

SHADOW PUPPETS

TEACHERS' NOTES

By Richard Bradshaw OAM, Shadow Puppet Master
with additional information by Sue Wallace



LIGHT AND SHADOW

Without light there are no shadows.

We can begin a study of shadows by standing in front of a light, even the sun, and looking at the shadow we make. The shadow has no thickness, and takes the shape of what it falls on. We stop the light from going through us, but our shadow is not absolutely black. That's because there is other stray light falling where our shadow is. That light is usually reflected off other things. If we are outside this light may come from the sky. The air above us doesn't really reflect the light, but "spreads" it around a bit. (From the moon the sky looks black because there is no air.)

Look at the edge of the shadow. It is a little blurred. The bigger the light, the more blurred the shadow is, and the shadow gets sharper as the light gets smaller. A very small

light like a torch globe makes very sharp-edged shadows. If a big light is far enough away it acts like a small light source and makes a sharp shadow.

Look at the shadow made by a piece of coloured cellophane. The cellophane lets some of the light straight through so the shadow is coloured.

Candles, car headlamps, clear light globes, the sun and the moon make good shadows, but frosted or pearl globes, fluorescent lights and lights with shades over them do not.

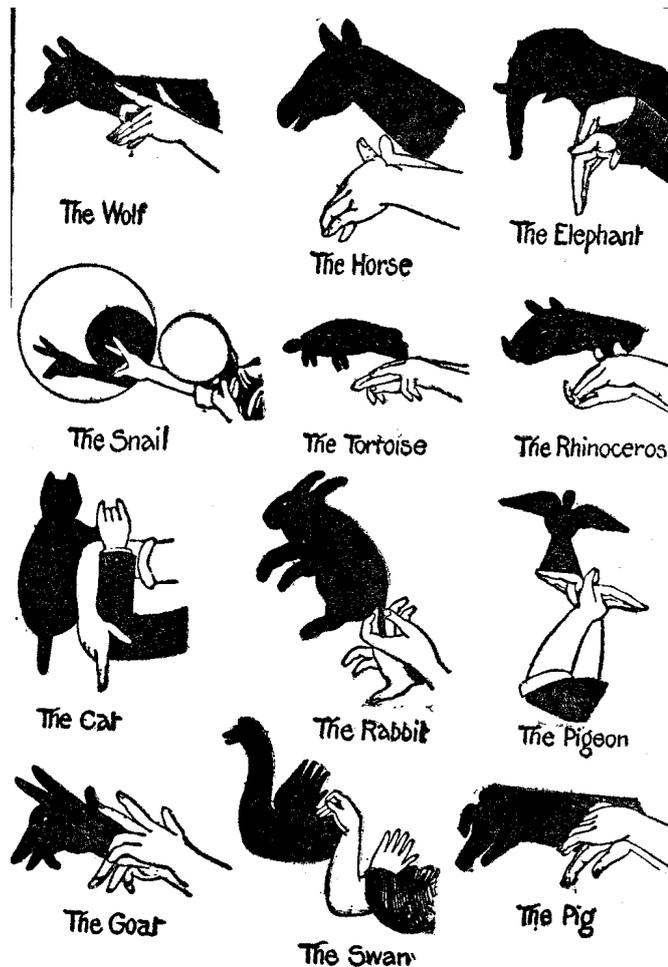
Nowadays most of us have seen ourselves in photos or on video, but before there were mirrors people didn't have much idea of what they looked like. They were lucky if they saw their reflections in a still pool of water and the only other idea of what they looked like might come from their shadow. Before photography rich people could have their portraits painted. A cheaper way was to have a "silhouette" made. This could be done by an artist, but it could also be done by sitting the person sideways near a wall and tracing around the shadow of his/her head made by a candle. (The word "silhouette" comes from the surname of a man who was the Finance Minister in France in over 200 years ago.)

You could try making silhouettes of each other on paper, and instead of a candle you could use an overhead projector for the light.

If the shadow falls on something like a sheet hanging between the light and a person watching on the other side, that person will see the shadows through the screen.

You could try hanging up a screen and then holding various things in different positions to see if people on the other side can guess what is making the shadow.

