blacksmithing & farriery

what are they?

Blacksmithing is the forging (hammering), bending, cutting & joining of metal by using heat to soften it. At the heart of a blacksmith's workshop is the forge - a hearth for providing heat - although the word forge is often used for the entire workshop. Farriery involves many of the same skills, but with a focus on making and fitting horseshoes. When there were blacksmithing apprenticeships in Britain, after 3 years basic training, apprentices branched into large-scale industrial blacksmithing, small-scale 'village' blacksmithing or farriery, which included some veterinary training.

Most modern blacksmiths work with steel, but traditionally they would have worked with wrought iron. Wrought means 'worked' (by hand). Wrought iron is malleable and can be forged because it has a low carbon content, like steel. Cast iron is brittle and will break if worked - it has a higher carbon content and can only be cast in moulds. Most items described as wrought iron today are in fact mild steel. Mild steel is the most commonly-used steel, but blacksmiths can sometimes work with specialist steels like stainless, or other metals like brass, copper or bronze.

History

Metalworking goes back to the Bronze Age (roughly 3000-1300BC); bronze is an alloy of copper and tin and has a relatively low melting point, making it easy to work. But the people who learned to smelt iron conquered the bronze smelters because of the simple fact that their weapons were harder. After the Romans left Britain, blacksmiths were a disorganised group of mainly Celtic craftsmen who would set up anywhere there was a local population, to make weaponry and tools for farmers and other craftsmen such as woodworkers or leatherworkers. Hence blacksmithing was known as the 'king of trades' - as other trades couldn't operate without them. In 1299 blacksmiths formed a loose association to protect their reputation from unskilled itinerant workers. In 1571, Queen Elizabeth conferred a royal charter to the 'Worshipful Company of Blacksmiths', as the governing body for blacksmiths in London. They were so successful that in the early days of the company blacksmiths became magistrates, commissioners for oaths and in Scotland, conducted marriage ceremonies.

In 1860, blacksmith Henry Bessemer invented a process that enabled large quantities of steel to be made cheaply - one of the main stimuli for the Industrial Revolution. In the 19th century, every town and village had a blacksmith - there were over 10,000 working blacksmiths in Britain. Since the de-industrialisation of Britain from the 1970s on, blacksmithing in the UK has re-invented itself, providing design, advice and manufacture & repair of domestic items such as furniture, gates and railings, restoration projects and sculpture.

Blacksmithing is currently experiencing a huge revival, and it's changed a lot. It used to be an exclusively male occupation, but there are many female blacksmiths now, and the trade is becoming more artistic in its scope.

Coal and gas used for forges are both fossil fuels and will eventually run out. Charcoal (hardwood not briquettes) can be used, but it will require greater quantities, and so will be more expensive.

A range of items made by blacksmiths & farriers: furniture, knife blades, curtain rails, gates, axe heads, railings, hinges & horseshoes.

what are the benefits?

- it's a very useful craft skill that can be turned into a career, providing products and services to the community (blacksmiths sometimes straighten or sharpen garden tools for local people)
- steel is reworkable; if you cut a piece of wood too short, you need another piece - but if you cut a piece of metal too short, you can reheat and lengthen it
- you can help to recycle metals even more by obtaining raw materials from scrap yards
- it's the only trade where you can get the satisfaction of making all your own tools

what can I do?

Support your local blacksmith if you have one, rather than a giant DIY store that imports metal goods from the other side of the world. You might want to set up your own forge if you're a smallholder or farmer who wants to make and repair tools and equipment, or you might be thinking of setting up a small business.

First get some training. Try a taster day to see if it's for you. You need good hand-eye co-ordination, and not everybody has it! It also requires you to be tough, strong and able to work in a hot forge for long periods. On a course you'll learn: more about tools, equipment and different types of steel; the colour of steel at different temperatures, and what jobs can be done at what temp. - e.g. hardening, annealing (toughening), bending, forging and welding; plus various techniques such as drawing (lengthening), bending, cutting, upsetting (thickening), punching (making holes), fire-welding and hot-filing.

You'll need a forge/workshop. You can find equipment and raw materials through the website and magazine of the British Artist Blacksmiths Association (BABA). The most important items are a hearth/forge, anvil and hammer. A traditional anvil has a flat, hard 'face' on which most of the work is done; holes at the back for bending and punching; a 'horn' at the front for bending; and a 'table' between the horn and the face. The table is for cutting, so it's not hardened, as that would damage the cutting chisels. After that you'll need tools such as tongs, chisels and cutters. You can buy them, but what better than plying your trade with tools you've made yourself? £4000 is a rough estimate of the outlay required to get you set up.

Blacksmith hammering and bending a heated rod on the face of an anvil.

Things you could make or repair: your own tools, axe heads, garden, woodworking & stone masonry tools, knives, machinery parts, vehicle body parts, candle-holders, other decorative household goods, railings, wood stoves, fire irons, curtain rails, beds, chairs, door-knockers, cooking utensils, jewellery, hinges & latches, chains and of course, horseshoes. There is a lot more information on how to make tools, and also how to set up a forge in books and on our links page.

If you want to be a blacksmith, contact established blacksmiths via the WCB or BABA to see if they will give you on-the-job training. There's no official regulation of blacksmithing, but it's a good idea to register with the WCB, as they pass leads on to their members from individuals (and organisations like English Heritage) who contact them. You can obtain relevant NVQs and diplomas, but really, people will want to see examples of your work. However, in the UK you have to be a registered farrier to shoe a horse. Legislation was brought in to avoid suffering of horses shod by unqualified people. See the Farriers Registration Council.

resources

- see lowimpact.org/blacksmithing for more info, products, courses and books, including:
- Charles McRaven, *the Blacksmith's Craft*
- Joe Delaronde, *Blacksmithing Basics for the Homestead*
- Colles & Ware, *the Principles of Farriery*
- baba.org.uk - British Artist Blacksmiths Assoc.
- blacksmithscompany.org - Worshipful Company of Blacksmiths
- www.wcf.org.uk - Worshipful Company of Farriers
- farrier-reg.gov.uk - Farriers Registration Council