity and its

internal organization that Judith Becker compared to calendrical cycles (1979; see chapter 1).

ACTIVITY 2.2 Listen to CD track 10, “Ketawang Subakastawa,” paying particular attention to the big gong. Note the CD time code each time you hear the big gong. How many times do you hear it?

Cyclicity pervades Javanese music—almost every Javanese piece is based on this organizing principle of recurring sections that lead back to their beginnings. Cycles vary tremendously in duration, from a few seconds to more than eight minutes. There is a corresponding difference in the experience of playing or hearing short and long cycles. The very short ones convey a sense of urgency and excitement, while the long ones generally convey calm. The length of a cycle may also be measured in beats. The common lengths of cycles used in Javanese music are powers of 2: 4, 8, 16, 32, 64, 128, and 256.

Several smaller types of gongs demarcate points within each cycle. Each gong type has its own pitch register and timbre, which the gong smiths create by manipulating the overall size and thickness as well as the proportions of the gong’s lip, face, and boss (see figure 2.2B). These different sounds within a gong cycle are like signposts on a path. Since they have a hierarchy of importance, they are also like punctuation, at least in medium and long cycles. The gong is like a period at the end of a sentence, and the smaller gongs act like semicolons and commas. Jaap Kunst, who wrote the first major book on Javanese music, invented the term *colotomic structure* to denote such punctuation. In Martopangrawit’s classification, mentioned above, these gongs are said to “cradle” the rhythm.

ACTIVITY 2.3 Listen to CD track 11. How many different types of gongs do you hear? Do you notice two being played simultaneously?

The final beat of a cycle is marked by the gong *ageng* for longer cycles. For short cycles a slightly smaller gong, a gong *suwukan*, is often played on the final beat instead because its sound does not last as long, its pitch is a bit higher, and its *ombak* is not as intense. Therefore when the gong *suwukan* is struck frequently due to a short cycle, its sounds do not blur together as the gong *ageng* sounds would.

Within each cycle there are usually two or four parts of equal length, each ending with a stroke on a smaller gong. This is the horizontally suspended *kenong*, which has a much higher pitch than a *gong ageng* as well as different proportions and timbre (see figure 2.2C). A further subdivision of the cycle is played on a smaller, flatter horizontal gong, the *kethuk*. Unlike the *kenong* and *gong*, which are played at the end of a section, the *kethuk* is played to mark the middle of a unit. This unit ranges from a single beat to 16 beats in length, again in powers of 2. The *kethuk* is usually pitched lower than the *kenong* and has markedly different timbre from all the other gong-type instruments. The *kethuk* player uses a rapid double or triple stroke, damping the *kethuk* with the last stroke. This produces a dull, penetrating thud compared to the bright bell-like sound of the *kenong* or the deep rumble of the *gong ageng*.

Numerous combinations of these three instrumental parts are possible, despite the restrictions already mentioned (cycle length limited to powers of 2 and the hierarchy of *gong ageng*, *kenong*, and *kethuk*), but Javanese musicians do not use all of them. Over time certain patterns have become established, conventionalized as standard means of organizing music in time.

Some of these colotomic patterns involve two additional instrument types. The *kempul* is a medium-size gong that hangs from a pole, similar to the way large gongs hang and sometimes even sharing the same pole. Its sound lies between the *gong* and the *kenong* in pitch register and has a warm tone that rapidly gets louder and then softer. Unlike the big *gong*, it has no *ombak* and it is often damped soon after it is struck. The other commonly played colotomic instrument is the *kempyang*, a small, high-pitched, horizontal gong that looks and sounds like a miniature *kenong*. In those colotomic structures that involve the *kempyang*, this small *gong* is played before and after each *kethuk* stroke to mark the smallest subdivisions of the cycle. Some gamelans include two or three other instruments that serve as colotomic markers for smaller subdivisions of a cycle, but these are relatively rare and beyond the scope of this book.

ACTIVITY 2.4 Listen to CD track 12 to hear each of these colotomic gongs played individually, in the following order: *kempyang*, *kethuk*, *kempul*, *kenong*, *gong suwukan*, and *gong ageng*. Now listen to CD track 11 again and try to identify the different colotomic instruments as they are played.

