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## MusicTeachers.co.uk

Key Stage 3 Music Projects

## Polyrhythms II

An Introduction to Balinese Gamelan

## Pupil's Workbook

| Name | <br> |  |
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## Polyrhythms II -

#### An introduction to Balinese Gamelan

Whether or not you have already experimented with polyrhythms though the course on African drumming, it is worth recapping on the actual meaning of the word. "Poly" comes from the Greek word meaning "many"; therefore, polyrhythm means many rhythms or, in other words, various rhythms added together to form a larger rhythmic structure.

During this course we are going to discover about playing melodic polyrhythms, which we shall do by looking at the music of a small island called Bali that belongs to a large chain of islands known as Indonesia. Your first task is to use the reference facilities in your school library and on the Internet to discover as much as you can about this relatively unspoilt part of the world. In the space to the right, write down a few facts and figures about its population, religion and the way of life of its inhabitants. At this stage, you might want also to try and find out something of its music.

Keywords to try are:

1. Bali

4. slendro

2. Gamelan

5. kotekan

3. pelog

6. ketjak

#### **Teacher comments**



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## Activity 1 - The Ketjak Chorus

The first thing we are going to do is create a *ketjak* chorus. The *ketjak* is used to accompany a ballet based on the *Ramayana* epic, which is the story of the prince Rama and his bride, the beautiful Sita. Your Religious Education teacher might already have told you the story, but if not, you could find out about it for yourselves by using books in the library or the Internet. The *ketjak* is an imitation of one of its many episodes where Hanuman the king of the monkeys and his army meet Rama. The chorus is performed by nearly all the men from a Balinese village, who sit in tight concentric circles (circles within circles), chanting the following rhythm to a single syllable, *tjak*, which is made at the back of the throat:

| 1 |   |   | 3 |   |   | 6 |   | 8 |   |    | 11 |    |    | 14 |    | 16 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|
| 2 | 1 |   |   | 4 |   | 6 |   |   | 9 |    |    | 12 |    | 14 |    |    |
| 3 |   | 2 |   |   | 5 |   | 7 |   |   | 10 |    |    | 13 |    | 15 | 16 |
| 4 | 1 |   |   | 4 |   |   | 7 |   | 9 |    |    | 12 |    |    | 15 |    |
| 5 |   | 2 |   |   |   |   |   | 8 |   |    | 11 |    | 13 |    |    | 16 |
| 6 |   |   | 3 |   | 5 |   |   |   |   | 10 |    |    |    |    |    |    |
| 7 |   |   |   | 4 |   |   | 7 |   |   | 10 |    |    | 13 |    |    | 16 |

Your teacher will select groups for you to work with, and each group will perform one of the seven lines. Begin by having one member of your group counting slowly whilst you:

- a. clap the rhythm
- b. change the clap to the vocal syllable

- 1. Make sure that you know your melody inside out you will need to learn this alone and carefully.
- 2. When you are teaching it to your group, make sure that you teach it to them in small portions, perhaps beginning with the last part and working backwards towards the beginning. This will help them to learn it thoroughly.
- 3. You might need to keep the beat by playing it on a drum: make sure that you stress the first beat of every two or four, since this will help people who get lost to find their place again.
- 4. Try to find a suitable method of beginning and ending your piece. This could be just by using a drum beat, or you could silently count them in, using a hand signal.
- 5. Add dynamic changes louds (forte) and softs (piano).

When you have finished your rehearsal and performance, fill in the table below to say how you feel it went.

| Polyrhythms I I<br>Performance: Assessment        | My Grade | Teacher's Grade |
|---|----------|-----------------|
| How well I learned my own melody                  |          |                 |
| How well I taught my melody to others in my group |          |                 |
| How well I worked with the others in my group     |          |                 |
| How well I helped to solve problems in rehearsal  |          |                 |

When you have done this, turn over the page and add a few comments about the work you have done on this project — what you found easy, etc. Your teacher will add a few comments as well.

## **Composition Assessment**

If you followed the rules, you should have been able to develop a successful gamelan composition. How successful was it? Fill in the boxes below with your grade and then discuss how well you did with your teacher, who will also include a grade.

| Polyrhythms II Composition: Assessment | My Grade | Teacher's Grade |
|--|----------|-----------------|
| Structure of melodic line              |          |                 |
| Shape of melody                        |          |                 |
| Arrangement of other melody parts      |          |                 |
| Shape of kotekan parts                 |          |                 |
| Use of kepatihan notation              |          |                 |

### **Composition Performance**

There is probably little time to perform your complete gamelan composition, since it will take much time to learn. Nevertheless, it will be possible to play the main melody parts to which the *reyong* parts you learned earlier can be added. Your teacher will put you into suitably sized groups. When you rehearse your composition, you will have to make sure that everyone in your group is playing the melody properly and keeping together.

