

## THOUGHTS ABOUT "SLIPPERY SLENDRO"

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A few years ago I became aware that the tunings of *laras slendro* vary in substantive ways and that the variations have a very wide range of musical meanings.

The first Javanese gamelan in which I learned and played was Kyai Udan Mas, now permanently kept in the music department of the University of California, Berkeley. This is a fine central Javanese-style gamelan from Surakarta, one of an approximately 75-year-old pair. I learned to play under the direction of K.R.T. Wasitodiningrat and his assistants, Jody Diamond and Daniel Schmidt. I also learned to read and use Kapatihan notation, that method evolved in the now destroyed Surakarta Palace of the same name. This is based on a European notation first proposed to the French Academy by Jean Jacques Rousseau and later developed by Cheve. The pitch designation of the original was simple, and thus *do, re, mi, fa, so, la, ti, do* became 1, 2, 3, 4, 5, 6, 7, 1. This was based on the major scale of the European Baroque era, numbered serially in rising order from the home, or usual cadence tone of the mode. The sense of this mode and ordering still prevails in 'the West.'

This cypher system of notation is widely used among Chinese musicians for whom--as for modern Indonesian, Thai, Vietnamese, and others--it is the main pitch notation used. Among the Chinese, the 'major scale' assumption is so strong that, if a key other than C is written for, it is sometimes not mentioned that sharps and flats might be needed thus misleading the unwary into the discovery of some fascinating illusory mode. Northeast Asians have robustly subscribed to the "European" (northwest Asian) error that the 'relative minor' mode begins on pitch 6 of the major scale and have so notated. Java, however, and for several reasons, numbers its pelog (a roughly 'minor' mode) from cypher 1 so that the 'majorish' slendro and the 'minorish' (and 7-toned) pelog are coincident in five of their pitch names as well as number level. Since pitch variations are treasured realities in Indonesia--in all its traditions--this handsome, abstracted and logical way of cyphering two very differing tuning schemes (*laras*) in a common way is immensely useful.

One is seldom in doubt hearing *pelog*. The *pelog* tuning is mostly stable and only in Kyai Udan Arum of the Mankunegaran Palace, in

which the pitch 4 is so low as to sound a little like northwest Asian *fa* instead of the usual quite sharp 4th degree, has my own ear ever been confused in thinking or in transcription. Pak Cokro has said of that pitch 4 that it is *pamijen* (special). However, Sue DeVale comments that I am not alone and has brought up the subject "puzzling pelog" in companionship to "slippery slendro." She reports that many of her students used to playing only one gamelan get the numbers wrong when transcribing pelog from another gamelan by ear. Again the beautiful old gamelan at the Field Museum, which she so ably restored and revived, itself contained a lowish pitch 4 (as well as a raised pitch 2). K. R. T. Wasitodiningrat told me that a pelog gamelan owned and used by the Dance Conservatory in Jogja possesses nine keys, the usual seven appearing as normal, but tones 1 and 4 have two different pitches each and, as in using pelog *gambang*, the suitable ones are put onto the instrument for each piece. In modes with a tendency to "go down," the lower ones are used. Some older Sekatan gamelans have very close intervals in other than 4, 5, 6 levels, but generally modern pelog is fairly stable, at least greatly more so than laras slendro.

The problem of laras "crossover" much fascinates Javanese. Some pieces apparently have *carte blanche* to sound in any of the six recognized *patet*. Pak Cokro says that "Pangkur" and "Eling Eling" are such. R.L. Martopangrawit gives only five of Pangkur's translations but in his *Catatan-Catatan Pengetahuan Karawitan*, translated by Martin F. Hatch and just published in "Karawitan" by the University of Michigan under the editorship of Judith Becker, he lists "Ginonjing", "Bonhet", and "Kinanthe" as enjoying three or more versions. In the same writing he also offers a table for converting pelog *gending* into slendro. Again it is very commonly understood that almost all pieces in *patet pelog barang* may be translated to *slendro manyura* and vice versa, thus adding a great number of *gending* to crossover types.

Within slendro itself however, the difficulty is other, for it is the nature of the several slendro tunings themselves to transpose and relocate *patet*. Objections from the argument that voices, *rebab*, or *suling*, by using variable pitch subtleties, "incline" the mode (despite majority fixed tuning) have no validity when we consider the large and prestigious body of *gending bonang*. Here we hear nothing but the fixed pitch instruments and here the *bonang* themselves behave in highly predictable ways, ways that preclude the *cengkok* slanting of gender movement that R. L. Martopangrawit regards as important in the soft style.

Widiyanto, co-director with Allen Thomas of gamelan Kyai Nyai of Victoria University of Wellington, New Zealand, and of Kyai Handayani at the embassy there, has said that very many students in Java "get all the numbers wrong" when transcribing slendro by ear. It was because of my own efforts in transcribing and making the same errors that I began to study the problem of "slippery slendro."