The sounds of these gongs are quite distinct, differing not only in register but also in timbre. This is crucial because they provide reference

points for musicians in the course of performance. Gamelan musicians know the patterns and are aware of them even when they are playing instruments not involved in marking the colotomic structure. Dancers know them, too, and often depend on colotomic markers to coordinate their choreography with the music.

ACTIVITY 2.5 Listen again to CD track 11 and follow the lancaran pattern notated in figure 2.3. Say the names of the instruments as they are struck, abbreviating kenong to “nong,” kempul to “pul,” and kethuk to “tuk” (abbreviations used in the United States; Javanese musicians actually say “tho” and “gung” for kenong and kempul). Now listen to “Lancaran Singa Nebah Pélog” on CD track 13 and try to hear gong, kenong, kempul, and kethuk marking the lancaran structure in the context of the full ensemble.

Note that the first two colotomic patterns shown in figure 2.3 are equal in length. Both *lancaran* and *ketawang* have 16-beat cycles, but they differ in the internal subdivision of that cycle. In performance they also are linked to different drum patterns.

ACTIVITY 2.6 Compare the *ketawang* and *lancaran* colotomic patterns notated in figure 2.3. Now listen to the longer *ladrang* pattern on CD track 14 as you follow this notation. Explain how the *ladrang* and *lancaran* patterns differ, and how they are similar. How is the *ladrang* pattern related to the *ketawang* pattern?

The different types of gong vary not only in size, shape, and sound, but also in number and function. A single set includes one *kethuk*, one *kempyang*, and one or two *gong ageng*, however, there may be two or even three *gong suwukan* and as many as seven *kenong* and seven *kempul*. This is because the players of the *kenong* and *kempul* usually match the pitch of the melody note on which they play. Thus, these instruments do more than mark off units of time—they participate in the melody, too. The *kempyang* and *kethuk* not only mark off subdivisions of a cycle but can also impart a feeling of syncopated drive, particularly at a fast tempo.

DRUMMING

Drums and drummers are key to the performance of gamelan in Java. Very few pieces are performed without them. The drummer controls changes of speed and cues the gamelan to start, stop, and shift gears. Of all the players he—there are very few female drummers even in female gamelan groups—is the one who most often “drives” the gamelan, but unlike the conductor of an orchestra, he does not have sole control. All competent Javanese musicians know how to respond to the various cues that the drummer gives. The drummer, in turn, needs to know much more than just how to drum.

The drums most commonly used in Javanese gamelan have two heads of unequal size that are played with hands, not sticks. Usually barrel-shaped, they are carved from a section of tree trunk (preferably jackfruit) with a bulge that is closer to the larger skin, or head. The right hand is the normative hand for playing the larger drum head. However, this norm is often ignored, particularly by village musicians who are less concerned than court and urban musicians with the details of etiquette. So rather than referring to left- and right-hand strokes, I will refer to large and small skins.

The drum (*kendhang*) comes in three main sizes, each with its own name and uses: *kendhang gendhing*, *ciblon*, and *ketipung* (see figure 2.4). The *kendhang gendhing* is the largest and lowest-pitched; its alternate name, *kendhang ageng* (great drum), refers to this. It is played in a relatively restrained, sparse manner either alone or in conjunction with the smallest drum (*ketipung*), and it is particularly associated with the large-scale compositions called *gendhing*.

Both *kendhang gendhing* and *ciblon* are placed on stands, usually at right angles to each other, one in front of the player and one to his side. Thus when he switches from one to the other in the course of a piece, he rotates 90 degrees. The *ketipung* may also be played on a stand in front of the *kendhang gendhing* but is more often held in the drummer's lap or across one thigh.

The large skin on each *kendhang* is tuned at least a fifth lower than the small one. The drummer will usually tune to the gamelan, but there is considerable room for variation in choice of pitch from one drummer to the next. Drummers regulate the tuning by sliding rings or loops along the V-shaped lacing that connects the two skins. Sliding the tuning ring toward the large skin narrows the V (giving it a Y shape) and tightens both skins. This must be done evenly all around the drum. The tuning can then be further adjusted by tightening one skin or the other with mallet strokes along the rim or by hitting and pushing the center of the skin to loosen it.