The following hints will help you enormously:

**Remember** not to have only one person counting. Alternate this role amongst **your entire** group so that everyone has a chance to learn the music!

Once you have learned the rhythm, slowly begin to speed it up. When you feel confident, ask one member to clap every four beats and stop counting out loud. Try making it varied by adding different pitches or altering the way you sound tjak.

When you are chanting the syllable, make sure that you **anticipate** each beat so that you can come in accurately. Try also to experiment with different ways of chanting the syllable, for example, by shouting or whispering, or by changing its pitch.

Eventually, your teacher will put you with the other groups to perform the complete *ketjak* chorus.

#### **Assessment**

Fill in the following table an assessment of how you feel you did. There is a box for your grade, as well one from your teacher.

| Polyrhythms II Activity 1: Assessment                    | My Grade | Teacher's Grade |
|--|----------|-----------------|
| How well I learned the rhythm from notation              |          |                 |
| How well I handled the rhythm, by keeping the pulse etc. |          |                 |
| How well I worked in the group                           |          |                 |
| How well I performed the music                           |          |                 |

As you can see, the table asks you to make certain comments about your work. The first asks whether you learned the rhythm from the notation or whether you had to get help from someone else?

The second asks whether you managed to keep the rhythm going — were you put off by others in your class or could you keep the rhythm going at all times?

You will have needed to work carefully with others in your group, working responsibly and making suggestions to help each other. The third question asks how well you managed that situation.

Finally, you are asked about your abilities to perform — did you work hard at making the music appear interesting to listen to? Did you show your audience that you were aware of the others and had good control of both the sound and rhythm?

# Activity 2 - Developing a Gamelan Orchestra



We are now going to look at the special type of orchestra that Balinese villagers play. It is a percussion orchestra, and uses mainly metallophones and gongs, but also includes violins, flutes and drums.

Balinese instruments all have special names. Large metallophones are called calung (left) and jegogan, play

only parts of the melody, whilst giging and pemade, which are

| Kantilan  |  |  |   |  |   |  |   |  |  |
|-----------|--|--|---|--|---|--|---|--|--|
| Giging    |  |  |   |  |   |  |   |  |  |
| Calung    |  |  |   |  |   |  |   |  |  |
| Jegogan   |  |  |   |  |   |  |   |  |  |
| Reyong 1  |  |  |   |  |   |  |   |  |  |
| Reyong 2  |  |  |   |  |   |  |   |  |  |
|           |  |  |   |  |   |  |   |  |  |
| Gong      |  |  |   |  |   |  |   |  |  |
| Kempur    |  |  |   |  |   |  |   |  |  |
| Kelentong |  |  |   |  |   |  |   |  |  |
|           |  |  | - |  | - |  | - |  |  |
| Kadjar    |  |  |   |  |   |  |   |  |  |

| Kantilan  |  |  |  |  |  |  |  |  |
|-----------|--|--|--|--|--|--|--|--|
| Giging    |  |  |  |  |  |  |  |  |
| Calung    |  |  |  |  |  |  |  |  |
| Jegogan   |  |  |  |  |  |  |  |  |
| Reyong 1  |  |  |  |  |  |  |  |  |
| Reyong 2  |  |  |  |  |  |  |  |  |
|           |  |  |  |  |  |  |  |  |
| Gong      |  |  |  |  |  |  |  |  |
| Kempur    |  |  |  |  |  |  |  |  |
| Kelentong |  |  |  |  |  |  |  |  |
|           |  |  |  |  |  |  |  |  |
| Kadjar    |  |  |  |  |  |  |  |  |

| Kantilan  |  |  |  |  |  |  |  |  |
|-----------|--|--|--|--|--|--|--|--|
| Giging    |  |  |  |  |  |  |  |  |
| Calung    |  |  |  |  |  |  |  |  |
| Jegogan   |  |  |  |  |  |  |  |  |
| Reyong 1  |  |  |  |  |  |  |  |  |
| Reyong 2  |  |  |  |  |  |  |  |  |
| Gong      |  |  |  |  |  |  |  |  |
| Kempur    |  |  |  |  |  |  |  |  |
| Kelentong |  |  |  |  |  |  |  |  |
| Kadjar    |  |  |  |  |  |  |  |  |
|           |  |  |  |  |  |  |  |  |
| Kantilan  |  |  |  |  |  |  |  |  |
| Giging    |  |  |  |  |  |  |  |  |
| Calung    |  |  |  |  |  |  |  |  |
| Jegogan   |  |  |  |  |  |  |  |  |
| Reyong 1  |  |  |  |  |  |  |  |  |
| Reyong 2  |  |  |  |  |  |  |  |  |
| Gong      |  |  |  |  |  |  |  |  |
| Kempur    |  |  |  |  |  |  |  |  |
| Kelentong |  |  |  |  |  |  |  |  |
| Kadiar    |  |  |  |  |  |  |  |  |

