

Classroom Instruments

The Tuning System

The instruments of the Durham Gamelan are tuned to the five note Javanese scale called *laras slendro*. The precise intervals between the notes in this tuning system vary from one gamelan to another, giving each its own distinctive sound. The notes of the scale do not correspond exactly to notes of the Western scale, but it is possible to approximate it with a pentatonic scale. A true slendro scale has intervals which are all approximately the same, while the pentatonic scale has two large intervals and three small.

The simplest pentatonic scale is that given by the black notes of the piano, and there are others which can be made only of white notes. I list some possibilities below with the corresponding slendro notes, and the actual tuning of the Durham Gamelan, + and – indicating pitch differences of less than a semitone.

Slendro	1	2	3	5	6
Black notes	F#	G#	A#	C#	D#
White notes	C	D	E	G	A
Durham Gamelan	C#-	D#	F+	G#-	A#

Pelog	1	2	3	4	5	6	7
approximation	C#	D	D#	G	G#	A	A#
Durham Gamelan	D-	D#-	E	G#-	A	A#	B+

Notice that in slendro the larger (1.5 tone) gaps lie between 3 & 5 and 6 & 1. These gaps tend to be the larger ones in true slendro, but the difference in size between intervals is not so great.

In pelog it is unusual to use all seven notes in one piece – so counting the number of distinct pitches is not a way to distinguish between slendro and pelog. There are three sub scales within pelog: 12356, 23567, and 12456. 4 is also used as an ‘accidental’ type note in the first two sub scales, and occasionally 7 is used in the first sub scale as a high note.

Note also that in the vocal and rebab lines flattened notes, between the notes of the scale, are also used.

The Instruments

It is possible to make a good imitation of the Javanese metallophones (sarons) with classroom metallophones. High pitched metallophones can perform the role of the peking (repeating each note) and boning. A wood block makes a good kethuk sound and a triangle can also be used to good effect here. The difficulties arise with the lower pitched instruments, the gongs and kettle gongs. The best idea for the two large gongs which I have come across is to use low sustained notes on an electric keyboard – use a very low 5 for the biggest gong and a low 2 for the second biggest. The other hanging gongs can be replaced by a cymbal, as in general the pitch is not so important here. A low pitched metallophone or xylophone works for the kettle gongs as does a piano. The drum sounds can be realised on western drums quite easily.