FIGURE 2.4 Drums: Ciblon, ketipung, kendhang gending in front; bedhug in center rear; spare ciblon drums standing on end.

There are two exceptions to these generalizations. First, there are two drums very similar in size to *ketipung* and *ciblon*, but they differ in name, tuning, and function. The more important of these is the *kendhang sabet*, a medium-size drum discussed in chapter 7 on *wayang*. The second exception concerns drums used in certain highly specialized ensembles, principally found at court. Some of these are played in pairs with hard-headed mallets. The largest, the *bedhug*, is played with a padded mallet and is suspended horizontally from a frame not unlike a small gong stand. The *bedhug* (seen without its stand in figure 2.4) is played in *gamelan sekatèn* (you heard its deep thud on CD track 6) and is the only instrument associated with mosques, where it serves to alert the community. In certain dances, it also adds powerful accents to the music and to the dancer's movements. The *bedhug* player, unlike other drummers, does not take a leading role.

A vocabulary of named drum strokes serves as a highly efficient form of oral notation. Knowledge of this drum language is widespread,

even among those performers who are not proficient drummers. On CD track 15, you can hear Midiyanto say the names of a few strokes and play them on the medium-size *ciblon*. While the strokes can be written down using letters or other symbols, they are more often recited, either when someone is teaching or when drummers and dancers or puppeteers need to communicate about how a certain part should go. This recitation is often half-spoken, half-sung.

Fundamental to the “language” of Javanese drumming is the contrast between low- and high-pitched strokes. Other strokes, such as slaps and damped strokes, involve “noise” (i.e., their pitch is difficult or impossible to determine).

Another fundamental characteristic of Javanese drumming (particularly on the large and small *kendhang*) is a hierarchy of main strokes and “filler” strokes played between the main strokes. The main strokes are more or less fixed into sequences that are named patterns and may be notated. The filler is less rigidly defined and can be varied considerably without changing the basic identity of the drum pattern.

All three drums share certain basic strokes. Drummers use five main strokes on the *kendhang gendhing* (indicated by uppercase X in figure 2.5). A few other strokes can be played in addition to these main ones (such as *lung*, indicated by lowercase x). The *ketipung*—played only with the *kendhang gendhing*, never alone—has the smallest repertoire of strokes: two main strokes, *dhung* and *tak*, with two softer ones to fill in the beats between the main strokes of the drum pattern. The *ketipung* may be played by the same drummer as the *kendhang gendhing* or by a second drummer. Drumming for many pieces begins and ends on the *kendhang gendhing* (with or without *ketipung*), switching in the middle to *ciblon*. The number of times the drummer switches between drums depends on the piece or medley being performed and can vary greatly.

The most complex drumming is always played by a single drummer on the medium-size *ciblon*. It is also the most flexible, open to numerous alterations and a certain amount of improvisation. The *ciblon* has the largest vocabulary of strokes, and the drummer may add to that by reaching over to the *kendhang gendhing* to play a low-pitched *dhak* for emphasis. Many of the patterns played on *ciblon* are derived from dance drumming and are so closely linked to dance movements that a sort of synaesthesia results—movement and sound are indelibly linked.

name	sign	head struck	playing technique	Gendhing	Ciblon	Ketipung
<i>dhah</i>	b	large	low-pitched stroke near the edge of the head	X	X	
<i>dhung</i>	p	large	higher-pitched stroke in center, partially damping head	X	X	X
<i>lung</i>	l	small	same pitch as <i>dhung</i> , but produced by striking the small head while partially damping the large one	x	X	
<i>tak</i>	t	small	slapping the small head while damping the large one	X	X	X
<i>tong</i>	o	small	fingertip striking the rim, producing a complex high sound with a hint of the pitch of the <i>dhung</i> stroke	X	X	x
<i>ket</i>	k	large	one or two fingers striking the center while thumb and other fingers rest on the drum head	x	x	x
<i>dang</i>	d	both	<i>dhah</i> and <i>tak</i> together		X	
<i>dlang</i>	b l	both	<i>dhah</i> slightly precedes <i>lung</i> (an undamped <i>tak</i>)		X	