slightly smaller, play the whole tune. There are also three gongs, called *gong*, *kempur* and *kelentong*, which, as we will see, punctuate the melody. On top of this, we have *kadjar*, which literally means 'teacher' and is a small gong which keeps the beat constant, and *ceng-ceng*, a small set of cymbals that plays a constant stream of beats, which helps the orchestra to play together. Finally, we have *reyong* (below), which plays a fast rippling melody to accompany the main tune and which is called *kotekan*.



Each set of instruments has a different pitch. The main melody instruments, *giging*, and *pemade* play at what we call **eight-foot pitch**, that is, at the same pitch that we would hear if the notes were played on the piano. *Calung* and *jegogan* play notes an octave (or 8 tones) lower; we call this **sixteen-foot pitch**. *Kantilan* plays at **four-foot pitch** – how do you think this sounds in relation to *giging* and *pemade*?

Unlike Western instruments, which can play twelve notes in each octave, these play only five. Although we refer to the

scale as **pentatonic**, its correct term is **slendro**. Rather than using staff notation, gamelan musicians teach their melodies by rote, so no-one uses a sheet of music. However, in recent years, there have been so many new melodies composed that a system called *kepatihan* notation, which gives each note a number, has been devised to enable musicians to remember them.

Our xylophones and metallophones have not got the correct pitches since Gamelan makers tune their instruments in a very different manner to Western percussion makers. Instead, we shall have to compromise and use the following scale:



Have you noticed that the scale starts on E, which is assigned the number 1? This means that all the Cs are numbered 6 – to show the difference between bottom and top C, a line is placed under the lower of the two notes.

Have you also noticed that there is no number 4? This is because Gamelan musicians on mainland Indonesia use a seven-note scale called *pelog*, which has the equivalent of our A.

The first thing we are going to do is look at how to play melodies on your classroom's xylophones and metallophones. First of all, we are going to learn a simple tune. The melody is

| Kantilan  |  |  |  |  |  |  |  |  |
|-----------|--|--|--|--|--|--|--|--|
| Giging    |  |  |  |  |  |  |  |  |
| Calung    |  |  |  |  |  |  |  |  |
| Jegogan   |  |  |  |  |  |  |  |  |
| Reyong 1  |  |  |  |  |  |  |  |  |
| Reyong 2  |  |  |  |  |  |  |  |  |
|           |  |  |  |  |  |  |  |  |
| Gong      |  |  |  |  |  |  |  |  |
| Kempur    |  |  |  |  |  |  |  |  |
| Kelentong |  |  |  |  |  |  |  |  |
|           |  |  |  |  |  |  |  |  |
| Kadjar    |  |  |  |  |  |  |  |  |

| Kantilan  |  |  |  |  |  |  |  |  |
|-----------|--|--|--|--|--|--|--|--|
| Giging    |  |  |  |  |  |  |  |  |
| Calung    |  |  |  |  |  |  |  |  |
| Jegogan   |  |  |  |  |  |  |  |  |
| Reyong 1  |  |  |  |  |  |  |  |  |
| Reyong 2  |  |  |  |  |  |  |  |  |
|           |  |  |  |  |  |  |  |  |
| Gong      |  |  |  |  |  |  |  |  |
| Kempur    |  |  |  |  |  |  |  |  |
| Kelentong |  |  |  |  |  |  |  |  |
|           |  |  |  |  |  |  |  |  |
| Kadjar    |  |  |  |  |  |  |  |  |

| Kantilan  |  |  |  |  |   |  |   |  |  |
|-----------|--|--|--|--|---|--|---|--|--|
| Giging    |  |  |  |  |   |  |   |  |  |
| Calung    |  |  |  |  |   |  |   |  |  |
| Jegogan   |  |  |  |  |   |  |   |  |  |
| Reyong 1  |  |  |  |  |   |  |   |  |  |
| Reyong 2  |  |  |  |  |   |  |   |  |  |
|           |  |  |  |  |   |  |   |  |  |
| Gong      |  |  |  |  |   |  |   |  |  |
| Kempur    |  |  |  |  |   |  |   |  |  |
| Kelentong |  |  |  |  |   |  |   |  |  |
|           |  |  |  |  | - |  | - |  |  |
| Kadjar    |  |  |  |  |   |  |   |  |  |

