\mathcal{W}_{e} were very lucky to have Paul stand in for Andy Coates at short notice.

Paul said that he was going to demonstrate how he makes the owl that he has designed and in

so doing demonstrate the use of the sphere jig and flute routing jig that he has developed.

The head of the owl is made from a sphere about 100mm (4") in diameter. The sphere is formed by first attaching, with hotmelt glue, two scrap blocks of wood to the cube of timber that is to be used for the head. This was mounted between centres and roughed to a cylinder, the scrap pieces were also turned to a cylinder and reduced in diameter. The main piece was turned to 100mm (4") in diameter and the length marked to 100mm (4"). The surplus was turned away using a parting/beading tool

and the ends cleaned up so that the length was the same as the diameter i.e. 100mm (4"). The centre line was marked with a pencil.

By multiplying the diameter by 0.297 gives the distance to mark a line either side of the centre line and on the ends of the cylinder to show where to turn to form a 45° chamfer on the cylinder. The figure calculated is 29mm (1.18"). The cylinder was turned to form these chamfers—this is the preliminary step to forming the sphere.







Next, Paul set up his sphere jig (details of which can be found on his website) and he proceeded to form the sphere taking gentle cuts and advancing the cutter by small increments. He explained that it was not essential to use the jig as a sphere can be turned by using templates. At this point the sphere is still attached to the scrap pieces and these are now reduced in diameter but not too close to the sphere. The sphere was now sanded, working through the grits to give a good finish. Remove from the lathe and cut off the scrap wood with a fine saw, leaving two stubs on opposing sides of the sphere.

The sphere was then mounted back on the lathe between two cup chucks. Paul recommends mounting the sphere such that the two stubs are offset. He says this makes it easier to turn away the stubs using a bowl gouge and taking gentle cuts. Care must be taken to follow the shape of the sphere and not to cut into it. At this point the sphere was sanded again to remove the final traces of the stubs.



The next step was the marking out of the eyes. A pair of dividers were set to 55mm (2.2") and two points were marked on the sphere. If there are any interesting grain features in the wood then take these into account when selecting where the two points are located. Using one of the points as the centre, draw a circle 60mm (2.4") in diameter and repeat using the other point as centre. You should now have two intersecting circles overlapping by about 5mm (0.25"). Two more circles were drawn with a 50mm (2") diameter using the same centres. These are for the raised part of the eye to be fluted.

To turn the eyes, a vacuum chuck can be used or a homemade sphere holding jig can be used as in the photo. The sphere should be centred in the jig using one of the centre points for reference and a 8mm (0.25") hole drilled in the centre. With a parting tool cut into the sphere so that a flat ring is made between the 50mm and 60mm diameter rings. The central raised portion can be slightly dished using a spindle gouge. Now, the sphere can be rotated to the second eye, centring as before. Repeat the drilling, forming the flat ring and dishing the eye socket so that it is now ready for fluting.





Paul set up the fluting jig and started to cut the flutes, cutting from the outside edge towards the centre. He rotated the sphere using a dividing ring and carried on routing until the whole of the eye socket had been fluted. He then bored a shallow recess in the centre slightly larger than the plastic eye that was to be fitted. The sphere was rotated and the other eye socket fluted and bored. The photo shows the finished turning and fluting.



The body can be any shape that you think to represent an owl. Paul makes a beak from a piece of contrasting wood. He simply takes a piece of 20mm square wood and grinds off the corner and shapes it a little. This is then glued on as can be seen in this photo of one of Paul's owl designs.

A selection of items that Paul has made using either his fluting jig or his sphere turning jig are included below.







