

## **Jewelry**

The article that follows describes a number of reasonably simple pieces of jewelry. Some require soldering, so to do those you will have to either buy some equipment or find someone local who is willing to let you use his. All are made of silver, but mostly don't take very much. To make them even less expensive use copper or a copper alloy—brass or bronze. Lots of period low end jewelry was made of base metal.

The article does not describe any pieces using pearls, since when I wrote it I had very little experience with them. Cultured fresh water pearls have become very inexpensive; you can probably get a string of them for ten or fifteen dollars at a local gem and mineral show. So you might want to look for pictures of simple period pieces using pearls.

## Period Jewelry You Can Make

A medieval hobbyist looking at the magnificent medieval jewelry in collections such as the British Museum or the New York Metropolitan Museum will conclude, correctly, that he is not likely ever to be a good enough jeweler to make such pieces, and if someone else makes them he probably will never be able to afford them. Precisely the same thing was true for most people in period—even most of the gently born people on whom most of us base our personae. The jewels in most museums (the Museum of London is a notable exception), after all, are a selection heavily weighted towards the most impressive pieces.

If what you are looking for is not what the king and high nobility of England wore but what a reasonably well off Englishman, or Anglo-Saxon, or Norseman might wear, your chances of getting it are a good deal higher. Most period jewelry was made, not of gold, but of silver or brass or bronze or iron—sometimes gilded. Some of it was elaborate, but many pieces were not.

In this article I give detailed instructions for making seven pieces of jewelry. The combined material costs for all seven pieces should be less than twenty dollars, provided you can find someone willing to sell you silver wire in small quantities. The required equipment consists of a hammer, something to hammer against, a propane torch or equivalent, something to solder on, a pair of needle nosed pliers (or something similar), some tool capable of cutting wire, and a small file. None of the first six pieces should take much more than an hour—the second time. The final piece is a little more difficult.

The dimensions of most of these pieces are based on original pieces I am copying. Real pieces varied a good deal; these are merely examples I happened to have information about. As a general rule, the smaller a piece the harder it is to make, so you may want to scale up some of these, at least the first time you do them.



**A pair of Anglo-Saxon Earrings**

These are described in Jessup but not illustrated, at least in the current edition. I have seen a picture, possibly in an earlier edition of Jessup, but have so far been unable to find it and am therefore guessing on the dimensions. I thought it worth including anyway because it is one of the easiest to make period jewels I have seen.

2 pieces of 20 gauge sterling wire 4" long.  
2 drilled gemstone (or glass) beads.

Figure one shows the earrings and should be self explanatory; the markings on the ruler are sixteenths of an inch. The only tool you need is a pair of pliers, preferably with very narrow jaws. When selecting your beads, check to make sure the wire will go through them; gemstone beads are often drilled from both ends, meeting in the middle, and if the two holes don't quite match a wire may not go through. The wires should be sufficiently springy so that you can separate the ends, put one through a pierced ear, then reconnect them.

### **Making Small Wires out of Big Wires**

The next two projects require you to take a piece of wire and make the ends thinner. To do this you roll the end on your anvil (or equivalent) while tapping it with a hammer; you can supplement this by filing away some of what is left.

While this thins down the silver, the

result, at least when I do it, is not as thin as in the original pieces I am copying. One possible explanation is that the jewelers who made them had more skill with a hammer than I do, more patience, or both. Another is that they were using draw plates, pulling the end through successively thinner holes. That is how I did the spiral ring shown below—earlier versions, done with hammer and file, didn't come as close to matching the pictures of the original. Draw plates are described by Theophilus in about 1100; the spiral ring is mid-sixth century, when draw plates may or may not have been available. Unfortunately, draw plates are expensive and my readers are unlikely to already have them.