| Kantilan  |  |  |  |  |  |  |  |  |
|-----------|--|--|--|--|--|--|--|--|
| Giging    |  |  |  |  |  |  |  |  |
| Calung    |  |  |  |  |  |  |  |  |
| Jegogan   |  |  |  |  |  |  |  |  |
| Reyong 1  |  |  |  |  |  |  |  |  |
| Reyong 2  |  |  |  |  |  |  |  |  |
|           |  |  |  |  |  |  |  |  |
| Gong      |  |  |  |  |  |  |  |  |
| Kempur    |  |  |  |  |  |  |  |  |
| Kelentong |  |  |  |  |  |  |  |  |
|           |  |  |  |  |  |  |  |  |
| Kadjar    |  |  |  |  |  |  |  |  |

divided up into groups or 'cells' of 4 notes, much like we find in Western music, and the dots at the end of each phrase indicate rests of one beat. When you get to the end of the melody, return to the beginning straight away, rather. This is called a **cyclical** melody. You will find the music much easier to learn if you remove from your instrument all the Ds and As.

#### **Remember** to keep a steady pulse

Now it is time to add the punctuation to the melody by adding the large gong parts. You will need to work in groups of five. Three will play three differently sized cymbals at appropriate points in your melody. The largest cymbal should play the *gong* part, whilst the smaller ones play the *kempur* and *kelentong*. The final performer will act as *kadjar*. Playing only on one note throughout (1 or, in the case of your instruments, E), it adds a constant **syncopated** (off-beat) pulse as you play.

Remember to go back to the beginning when you have completed your cycle, and don't forget to change around, so that you all have a go at each part.

#### × × × 9 $\times$ $\sim$ $\sim$ $\sim$ $\sim$ 9 $\sim$ $^{\circ}$ $\sim$ 2 9 2 $\sim$ $\sim$ $\sim$ 9 × Kelentong Kelentong Kempur Kempur Kadjar ar Giging Giging Gong Gong Kadja

# Activity 5 - Composition

It is now time for you to compose your own gamelan melody and arrange it for a complete orchestra. First, you will need to compose a two-section melody for the *giging* and *pemade* using the *slendro* scale that lasts not more than 32 beats.

Remember: Make sure that you have a cyclical melody — if you are still uncertain what this is, ask your teacher to remind you.

Then you will need to add:

- The kantilan remember that this is a double-speed line that repeats each melody note before going on to the next.
- 2. The *calung* this plays every other note of the melody.
- The jegogan this plays the first note of every four notes of the melody.
- 4. The *kadjar* this adds a regular beat, but plays with every second note of the melody.
- 5. The *kotekan* this is for two players, who each play notes common to the melody, that is, which follow the melodic line.

Now it is time for you to have a go at building a complete gamelan orchestra. You need to include with it a *ceng-ceng*, which is best played by laying a tambourine across the knee and tapping the side of it with the hand. Your teacher will use a drum to help introduce the music and keep you in time.

When you have finished performing on one instrument, swap to another, until you have played everything in your ensemble.

#### **Assessment**

Fill in the boxes below with appropriate grades for your work. When you have done this, have a chat with your teacher, who will also give you marks.

| Polyrhythms II<br>Activity 4: Assessment                  | My Grade | Teacher's Grade |
|---|----------|-----------------|
| Learning/rehearsal of melodic parts (giging, pemade etc.) |          |                 |
| Learning/rehearsal of gong parts                          |          |                 |
| Learning/rehearsal of kotekan                             |          |                 |
| How well I handled the rhythm, by keeping the pulse etc.  |          |                 |
| How well I worked in the group                            |          |                 |
| How well I performed the music                            |          |                 |

Now it is time to add the lower and upper instruments. This is quite easy to do:

The pemade plays two notes for every one played by the giging, much in the following way:

| Pemade | 11 | 22 | 33 | 22 | 11 | 22 | 33 | 22 | 11 |
|--------|----|----|----|----|----|----|----|----|----|
| Giging | 1  | 2  | 3  | 2  | 1  | 2  | 3  | 2  | 1  |
| etc    |    |    |    |    |    |    |    |    |    |

• The *calung* plays every second note:

| Giging | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 1 |   |  |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Calung | 1 |   | 3 |   | 1 |   | 3 |   | 1 |   | 3 |   | 1 | 3 |  |

(Notice how the pattern is continued, even when the melody is resting)

• The *jegogan* plays every fourth note:

| Giging  | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 1 |  |  |
|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| Jegogan | 1 |   |   |   | 1 |   |   |   | 1 |   |   |   | 1 |  |  |

In groups of nine, try putting the cycle together. You will need a soprano xylophone for the *kantilan*, alto xylophones for the *Giging* and *Pemade*, and bass xylophones for *calung* and *jegogan*. Remember, you will also need to include in the performance your *kadjar* and gongs.

