

# The Ironworking Trades

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Further information relating to appendices, graphs, statistical data and questionnaires can be found on the website: [www.craftsintheenglishcountryside.org.uk](http://www.craftsintheenglishcountryside.org.uk)

# The

# Introduction

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**A blacksmith, historically, is one who smites, or smiths, iron – also known as black metal. The processes involved in forging iron and steel have evolved historically to make effective use of what, until the industrial revolution, was a relatively scarce material. Most of the basic forging operations and tools have developed with wrought iron as a material in mind.**

Wrought iron is a fibrous material, whose quality depends upon the number of laminations produced in its manufacture. It contains some impurities, which render it less predictable in a structural context than mild steel, its modern equivalent. For example, holes would be made by slitting or punching rather than drilling, and pieces of material welded together at melting point to reduce contamination and produce a stronger joint. Many of the traditional techniques require significant skill and timing to maintain quality and commercially viable speed.

Cast-iron components and structures have been popular since the nineteenth century. The characteristics of cast iron differ from forged ironwork in that the material is harder and more brittle. Foundries have the capacity to reproduce forms using moulds and therefore to mass-produce forms, and to produce many which could only be achieved by a casting process. Until recently, many foundries existed in essentially rural areas, but mainly in towns and served local need. There are now only a handful of these remaining, the bulk of the work being done by larger firms or imported.

Since the 1960s in particular, the availability of both ready-made components – forged, fabricated, or cast – and of iron-working machines has enabled fabricators to emulate the work of blacksmiths. The majority of this work is of the cold-bent, arc-welded variety, made to



© Archie Miles

*Blacksmith at work, Eardisley, Herefordshire*



© Tina Stallard

*The Forge, East Meon*



standard designs and made with flimsy materials. The common perception that this low-quality, low-cost alternative is 'wrought ironwork' has done much to undermine the blacksmith's position and trade. During the 1960s, the Council for Small Industries in Rural Areas (CoSIRA) encouraged the production of cold-bent work and produced designs for products to promote this kind of production. Cold-bent work has undoubtedly been popular, as is evidenced by the many thousands of gates made this way in driveways throughout the country – often in styles derived from the baroque, perhaps as an attempt to create a 'country house' feel.

A more recent threat to blacksmiths' businesses comes from the use by fabricators of ready-made components. An essentially welded structure, constructed in many cases from a combination of steel tube and cold-bent stock, is often embellished by these components, usually to little aesthetic effect. Blacksmiths often find that when tendering for jobs their prices are undercut by quotes from fabricators because the clients have no sense of the difference between the work of blacksmiths and fabricators. The difference is both aesthetic and structural – the blacksmith's work shows sensitivity to the site and the material, incorporating

design features not possible by fabrication, and showing something of the personality of the maker. The fabricator's work tends to be structurally sound, and adequate for the job, but there is seldom much aesthetic interest, and often its character acts to the detriment of the site – it has often been described as 'soul-less'. There is no doubt that with a sense of design and sensitivity for the material, fabricated work can be produced which is of great merit – however, this is very rare. An example of the blacksmith's sensitivity applied to fabricated work is that of Stuart Hill, who has produced exciting work using both blacksmithing and fabrication techniques.

The approach taken by most blacksmiths in the face of competition is what Alan Dawson has described as 'Commercially Acceptable Craft', where blacksmithing techniques are used as much as possible within the constraints of the job in hand. This approach often means that custom-built blacksmith-made work is more cost-effective than that made from standard components, and results in much more pleasing work. Two examples of this approach on large projects are both by Alan Dawson: the Prince's Square shopping complex in Glasgow, and the Bluewater centre in Kent, both of which have large amounts of forged and fabricated ironwork produced in a pragmatic manner, but with aesthetic interest.

Modern blacksmiths, whether they prefer to work in historic styles, or to their own designs, regard traditional techniques and construction as being at the core of their identity as blacksmiths. Farriers employ blacksmithing techniques in the production and fitting of steel horseshoes.



## Historical Background



**Before the Second World War, most large villages and all towns had one or more blacksmith's shops, usually providing a general blacksmithing and metalworking service to the local community – be it rural or urban. At their peak, around 1900, the census recorded 136,800 blacksmiths in England and Wales, although probably only about 20,000 could be described as true smiths combining farriery and general ironwork.**

© English Heritage 2002



*The Smithy, Poundstock, Cornwall (1911)*

Rural general smiths would be involved in functional work such as making tools, equipment, decorative work, implements, maintenance and repairs for both domestic and agricultural clients, and would work as farriers – shoeing not only horses, but sometimes oxen and donkeys.

Before the First World War, many rural blacksmiths had also been in the employ of large country estates, and their post-war break-up caused some unemployment. The rural smith's work varied with the seasons – decorative work, now the mainstay of most blacksmiths' work, was done in the winter time when the demands of agricultural clients were less pressing. With the advance of mass-produced metal products beginning in the nineteenth century, repairs, mechanical work, and work connected with industry increased. In larger towns and cities some firms developed a specialism in decorative wrought ironwork, tool-making, etc., but general blacksmithing was the norm in rural areas. With the growth of industrialisation came a range of geographical specialisms – such as nail-making, chain-making, edge tool manufacture, etc., based around reputation and supply-chain concentrations.

The increased mechanisation of agriculture and the development of an improved road network – and the vehicles to use it – began to cause a decline in the demand for the services of the rural general blacksmith from the time of the inception of the Countryside Agency's precursor, the Rural Industries Bureau (RIB) in 1921 (the RIB's parent body, the Development Commission, began with the 1909 and 1910 Development and Road Improvement Fund Acts). The

national horse population, numbering more than 3 million at the turn of the century, had declined by 1939 to a little over 1 million, of which about half were classed as agricultural, 20 per cent were 'town', and 30 per cent were leisure. The First World War saw many blacksmiths and farriers serving at the Front – horses were still important in warfare when hostilities began. Many smiths were engaged in the production of military equipment, and there was considerable encouragement and support for rural smiths in that part of their work that supported agriculture (as defined in the original 1909 Act).

The Bureau, during the inter-war period, encouraged blacksmiths to develop new roles in the face of declining numbers of houses and competition for agricultural work from large, often American, machinery companies, and the reduced call for horseshoeing which accompanied the increasing mechanisation of agriculture. In 1924 they noted that the blacksmith had been displaced as the general rural mechanic as a consequence of the rural garage. In the mid-1920s they advised smiths to modernise and to introduce wrought ironwork as a sideline and provided support for training in oxy-acetylene welding for machinery repair.