You could also try making shadow pictures on the wall using your hands. It is fairly easy to make a dog or a bird, but here are some other suggestions. They come from The Drawing Room Entertainer by C.H.Bullivant, first published in 1903.



SHADOW THEATRE

Shadow Theatre began in Asia. Written records go back a thousand years, but the art may be twice as old as that. It was the earliest way of putting a moving image on a screen and was a forerunner of cinema and television.

Traditional figures were usually cut from specially prepared leather. Some leathers, such as parchment, allow light through and when these were coloured with dyes instead of opaque paints it was possible to get coloured shadows. The screen was made of cloth and the light source was an oil lamp. The audience on the other side of the screen saw the shadows through it.

Shadow theatre began either in India or China; opinion is divided. From India it spread to Indonesia, Thailand and Malaysia, and the stories often came from the two great Hindu epic poems, the Ramayana and the Mahabharata. Shadow puppets from these countries are usually worked with rods from below. From China the idea of shadow puppetry spread to the Persia, Arabia, Turkey, Greece and North Africa. Shadow puppets from these countries are usually worked with rods from behind.

In the second half of the eighteenth century [from about the time of Captain Cook's voyage to New Zealand and Australia] shadow puppets became popular in France, Italy, Germany and England, but here the shadows (silhouettes) were not coloured. (The French had learnt of shadow puppets through a book about China written by a Jesuit priest and still call shadow puppets "les ombres chinoises" which means "Chinese shadows).

PLAYING WITH SHADOWS

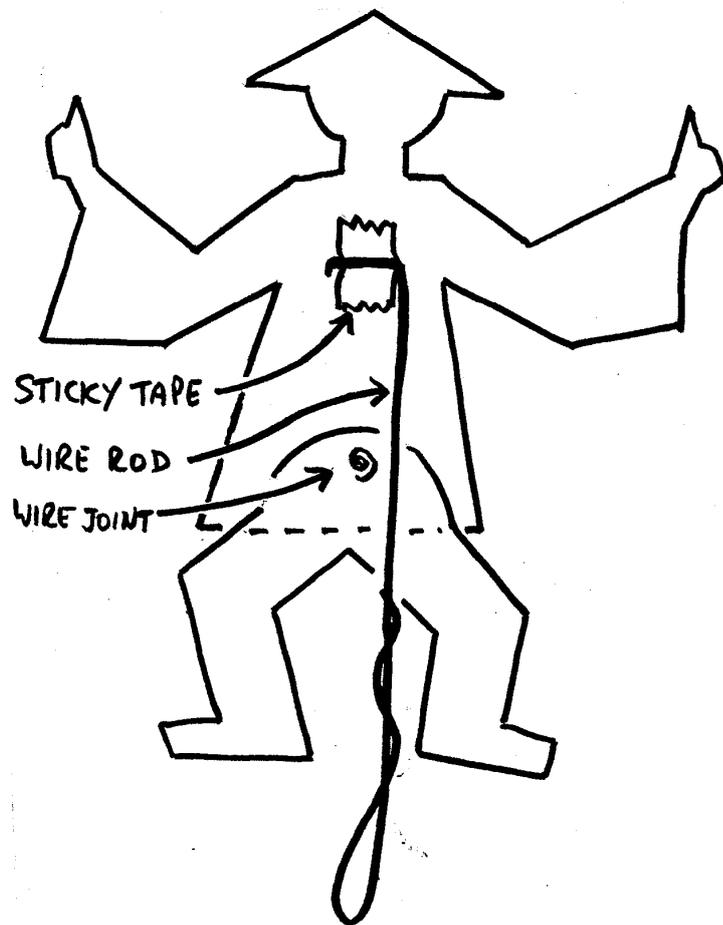
It is not necessary to have a shadow puppet screen to begin with.

A desk lamp or even the sun can be a source of light and you can hold up different cardboard shapes to see their shadows on the ground or on a wall. Another way to see the shadows is to put the shapes on an overhead projector.