The whole piece, assembled, should appear like the music over the page:

| Kantilan      | 7        | 22 | 33 | 22 | 7        | 22 | 33 | 22 | 1        | 22 | 33 | 22 | 1        |   |   | • |
|---------------|----------|----|----|----|----------|----|----|----|----------|----|----|----|----------|---|---|---|
|               |          |    |    |    |          |    |    |    |          |    |    |    |          |   |   |   |
| Giging/Pemade | 1        | 2  | 3  | 2  | 1        | 2  | 3  | 2  | 1        | 2  | 3  | 2  | 1        | • |   |   |
|               |          |    |    |    |          |    |    |    |          |    |    |    |          |   |   |   |
| Calung        | 1        | •  | 3  |    | 1        |    | 3  |    | 1        |    | 3  |    | 1        | • | 3 |   |
| Jegogan       | 1        | •  |    |    | 1        |    |    |    | 1        |    | •  |    | 1        | • |   |   |
|               |          |    |    |    |          |    |    |    |          |    |    |    |          |   |   |   |
| Gong          | ×        |    |    | •  | •        |    | •  |    |          |    | •  |    |          |   |   |   |
| Kempur        |          |    |    |    |          |    | •  |    |          | •  | •  |    | ×        |   |   |   |
| Kelentong     |          |    | ٠  | •  |          |    |    |    |          |    |    |    |          | • | × | • |
| Kadjar        | •        | l  |    | 1  | •        | 1  | •  | 1  | •        | 1  | •  | 1  | ٠        | 1 |   | 1 |
|               |          |    |    |    |          |    |    |    |          |    |    |    |          |   |   |   |
| Kantilan      | 66       | 11 | 22 | 11 | 99       | 11 | 22 | 11 | 99       | 11 | 22 | 11 | 66       |   |   |   |
| Giging/Pemade | <u>6</u> | 1  | 2  | 1  | <u>6</u> | 1  | 2  | 1  | <u>6</u> | 1  | 2  | 1  | <u>6</u> | • |   | • |
| Calung        | 6        |    | 2  |    | <u>6</u> |    | 2  |    | <u>6</u> |    | 2  |    | 6        | • | 2 |   |
| Jegogan       | <u>6</u> | •  |    |    | <u>6</u> | •  |    | •  | <u>6</u> | •  |    | •  | <u>6</u> | • |   |   |
|               |          |    |    |    |          |    |    |    |          |    |    |    |          |   |   |   |
| Gong          | ×        | •  |    | •  | •        | •  | •  |    | •        | •  | •  | •  | ٠        | • |   |   |
| Kempur        |          | •  |    | ٠  | •        | •  |    | •  |          | •  |    | •  | ×        | • |   | • |
| Kelentong     | •        | •  | •  |    | •        |    |    |    |          |    |    |    |          | • | × |   |
| Kadjar        | •        | 1  | •  | _  | •        | _  |    | _  | •        | _  |    | _  | •        | _ |   | _ |

Have you noticed that the *kotekan* includes notes from the melody line? **Remember** this, since you will need to arrange your own in due course.

With a partner, learn the parts. They have to go quite fast and have to be **very** rhythmic. Like most music, it is a good idea to learn to play them slowly.

Write in the space below how you got on with learning and playing your *kotekan* line. Write down any difficulties you had and, importantly, how you managed to get over them.

| ZQ. |  |  |
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# Activity 4 - Kotekan

The fast rippling melody that accompanies the gamelan you heard is known as *kotekan njog cak*. This is played on a *reyong*, a set of twelve horizontal gongs (see page 7 for a picture). There are quite a few different types of *kotekan*. In our gamelan, we shall have two players; one is known as the *polos*, who plays on the first and third beats, the other is known as the *sangsih*, who plays on the second and fourth beats.

Each four beats of the *kotekan* melody is equal in time to one beat of the main melody.