To assist with this, a drawing and design service was initiated to provide designs for simple decorative work for specific purposes on request. The Bureau policy from 1928 defined the blacksmith's trade: "The blacksmith was to become the general ironworker for the district. In becoming the skilled agricultural engineer he will perform an act of real service to agriculture. For he who has not the mechanical aptitude, nor the scope in that direction, there is wrought ironwork."

Despite the changes in the rural economy brought about by farm mechanisation and the increased popularity of motor transportation, the work of the country general blacksmith was still very much



© Museum of English Rural Life

*Blacksmith forging iron scroll (1930s)*

determined by the agricultural cycle: spring tilling, hay, corn, root crops, winter. In winter, there was the shoeing of horses for hunting and not much else, so there was time for decorative ironwork, repairs and tool making. Spending only part of the year working on wrought ironwork, and not having any education in design, it is unsurprising that the pieces made during these winters tended to be derivative of, or identical to, previous work. Often the only sources of design information were the V&A books by Starkie Gardner, or the designs provided by the Rural Industries Bureau.

The Bureau's main concern came to be the encouragement of high standards of craftsmanship, so that rural industries would be regarded as rural crafts. Hand production, rather than large-scale manufacture was the objective. This strategy had two benefits: separating products from markets created for mass consumer goods, and allowing a revival to be established in existing workshops – thus avoiding the need for large-scale investment. In taking this line, the Bureau allied itself with the campaign for the protection and reconstruction of rural England. There was significant support from the RIB for the rural general smith during the Second World War in order to support agricultural production, thereby increasing the post-war perception of a connection between all blacksmiths and agriculture, despite the almost certainly larger numbers of industrial and urban smiths.

After the Second World War, agricultural mechanisation continued apace, and even those smiths who had developed semi-industrial manufacturing set-ups began to struggle as large industrial companies came to dominate the manufacture of agricultural implements. Horses had become practically obsolete for agricultural purposes by the early 1950s, and many rural blacksmith businesses had begun to merge, close or take on other roles, such as automotive repairs or agricultural engineering. In parallel with the rural decline, the demand for decorative work from urban firms practically

dried up during and immediately after the Second World War – something not helped by the cutting down of many pieces of ironwork for use in munitions manufacture during the war – largely due to the adoption of modernism by architects. In his classic study of rural crafts in Devon (*The Country Craftsman*, 1958), M.W. Williams reported very few wrought iron or 'artistic' smiths in Devon in about 1951, probably fewer than 10 out of a total of 402 farriers and smiths.

Because of developments in the design of agricultural machinery after the 1960s, forge work was no longer essential to repair it, although it could be very useful. This meant that those with an aptitude for mechanical work had effectively become agricultural engineers, whilst others who were more interested in blacksmithing looked to expand that area of their work. This was clearly an important period for wrought ironwork, when many blacksmiths ceased to be commercially viable as general smiths.

The farriery aspect of blacksmiths' work increasingly depended upon riding horses – hunting, riding stables, private ownership and racing providing the majority of clients during the sixties and early seventies. Until this time there had been a number of regional centres providing training for both blacksmithing and farriery, and although the majority of farriers had undertaken an apprenticeship leading to a recognised qualification – the RSS – there were many so-called 'cowboy' operators who often did substandard or even damaging work. The Farriers (Registration) Act of 1975 required that in future all farriers would need to be registered, and that new entrants would need to hold a recognised qualification – there were also allowances made for unqualified but capable farriers to continue under certain circumstances. This effectively marked the beginning of the decline in general blacksmithing as the majority of farriers in future would be specialists in work with horses, and blacksmithing would begin to build a separate identity – particularly after the late 1970s.



## Numbers of Craftsmen and their Regional Distribution

Information on the precise numbers of the various categories of blacksmith is variable in quality, but sufficient to give reasonable estimates. If blacksmiths are considered only to be those engaged in the hot forging of iron or steel, the figures are smaller than for those who claim to produce wrought ironwork, for example – even though the latter may just involve cold-bending or fabrication, sometimes involving components forged elsewhere.

Yellow Pages directories, although not a reliable guide to business activity, show something of the scale of activity. If the categories linked in a general sense to blacksmithing are combined – for example, Blacksmiths, Wrought Ironwork, Gates & Railings, Metalwork, Farriery, etc. – then there are more than 4,000 businesses in England, with an approximately even geographical spread, located both in rural and urban areas.

Membership of organisations gives further clues, as can the Register of Farriers, but there is a large margin of error in any estimate because of the number of individuals and businesses choosing not to join, joining more than one group, or working either part time or as hobbyists. Because many small blacksmithing businesses have developed from a hobby interest or as part-time employment, it is important to take this kind of activity into account. Figures also vary according to how promptly subscriptions are paid.

- National Association of Farriers, Blacksmiths and Agricultural Engineers (NAFBE) has about 880 members, of whom 650 are farriers, 110 are farrier/blacksmiths, 52 are blacksmith/ agricultural engineers and 68 are apprentice farriers.
- British Artist Blacksmiths' Association (BABA) has 634 members, of whom 369 are professional artist blacksmiths, 53 are retired smiths, 36 are organisations/institutions with corporate membership, 13 are supporters, 87 are amateur smiths (includes part time) and 76 are students. An estimate based upon membership lists covering the last ten years for BABA indicates that the number of professional artist blacksmiths is at least twice the level indicated by the 2003 listing.
- The Guild of Wrought Ironwork Craftsmen of Wessex and the South West Association of Blacksmiths between them have approximately 70 professional and 40 amateur members, of whom at least half are also members of other organisations.
- The Register of Farriers has 2330 or so names. As at 31 December 2002, there were 359 registered apprentice farriers.

- Around 900 companies employ blacksmiths in mining, docks and engineering for maintenance, repair and production.

Given the above, the numbers associated with blacksmithing and farriery can be estimated as follows:

Artist blacksmiths (professional):	600
Artist blacksmiths (amateur/part-time/student):	350
Industrial blacksmiths:	1,000
Farrier/blacksmiths:	250
Farriers:	2,050
Blacksmith/agricultural engineers:	100
Wrought ironwork-related fabricators involving some blacksmithing:	300

According to the Countryside Agency training section, there were about 400 traditional blacksmiths doing wrought ironwork practising in 1998. Blacksmiths broadly defined doing hot iron work were estimated by Occupational Functional Mapping in 1995 at between 1,200 and 1,400.