Colours can be added to the shadows using see-through plastics or cellophane. It is better to attach the cellophane with sticky tape rather than glue, because cellophane often shrinks and buckles after glue has wet it. Clear plastic sheeting can also be used and coloured with felt-tipped "marker" pens. To get a good strong black on the clear plastic you can use black "Contact" plastic, the kind that comes in rolls with a paper backing that must be peeled off to expose the sticky backing.

To avoid getting the shadow of your hand, a length of thin stick or wire can be taped on to the shape to make a handle.

If you bend the wire as shown in the picture, you can tape it on to the shape so that the rod will fold down flat for storing. Masking-tape is good for this. You can use thin coat-hanger wire or 2mm soft iron wire ("tie-wire" or "baling wire" which is bought in coils at hardware stores) and it may be wise for an older person to prepare a number of rods before a shadow-making session. [You will need wire-cutters to cut the wire, and pliers to make the square hook.]



The masking-tape won't last forever so a stronger way of attaching the rod is to use a strip of cardboard glued on with contact

cement instead. [Be careful when using contact cement. Use in a well ventilated area and try not to get it on your fingers. Don't use too much. Spread the thinnest possible layer on both surfaces, wait for the glue to become touch dry, then press the surfaces together.]

If you want to add movement to the shadows try making the shadows in two pieces, a top part where the rod is attached, and a second part [e.g. legs] hanging from it. You will find that you will need to make the pieces overlap. You need to use a cardboard that can be cut easily with strong scissors, and to start with you can use an empty cereal box, or the back of a writing-pad.

The easiest way to join the parts is with thin wire, such as 24 gauge copper or steel wire. Make holes in both of the cardboard pieces with a drawing-pin, push a piece of wire (about 9cm) halfway through, and wind it into a flat coil on both sides. You could also use brass split fasteners, but they don't give such free movement, and they also tend to make the hole larger. Some books suggest string or thread knotted on each side, but this is a much fiddlier way of making the joints than using thin wire.

Tape the square hook of the wire rod on to the top part and try moving the puppet by holding the rod by the other end.