Hammering silver hardens it, making it springy and difficult to bend, which is inconvenient in these projects, since after we hammer the wire we are going to bend it. It is also inconvenient because we may want to hammer it some more—which works better when the metal is soft. You solve the problem by annealing the wire, heating it enough to undo the effect of the hammering, using the same torch you will use in later projects for soldering things. Heat it in a semi-darkened room so that you can judge the temperature of the silver by its color; when it has gotten up to a dull red it is hot enough. Remove the torch, let it cool, and continue.

### Mandrels

All of the remaining projects require you to make silver wire into a circle. This is easier if you have something cylindrical to wind the wire around. What I use for the purpose is a ring mandrel, a slightly tapered cylinder of steel intended to be used in making rings. If you don't have one, any hard cylinder of the right size, such as a wooden dowel, should do. You might even take a piece of 1" or 1 3/8" oak dowel and sand or file it down into a tapered cylinder, giving you a tool that, like my ring mandrel, will fit a range of sizes.

### Norse Finger Ring

(Hall, p. 105).

2 3/4" of 12 gauge sterling silver wire.

Thin out the ends, as described above. Anneal. Form the wire around a 5/8" diameter mandrel, then bend the thin part of the ends around the ring as shown in the figure. Try to get them thinner than I did in the ring pictured here.



### Anglo Saxon Spiral Finger Ring

[Jessup, Figure 32.1 and Smith fig. 45]

7.5" of 14 gauge sterling wire.

Thin down the last 1.5" at each end (1). Anneal. Wrap around a mandrel the diameter of your finger (2—after removing the mandrel). Spiral around itself and wrap the ends around the ring shank as shown in the figure (3). Put the ring shank between two wood blocks of the same height, so the spiral is resting on them (4), and hit the spiral with a hammer to flatten it (or don't, if you are happy with how it turned out initially). Put it on your finger (5).

Smith (p. 108) shows a piece with a much larger shank, presumably a bracelet.



## Soldering

The remaining pieces require soldering, so in addition to what you already have you will need silver solder and flux for silver solder. Silver solder melts at a much higher temperature than the lead based solder you may be familiar with, which is why you need a small propane torch or something similar. (The period equivalent would be a small furnace—Maryon describes how to make one—or a blowpipe, a small tube used to blow air across a flame to create a hot jet of fire. A common flux was borax.) Binding wire, thin iron wire used to hold things together while you solder them, will be useful for the more difficult projects. You also need a surface to solder on that won't be burned or cracked by your torch. The easiest is a soldering pad, available from a jewelry supply store, but a piece of (not heat sensitive) rock or a container of sand should do.

A few points are worth making about silver soldering for those who have never done it. The most important is that silver soldering is done at temperatures close to the melting point of what you are soldering, so you have to be careful not to overheat and melt the piece down. For the sort of small pieces we are doing, you want the flame running along the length of the wire so as to heat all of it at once to a reasonably uniform temperature and you want to keep the flame moving, so as not to overheat any part of the wire.

A second point is that silver soldering is usually done with very small amounts of solder, so as to avoid flooding the piece. The little bits of solder I am using are pieces of 20 gauge wire (made out of silver solder, a silver alloy that melts at a lower temperature than sterling) about 1/16" long.