NAFBAE estimates the average turnover of a farriery business to be £32,000 – which for 2,300 businesses gives around £73.6 million (includes farrier/blacksmiths). Blacksmiths' business turnovers and income drawn are similar to farriers, so £32,000 for 1,700 businesses (artist blacksmiths, industrial blacksmiths, blacksmith/ agricultural engineers together) gives around £54.4 million. Fabrication work involving forge work (£32,000 x 300) gives £9.6 million, and part-time smiths perhaps contribute a further (£5,000 x 200) £1 million. The total turnover of blacksmithing and farriery businesses is therefore likely to be in the region of £140 million, which, as most are located in villages or countryside areas, makes a significant contribution to the rural economy. The DCMS' 1998 and 2001 Creative Industries Mapping Documents estimate revenues for the craft sector as a whole to be over £400 million, and employment to be just under 24,000.

# Typical Profiles of Blacksmithing Businesses

**Artist blacksmiths as a group are approximately 90% male and 10% female; other categories of smith have a higher proportion of males. The number and proportion of female blacksmiths is growing partly as a result of increased activity in art and design colleges and faculties over the last twenty or so years, and the expansion of other entry routes outside the traditional apprenticeship system.**



© Paul Felix

*Student blacksmith*

There have been many women blacksmiths over the centuries, both in specialist and general blacksmithing businesses, but male practitioners have been in the majority. Many women were, for example, employed as blacksmiths in nineteenth-century chain-making businesses in the Midlands, and later on during both world wars. Any gender issues are those of external perception rather than of any significance within blacksmithing.

Artist blacksmiths are almost all self-employed; fewer than a third have any craft or administrative employees. The geographical spread of blacksmiths is broadly in proportion to population densities found in the regions. The two areas with a slightly higher presence in proportion to the population are the West Midlands and the South-West, which is in line with the greater proportion of other kinds of craft business in these areas. Until recently, reasonable house prices have made setting up in business in these areas more affordable – the recent rapid rise in property prices in the South-West in particular is likely to have an impact in the future, as the incomes from most craft businesses would not now be sufficient to obtain a mortgage on all but the most modest property. The impact of these price increases is likely to affect new entrants most severely, and will almost certainly make it necessary for them to rent workspace rather than work from home, where workshops could have been built at relatively low cost under studio planning permission regulations, and would be unlikely to attract business rates, further keeping the cost down.

Twice as many artist blacksmiths work from village or countryside locations as from towns or cities – and

many of these towns fit the Countryside Agency's long-standing definition of rural, in that they have 10,000 or fewer inhabitants. The practice of blacksmithing is therefore largely rural in location, but, when asked, around 60% said they had no work that was rural or connected with agriculture; 25% estimated between 1 and 5%; and 13% had between 6 and 10%. So artist blacksmiths typically work in a rural location, but have little or no business associated with the location, or with agriculture.

Artist blacksmiths tend to live in the same area for long periods of time: 64% living for more than 20 years in the same area, 14% between 11 and 20 years, 13% for 6 to 10 years, and 8% less than 5 years. Approximately equal numbers have moved location, but most have moved from within the same county to their current location.

Full-time blacksmiths work an average of 43 hours per week, with just under 20% working more than 50 hours. About 20% have an additional occupation, and 80% work only at blacksmithing.

The Forge, Wooburn Green, Chilterns



© Tina Stalard

*The Forge, Wooburn Green, Chilterns*



# The Ironworking Trades



Membership of blacksmiths' organisations such as BABA, NAFBAE or the Wessex Guild is seen as helpful by most blacksmiths, because of a range of benefits, some formal, others informal. Magazines, newsletters, events, training courses, group purchase of fuel, and negotiated insurance rates provide clear benefits, but the most frequently cited advantages include the opportunity to meet with fellow practitioners, and discuss issues, trends and techniques in particular. Most say they have a mentor to whom they can turn for advice or assistance – in many cases this is via the organisation to which they belong. Membership of organisations is particularly useful for those working in rural areas.

BABA and the Wessex Guild welcome participants from a range of backgrounds and benefit from the energy and enthusiasm of amateurs and supporters, who in effect assist with the development of professional practice through work on events, shows and exhibitions in particular.

Few blacksmiths set up in business before the age of 30, and many have had other occupations up until then. In common with practitioners throughout the creative industries, it seems to take a few years after training for a viable business to be established. The Countryside Agency's New Entrants' Training Scheme (NETS), now under threat, has been valuable for a number of years in helping with the transition to viability for many emerging blacksmiths' businesses in rural areas.

## Artist blacksmiths

Artist blacksmiths tend to be self-employed, and work alone, or with just one or two employees. The majority of businesses are located in villages or rural areas. The mixture of work undertaken varies considerably from those who specialise in functional, sculptural, restoration or traditional forging, to the majority whose work is spread between most categories in various proportions. Work varies according to the needs of the client, but usually involves a mixture of traditional and modern work and varies in scale between small domestic objects and larger architectural commissions weighing several tonnes. (See the website for detailed results of the 2003 survey of blacksmiths, showing the proportion of time spent on the various categories of work.)

Most work involves some hand-forging with hammer and anvil, but almost all blacksmiths now employ equipment formerly only found in an industrial context, such as power hammers, hydraulic presses, mechanical saws, electric welding and cutting machines, electric drilling and grinding equipment. Larger workshops have mechanical lifting equipment, fork-lift trucks, etc., which, allied to the other equipment, means that smiths working on their own often have the capacity to undertake work which in former times would have taken a team of smiths and strikers to complete. Most spend at least 10–15% of their time on design or administrative work, although few employ help.

The setting-up cost for a well-equipped forge is high: basic power hammers may be bought second-hand for less than £1,000, but £3,000–£4,000 is a more typical price for a new machine; and professional-quality welding and cutting equipment may total £2,000–£3,000 (typically MIG, TIG, Plasma Cutter and/or Oxy-acetylene equipment). Traditional coal hearths are increasingly being supplemented by gas forges, the total cost of which could be as much as £3,000. Hand tools, drills, grinders, etc. could also cost £1,000, so that a typical workshop could be between £7,000 and £10,000 to equip. Vehicle and workshop costs such as gas bottle rental, fuel, rates and electricity are additional recurrent costs. Compared, for example, to setting up an office or equipping a small computing business, the capital cost is high, especially when put in the context of the likely income level.

