



CHILTERN  
OPEN AIR  
MUSEUM

*Where buildings come  
alive through history*

# Windsor Chair Assembly



**Location:**

- High Wycombe Furniture Factory.

**Practical Notes:**

- The Windsor Chair Assembly is reached via a flight of stairs, if this will pose a problem please telephone the Education Office.
- There are photo opportunities throughout this activity.

**Purpose and content of the activity session:**

- During this session the importance of the Woodware industry in the Chilterns will be discussed with the children.
- Your group members will have the opportunity to learn about different means and materials used for Woodware and furniture making, using modern reconstructions and artefacts.
- After a brief demonstration of the basic technique by the Museum Interpreter, your group members will assemble a Windsor chair.
- This session is particularly suitable for Key Stage 1 and 2 History.
- It also incorporates cross-curricular elements of technology, materials and construction. It would therefore be appropriate for science or Design and Technology at Key Stage 1 and 2.

## **Historical Background:**

### **The Chiltern beech woods:**

Within the Chiltern area there is an abundance of woodland principally consisting of beech trees, with places like *Burnham Beeches* named within the Domesday Book.

During the 17<sup>th</sup> century much of these beech woods were coppiced to supply fuel for London and the clay lands. With the development of coastal shipping and the growing canal system at the turn of the 18<sup>th</sup> century, the need for beech coppice dwindled as coal became easily available to the whole nation. However at this time there was also a growing demand for beech to be used within the Chiltern furniture industry and so many woodlands were transformed from coppice to beech high forests. Here the large furniture factories used the large timber while individual craftsmen (colloquially known as 'Bodgers') worked the smaller timbers.

The furniture industry was centralised around High Wycombe (or as it was once known Chepping Wycombe [meaning Wycombe Market]) and in 1860 over fifty furniture factories were operating in High Wycombe and by 1900 there were almost one hundred factories. The main products of these factories were Windsor chairs.

High Wycombe still remains the home of some of the most famous furniture manufacturers in Britain.

## Chair making:

Chair making in the Chilterns dates from before 1700 and in 1725 Daniel Defoe noticed that there was: *'a vast quantity of Beechwood which grows in the woods of Buckinghamshire more plentifully than in any other part of England. ... [about the use] beech quarters for diverse uses, particularly chair making and turnery wares.'*

At this time it seems that chair parts were produced and then taken to London to be framed-up into chairs, however soon this part of the process was done in High Wycombe.

Handcrafting a Windsor chair is a labour-intensive process and a short description follows:

Making the back, spindles and arm rails:

1. The 'green' log is split lengthwise with wedges and then continually split using a froe to allow a continuous straight grain. These processes are called *'riving the wood'* and *'cleaving the wood'*.
2. The split wood is placed in a vice or a shaving horse and shaved to size using a drawknife before being planed down even further.
3. The spindle is then shaped either by hand, using a drawknife and a spokeshave, or turned on a lathe by a 'bodger'.
4. The back and arm rails are placed in a steam box for up to an hour so that they can become pliable. After this they are quickly bent (within a minute of taking the items out of the steam box) around a wooden form to produce the correct curvature of the sections.

Making the legs, stretchers and arm posts.

1. The 'bodger' splits the wood with a side axe.
2. The wood is then placed in a shaving horse and roughly shaped using a drawknife.
3. The wood is then turned on a pole lathe to the shape required for a chair leg, stretcher and arm posts.
4. When a quantity of these items were finished they were transported to the factory.

Making the seat:

1. Using a gutter adze, chair makers roughly shape a piece of wood, which is approximately 2 inches (5cm) thick.
2. The chair maker then uses a variety of other tools (including travishers [curved spokeshaves], inshaves and planes) to refine the shape of the seat.

The chair parts are then brought together for framing-up.

### **Bodgers in the woods:**

Many of the turned parts of the chair (the legs, stretchers and arm posts) were made by turners living in High Wycombe's surrounding villages.

These turners bought stands of trees from estate owners at auctions, which were then felled and converted into the right sized straight grained blocks of wood to be turned on their lathes. Some of these turners worked in rough shelters in the woods while other worked from outhouses nearer to home.

The beech logs were then shaped on a shaving horse with a drawknife and then turned on a pole lathe to the correct size.