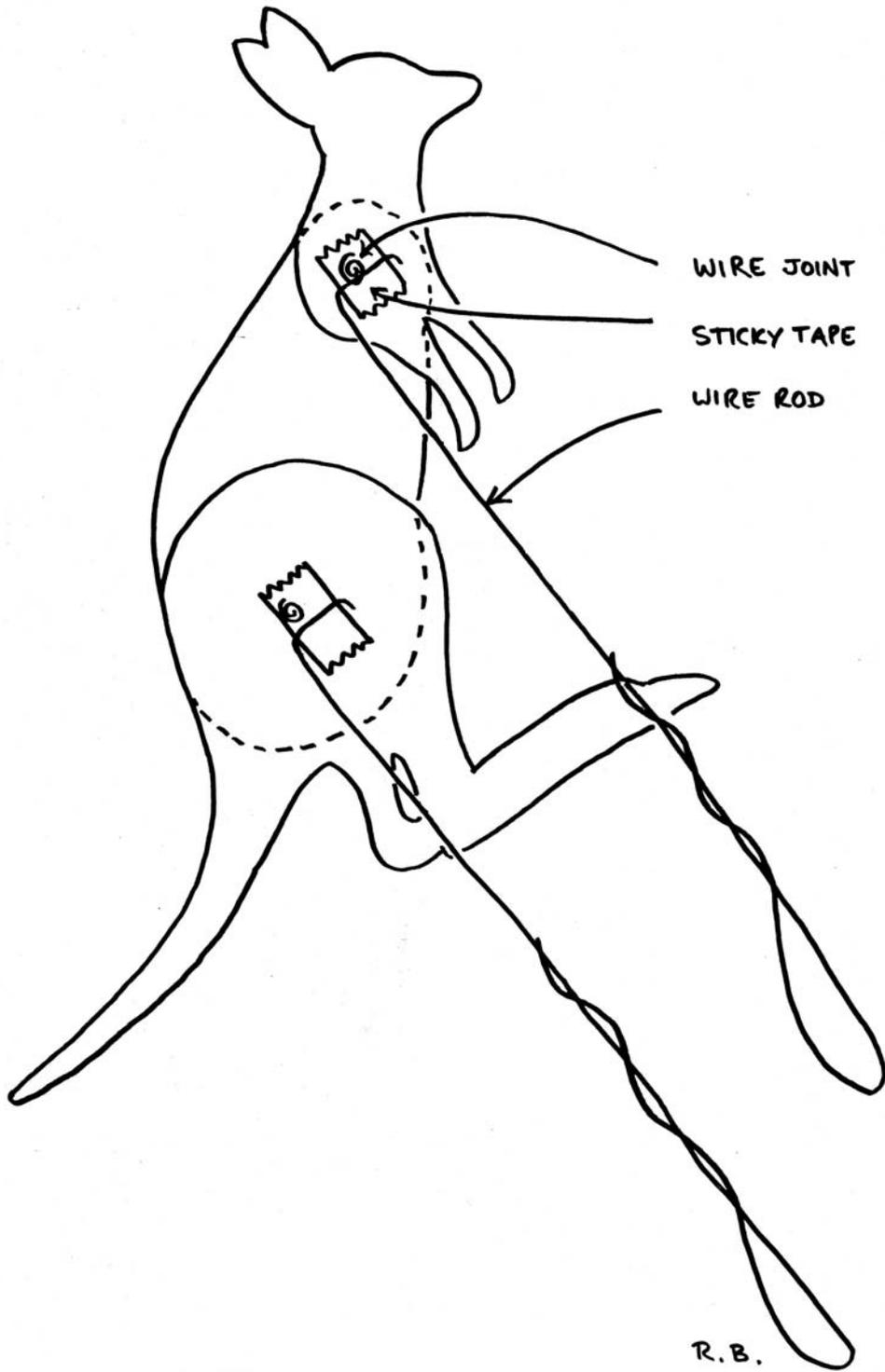
[A neater way of making handles for the rods is to use a piece of wooden dowel instead of twisting the wire to make a handle. Cut a length of the dowel (e.g. 20cm of 1cm diameter dowel) with a saw and mark where the hole is to go in the centre of one end of the dowel with a sharp point, such as a drawing pin. The dowel needs to be clamped into a vice with the marked end held upward in the jaws, before a hole about 2cm deep and the diameter of the wire is drilled into it. A length of wire (e.g. 20cm) is then glued into the hole using a 5-minute epoxy glue such as Araldite. Mix the two parts thoroughly and use the glue sparingly. When the glue sets, make the square hook at the end of the wire with pliers.]

A PUPPET WITH TWO RODS

You can get much more interesting movement from a puppet which is worked with two rods, one for each of your hands. Make the puppet in three pieces, with two wire joints.

The main problem here is allowing for overlapping of the pieces when they are cut out. It is useful to cut a shape out of paper or cardboard, and then to use this shape as a “template” for the three pieces. Before tracing around the shape, make holes in it with drawing-pins where you want the joints to be, then pin the “template” to the cardboard before tracing so that the holes are already located. Once you are used to the process you can sometimes cut two of the pieces out of the “template” after you have traced out the middle piece which has the two holes in it.