## Industrial blacksmiths, blacksmith/agricultural engineers

These have different patterns of work from artist blacksmiths and farriers, but use many of the same forging processes, tools and equipment. The equipment and workshop costs for these categories are broadly similar to those at the higher end of the artist blacksmiths' range, but materials for handling, welding and cutting equipment, jigs and fixtures are likely to be on a larger scale. Workshops and vehicles involved will be larger than for most of the self-employed smiths, but on a par with the larger artist blacksmith businesses.

Industrial smiths typically work on larger sections of material, in larger batch sizes, and to the designs of others. Some work entirely in manufacturing; others in a mixture of repairs, maintenance and manufacturing – for example, Appledore Shipbuilders until recently employed blacksmiths who were engaged in a variety of activities, but who spent perhaps only half of a typical week in forge work.

The work of agricultural engineers has greater similarity with motor vehicle maintenance – although often involving much larger components and vehicles – than with rural blacksmithing, despite many firms having their historical roots in rural general smithing. Forge work may be used to repair tools and equipment to a limited extent, but replacement or welding are more usual options. There is a need for increased training and specialisation in this field as agricultural machinery has generally become larger and a great deal more complicated – for example in the area of electronics and computer control of systems. It is possible that repair will become slightly more usual if it is a cheaper option than replacement in some cases because of the recent economic downturn in agriculture.

### Farrier/blacksmiths

Most farrier/blacksmiths, spend the majority of their time on farriery work (typically 60% according to NAFBAE). Workshop facilities for blacksmithing would be similar to those of artist blacksmiths, but a smaller proportion use air hammers – mechanical hammers such as the Blacker have been used for many years in these businesses. Since the 1960s most farriers have travelled to where the horses are located – perhaps arranging to shoe several clients' horses at the same time to minimise travelling and setting-up time. Portable forges provide a heat source for hot shoeing, and small anvils and vices – often located in vans to allow efficient working. Efficient enclosed gas hearths are now the norm, as opposed to the portable coal forges common before the mid-1980s, which tend to be smoky, slow to light up and cool down, and cumbersome to set up and dismantle. Gas bottles can be easily carried in the van along with nails, shoes and other equipment. Some shoeing is done cold, some consists of the temporary fitting of aluminium shoes for sporting use and, to a limited extent, the use of polymer-based shoes, attached with adhesive rather than nails.



*Mobile farrier, New Forest*

Because of the concentration upon equine work, it is likely that any decorative blacksmithing work done by farrier/blacksmiths will be to the designs of others – perhaps emulating an existing piece of work, or using pattern-books. This echoes the practice of the majority of rural general smiths in the past, where a knowledge of and capability in design issues was limited, although there was much skill involved in the execution of the designs. Welding and fabrication jobs also provide work, as do repair and restoration.

### Farriers

The majority of farriers travel to their clients, although some are based alongside larger stables. Some specialise in race work or hunting horses, but the norm is for a mixed clientele. NAFBAE notes that there are just over half a million horses in the UK, around 8% of which are used for hunting. The average farrier has about 270 horses on their books, and each will require shoeing approximately every ten weeks – not always with new shoes, but for horses doing a lot of road work or hunting, new shoes may be required every four to six weeks. Activity levels and the growth of horses' hooves increase during the summer months, so demand is greater. Hunting tends to compensate for the lower level of activity during the winter in general as it tends to take place later in the year.

© Terry Heathcote



## Marketing



**Blacksmiths sell their work through a variety of channels, the most important of which are word of mouth/direct commissions, selling from home/own workshop, and by sub-contract – for example via an architect or building firm. Of secondary importance generally are selling via exhibitions, craft fairs and shops. Agricultural/horticultural shows and selling through garden centres are important for fewer than 5% of blacksmiths. Websites and mail order are important for some businesses, and of about the same importance as shop sales.**



© National Trust/David Levenson

*Blacksmith in the Forge at Branscombe*

A small proportion of sales are done through middlemen, the vast majority of blacksmiths surveyed recording 0–25%, with most commenting that the figure was near zero. Around 10% sell between 25 and 50%, 5% between 25 and 50%, and only 5% record a higher percentage via middlemen. This is probably because of the high rates of commission or mark-up charged, making it difficult to achieve a profit. Most of the work done by blacksmiths is one-off, and often involves considerable effort both in terms of the design and manufacture – for example, a gate that would sell as a private commission for £1,000 would have commission of around £600 levied on it, giving a selling price of £1,600, and making it much more difficult to sell.

Galleries and shops also often operate on a sale-or-return basis, where the blacksmith would be expected to produce work, exhibit it in the shop and then, if the work sells, pay between 40 and 60% commission to the seller. This is unlikely to be a problem for the sale of batch-produced, simple or multiple items – for example, candlesticks, bowls, brackets, etc. – but the opportunity cost of making large expensive items for sale by this route is prohibitive for most blacksmiths. Because the viability of many small galleries and shops is built upon the low risk and cost of sale-or-return, it is likely that they wouldn't be available as a sales option without it – so quite a few smiths profit from selling some small standardised items through these outlets, and gain some marketing advantage as well as limited regular income.

For larger items costing larger amounts of money, many clients prefer to have something designed and made specially. Bespoke work, because no commission is paid to a third party, usually means both better value for the commissioner, and a better return for the maker. The site specificity of bespoke items is often a major marketing advantage for blacksmiths over fabricated or mass-produced work. Although they are in the minority, the larger commissioned pieces by the most successful blacksmiths can cost over £1 million. A typical commissioned piece is likely to cost anything from £500 for a small gate or fire grate, to £2,000 for a more complex piece.

Around 40% of blacksmiths do some form of advertising or promotion, the most popular means being the Yellow Pages, closely followed by the use of a business website. Parish magazines and leaflets are also popular. The fact that 60% are able to attract work without advertising tends to reinforce the importance of word-of-mouth processes. It is noticeable, however, that those businesses with higher turnovers tend to be those utilising a range of methods of advertising and promotion.