These turners were colloquially known as Bodgers from the end of the 1800s although one American gentleman once recorded that he was billeted in a furniture factory in High Wycombe during the Second World War and he saw the stacks of chair legs. When he asked about the chair legs he was told that they had been made by bodgers, so later that night he found a tape measure and measured all the chair legs. There was hardly a difference in thickness or length, they were so well made. The next day he found the man he'd been talking to about the chair legs to tell him what he had done because he could not find anything bodged about them!

### **Pit-sawyers in the woods:**

Before the advent of the circular saw, pairs of pit-sawyers would work in the beech woods around High Wycombe. These men produced the planks for seats and other parts of the chair.

Working in pairs they would dig a deep pit over which they would erect a wooden framework. The large log would then be placed across the pit and one man would go into the bottom of the pit (the 'under dog') and the second man would stand on the top (the 'top dog'). Using a large double-handled saw the log would then be split into large planks. The top dog and the under dog would move the saw back and forth in a regular rhythm, with the saw guided by the top dog.

### **The chair making trade:**

Between 1800 and 1860 there was an increased demand for the Windsor chair and by 1875 an estimated number of 4700 chairs were made each day in Wycombe.

High Wycombe was able to develop quickly and adapt to the increased demand from London and the South East. Being so close to London meant that transport

costs could be minimised. Many other chair making centres in Britain were already in decline by 1850.

Up until the First World War the majority of chairs went to market piled high on horse drawn carts, wrapped in straw for their protection. A common local story is that the name Windsor chair comes from the chairs being taken to Windsor in this way and then making their way to London via the River Thames; apparently 'Windsor chair' sounded better and was easier to say than 'Chepping Wycombe Chair'!

Using horse-drawn carts to transport the chairs seems to have remained popular even though the Great Western Railway had operated from High Wycombe since the 1850s. This may have been due to the large number of reports in the Bucks Free Press of late arrivals, insufficient covered storage space, large number of chairs damaged in transport and thefts during the journeys.

### **The introduction of other furniture trades:**

After Randolph Churchill stated to Parliament that chairs from Wycombe were 'cheap and nasty', many of the chair manufacturers in Wycombe decided to increase the range of furniture that they made for the 'higher-class' market. Therefore between 1880 and 1920 High Wycombe transformed itself from a chair making centre to the second largest furniture making town in Britain. As part of this change many furniture makers from East London moved their factories to High Wycombe, including Frederick Parker (later Parker Knoll).

After the First World War many new machines were introduced helping production soar and extending the range of furniture which could be made.

## **The High Wycombe Furniture Factory:**

The factory was originally the home of “James Elliott and Sons” in Shaftesbury Street, High Wycombe, and was founded in 1887 by James Elliott and his son Harry, both of whom were chair makers. The firm later acquired a second factory in Desborough Road.

The firm closed down in 1974, and the Shaftesbury Street site sold to Wycombe Borough Council, who donated the factory to the Museum.

Looking at the building, on the ground floor, from left to right, each section was, at one time, used as follows:

- Office; room where seats were hollowed out by adzing,
- pattern store;
- drying oven - used to dry out the component parts made from new wood;
- open area - dispatch bay and storage for the stain tanks;
- Framing shop - where chairs were assembled (now the Tea Room).

First floor, from left to right:

- Framing shop - for bedroom, dining and fireside chairs;
- packing shop (over the open area);
- Polishing shop.

The steel-framed timber store to the rear of the Tea Room was also part of the factory. It was originally behind the left side of the factory, which now houses the Chesham Woodware Collection. The River Wye was immediately behind the part of the factory that now houses the Museum’s café.

The factory would buy in chair legs and spindles turned by Bodgers, working in the Chiltern beech woods.

Originally the yard was enclosed on a third side, on the right, by two houses. These were owned by the firm and lived in by the Elliott family and their descendants.

The factory made a range of chairs, wheelbacks and Windsor chairs for example.

During WWI, they produced ailerons (wing flaps) for aircraft, and during WWII, fire-proof furniture for the Royal Navy.

N.B. The ramped access to the upper floor above the tea room was added by the Museum to aid disabled access to the upper floor. The steps on each side of the building have also been altered to make them wider and less steep to meet current Health and Safety regulations.

There are now very few factories of this type left in High Wycombe (the Museum only knows of one!).

### **Access Statement:**

**High Wycombe Furniture Factory:** The activity is usually located on the second floor up a flight of stairs, although alternative provision can be provided for classes containing one or more pupils with mobility difficulties.

### **Windsor Chair Assembly:**

- Children will work in small groups to assemble the chairs.
- Adult helpers will need to help all groups.