Key: X = main stroke x = subsidiary stroke

FIGURE 2.5 Sample of common drum strokes. Note that *dhung* is actually played with a single finger (or thumb) not far from the rim, about where *dhah* is played on the larger drums, but it is high in pitch so it is musically equivalent to the *dhung* on the larger drum. The larger skin on the ketipung is so small that drummers do not actually play a stroke in the middle of that skin.

ACTIVITY 2.7 Listen to CD track 16 to hear a sequence of *ciblon* patterns (with a melody for reference). Now listen to the same melody on CD track 17 played with a different sequence of drum patterns. Do you hear repetition within each sequence? Which sequence do you think is livelier? Note that the recording, with one microphone on each end of the drum, heightens the separation between the strokes played on large and small heads.


These two *ciblon* sequences are usually played at the beginning of two consecutive cycles of a *ladrang* or longer colotomic form. They are so common in *klenengan* that it is nearly impossible to hear a performance without them. Despite this, they actually originated as accompaniment to a type of dance called *gambyong* that was performed by low-class itinerant women but was adapted at the courts in the late nineteenth century to become a mainstay of Javanese presentational dance. The interconnectedness of Javanese performing arts is such that every Javanese musician knows the basic movements associated with these sequences of sounds even if he or she cannot drum or dance.

How are the basic elements of drumming actually put to use? Javanese drumming consists of 1) fixed patterns, which may be filled in but varied only slightly, and 2) more loosely defined drumming, which gives the drummer considerable scope for improvisation. The examples you just heard are of the second variety. I will turn now to the first type.

In principle, each colotomic pattern is associated with its own drum pattern. Generally, a drum pattern is as long as the colotomic pattern with which it is paired. It usually has a variant form for ending the piece. Some musical forms (i.e., colotomic structures) have more than one drum pattern. For instance, numerous drum patterns are appropriate to the 32-beat *ladrang*, probably the most widely performed form. Some will be discussed in subsequent chapters; the focus for now is on drumming for the short *lancaran* form.


Lancaran Drum Patterns. The basic drum patterns for pieces in *lancaran* form are played on the pair of *kendhang gendhing* and *ketipung*. You have already heard a very brief example, "Lancaran Singa Nebah Pélog Barang" (CD track 13). It begins, like all other pieces in *lancaran* form, with a melodic introduction played on a single instrument. The drummer joins at a preordained point so that the last *dhung* stroke in his introductory pattern coincides with the gong stroke (hence the final

P of pattern A is circled in figure 2.6). This cues the rest of the musicians to enter at the first gong stroke. In order to ensure that the beat is clear and everyone plays together, the drummer may simply hit a *dhung* on every other beat for the first gong cycle (pattern B in figure 2.6). When the tempo is stable, he switches to the main *lancaran* pattern C. Note that this pattern is congruent with the colotomic pattern both in length and in emphasis since the low *dhah* strokes coincide with the *kempul* strokes.



ACTIVITY 2.8 Listen to CD track 18 while following figure 2.6. The patterns in figure 2.6 are written with the colotomic parts above them so that you can see how these two ways of regulating musical time fit together. Now try to recite drum pattern C while a friend or classmate recites the colotomic parts. If you have enough people, give each colotomic part to a different person.

The drummer could, in theory, continue to play this main pattern throughout the piece, but since pieces in *lancaran* form tend to have melodies that span several iterations of the colotomic cycle, there is a larger cycle to be marked every time the end of the melody is reached. To mark this, a variant drum pattern, called *salahan*, is played for the last gong cycle of the melody (pattern D in figure 2.6). Note that the first two *dhah* strokes in the *salahan* do not coincide with the *kempul*, as they do in the main pattern (C). Instead these low stroke accents occur every three beats, creating a cross-rhythm that draws attention to the approaching end of the melody. The cross-rhythm also provides the drummer with a good means of cueing tempo changes.