Here are the *kotekan* parts for the first cell of each half of the first gamelan melody we tried. They keep repeating until the melody changes:

| Giging  | 1 |   |   |   | 2 |   |   |   | 3 |   |   |   | 2 |   |   |   |
|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Polos   | 1 |   | 3 |   | 1 |   | 3 |   | 1 |   | 3 |   | 1 |   | 3 |   |
| Sangsih |   | 6 |   | 2 |   | 6 |   | 2 |   | 6 |   | 2 |   | 6 |   | 2 |

#### Second part:

| Giging  | <u>6</u> |   |   |   | 1 |   |   |   | 2 |   |   |   | 1 |   |   |   |
|---------|----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|         |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|         |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Polos   | 1        |   | 5 |   | 1 |   | 5 |   | 1 |   | 5 |   | 1 |   | 5 |   |
| Sangsih |          | 6 |   | 2 |   | 6 |   | 2 |   | 6 |   | 2 |   | 6 |   | 2 |

Use this space to say how you got on with your individual parts. Say what you found hard, and how you managed to get over these difficulties. **Don't** forget to use proper names such as *kantilan* or *kadjar*.



#### **Assessment**

Fill in the following table an assessment of how you feel you did. There is a box for your overall grade, as well one from your teacher.

| Polyrhythms II Activity 2: Assessment                    | My Grade | Teacher's Grade |
|--|----------|-----------------|
| How well I learned the music from notation               |          |                 |
| How well I handled the rhythm, by keeping the pulse etc. |          |                 |
| How well I worked in the group                           |          |                 |
| How well I performed the music                           |          |                 |

## Activity 3 - Arranging a Gamelan Melody

Now it is time for you to have a go at arranging your own Gamelan melody. You should, by now, know the notes of the scale and you should also understand the mechanics of arranging a melody. None of the gong parts go in set places, so you are free to punctuate the music as you like. The only thing you have to do is write the *kadjar* off the beat. The melody is written in the grid on the right hand side of the page. It is a Balinese tune called *Puspo Dento*. When you have finished, take time to try the arrangement out.

| Kantilan  | 5 | 6 | 1 | 6 | 5 | 3 | 2 | 1 | 5 | 6 | 1 | 6 | 5 | 3 | 2 | 1 |
|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Giging    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Calung    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Jegogan   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Gong      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Kempur    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Kelentong |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|           |   | - | - | - | - | - | - |   | - | - |   |   |   |   |   |   |
| Kadjar    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

| Kantilan  | 1 | <u>6</u> | 1 | 2 | 1 | <u>6</u> | 3 | 5 | 1 | <u>6</u> | 1 | 2 | 1 | <u>6</u> | 3 | 5 |
|-----------|---|----------|---|---|---|----------|---|---|---|----------|---|---|---|----------|---|---|
| Giging    |   |          |   |   |   |          |   |   |   |          |   |   |   |          |   |   |
| Calung    |   |          |   |   |   |          |   |   |   |          |   |   |   |          |   |   |
| Jegogan   |   |          |   |   |   |          |   |   |   |          |   |   |   |          |   |   |
|           |   |          |   |   |   |          |   |   |   |          |   |   |   |          |   |   |
| Gong      |   |          |   |   |   |          |   |   |   |          |   |   |   |          |   |   |
| Kempur    |   |          |   |   |   |          |   |   |   |          |   |   |   |          |   |   |
| Kelentong |   |          |   |   |   |          |   |   |   |          |   |   |   |          |   |   |
|           |   |          |   |   |   |          |   |   |   |          |   |   |   |          |   |   |
| Kadjar    |   |          |   |   |   |          |   |   |   |          |   |   |   |          |   |   |

## MusicTeachers.co.uk

Key Stage 3 Music Projects

## Polyrhythms II

An Introduction to Balinese Gamelan

Teacher's Notes

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### Polyrhythms – Teacher's Notes

Time Required: Approximately one term

National Curriculum pos.: 1a; 2a-c, e-g; 3 a, b, d; 4a-f.

Performing and Composing: a-f, h. Listening and Appraising: c, e.

#### Equipment required:

Photocopyable workbooks

Tuned percussion:

Bass xylophones/metallophones Alto xylophones/metallophones Soprano xylophones/metallophones

Drums

3 cymbals of varying sizes

Tambourine

#### Introduction

This is not a course in how to play Balinese gamelan; indeed, for educational reasons, many aspects have been simplified or ignored altogether. Ideally, the project should be used an extension of MusicTeachers.co.uk's Polyrhythms I workbook, which can be found in the Resources section of our website (http://www.musicteachers.co.uk/resources) and which explores concepts of polyrhythmic work applied to African drumming. Although the course is self-contained, with references in the Teacher's Notes to National Curriculum, it can be adapted to suit your individual requirements. It is most suitable for upper KS3 pupils (e.g. Years 8 and 9), although there is no reason why individual components cannot be used at KS2 or KS4 levels.

