CONSERVING A SPEARHEAD

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Coatings, Corrosion, corrosion products, metal, metal flaking, Metals conservation, Saxon, spear

I am an objects conservator working to help preserve museum collections in Wiltshire. Much of the work I do is with archaeological collections including the item I am working on today which is a spearhead from the Saxon period and the ferrule from the bottom of the spear.

The spearhead and ferrule

Why this needs treating

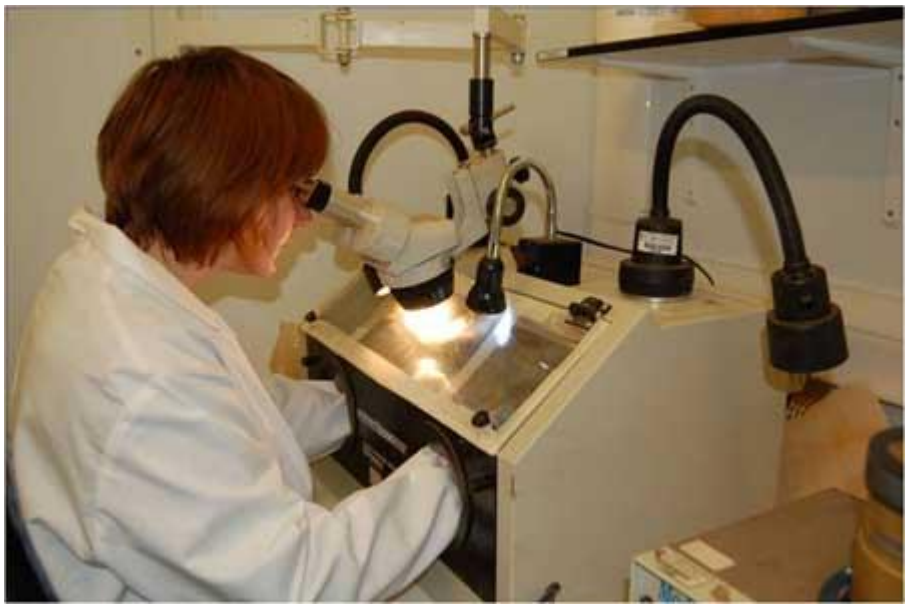
The item has been part of museum collection since the 1940s and has been treated in the past to conserve it. A thick layer of clear lacquer was applied as part of the old conservation treatment which is not the way iron objects are normally preserved today. The lacquer gives the object a glossy appearance and several hairs from the brush it was applied with are stuck in the coating.

As well as being unsightly the coating is also ineffective. The idea behind using the coating is to prevent corrosion by stopping oxygen in the air from coming into contact with the metal. However the coating has either worn away in places or did not completely cover the object and new corrosion is forming in the gaps. Fresh corrosion can be seen as little round bubbles of orange material on the surface of the object and the corrosion is also forcing cracks to open up in the metal. If this deterioration was allowed to continue it could cause a great deal of damage to the object with fragments of metal flaking away until ultimately there would be nothing left.

The treatment

To prevent any further deterioration I am going to remove the coating and corrosion products using a technique called air abrasion. This is similar to sand blasting but done on a very small

scale. The object is cleaned with fine aluminium oxide powder in a jet of air. The air and powder comes out of a hand held nozzle less than 1mm wide. I can control the air pressure and the amount of abrasive powder I am using in order to clean the object very precisely and will be working under a microscope so that I can see exactly what I am doing in fine detail. I will post another picture of the object when I have finished so that you can see the difference cleaning it has made.



A colleague using a the air abrasive machine