CONSERVATION TREATMENT REPORT

Title:	**SAMUEL JOHNSON SCULPTURE**
Ref. Number:	**2349**
Client:	Jan Harvey, Business Manager
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Mareva Contact:	Veronika Vlková ACR BA(Hons)
Date of Report:	April 2024
Location:	King Edward VI School, Lichfield
Measurements:	106cm x 60cm x 83cm (HxWxD)
Description:	Seated figure of Dr Samuel Johnson (1709 – 1784), a critic, biographer, essayist, poet, lexicographer and author of the first English Dictionary; born in Lichfield, Staffordshire; a student of King Edward VI School; painted plaster (a large plaster cast)

Before treatment

After treatment

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PAINT ANALYSIS

Two paint samples were taken from:

1 Top of proper left leg
2 Proper left back

The pieces were examined under low magnification and then several fragments were mounted in cold-setting polyester resin to be cut and polished as cross-sections. The layers were compared, and key pigments were identified in dispersion using a polarising light microscope.

RESULTS

The statue has been painted seven times. The layers were best preserved in Sample 1. Sample 2 appears to have come from an area that has suffered damage in the past.

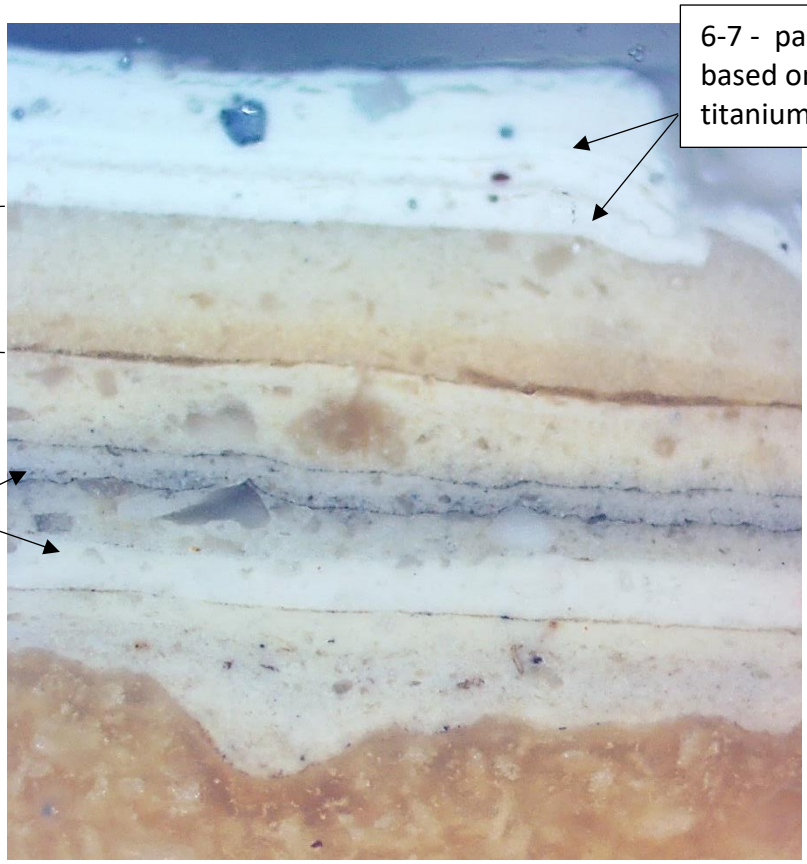
Original decoration

- The oil paint was brushed directly onto the plaster; no primer or sealing coat was applied first
- The figure was painted a buff of stone colour using oil paint tinted with yellow and brown iron oxides and a small amount of very finely-ground carbon black; at least two coats of paint were involved

Later paint schemes

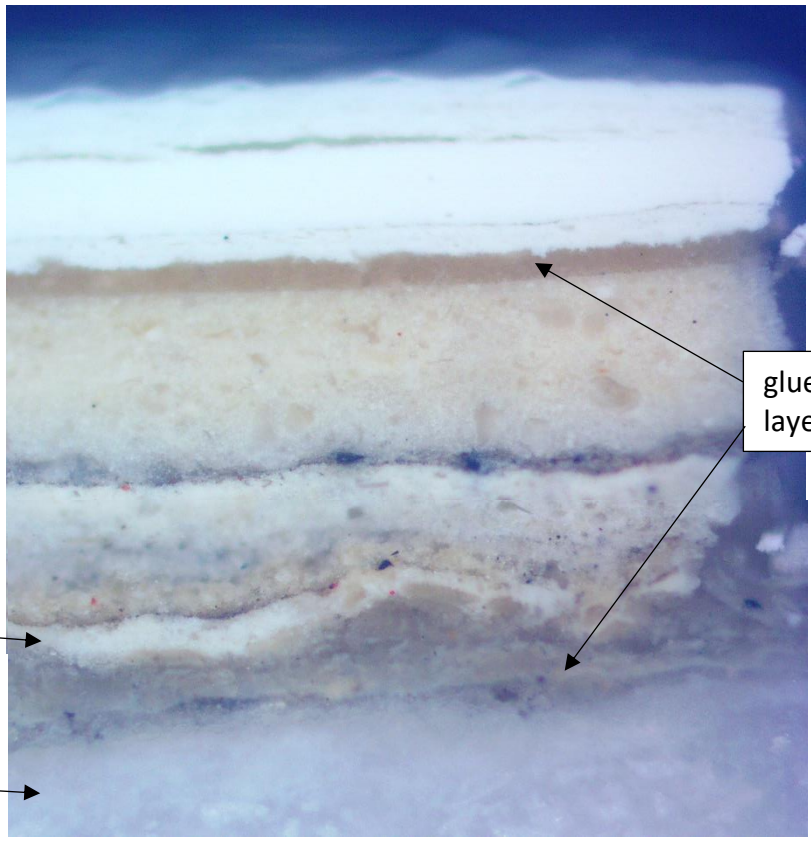
- 2-3 The next two times that the statue was painted, a light grey colour was used
- 4 When it was repainted for the fourth time there was a return to buff or stone colour; this paint was given a thin coat of varnish, and that varnish worked its way down through the earlier costings and some of it can be seen on the original scheme
- 5 The fifth paint scheme was the last to use lead-based oil paint, and was therefore applied before the Second World War
- 6 At some point after circa 1950, and the change to paints based on titanium white, some work must have been carried out on the statue because in the cross-section made from Sample 2 we can see that a cloudy organic layer, that could be glue, was applied; that layer worked its way down and onto the plaster surface
- The figure was then painted with a pure white alkyd paint
- 7 The final paint scheme is the white that can be seen on the images before treatment