ACTIVITY 2.9 Clap a steady beat, stomping your foot on every fourth beat. Now switch to stomping on every third beat, and then back to every fourth. Can you feel how the switch to groups of three grabs your attention? Now, practice saying drum patterns C and D in alternation. First, do so while looking at the symbols in figure 2.6; then try to recite from memory. Finally, recite the drum part together with Midyianto in the first part of CD track 18 and then with his drumming in the second part of the track. You should do this until you are familiar with the patterns and can associate the syllables with the drum sounds. This aural memory and the mapping of one sound system (drum names) on another (drum sounds) are central to Javanese musical competence.

One pattern in figure 2.6 remains to be explained. This is the pattern that cues the other musicians to slow down and end the *lancaran*. Before he plays this *suwuk* pattern (E in figure 2.6), the drummer accelerates (usually during the *salahan* pattern), and then runs through the piece once or twice more at a faster speed. As the penultimate gong is struck he starts the *suwuk* with a slap on the *ketipung* drum. This stroke, called *tak*, can be played loud enough to cut through the sound of a full gamelan. The *suwuk* pattern that follows is designed to give the drummer control over the ensemble as it slows to a halt.

ACTIVITY 2.10 Write out the *salahan* and *suwuk* patterns, one above the other. How do they differ? What do they have in common?

Comparison of *salahan* and *suwuk* drum patterns shows that both feature a recurrence of the low *dhah* strokes once every three strokes. There is a larger principle at work here: patterns of three create cross-rhythms relative to the basic duple organization of the colotomic pattern. This stands out and grabs one's attention, so it is useful for endings as it cuts through the texture created on the other instruments.

Pieces in *lancaran* form can have melodies as short as a single colotomic cycle or as long as ten (i.e., 160 beats). The drumming reflects both levels of organization, articulating the individual cycles and the repetition of the overall melody. Both the pattern C and the *salahan* fit the 16-beat cycle common to all pieces in *lancaran* form, but the *salahan* also demarcates the longer cycle of the specific melody. When we recorded CD track 18, I asked Midiyanto to drum as if we were playing a *lancaran* with a melody that lasted for two gong cycles. Therefore, he played the *salahan* pattern every other cycle. By contrast, the melody of "Lancaran Singa Nebah" extends over three gong cycles so the *salahan* is played every third *gongan* (gong cycle) after two iterations of pattern C. The performance on CD track 13 is so abnormally short that the drummer does not play the *salahan* at all, going directly to the *suwuk* at 0:14 and "putting on the brakes" by delaying the low *dhah* strokes. The longer performance of this piece on CD track 19 gives you the opportunity to hear the *salahan* twice, once at 0:19, where drummer uses it to slow the ensemble down drastically, and again at 3:12, where he uses the same pattern to accelerate.

What happened between these two points? A *lancaran* may be repeated with only slight fluctuations in tempo. In CD track 19, however, the drummer cues much more extreme changes. This sets in motion a

process ubiquitous in Javanese music that has few parallels elsewhere in the world. The tempo can be halved (roughly), leading to an approximate doubling of the length of each beat and the gong cycle. This is a change in *irama*.

As the beat is stretched to twice its prior duration, there is more time to fill in, so the drum part changes, as do other parts in the ensemble. Instead of one drum stroke for every beat, there are now two (see figure 2.7 for a graphic representation of the increasing ratio between the main beat and the parts that fill in; the elaborating instruments noted in the table will be discussed in the next chapter). Notice that the drummer does not complete the *salahan* that he starts at 0:19, altering its end (at 0:24) to fill in the beats that have now stretched to become twice as long. From this point on, he switches to a drum pattern that is appropriate to the more expansive *irama*, returning to the drumming you have learned only when he returns to the original tempo and *irama* at 3:04.