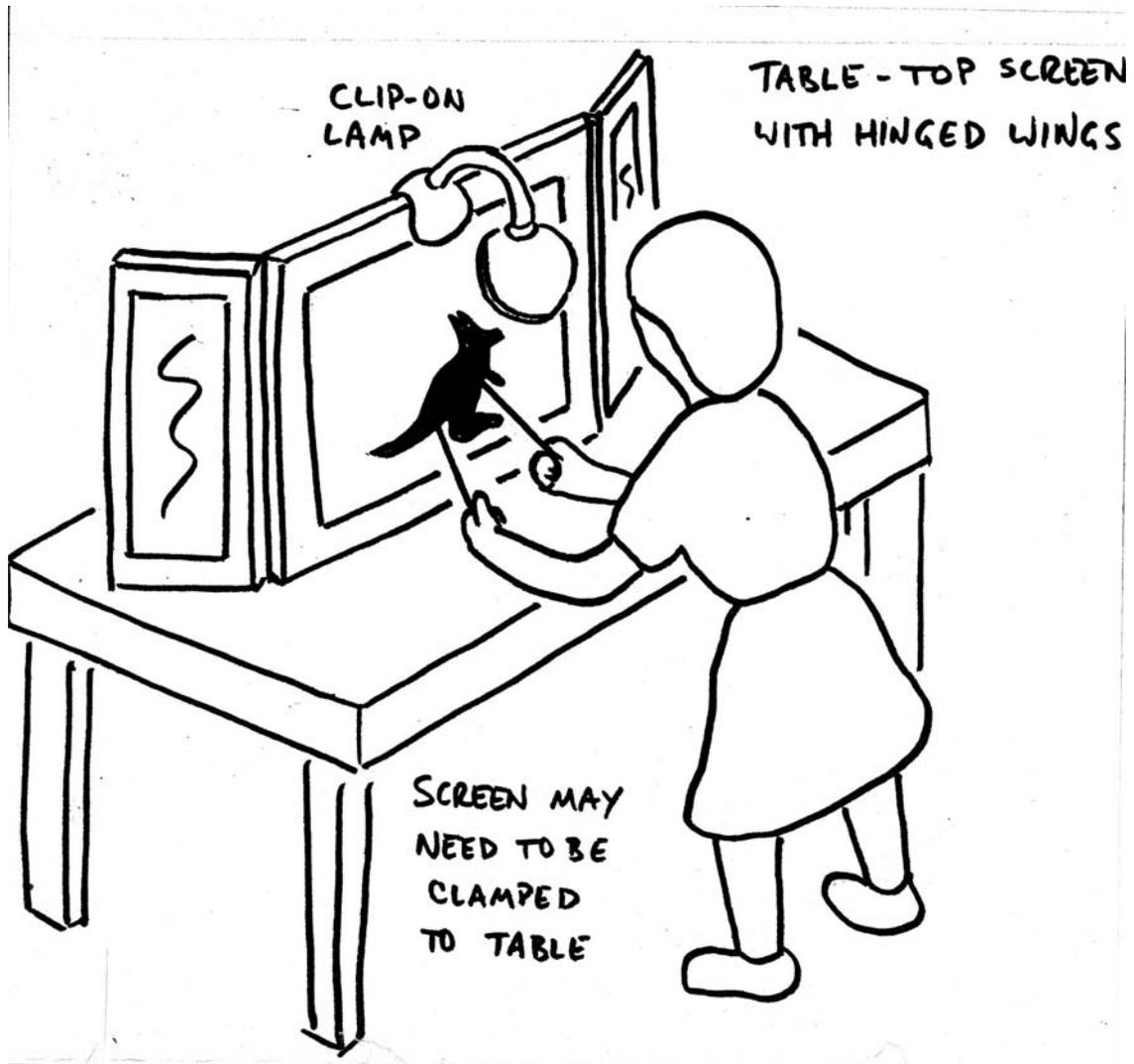
Your 3-piece figure has a middle piece with two holes for joints in it, and two outside pieces, each with only one hole. The rods are to be attached to these outside pieces, and it's usually best to attach the rods fairly near to the joints. When you hold one rod still with one hand, you should be able to rotate the other rod so that only the piece it is fixed to moves. If you move the rod instead of simply twisting it you can begin moving the middle part as well. If you now try moving and twisting both rods together the figure will become quite animated.



A SHADOW SCREEN

For class-work a piece of white cotton sheeting can be used, and a screen can sometimes be improvised by pinning the sheeting across a doorway or window, or stringing it between the legs of an upturned table.

A better screen can be made by stapling the sheeting to a wooden frame. You will need to find some way to keep the screen in position and one good way is to hinge on side pieces which fold out towards the audience. Such a screen can rest on top of a table.



While cotton sheeting is adequate, there are better materials, like a heavy white nylon or rayon. Look for these three properties in material for a screen, whether it be cloth, paper or plastic:

1. It should look white. (Not frosted like tracing paper.)
2. When held flat on printing you should be just able to read through it.
3. When it is held up towards a light source you should not be able to see the source itself.