Very few blacksmiths sell via co-operatives, the more usual retail outlets being craft shops – many of which operate along similar lines to galleries, and will promote individual makers and take commissions for introductions as well as for sales.

Farriers advertise via Yellow Pages and websites, but word of mouth and reputation amongst horse-riders and owners is very important in retaining a regular clientele or growing a viable business. There are many opportunities for horse-owners to network, and the choice of farrier inevitably becomes an issue – including such concerns as technical skill, sympathetic handling of horses, reliability, etc.

*(A summary of responses given by blacksmiths to questions about the importance of a variety of sales and marketing channels can be seen in the graphs posted on the website: [www.craftsintheenglishcountryside.org.uk](http://www.craftsintheenglishcountryside.org.uk))*

# Education and Training

**New entrants typically begin work between the ages of 20 and 30, although there is clear evidence of mature entry – effectively as a second career. It is clear that blacksmithing is no longer predominantly a hereditary trade, with perhaps only 10% following in their parents' footsteps.**

© Andy Turner



Robert Garlick at Dorothea Restorations

Blacksmiths learn their craft via a variety of routes. Being self-taught, either with or without the assistance of short courses, is perhaps the most popular mode of entry, with apprentice training as a clear second choice. Around a third of smiths have taken full- or part-time college or university courses. A minority have no form of qualification in the subject. Of those with a qualification, City and Guilds is the most popular, but the range held is wide and covers a number of educational attainment levels up to Higher Education Level 3.

It is important to note that, whilst many claim to be self-taught, they also stress the importance of membership of associations such as BABA, NAFBAE and the Wessex Guild, which provide numerous opportunities for learning. Associations hold regular events, with lectures and demonstrations, and make available a great deal of reference material such as videos and books and, through individual contacts, provide mentoring and networking opportunities. The role of these organisations as an educational resource has been very important in the development of blacksmithing since the 1970s in particular.

Blacksmiths hold a range of qualifications in other subjects, reflecting the wide range of previous occupations noted – although there is often a link to engineering, metalwork or design. More smiths expect to take part in training in the future than have done so in recent years. A perception that they already have sufficient skill is by far the most popular reason given for not expecting to take training opportunities in the next five years.

## Education and training providers

There is a wide range of providers, including universities, other institutions of higher education, further education colleges, private sector colleges, businesses specialising in blacksmith training, businesses that train as part of their activity, associations, guilds and individuals.

Herefordshire College of Technology is the largest FE provider, and via its association with Hereford College of Art and Design at HND and BA level, also one of the largest trainers at HE level. Herefordshire College of Technology also delivers the CoSIRA/Rural Development Commission (RDC)/Countryside Agency New Entrants' Training Scheme (NETS) in blacksmithing, which remains popular with working blacksmiths and entrants because of its weekly modules, thus allowing some flexibility and the opportunity to attend short courses. The NETS in blacksmithing (as with all the other crafts) attempts to maintain a fine line between training in traditional skills and teaching more modern techniques that could help business diversification and increase profitability. It aims to improve the overall productivity of the firm by training new entrants and feeding these skills into the business as well as providing more experienced blacksmiths with a range of short open courses. Many HND and degree-level



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© Andy Tyrer



*Student at Herefordshire College of Technology*

courses take place as options or parts of more broadly based three-dimensional design offers, or are associated with other metalwork provision – at Plymouth College of Art and Design (PCAD), for example, there are some 20 students per year from the HND Architectural Metals course, around half of whom spend a further year at PCAD on the BA Applied Arts course, but work through the medium of forged metal.

Depending on how one defines blacksmithing training, there are at least 10 BA and HND awards with a greater or lesser emphasis upon forged metal work – although fewer than half are named awards. It is reasonable to assume that there are at present around 200 students studying blacksmithing in at least some of their courses – most of whom will not become professional smiths. Courses at the Surrey Institute of Art and Design, Kent Institute of Art and Design, University of Plymouth, Camberwell College of Arts, Sheffield Hallam University, Loughborough University, Staffordshire University and Buckinghamshire Chilterns UC often produce students who wish to work through the medium of forged metal, but the courses themselves are described as three-dimensional design, or furniture design, etc.

West Dean College has run blacksmithing short courses for a number of years, some of which are credit-

rated and use professional smiths as tutors. Other providers are privately run businesses, often managed by those with a background in public sector education, but a dislike for an excessive amount of paperwork, and a preference for hands-on working. Pete Oberon's School of Blacksmithing is an example of high-quality short course provision.

The Guild of Wrought Ironwork Craftsmen of Wessex has now relocated their training centre from Cannington Agricultural College to new and improved facilities at Westpoint – the Devon County Show Ground, near Exeter. Weekend courses are run for between 10 and 20 students about twice a month – these courses range from beginners to advanced level, and deal with a range of decorative and functional approaches and techniques. The British Artist Blacksmiths' Association also runs courses on design, technique and business skills as well as organising 'forge-ins' and conferences, where a number of demonstrations and lectures take place and which are a valuable means of training at networking.

Courses run at HE institutions all include an element of contextual study, reflective practice, business studies and design practice – the emphasis being on personal development through the medium of the work rather than upon technical skills. HND courses have a greater vocational or technical focus – although the technical standards are unlikely to be higher than for BA courses because of the shorter study period. Shorter courses place even more emphasis on basic skills development. Higher education courses are unlikely to deal with structural steelwork requirements, building regulations (for example in relation to railings or spiral staircases), detailed welding practice, and the day-to-day requirements for running a business.

It is unlikely that many would be ready to set up in business after completing any of the courses on offer without requiring further help in technical and business-related areas. This could be achieved via networks, mentoring or a NETS type offer, which would concentrate on business skills, and would be able to deal with a bespoke approach to filling technical skills gaps – perhaps via a range of other training providers. It is interesting to note that Skillset, the audio-visual industries Sector Skills Council, is about to introduce a NETS aimed at graduates, at a time when the Countryside Agency is having to transfer the NETS programme to Herefordshire College of



Technology and to secure funding from the Learning and Skills Council, which now has responsibility for national training policy and provision. The requirement for NETS is clear in all areas of the creative industries because around 95% of enterprises are micro-businesses, and often sole traders, rendering on-the-job training almost impossible without the engagement of an external organisation. NETS provision needs to be reconfigured to meet the demands of contemporary business and expanded – for example the use of ICT is now essential, and regulation, especially within the context of the EU, is becoming increasingly time-consuming. It may be that Herefordshire College of Technology would like to involve Business Link or similar in boosting the entrepreneurial orientation of NETS.