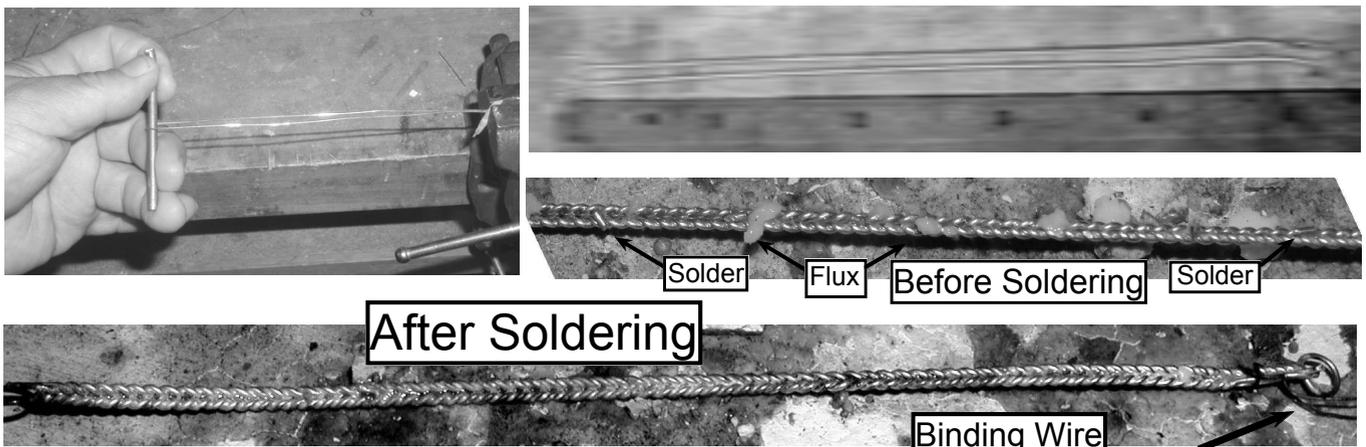
### Double twist ring: 13th c.

2 feet of 22 gauge sterling wire.  
Silver solder. Flux.

Cut the wire in half. Fold one of the halves in half again, this time over some small sticklike object. Put the ends in a vise as shown in the figure; if you don't have a vise hold them in a pair of pliers. Take the end that used to be the middle and now has the stick in it, and twist it clockwise about thirty-six times.

You now have a piece of twisted wire about 4 5/8" long, with what looks like about 16 twists per inch. The reason it is 16 instead of 8 is that if you twist a doubled up piece of wire around ten times you end up with what look like twenty twists, since both wires are going around. Hence twists per inch is twice what you would calculate from the number of times the wire is twisted (each twist being 360°) and the length of the wire.

Repeat with the remaining piece, this time twisting counterclockwise. You now have two pieces of wire, identical except for the direction of twist.



Lay the two pieces together; if you want you can tie them with binding wire. Put flux on them, put little bits of solder on them, (see figure). Heat the whole thing with your torch until the solder flows, joining the two pieces. This is easier if you already know how to solder silver or have someone to show you, but with patience you can figure it out for yourself. You may want to look at Maryon or some other good book on jewelry making for a more detailed explanation.

You now have a length of double twist wire. Wrap it around the same rigid cylinder you used for the first project—the one that is the same size as your finger. Cut off the surplus. File the ends flat so they will fit together. Squeeze the circle of wire so the ends slightly overlap, then pull it just far enough open so that you can put the ends against each other—that way the spring tension of the ring will hold the ends together. Get it arranged exactly the way you want it to end up—this is easy to say, but may require a lot of fiddling. The idea is to have the two faces exactly match. Put some flux on the ends and a little bit of solder. Heat it until the solder melts and flows, joining the two ends. You now have a ring.

Unless you have a very big finger, you probably have enough double twist left over to make a second, smaller ring to give to a friend.

The original this piece is based on has a diameter of about  $\frac{7}{8}$ ". The picture shows both it and my copy. The outside of the original is worn almost flat, but you can see the structure by looking at the inside.



### Knot ring: late medieval

18" of 24 gauge sterling wire. Flux and solder.

Fold the wire in half and twist it, as in the previous project—but this time you want to end up with one piece of wire, all twisted clockwise. Twist about 90 times around, ending up with what looks like 22 twists/inch. Wrap it around your ring cylinder twice, leaving equal amounts extra at each end. Tie a knot with the ends, as shown. Now flux the whole piece, put some tiny bits of solder on it and heat it until the solder flows, joining the two wraps. The picture shows the original and my copy; the original is nicer.



### A simple circle pin.

(Deefy and lots of other sources)

4  $\frac{1}{2}$ " of 12 gauge sterling silver wire.

Wrap the wire around a  $\frac{7}{8}$ " ring mandrel once, with all the extra at one end. Cut off what is left; you are going to use that to make the pin. (You wrap before cutting because it is easier to wrap the silver when you have something excess to hold onto.) Take the circle of wire and solder the ends together—just like soldering the ends of the double twist wire (fiddle with it until the ends are flush and held together by spring tension), only easier.