The ends of the little wire joints sometimes catch on a cloth screen but a piece of clear sticky tape over the joint on the screen side avoids this. If you find that the noise the puppets make as they move on a stretched fabric screen is annoying, you could consider putting a layer of thin clear plastic across it.

[My own screen is actually in three layers, but I don't recommend it for schools because of the difficulty in getting the plastics. However, for the record, on the audience's side there is a sheet of clear plexiglass about 1.2mm thick. This is the kind of plexiglass sheeting that has one non-reflective surface, and it is this side which faces the audience so that stray light in the hall is not reflected. The plexiglass is screwed to the wooden frame on my side with flat-topped counter-sunk screws. Taped to the plexiglass around its edge is a slightly smaller screen of white styrene about 0.25mm thick. This is the actual shadow-screen, and it is thin so that the edges of the shadows are not blurred. However, because it is thin it needs the more rigid plexiglass in front to support it. Finally a thin clear plastic, in my case a transparent sheet of 0.25mm rigid PVC, is taped across my side of the white styrene because the styrene marks easily. My screen is roughly 1 metre wide and 3/4 metre high.]

You can also use large sheet of white paper or even brown paper for a screen.

THE LAMP

An ordinary clear light globe will cast a sharp shadow when a puppet is held flat against the screen, but it will also cast sharp shadows of the rods. The best position for the light is usually about 40 cm behind the middle of the top of the screen, so that it is between the puppeteer and the screen. In this position the shadows of the puppeteer's hands are less likely to fall on the screen. The problem is that fixing the light here is not a simple matter.

The choice of light and where it is positioned will affect the quality and the look of the shadows. An easily available light which gives reduced rod shadows without altogether eliminating them is a halogen floodlight. These come already mounted with shades and reflectors, but you would need to devise some way of suspending the lamp behind the screen. A small 150-watt lamp would be bright enough for a small screen, but much brighter lamps are available. These lamps get very hot, so should be suspended above children's head level.

For a very large screen a fluorescent tube can be used as the light source, but the disadvantage is that although the rod shadows will virtually disappear, so do parts of the puppet unless they are quite flat against the screen.

It is not always easy to fix the light in the optimal position and it may be simpler to hang the light high on a wall behind the screen. The rods will make shadows, but these will often fall downwards across the shadows of the puppets.

A reading lamp could also be set up on the table supporting the screen with the puppets worked over it, but the lamp would be a bit in the way. The shadows of the rods would now be cast upwards on the screen, as is usual in the Greek and Turkish shadow shows.

An overhead projector can also be used as a light source. The rod shadows will be quite distinct, but on the other hand scenery can be projected by putting transparencies on the projector platen. Torches can also produce very interesting effects. The torch needs to have a single bulb of chip in it. Don't use multi-bulb LEDs because these will cast multiple shadows.

USING SHADOW PUPPETS

It is very easy to get frustrated with shadow puppets. They are limited in what they can do, and it is not easy for them to turn around or cross each other. At the same time the shadows often look very good, and are easier to make in a classroom than other kinds of puppets.

Because of these limitations it may be best to avoid long stories. Try short scenes, circus acts, simple fables or legends etc.

Remember that shadow puppets worked from behind don't have to stay on the ground. They are ideal for underwater scenes, or stories where things fly through air or space.

If you are really adventurous you could try using abstract shapes to illustrate music.