The length of the course depends very much on the abilities of your children, but it is envisaged that it should take approximately ten weeks to complete every aspect. There are specific performance issues related to this work, some of which will take your pupils time to develop. Therefore, it is worth having a set of other activities that some might undertake whilst others are engaged in practical performance.

| Notes |  |
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**Notes** 

Everything on the course is achievable by your pupils. However, it is worth noting that although we have tried to make the course as user-friendly as we can for teachers, they cannot attempt it without specifically examining each aspect prior to a lesson, especially when it comes to performance-based work since, with poor planning, a lesson can easily result in chaos! Please take time to familiarize yourself with the requirements of each activity before you start.

Performance assessment tables may be found on our resources pages at the website. These are based on the Guildhall School of Music and Drama's system and are highly recommended when undertaking any performance-based activity. However, unlike Polyrhythms I, we have not included NC compliant teacher assessment sheets, since there are so many different *foci* in the tasks. However, we have included in the children's workbooks places where they can reflect on their activities and give themselves grades. These might be useful for reference when coming to the final assessments at the end of the tem or year.

We have not included support or extension work in this project. This will ideally come from the teacher, who knows each child's capabilities and the extent to which they can be stretched. However, there are a number of recordings available that act as excellent support material:

- Primarily, anything Balinese would be of great assistance, and although commercial recordings are somewhat expensive, there are a large number of websites that provide downloadable MP3 tracks that will be of use. These can be converted to Wav format and burned onto compact discs without too many difficulties. If you have problems with this, ask members of your IT department.
- A number of 'classical' and pop composers have been influenced by gamelan: look around for anything by Steve Reich,
  Philip Glass, Mike Oldfield or David Bedford, since their music often contains minimalist techniques that relate to work being undertaken in this course.

• Similarly, earlier 20th-century composers also incorporate gamelan techniques into some of their music. Debussy's *Pagodes*, for example, was inspired by the gamelan orchestra he heard at the Paris Exhibition.

There are a number of positive benefits to this course, especially in the realms of performance and composition. The following notes will guide you through the activities, although much of the information is contained in the pupils' workbooks. If you like this course, please tell not only us, but also your colleagues.

### Activity 1 — The Ketjak Chorus

(Children's workbooks, pp 4-5)

This acts as an excellent introduction to the course, since it is not only fun to do, but also acts as a good reinforcement of polyrhythms and polyrhythmic structures. The *ketjak*, a vocalization of similar polyrhythms to those found in African systems, is used to accompany a ballet based on the *Ramayana* epic. It imitates the call of monkeys. Here, however, the children chant a guttural syllable rather than play an instrument. The syllable, *tjak*, is made at the back of the throat, but it is also worth bearing in mind that younger voices are usually higher pitched, so, for them, its most effective sound is at the bottom of their ranges.

The chorus is quite difficult to perform, especially at the high speeds which one hears in Bali. There is no reason why, however, it may not be chanted slowly, since this can sound just as effective. Your children will have difficulty with the sound at first and performing it exactly on the beat will also prove to be difficult, so it is wise to get them to clap the rhythm first. Try to get variety into the sound, by altering not only volume, but pitch as well.

There is no reason why you cannot count out the beats to begin with, but as your children rehearse, they should gain enough independence to be able to work without help. An added aid, however, would be to add a two bar pentatonic melody played on a xylophone or metallophone, with each beat being the equivalent of a count of four in the system.

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# Activity 5 — Composition and Performance (Workbooks, pp. 19-25)

Again, this shouldn't pose too many problems; the melody should be written with repeating cells for each of the halves, and the final bar of each part should contain three beats of rests. Try to make sure that their melodies don't end with a 'hanging' final: in Western music we are conscious of dominant endings and, although these are acceptable in gamelan, in this instance it is preferable to end on, for example a 5 or a 2.

The arrangement of the *kotekan* parts is difficult if one follows all the rules of gamelan composition. In this instance, however, children are invited only to include one note from the melody in each rhythmic cell. However, it *is* advisable to suggest that they are careful with making sure that beaters don't get tangled up with inappropriate voice-leading.

Performance is possibly going to be a difficult issue given time restraints, but where children *do* show a desire to hear the complete composition, it is worth while trying it out. In this instance, however, the important thing is being able to manipulate composition and arrangement so that your pupils have an armory of techniques they can call upon at a later date.

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The education staff at MusicTeachers.co.uk hope that this has proved to be a successful project; it has certainly been tried and tested over a long period, but if you have any suggestions for improvement, extension and support activities, please do let us know by emailing, telephoning or faxing the numbers found on the last page of these notes. Alternatively, you might wish to write to us at the address supplied. We will be pleased to hear from you.