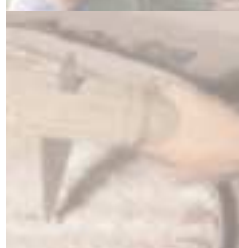
Current training meets many of the requirements of new entrants, but there isn't a single course on offer that meets all of them. However, a good starting point is the NETS now being delivered by Herefordshire College of Technology. This offers new entrants a good foundation of practical and productive skills based on weekly modules of off-the-job training to complement on-the-job training and work practice. This type of approach could act as a stepping-stone for new entrants to progress to the Advanced Modern Apprenticeship and undertake the key skills and business administration as is already done with farriery Modern Apprentices. It is also likely that other courses of the kind offered at Hereford, or an art and design-based BA, will provide the basis for further development. Mentoring, or preferably a 'journeyman' type experience, where students have some practical experience of working in a business – in the UK or abroad – would be very advantageous. If this range of work experience was coupled with (at least partly) bespoke training and skills development at various stages in the individual's career, it would allow for small businesses to grow into larger ones with a knowledge of business practice, marketing, legal issues, accounts, etc. (demand is shown by the blacksmiths' questionnaire, which can be found on the website: [www.craftsintheenglishcountryside.org.uk](http://www.craftsintheenglishcountryside.org.uk)). It is likely that the Foundation Degree, with its work-based learning elements and employer engagement would provide the best training vehicle for many. The offer would be enhanced considerably if followed by further training while working

– something a NETS course or journeyman-type arrangement could provide.

Those who might require advanced training are largely unaware that it exists or that they might benefit from it. Given the generally low salary levels (almost all under £30,000 turnover, and nearer to half that in salary), it is clear that business-related skills and advanced technical skills would be beneficial in most cases. The key to establishing what is needed lies in a careful audit of individual business requirements – perhaps a travelling business adviser, or the use of the kind of generic business development software used by the Business Links would help. It is clear that associations and groupings have clear benefits, and that some form of mentoring, advice – both technical and business-related – and short, more advanced, courses to top up or diversify existing skills would be useful. Of course, this is what the Countryside Agency and its predecessor organisations CoSIRA and the RDC used to provide.

Until the early 1980s it was usual for school metalwork teaching to include forging as one of the processes that pupils would be shown or would practise. As a result of this practice in schools and its reflection of industrial methods, teacher training institutions generally had forging facilities at that time too. But the lack of facilities in schools and of teachers with any experience of forging means that fewer now have the opportunity to try blacksmithing before leaving school.

Technical Colleges such as Exeter College and North Devon College had large forge-work and farriery training facilities, again until the 1980s. These facilities were often associated with engineering departments, which had strong links with employers in mechanical engineering, shipbuilding or agriculture. These departments provided block-release training for apprentices, and offered part-time training for aspiring



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blacksmiths and farriers. Although Herefordshire College of Technology has been the largest centre for training farriers for some time, regional centres provided convenient local access to learning, something that is no longer so readily available.

After 50 years of providing blacksmithing and farriery training, in May 2000 Herefordshire College of Technology opened its Centre for Rural Crafts at Holme Lacey near Hereford. This new 1,900 square metre facility allows around 300 farriery and blacksmithing trainees to attend each year on a range of courses from the New Entrants' Training Scheme, Edexcel/BTEC First Diploma through to BA.

## Farriery courses

- **Herefordshire College of Technology:** First Diploma in Blacksmithing and Equine Studies and NVQ (level 3) Farriery
- **Warwickshire College, Royal Leamington Spa and Moreton Morrell:** First Diploma in Pre-Farriery Training
- **Oatridge Agricultural College:** Certificate in Pre-Farriery/Blacksmithing

Following the Farriers (Registration) Act 1975 and its 1977 amendment, only those registered as being competent may shoe horses. The Farriers Registration Council maintains the Register and ensures compliance with the Act. The Council established the Farriery Training Service to oversee the training of Farriery Apprentices in Great Britain. Apprentices are required to complete a four-year course with an Approved Training Farrier and to attend appropriate formal training courses, such as those provided by HCT.

The Worshipful Company of Farriers, a City Livery Company with fourteenth-century origins, has had a beneficial influence on the development of legislation and standards and still offers a range of awards and support to the craft. Although the company awards are not linked to the registration Act, they provide an important incentive for continuing professional development amongst farriers and equine veterinary surgeons.

## Blacksmithing courses

- **Herefordshire College of Technology:** First Diploma in Blacksmithing and Equine Studies, HND Design Crafts, BA Design Crafts, National Certificate in Blacksmithing and Metalwork, National Diploma in Blacksmithing, Countryside Agency NETS
- **Myerscough College:** First Diploma in Decorative Metalwork
- **Oatridge Agricultural College:** Certificate in Pre-Farriery / Blacksmithing
- **Plumpton College:** Certificate in Industrial/Rural Blacksmithing Studies, First Diploma Agriculture Mechanisation, First Diploma in Blacksmithing
- **Bridgewater College:** OCN Metalcraft, OCN Metal and Glass, OCN Advanced Metal Design
- **Guild of Wrought Ironwork Craftsmen of Wessex:** a range of weekend courses based at their Westpoint training centre near Exeter
- **Swindon College:** OCN Creative Metalwork and Blacksmithing
- **Warwickshire College:** OCN Blacksmithing, Metalwork, Welding
- **London Institute:** BA Silversmithing and Metalwork
- **Plymouth College of Art and Design:** BA Applied Arts, ND Design Crafts, Access 3D Arts and Design, NCFE Stage 1 Hot Metals
- **Surrey Institute of Art and Design:** BA 3D Design (metals)
- **University of Plymouth:** BA 3D Design
- **Myerscough College:** BTEC 1st Diploma Rural Blacksmithing



- **West Dean:** a range of short courses in blacksmithing
- **Northbrook College:** a range of part-time courses
- **London Metropolitan University:** BA Silversmithing, Jewellery, Metalwork
- **Rycotewood College, Moreton Morrell, Royal Agricultural College, Centre for Alternative Technology:** short/evening courses
- **Blacksmithing businesses running courses include:** Steven Kirkby, Cold Hanworth Forge, Dorset School of Blacksmithing (Mike Malleson), Peat Oberon, Reddick Forge, Richard Bent, Bob Oakes, Petersen Studios, Hector Cole, Fire and Iron School of Blacksmithing, Steve Hopps, Stan Pike, David Webb