Dan Schmidt gave me a dub of the *gending* "Soran" cassette recording by *Lockananta* played on the gamelan of Radio Indonesia in Surakarta. I found myself entranced by the play of 'secondary 7th sequences' (for

want of better words) sounding like 5, 3, 1, 6--with variations--in the piece "Maesa Liwung," which is in the center of Side A of the cassette. Much wanting to transcribe the piece so that we could play a version of it on Gamelan Si Betty at San Jose State University, I went to trouble to extract the balungan and, finding myself with a difficulty in a repeat and transition, I took my transcript to Pak Cokro for aid. He looked at it and told me "But there is no gong 3; it all has to be lowered to gong 2." Since doing this would have nullified the beautiful special attractions of the piece as it was recorded, I quietly shelved the project. Sometime later I realized that Pak Cokro, in a few subsequent lessons, gave me several attractive pieces in gong 3, reminding me of Jody Diamond's delightful statement about Javanese procedures: "It's always like this, except when it isn't." Later again, I encountered the beautiful recording on Argo discs of "Babad" played on the gamelan of Radio Indonesia in Yogyakarta, and again fell in love and had to have it. This time I simply asked for the notation since the piece is a large gending bonang. Pak Cokro happily went to the box of scores and presented me with a copy. "But, Pak Cokro, this is in patet nem, and the recording is in sanga." "Oh, then the gamelan must be a sanga-sounding one." By this time I was slightly less mystified, and had a little idea. Surely, it occurs to me, if a work sounds "sanga" on one gamelan, then couldn't one legitimately transcribe, transpose and play it in that patet on another gamelan capable of it? Suitable deliberations and time elapsed before I asked Pak Cokro this question. He took not more than a small moment of consideration to answer, "Well, yes." He thus established that what happens to gending "Pangkur" and perhaps one or two other pieces and also to some gender cengkok, in simple modular transposition, can, in fact, happen to a balungan gending.

This is a liberating and fascinating doctrine which, in its turn, brings up terrifying problems for a composer hoping that his own interval expression might be observed. That it in fact happens in the Javanese classical context is amply clear from a consideration of slendro tunings. Indeed, R. L. Martopangrawit points out that *ladrang* "Mugi Rahayu" is a simple transposition by K. R. M. H. Wiryandiningrat of the old melody *ladrang* "Grompol" from gong 5 to gong 2. The matter becomes less perplexing after discovering from so eminent an authority as Elang Yusuf Dendabrata that it has been traditional in the Cirebon region to play any gending on any pitch level. Since variations in the interval structures of *laras slendro* are also found in the Cirebon region, it would appear that this reasonable and sometimes necessary use of transposition is a Cirebonese response and actually a solution to the problem, at least in most Central Javanese music. As to the whole area and history of central Java, it is possible that Cirebon is an important key. Here a fair number of performance methods as well as structural forms suggest themselves as at least partially ancestral to Central Javanese uses. They are simpler, of wider abstraction and applicable at large.

Besides K. R. T. Wasitodiningrat, it was also my pleasure during this last year (1983-84) to speak of slendro tunings with Widiyanto in Wellington, New Zealand, Pak Kanto (Sukanto Sastrodarsono) and Santosa S.K.A.R. in Surakarta, and Jennifer Lindsay in Sydney,

Australia, from all of whom I gained knowledge and intuition. Pak Kanto spoke of the retuning in the last century of "Kanyut Mesem" and the addition of one lowest slab to the balungan instruments of this Mankunegaran gamelan. He spoke of the courtiers doing this, whether to make singing easier or for other reasons. He also, as had Pak Cokro, drifted from speaking of interval relationships to general tessitura. Santosa S.K.A.R. aided me, in company with Vincent McDermott, to understand the present, preferred method for tuning a large double gamelan with *tumbuk 6* and confirmed that final tuning decisions rest entirely with the owner. It was clear that the owner's taste was final. In my inquiry I asked Pak Kanto to hum or sing the balungan of "Pangkur" in patet manyura and he opened with the 3 2 3 1 sounding like 2 1 2 6 and confirmed the whole piece along these lines.

Cassettes from Jogja indicate that a favorite tuning there has pitch 2 sounding like 1. A number of the slendro gamelan that I heard in Central Java were tuned like my Example A with the sense of *do* on 1, and I am still under the impression that this tuning is very common. Pak Cokro has recently confirmed this and, with some emphasis, calls it "standard." I must add that during our conversation he and I both used the sense of "*do*" and other "*so-fa*" terms with equal understanding and ease while referring to the whole of a slendro tuning and not in connection with patet.

Nonetheless, composers who wish to control the interval sense of a piece must either compose directly for a gamelan with which they are familiar, build or commission their ideal gamelan, or append specific instructions if the piece may be transposed or altered.