MusicTeachers.co.uk is a non-profit-making organization, which was developed for your needs as teachers and performers. Please make our resources and journal regular visits in your quest for information on not only music education issues, but also on those relating to performance practice, history and general interest.

### Activity 2 — Building a Gamelan Orchestra

(Workbooks, pp. 6-14)

This stage looks at the orchestra in detail, starting with an introduction to *kepatihan* notation. This be best introduced by teaching the children the melody all together on xylophones and metallophones (be careful of the latter, since these resound for quite a period, so it is best to give their players soft-headed mallets). The instruments should be placed on the floor and the children should sit cross-legged in front of them. The melody should be taught by rote to one child, who continues to play it whilst you move on to teach it to another.

The scale used is one of two common scales, *pelog* and *slendro*. *Pelog* is a seven-note scale used mainly on mainland Java; *slendro*, being a five-note scale, is less complicated and thus has been chosen for this particular course. The intervals between the notes of the scale are much wider than in the West, and the nearest equivalents we can find in the diatonic scale are:

#### C#DEGA

which, unless you have unlimited supplies of chromatic barred instruments, should be transposed up a minor third to:

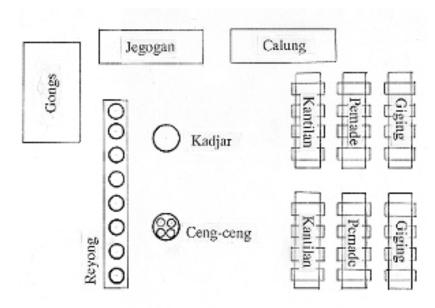
#### EFGBC

However, there is no reason why a more authentic feel cannot be gained by carefully detuning your instruments — small pieces of *Blu-Tack*, placed under the bars, can have quite a good effect, although you will need to experiment with how much and where to place them. Remember, however, that if you detune one instrument, you will have to detune them all! You might be the only music teacher in the world preparing lessons with a toppan balance!

Once the children have learned the melody and the basics of notation, they are introduced stage by stage to the other parts which constitute the makeup of the gamelan. Try not to allow them to work too closely from the notation in their workbooks, since this is really only to show the mechanics of the or-

chestra. However, it is worth making sure that you assign bass xylophones to the lower instruments such as *calung* and *jegogan*, and that the three cymbals, used to play the *gong*, *kempur* and *kelentong*, are free standing: these should be played on the very edge of the instrument to ensure that you get the best resonance. If you only have cymbals of the same pitch, different effects can be gained by asking the children to strike them in differing places.

The following is a typical layout of a Balinese gamelan, which might prove to be useful in classroom management:



The *kadjar* plays only one note, a 1, which cab be played on the high E of a bass xylophone without getting in the way of the other players. When teaching its syncopated line, it might be advisable to make up a couple of musical games with your class to allow them to get used to playing off the beat. This could be achieved through all number of activities, although echo clapping or teaching antiphonal rhythms might be advisable in the first instance.

## Activity 3 — Arranging a Gamelan Melody

(Workbooks, pp 14-15)

This is quite a straightforward activity and shouldn't be the cause of too many problems.

### Activity 4 — Kotekan

(Workbooks, pp. 16-18)

No gamelan sounds complete without the fast interlocking countermelodies known as *kotekan*. This is perhaps one of the most difficult skills for the children to learn, especially if they wish to take it at the fast speed one expects. The two most familiar types are *kotekan empat* and *kotekan njog cak*, which is the easier of the two and is more useful in a classroom situation.

The best way of arranging the players is to have them sitting opposite each other to ensure that they have easy access to all the notes. The rhythm should be learned *very* slowly to begin with and, although many in your class will never be able to achieve the high speeds required to accompany a gamelan orchestra, it nevertheless reinforces rhythmic and melodic skills.

Since we have examined the gamelan in a stage-by-stage manner, building up a complete orchestra should not prove to be too difficult. However, when incorporating the *kotekan* into an orchestra, ensure that the overall pulse is not too quick — the orchestra will be playing crotchet beats, for which *kotekan* players will need to be playing semiquavers.

You will also need to add the *ceng-ceng*, a phonetically-named instrument which provides a rapid stream of notes at the same speed as the *kotekan*. You will also need to incorporate a drum rhythm into the texture, which it is advisable you do yourself: this can be improvised and could be used as an introduction to the music, to signal a change in dynamic, etc.

To give the gamelan a little more depth, a bass drum could be added at the beginning of each cycle of the melody.