Pieces in *lancaran* form usually start at a very fast pace, true to their name—*lancaran* means flowing. This initial tempo, and the relationship between the beat and the faster parts, is called *irama lancar*. When the tempo is halved and the beat doubles in length, the new relationship is called *irama tanggung* (hereafter *irama 1*). It is possible to halve the tempo and double the length of the beat again to reach *irama dadi* (hereafter *irama 2*), as the musicians do on CD track 19. This is the most expansive *irama* used for pieces in *lancaran* form. Pieces in longer forms can be expanded even further, to *irama 3* (*wiled*) and once again to *irama 4* (*rangkep*), yielding five different *irama* levels in all (see figure 2.7). To experience a greatly expanded *irama* listen again to CD tracks 16 and 17 where nearly 4 seconds elapse between one melody note and the next, while the *ciblon* drumming fills in the space between the beats.

A drummer can also accelerate from a relatively expansive *irama* to a more condensed one. Just as when slowing down, the drummer starts to change speed during a gong cycle and switches patterns as the cycle nears its end.

You probably noticed that the melody of “Lancaran Singa Nebah” changes, too. With each expansion it doubles and when the *irama* is condensed the melody reverts to its more condensed form, a transformation that will be analyzed in chapter 3. Although you have not yet learned to read Javanese notation, you can see these relationships in figure 2.8 by comparing the main melody—represented by numbers—with the colotomic parts, represented by the symbols that you learned to read in this chapter.

<i>Irama</i> Level	<i>Irama</i> Name	Ratio of Main Beat to Fastest Pulse	Top: <i>Bonang Panerus, Gambang, & Siter</i> Middle: <i>Saron Peking, Bonang Barung, & Gender</i> Bottom: Main or Conceptual Beat
1/2	<i>lancar</i>	1:2
1	<i>tanggung</i>	1:4
2	<i>dados</i>	1:8
3	<i>wiled</i>	1:16

FIGURE 2.7 *Irama* in Javanese gamelan music. The main beat is often, but not always, manifest in the *saron* (metallophone) melody. *Irama rangkep*, also known as *irama 4*, is not shown here but can be deduced from *irama 3* by doubling the pattern. The ratio of the main beat to the fastest pulse is 1:32. Note that Javanese music theorists refer to the five levels of *irama* in terms of the ratio between the main beat and the gender *barung* rather than the fastest pulse, i.e., 1:1, 1:2, 1:4, 1:8, and 1:16.



ACTIVITY 2.11 Listen to CD track 19, noting each change of *irama*. The musicians begin to slow from *irama lancar* to *irama 1* at 0:19. When do they slow further to *irama 2*? What is the time code when they begin to accelerate? The musicians reach *irama 1* at 2:54. What is the time code when they reach *irama lancar*? Even though you do not yet know all the instruments, try to characterize the changes in musical texture that occur when the *irama* changes.



A *lancaran* may also be played with more complex and variable drum patterns on the *ciblon*. This is particularly common in dance accompaniment. You can hear an example of this on CD track 20, where the drummer begins drumming on the *ciblon* at 0:13 after playing pattern C (see figure 2.6) only once.

GONGS, DRUMS, AND THE FLEXIBILITY OF TIME

Pieces in *lancaran* form offer a first entry into Javanese musical time as it is demarcated and energized by gongs and drums. Other colotomic forms and drum patterns are longer and more complex but exhibit many of the principles you have just encountered.

Most Javanese pieces are composed to fit conventional colotomic patterns. Each of these has one or more drumming patterns associated with it, and those patterns are congruent in length with the colotomic cycle. Drum patterns are differentiated by the following characteristics: duration, sequence of strokes, and type of drum. Sometimes the drum accents coincide with colotomic accents, but this is not always so. In fact, the drum parts for the longest forms sometimes avoid the strongest beats altogether. This seeming paradox actually makes sense if you consider the refinement that characterizes the pieces in these longest forms. Note how different the role of the drum in Javanese music is from musical systems that do not have colotomic patterns where the drums often create the groove and delineate all the important accents.

Changes in drum pattern transform the music. They cue the musicians to end a piece, expand or contract it (i.e., change *irama*), or go on

to another section. As you saw in “Lancaran Singa Nebah” these transitions take place within the cycle, not at its end.