There are a large number of courses that often include forged metalwork. Some of the subjects are shown below with the number of courses in brackets:

- **Arts and Crafts:** City and Guilds (5), Certificate (13), BA (8), MA (3), NDD (11), HNC (1), HND (1), Foundation (1), OCN (3), Centra (1), PhD (1)
- **Metal Design:** OCN (1), PhD (1), HND (7), NDD (1), BA (6)
- **Jewellery:** BA (25), City and Guilds (12), Diploma (4), HND (11), MA (10), NDD (5), Certificate (16), OCN (18), PhD (5), NC (8), Centra (1), HNC (7)

- **Crafts:** NVQ (3), HND (20), HNC (8), OCN (7), ND (18), Certificate (13), BA (30), City and Guilds (10), Foundation (2), PhD (4), NC (2), Centra (1), MA (3), Access (2) [/bl]

Blacksmiths generally feel that training is adequate or good, with around a quarter feeling provision is poor. Opinion is divided about the need for a National Vocational Qualification (NVQ), and a wide range of comments have been made about which subjects ought to be included in any such award.

There is clear support for training in business methods – 79% indicated this. Marketing would be the most popular business topic, with website design, computer-aided design, basic computing and simple book-keeping following close behind. There are no clear-cut ways in which smiths feel current training should be improved, but small local courses, part-time courses and the provision of study grants were among the most popular.

Around three-quarters of blacksmiths own a computer, and are connected to the internet, but only two-thirds use their equipment for business purposes. Few claim advanced computer skills, most having limited or broad competence in ICT work.

In a striking contrast to conventional perceptions, almost all blacksmiths spend less than 5% of their time on work which is rural or connected with agriculture. Those who do work with a countryside connection, although they are a small minority, spend most of their working week on it.

The number of blacksmiths who feel that business advice provided, for example by Business Links, is adequate is slightly lower than those who rate the service as poor. Additional comments were made by older blacksmiths with experience of the service provided by CoSIRA, which were highly complimentary. There was an element of regret that the range of local and bespoke services seems to have been reduced.



Student at Herefordshire College of Technology

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## Conclusions



**Clearly a wide range of courses and training opportunities are on offer at all levels, from Access to PhD. The majority of smiths require a mix of technical skills, design ability and awareness, business knowledge, ICT skills and practical experience to make a success of their craft. The range of training needs to encompass the abilities and experience of a wide range of individuals from school leavers to those changing career in middle age.**

It is clear that formal structured educational programmes can ensure an adequate base level of knowledge, but that further practical experience is required to allow individuals to maximise their potential as a blacksmith or farrier. Short courses, membership or organisations, NETS-type provision, Continuous Professional Development (CPD) provision, on-demand business advice and self-initiated learning all have an important part to play. Central planning of provision, except in the case of farriers, is likely to be both unhelpful and unsuccessful given the range of providers and stakeholders involved – constant monitoring of the relevance and success of individual aspects of provision is likely to result in the maximum benefit for blacksmiths and aspiring blacksmiths.

A number of additional comments were made by blacksmiths in response to a range of issues:

- 1 "Amongst the main problems are the fact that customers can never relate to blacksmiths being on a par with plumbers, say, who can charge £65 per hour. However brilliant a blacksmith is as an engineer and artist combined, the customers do not understand. As a result, we are often forced to charge £12 per hour and, to compound the problem, often run factory set-ups which drain away the profits – on overheads, heating, insurance, endless machine repairs and renewals. Something needs to be done to educate the general customer."
- 2 "Blacksmiths specialise in genuine wrought ironwork. However, apart from the material specification, this is appropriate for smiths in general. Since there is no specification (British Standard, advice notes from English Heritage, RIBA) on blacksmith construction, this means that tenders are generally issued with the term 'wrought ironwork', which can be read to be mild steel fabrication. Tenders are therefore not like for like and smiths may feel forced to under price work."
- 3 "I call myself an 'artist metalsmith' so as to indicate that I'm not a traditional blacksmith. I am a blacksmith in that I love forging steel, but I'm more likely to make radiators than wrought iron gates. My biggest concern for the future of creative metalwork is its lack of visibility. It doesn't seem to get the same attention or support as other crafts, consequently one struggles alone in the dark."
- 4 "At 61 years old I try now to design and make my own work for private clients. I'm just making a living, but I will not do architects work, nor welding and fabrication, nor common art work. I specialise in non-ferrous forging and have done for more than 25 years. It is very sad CoSIRA is gone. The Countryside Agency has done nothing for me."
- 5 "Business at present is not easy – we seem to be squeezed from several quarters – foreign imports, fabricators making gates, e.g., using mass-produced parts, agricultural decline, difficulty in finding customers that appreciate and can afford our work. We find the only way to remain in business is to be as versatile as possible – doing sheet metalwork and fabrication of all types and blacksmithing as well as short training courses for those interested in smithing."
- 6 "I find myself quoting for jobs classed as 'restoration' against poor quality fabrication firms. They win the contract on price alone and subsequently a sub-standard job is done and accepted by National Parks and the like. When requested to replace like for like, this should mean what it says."
- 7 "The average customer cannot differentiate between hand-crafted work and fabricated work or appreciate the skill in handmade goods and they are therefore not prepared to pay for quality."
- 8 "The public's lack of education about blacksmithing is a problem. People still think blacksmiths shoe horses! 'Craft' to many still means a box with shells stuck on it. Because of this you often have to be called an 'artist blacksmith'. The use of the words 'wrought iron' to represent poor cold-bent thin steel is a problem. There are legal definitions under the Food and Drugs Act and Trade Descriptions. Let's raise the profile and standards



© Andy Turner

Student ironworker

and definitions and stop fabrication firms from using the term 'forge' or designs of anvils and hammers on their promotional material when they have no anvil, forge or knowledge of how to use them if they did."