Use your file to file a narrow section, as long as your wire is wide—this is where the pin is going to go on (see figure).





Flatten one end of the pin, using a hammer and/or a file, anneal it, and bend it around the ring brooch at the narrow section. You now have a ring with a pin on it. Cut the other end of the pin so it partly overlaps the width of the wire of the ring at the other side. Use your hammer and file to taper down the pin so that it goes from its full width at the base, where it wraps around the ring, to almost a point at the tip.

Circle pins like this, often smaller and often made of base metals such as brass, are very common in medieval digs. They may have been low end jewelry—or perhaps the medieval equivalent of safety pins.

#### **A fancier circle pin. (Deefy RB 103)**

1 ½" of 10 gauge sterling wire (for the pin)  
 18" of 24 gauge silver wire  
 3 ½" of 18 gauge silver wire.

Cut the 24 gauge wire into two pieces, one 9 ½" long, one 8 ½" long. Fold each in half and twist it about 40 times around—the longer counterclockwise, the shorter clockwise. The longer one is going to be the outer circle, the shorter the inner, and doing it this way makes the twists correspond between the two.

Make your 18 gauge wire into a circle; solder closed. Measure the longer twist along the outside of the circle, subtract about a tenth of an inch (for the space where the pin goes), cut—you now have a length of left-handed twist that will go around the outside of the pin. Similarly shape and cut a length of right handed twist to go around the inside. Assemble the whole thing (binding wire will help a lot), solder it together. Make and

attach the pin as in the previous project.

This is a harder project than the others because of the delicate soldering needed to assemble the three circles. If you have never done silver soldering before you may want to get some experience with the easier projects before you try it.



Both of these are circle pins; the figure shows how they work. The basic idea is to pull some of the cloth through the circle, stick the pin through it, then pull enough back so it holds. The same design was also used for belt buckles, with the pin serving as the tongue of the buckle; Egan and Pritchard show a number of examples similar to the first one. You might try scaling up the second and fancier pin; it would make an attractive buckle.

In case, after doing all of these successfully, you are still feeling ambitious, you may find the pictures below of interest. The arm rings are bard bait; I make them to give to people who do a very good job of entertaining me and my guests at my bardic circle at Pennsic. Making them is much easier than people think, since although they appear to be braided they are actually only twisted. Stare at the picture long enough, think about rope, and you will see the pattern.

The other picture shows my favorite penannular fibula, a simple but elegant piece presently residing in a museum in Edinburgh.



### Finishing

All of these projects except the first require you to heat the silver, either to anneal it or to solder it. Heating may result in dark discoloration on the surface. To remove it, the piece should be pickled—immersed for a few minutes in a warm acid bath. The powder for making a pickling solution can be purchased from any jewelry supplier.

Pickling removes the discoloration but leaves a rather dull surface. This is usually polished using tripoli, a fine abrasive, on some sort of turning wheel. For a finer polish, you use first tripoli and then jeweler's rouge.

If you have a Dremel Mototool or an electric drill, you can probably find a suitable accessory to use as a polishing wheel. If you don't, it should be possible to polish small pieces like these by hand, using tripoli, a rag, and patience—but I must confess that I have not done it. Some pieces can be burnished—a period technique that consists of rubbing them with a very smooth piece of something very hard, such as steel (burnishers are available from jewelry supply stores)—but that is hard to do on something as intricate as the second circle pin. Rio Grande offers hand polishing sticks, but I have not tried them. If you polish your pieces by hand successfully please let me know, so I can tell other people how to do it next time I revise this piece.



### Source for materials:

My favorite mail-order source for jewelry supplies is Rio Grande in Albuquerque. Their phone number is 800 545-6566. Their web page is: [www.riogrande.com](http://www.riogrande.com).

### References

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For period jewelry technology, see:

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