OTHER ACTIVITIES

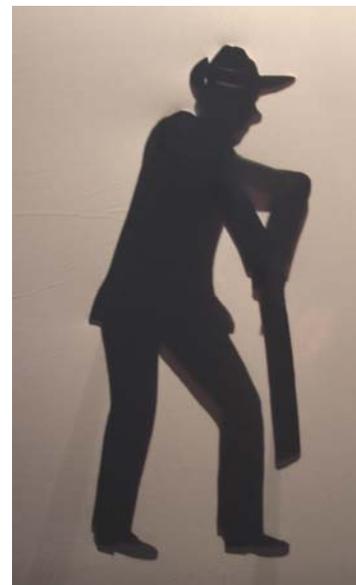
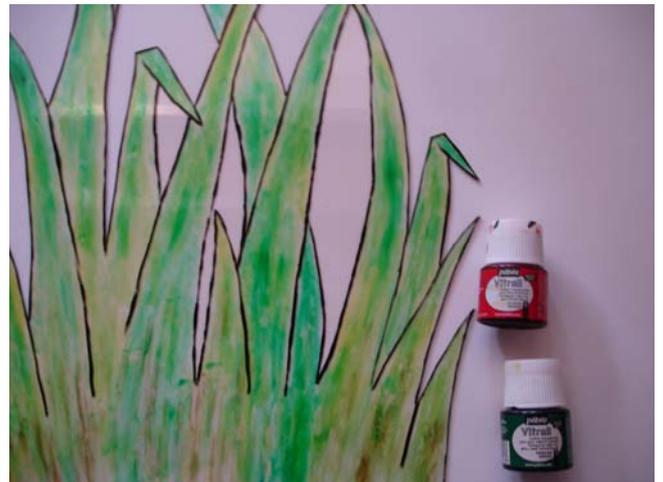
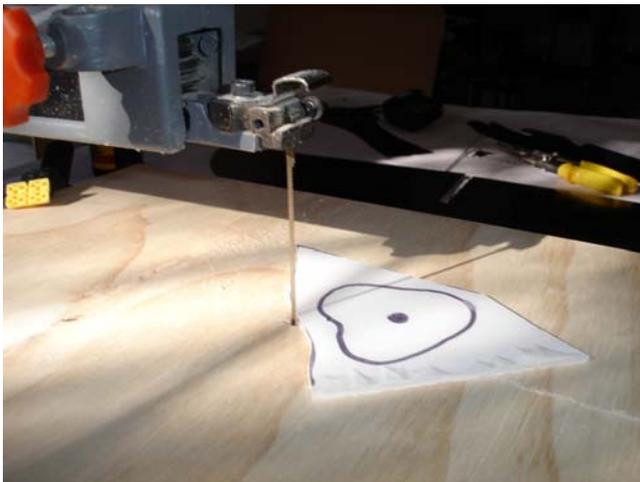
Find out more about shadow puppets from books in the library or on-line sources. It is fairly easy to get information on the famous shadow puppets of Java and Bali in Indonesia, but other countries which have had shadow puppets are India, Thailand, Malaysia, Cambodia, China, Taiwan, Iran, Turkey, Greece, Egypt, Libya, Tunisia, Algeria, France, Germany, Switzerland, England.

NOTES TO "SHELLSHOCK" BY SUE WALLACE

The shadow puppetry in "Shellshock" is inspired by the traditional Turkish shadow theatre. It is thought that the popular shadow show featuring Karagöz and Hacivat originated in the 14th century. Legend has it that the show was based on real people who were workman engaged in building a mosque or palace. Their frequent quarrels amused

the other workers and slowed down the building work. This caused the sultan to execute the quarrelsome duo. Later he was filled with remorse so a member of his court arranged to have leather, cut-out representations of Karagöz and Hacivat to be created and used in shadow plays. (Reference “Shadow Puppets and Shadow Play” by David Currell).

Traditionally the shadow puppets of Turkey are made from camel or cow hide which has been treated to make it translucent and coloured with Indian inks or natural dyes. Many of the puppets in “Shellshock” have been made from acrylic sheet approx 1.5mm thick and cut using a scroll saw. They have been coloured with glass paints or Vitrail. Other puppets have been made using cardboard which has been blackened.



REFERENCE BOOKS

Some general books on puppetry will include a section on shadow theatre. An excellent recent book is:

“*Shadow Puppets and Shadow Play*” by David Currell, published by Crowood Press [U.K.] in 2007. This book contains many photos of Richard Bradshaw’s work and refers to him as “widely regarded as the finest solo shadow player in the world”.

“*Schattentheater/Shadow Theatre: Vol. 2*” [2001], with German and English text, has a chapter by Richard Bradshaw. Volume 3 [2005] has a good technical account of contemporary shadow puppetry. Both are available through:
www.scottishmaskandpuppetcentre.co.uk



Above - Richard Bradshaw with some of his famous figures.



Above – puppets created by Sue Wallace and Steve Coupe, Sydney Puppet Theatre