Javanese colotomic forms may at first appear rigid. Certainly their representations on paper can give that impression. But they are malleable, flexible sets of relationships in time, which the musicians can stretch and compress under the guidance of the drummer and in accordance with the situation. Various nuances are vital to this musical practice but difficult to represent on paper. One of these could be called colotomic nonsynchrony: while the notation implies that the colotomic instruments are struck precisely on the beat, slightly delayed strokes of the larger ones—the gong, *kenong*, and *kempul*—are considered more appropriate in many circumstances. This makes these parts stand out and gives the music a looser, more laid-back feeling. Another type of looseness is apparent at the end of a cycle (in longer pieces) and at the end of a piece when time is stretched, each beat taking a bit longer than the one before it. At such moments the drummer does not reinforce a rigid temporal matrix but guides musicians in reshaping musical time. You can hear this at the end of CD track 9, for instance.

Carefully regulated fluctuations in speed are key to the performance practice of Javanese gamelan. Almost every performance of a piece will include several changes. The more moderate changes remain within one *irama*, while greater changes in speed, roughly doubling or halving the duration of the beat, cause changes in *irama*. Here the beat changes, but the fastest pulse—what ethnomusicologist Mantle Hood dubbed the “density referent”—bounces back to about the same rate. In other words, after a shift in *irama*, the fastest parts will be moving at roughly the same rate they were moving before the *irama* change. However, the relationship between their pulse and the conceptual beat

ACTIVITY 2.12 Listen again to the changes in speed toward the end of “Lancaran Singa Nebah (CD track 19).” Now follow the changes in speed in the “Tahu,” a medley of pieces played at the beginning of a shadow play (CD track 21). Write down the time code for each change. Try to guess whether there was a change of *irama* or only a change of tempo. What is the overall trend in this sequence?

will have changed by a factor of two (see figure 2.7). I said "about the same rate" because in fact the pulse in *irama* 2 is usually somewhat slower than that in *irama* 3. This, in turn, is slower than the pulse in *irama* 4, the most expansive *irama* in which the faster parts in the gamelan are moving along at breakneck speed while others progress at a glacial pace.

Changes in tempo and *irama* serve to breathe life into this music. When coupled with changes in loudness, they can be quite dramatic in effect. Extreme examples of such reinforcement are stylistic innovations of the last decades of the twentieth century.

A drummer must master numerous patterns and also develop flexibility in application of these patterns in ways that are appropriate to the different interconnected circumstances of performance. The drummer must also know the limits of the tempo within a given *irama*: the tempo can fluctuate within each *irama*, but should it slow to roughly half its previous value or speed up to double that value, a change of *irama* is triggered and the relationship between the faster gamelan instruments and the basic beat doubles or halves as well. In turn, musicians develop flexibility in order to respond appropriately to the drummer, knowing whether he is simply accelerating a bit—perhaps to announce the approaching end of the piece—or is cueing a change of *irama*.

The themes of flexibility, appropriateness, and interconnectedness all apply here. There is scope for variation in tempo, but the drummer should consider what is appropriate to the performance context and the particular piece. For instance, the tempo of *irama* 2 in shadow play performances can be considerably faster or slower than in *klenengan*, depending on the dramatic context. Thus, musicians must maintain a flexible sense of the pace of a piece. In *klenengan* some pieces are considered more serious, serene, or regal, necessitating a slower tempo, while a lively tempo is deemed appropriate for other pieces. In any case, the drummer must be aware of the fastest instrumental parts in order to set a tempo that is neither impossibly fast nor so slow that the musicians think they should double the speed of their parts to fill in the "spaces" between the beats.

Knowing what is appropriate for a given musical situation (including the constraints of accompanying dance or theater) is a key element in a musician's competence. This in turn highlights the numerous interconnections that link every aspect of Javanese gamelan to numerous others. The choice of tempo is linked to performance context, as is the

choice of drums and drumming style. The slight delays with which good musicians play *kenong* and gong are also fine examples of both the flexibility and the sense of appropriateness that pervade Javanese gamelan. These aspects of rhythmic organization serve as a framework for and respond to the melody, subject of the next chapter.