Clearly, in Java only "contour," or in Pak Marto pangrawit's term, "*kaden*," really counts in patet or mode recognition, and then only over a fair number of 4-note groups (*gatra*) or neumes. Sure it is that modes do not depend on interval structures at all, for the various slendro tunings in themselves continuously alter even gross interval structures and there is only contour left. One is reminded that the Chinese characters for a melody show a "crooked path" and it is apparently by their twists and turns that we shall know patet as well.

In the following charts and examples it is important that the closeness and subtlety of slendro intervals be realized and that the shift of one or two such intervals will produce the following examples. Since beginning this paper I have gone over with Pak Cokro two possible "just intonation" tunings of slendro, both in "standard" position, and give them here only to demonstrate the closeness of intervals. The first example Pak Cokro says is an acceptable Surakarta tuning and the second clearly a Jogja tuning. They are:

Surakarta: 1 8/7 2 8/7 3 7/6      5 8/7 6 147/128 1

Jogja: 1 8/7 2 8/7 3 147/128 5 8/7 6 7/6 1

7/6 is 266.9 cents, 8/7 is 231.2 cents and 147/128 is 239.6 cents.

It will be seen that these small differences are important. These tunings are only examples and of course there are slendro tunings with wider and smaller intervals. These facts should be held in mind when looking at the examples about slendro problems.

SLENDRO PROBLEMS

Usual notation for the 7-tone *saron* in Surakarta: 6̣ 1 2 3 5 6̣ i

Showing the interval patterns in the above (A), and how two tunings "modulate" the intervals (B and C):

- A) 6̣ - 1 2 3 - 5 6̣ - i (roughly): Bb Db Eb F Ab Bb Db
- B) 3̣ - 5̣ 6̣ - 1 2 3 - 5 Bb Db Eb Gb Ab Bb Db
- C) 2̣ 3̣ - 5̣ 6̣ - 1 2 3 - Bb C Eb F Ab Bb C

Customary cadences in slendro pathets (as played on a typical *saron*)

- Nem - 6 5 3 2
- Sanga - 2 1 6 5
- Manyura - 3 2 1 6

How the cadences sound changed in the B and C tunings:

- Nem: A) 6 5 3 2 B) 3 2 1 6̣ C) 2 1 6̣ 5̣
- Sanga: A) 2 1 6 5 B) 6̣ 5̣ 3 2 C) 5̣ 3̣ 2 1
- Manyura: A) 3 2 1 6 B) 1 6̣ 5̣ 3 C) 6̣ 5̣ 3̣ 2

How the Surakarta melody of "Pangkur" in Slendro Manyura sounds altered by tunings B and C:

- A)  $\overset{a}{\underbrace{3 \ 2 \ 3 \ 1}} \overset{b}{\underbrace{3 \ 2 \ 1 \ 6}} \overset{c}{\underbrace{1 \ 6 \ 3 \ 2}} \overset{d}{\underbrace{5 \ 3 \ 2 \ 1}}$   
 $\overset{c}{\underbrace{3 \ 5 \ 3 \ 2}} \overset{d}{\underbrace{6 \ 5 \ 3 \ 2}} \overset{d}{\underbrace{5 \ 3 \ 2 \ 1}} \overset{b}{\underbrace{3 \ 2 \ 1 \ 6}}$
- B) 1 6̣ 1 5̣ 1 6̣ 5̣ 3 5 3 1 6̣ 2 1 6̣ 5̣  
 1 2 1 6̣ 3 2 1 6̣ 2 1 6̣ 5̣ 1 6̣ 5̣ 3̣
- C) 6̣ 5̣ 6̣ 3̣ 6̣ 5̣ 3̣ 2 3 2 6̣ 5̣ 1 6̣ 5̣ 3̣  
 6̣ 1 6̣ 5̣ 2 1 6̣ 5̣ 1 6̣ 5̣ 3̣ 6̣ 5̣ 3̣ 2̣

The "neumes," or *gattas*, of the piece are bracketed in A above. Only five "contours," or *kaden*, make the melody as played on a typical *saron*:

- a) Down 1, Up 1, Down 2
- b) D1, D1, U4
- c) D1, D2, D1
- d) D1, D1, D1
- e) U1, D1, D1

The melody "Auld Lang Syne" similarly treated:

The image displays three musical staves, labeled A, B, and C, each containing a different melodic treatment of the 'Auld Lang Syne' melody. Each staff begins with a treble clef and a common time signature. Staff A shows the original melody with a final half-note G. Staff B features a more rhythmic and ornamented version of the melody, with many notes beamed together and a final half-note G. Staff C presents a highly ornamented and rhythmic treatment, with numerous grace notes and complex rhythmic patterns throughout, ending with a final half-note G.

## REFERENCES CITED

- Martopangrawit, R.L.  
1984 "Catatan-Catatan Pengetahuan Karatiwan." Trans., Martin F. Hatch. In *Karatiwan. Source Readings in Javanese Gamelan and Vocal Music*, Judith Becker, ed. Ann Arbor: University of Michigan, Center for South and Southeast Asian Studies.