- 9 "My courses are outside the 'system' because of the enormous amount of (nonsense) and unnecessary paperwork involved in the formal courses. I spend my time and energy on actual teaching and my students achieve amazing results in three days. Classes are limited to very maximum of eight, but they are mainly six, which ensures plenty of contact time and personal tuition. There are no fatuous paper qualifications, reports or inspections. They take with them only tangible results in their hands as they leave the premises."
- 10 "I do it because I love it and still do after 33 years. As a self-taught craftsman I now see many training opportunities. How lucky people are today! By being in business, good work is created from nowhere. But there is a lack of good work to go around."
- 11 "I don't consider myself in any way involved with a 'rural traditional craft.' Most of my work is designed and made for town and city centre locations – I just happen to live in the country because I like it, and can afford a workshop there."
- 12 "There is a lack of awareness among customers of the difference between fabricated and quality forged work. This opens the market to being swamped with locally fabricated or imported poor quality work, which the public are happy to buy out of ignorance. There is room for both quality and budget products, but we need to work harder to raise public awareness. I feel

strongly that a significant problem for craft workers is the lack of public appreciation of the quality of craftwork available. Training of craft workers will be pointless if we do not stimulate an awareness of the value of their skills and willingness among the public to pay for this."

- 13 "To be successful a smith needs a well-established client base, proper business and marketing management, good design ability and good technical skills. I advise all new smiths to have a secondary job in order to support themselves until their smithing is well established."
- 14 "There are too many poorly skilled so-called blacksmiths satisfied with a poor income. The craftsmen should be more professional in their approach to what should be a business designed to earn a good living."
- 15 "I once had a craft stall at a craft show and a potential customer commented that one of my brackets was four times the price of the ones at B&Q! We must educate the public!"
- 16 "Blacksmithing needs an official trade body to assess competence, quality and integrity, which categorises practitioners into officially established grades – i.e. Master, Journeyman, etc. or whatever titles are chosen. Until this is done, the trade will limp along as an also-ran. To be successful, this element of official status is essential. But this body must be established by the trade, free from any government or other influence. We must be seen to be judging others in a serious way, thereby acquiring the power to challenge the claims of those who manufacture 'hand-made wrought ironwork' from many mass components. Such a body should also have an influence on architects to educate them properly into avoiding the use of cheap junk and encouraging their clients to invest in fine high-quality work. The parochial nature of BABA will never raise the status of ironwork to match that of studio pottery, glass and cabinet-making, since it refuses to countenance a selective membership structure."





## Present and Future Trends in Demand for Smiths' Work

**There is a distinct difference in the confidence with which blacksmiths and farriers view the present commercial climate. Blacksmiths are tending to see a gradual improvement in their business prospects, whereas there are concerns amongst farriers about the effect that the proposed anti-hunting legislation will have on their incomes. NAFBAE predicted, in its submission to the consultation exercise on the proposed Bill, that a ban on hunting foxes with hounds would have a significant effect.**

Although there had been concerns about the future of blacksmithing since the inter-war period, in the last 25 years or so there has been a vigorous renewal of interest. This revival has been fuelled in part by developments in the USA and Germany, but also by home-based efforts and enthusiasm. A key development has been recognition of the value of design and artistic expression in work that for many years had been all but absent.

Until the 1980s the vast majority of blacksmiths relied for design inspiration on pattern books and examples of work from or based on the styles of the seventeenth and eighteenth centuries. The books by Starkie Gardner and the catalogue of drawings from the then CoSIRA were perhaps the most regularly used sources. The series of books produced by the RIB/CoSIRA/RDC detailing techniques via a series of step-by-step photographs have also been influential, but they tended not to emphasise particular styles, but, rather, good-quality historical techniques with contemporary relevance. These books continue to be well-regarded reference books but they have been joined by books with more focus on design, and those such as Peter Parkinson's, which combine traditional and modern techniques.

The popularity of postmodern styles in architecture during the 1980s began a revival of interest in decorative elements and the semiotic potential in components and objects linked to buildings and spaces. Efforts by the Crafts Council, members of the newly formed BABA, the Victoria and Albert Museum and others prompted an increased interest in blacksmiths' work through exhibitions, prominent commissioned work, conferences and events. Ironwork and domestic objects in forged metal have become more popular in recent years, in part because of interior design TV programmes and magazines, which has meant that the market for imported, cold-bent and fabricated work has also increased. Because of competition from those with a lower production cost –

whether through lower labour costs or economies of scale through the use of mass-production techniques – these lower-cost products have had an effect on the market for bespoke work in that potential customers compare costs unfavourably.

Blacksmiths also remark that they lose out to fabricators in competitive tendering because there is a lack of understanding amongst those commissioning work of the nature and quality of forged work. Ready-made components – sometimes made with an element of forge work or cold texturing – are also used by competitors, to produce work that has some resemblance to that made by blacksmiths, thus further reducing the market for forged work.

However, price, quality of manufacture and materials are not the only determinants of commercial viability. The ability of a creative artist blacksmith to design specially for a customer or site can make bespoke work



*Making curtain rails for a local farmhouse, East Meon Forge, Hampshire*

© Tina Stallard

not only aesthetically more pleasing, but often more cost-effective than off-the-shelf alternatives. The potential for a client to be involved in the decision-making process can often be an attractive element of the commissioning process for craft work, in addition to the perception that there is a form of link both to the tradition of blacksmithing and to its ethos.

Having noted that there is considerable optimism about the future viability of blacksmithing, there exist, nevertheless, a range of common concerns, as demonstrated by a recent survey. Some are worried about a declining interest among the buying public in craft products generally. Only a few are concerned by hobby-makers, but since a number of them began themselves to work as blacksmiths on an amateur basis, a strong hobby interest could be taken as a positive sign for the future. Foreign competition is seen as a serious threat by many smiths, essentially in the area of small standardised items that can be sold at low prices

because of lower wage costs – bespoke work is not substantially affected by imports. Declining standards in craft work are seen as an issue by a significant proportion of makers, although it isn't clear whether this has a direct effect on trade. Low incomes are one of the biggest concerns amongst blacksmiths – this is particularly significant for those seeking to set up in business, or to buy a home, given the recent national rises in the price of all types of property. The number of recruits to blacksmithing is not seen as a major issue. Nevertheless, a number of perceived barriers do affect new recruits, some of which have great significance: the high cost of housing is of general concern, as is the difficulty of finding affordable business premises. Many see the lack of apprenticeships or training facilities as problematic. And the low income is seen by most as the major obstacle to recruitment.

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*Blacksmith taking an order, Chilterns*



# The Ironworking Trades

