

# THE CONSERVATION OF PITT RIVERS ARCHAEOLOGICAL MODELS

July 26, 2013 Kelly Abbott Curation, Day of Archaeology 2013, Museum Archaeology 01279 705500, acrylic solution, Augustus Pitt Rivers, Bokerley Dyke, conservation, Conservation Service, conservationartifacts@wiltshire.gov.uk, Conservator, Models, natural rubber, paint, paint loss, Pitt-Rivers, Plaster, Salisbury Museum, Wansdyke, Wiltshire Conservation Service, Woodyates

## THE CONSERVATION OF PITT RIVERS ARCHAEOLOGICAL MODELS FROM 1890'S

PART 4

WATCH OUR CONSERVATION VIDEO:  
[HTTP://WWW.YOUTUBE.COM/WAT  
CH?V=9S1UPSOW5EC](http://www.youtube.com/watch?v=9S1UPSOW5EC)

# AN AIM PILGRIM TRUST CONSERVATION PROJECT

This year, Salisbury Museum was awarded a grant from the AIM Pilgrim Trust Conservation Scheme to conserve the models. As these four models are so heavy and fragile, the Wiltshire Conservation Service moved some of its equipment to create an conservation laboatory at the museum and opened the doors to the public.



At many museums there is only ever enough space to display a small proportion of the collection at any one time. These models are very large and although they provide a significant resource, they do take up a good deal of space within a gallery. To make the most of the gallery space, smaller examples of Pitt Rivers' models have been on display. By conserving these large models today, the [Conservation Service](#) will ensure that they will be protected and remain in good condition for the future.

## THE PITT RIVERS EXCAVATION MODELS

The four Pitt Rivers models depict excavations at Cranborne Chase



*Rotherley: a Romano-British settlement excavated by Pitt Rivers in 1886-7*

The model of Rotherley is made of solid wood, whereas the other three are made of plaster of Paris supported by a wire frame. The largest model, the Woodyates hypocaust measures over a metre long and takes 6 people to lift!



*Wansdyke: a bank and ditch earthwork probably dating to the C5th AD, excavated in 1889•*



*Woodyates Hypocaust: part of a Roman settlement, 1889-90*



*Bokerley Dyke a bank and ditch earthwork possibly of late Roman date, excavated in 1890*

## CONDITION OF THE MODELS

The 3-dimensional model of Bokerley Dyke, for example consists of a wooden frame filled with plaster which has been painted to show details of the site and its contours. The model is dirty and dusty, with heavy deposits over much of the surface and cobwebs evident in some areas.

Dirt and dust has built up on the objects over time and in some cases, this has changed the colour of the models and stained other areas.



The wooden structure of the models has split and cracked in many areas. Wood shrinks and expands, reacting to the levels of humidity in the atmosphere. As the wood expands, this can force it to break and split giving it an uneven, damaged surface.



Where other materials, such as paint or plaster are attached to the wood, the uneven surface puts a strain on the paint; stretching or crushing it until the paint or plaster cracks and breaks off. Some fragments of paint or plaster have fallen off and been lost.



Three of the models have been attacked by woodworm. These are insect larvae, which eat their way through the wood and form complex tunnel systems inside the structure. Woodworm thrive in damp environments. If left untreated, the infested wood can be so badly damaged that it will crumble away completely.

## WHY IS CONSERVATION NECESSARY?

Our conservation treatment will help to make sure that the models survive so that future generations can see them. Without conservation treatment, the models would continue to deteriorate. The woodworm infestation would weaken the wooden frames to the point where they could collapse. The chips and paint loss mean significant details are lost. The surface dirt, dust and stains make the models harder to understand and appreciate for their craftsmanship and information.

### **Treatment Proposal:**

- Clean the wood and painted plaster to remove dust, dirt and staining
- Consolidate areas of flaking paint
- Adhere the separated fragments of plaster and paint
- Fill areas of missing plaster where necessary for structural stability
- Treat the woodworm infestation to prevent further structural damage

# CONSERVATION TREATMENT

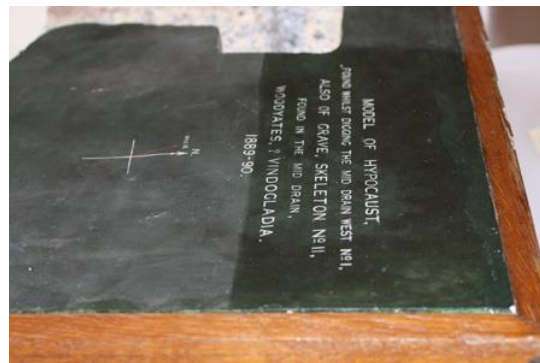
All solvents, adhesives and techniques were rigorously tested in the laboratories before treatment commenced to ensure that no ill effects would occur to the models. Solubility tests were carried out on paint samples and the suitability of each adhesive in terms of bond strength, appearance and penetration were assessed.



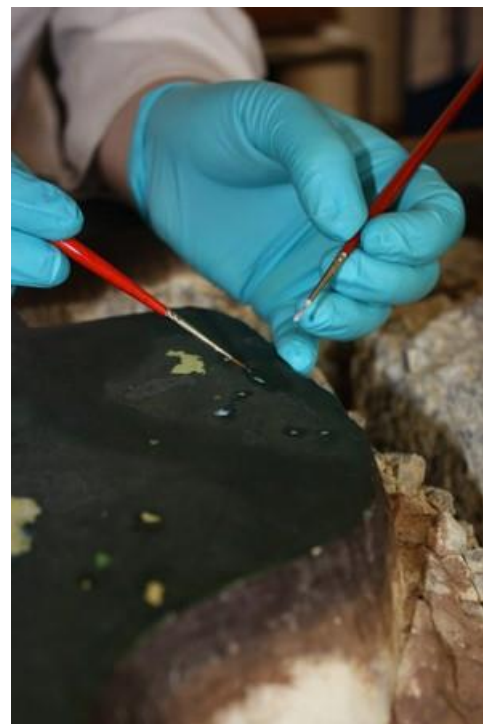
*Stable areas of the surface were dry cleaned first with a museum vac and soft brushes to remove loose dirt and debris.*



The stable surface areas were then cleaned with smoke sponge (vulcanised natural rubber) to remove more ingrained deposits of dirt and dust. Any smoke sponge debris was removed with a museum vac and soft brush.



*Model – partially cleaned*



Fragile flaking areas of paint were consolidated with an acrylic solution with distilled water.

Areas of exposed plaster were stabilised using a facing of Japanese tissue adhered with acrylic adhesive. Areas of unsupported plaster have been stabilised by filling underlying gaps using Japanese tissue and injecting a acrylic solution with distilled water.





Areas affected by woodworm infestation were cleaned with a museum vac and soft brush to remove any loose frass from the infestation. These areas were then sprayed with a water-based insecticide.

## WHY AREN'T THE MODELS GOING ON DISPLAY?

Made-to-measure storage crates are being constructed for the models so that they are protected from the environment and pests which will prevent any further damage happening to them in the future. The bespoke crates will make it much easier to manoeuvre the models around the museum, without causing further damage.

## FOR MORE INFORMATION:

Visit our website: <http://www.wshc.eu/our-services/conservation.html>

Or contact us: [conservationartifacts@wiltshire.gov.uk](mailto:conservationartifacts@wiltshire.gov.uk) Tel. 01279 705500