SAMPLE 1
Left leg



SAMPLE 2
Left back

Some layers missing, and a coat of what appears to be glue has worked its way down under the early paints



TESTS

- A variety of tests were undertaken using different solvents and paint removal materials. A laser machine (using the wavelength of 1064nm) was also tested.
- Peelaway 1 and Peelaway 7 poultices delivered the best results
    - They were also practical to use as they remained on vertical surface without dripping/sliding down; it was also possible to control their effectiveness
    - Peelaway 1 removed all layers fully; Peelaway 7 removed all paint layers fully in one test area and all paint layers except the original one in the other test area
    - As Peelaway 1 seemed to moisten the original plaster substrate underneath the paint layers too much and also, as the plaster surface had to be neutralized after the treatment, it was decided to proceed with Peelaway 7

TREATMENT

- The surrounding area including the plinth were protected with sturdy Polytheen sheeting
- Loose surface soiling was removed in order to maximize the effectiveness of the paint poultice
- Sweet wrappings and other unwanted materials were removed from crevices and the hole of Dr Johnson's lower leg (proper right), where the plaster was broken (and the hole filled with litter)
- Once the loose soiling & litter were removed, the Peelaway 7 poultice was evenly applied across the whole surface; it was covered with appropriate plastic sheeting to prevent evaporation
- After 24 hours the poultice started to be removed
    - It was removed systematically – area by area; while one area was treated and the paint removed, the other areas were kept covered with the sheeting to prevent drying of the poultice
    - A great effort was taken to remove all paint layers from the surface; in some areas the original lowermost paint layer was left in place
    - The poultice was removed fully from all areas of the sculpture and the plaster surface was thoroughly cleaned
- Extensive old restoration treatments were revealed during the paint removal as it became apparent that the sculpture was partially broken in the past and consequently repaired
    - Large areas of fills were revealed
    - The fillers used to fill those areas were used too excessively and overlapped many areas of undamaged original plaster surface
    - They also overlapped 5 layers of paint that the sculpture was painted in before this restoration intervention was undertaken; as a result, all the fills were protruding (once all the paint layers were removed from the surface)
    - In many places, the old repairs were not executed well; as a result, the broken sections were not perfectly aligned with one another; in order to hide a

misalignment of the broken sections, the filler was applied over the surrounding areas (as mentioned above)

- Once the paint layers and the poultice were fully removed, it became apparent that all old fills have to be readjusted; therefore, the following had to be undertaken in order to improve the appearance of the sculpture:
- All fills had to be remodeled and aligned with the original plaster surface
- Areas, where the fills were applied excessively and overlapped the original plaster surface, had to be treated too; all excess material of old fills had to be removed and (as with the other old fills) the remaining fills had to be adjusted to make them flash with the surrounding plaster surface
- In many areas plaster substrate was missing or damaged; new fills were required in those areas; they varied in size; Plaster of Paris was used as the most appropriate filler
- The hole in Dr Johnson's leg was also filled
- Once fully dried, the new fills were adjusted and smoothed
- In a few areas, where stronger adhesion was required in order for the new fills to remain in place, Milliput epoxy filler was used
- When all structural repairs were completed and the surface was fully dry, the first layer of undercoat paint was thinly and evenly applied; paint: Farrow & Ball, White & Light, Wall & Ceiling Primer & Undercoat
- The paint dried fully on about 90% of the surface but in remaining 10% of the surface the paint remained wet and tacky; the following was observed:
    - The paint was not drying in areas where it was covering old fills that were used during the 20th century restoration
    - The paint was also not drying in some other areas for no apparent reason; these areas were exactly the same as the surrounding surface; these were mainly on the base and none of the old paint was present in these areas; some of these areas (that were not drying) look like 'splashes' and 'brushstrokes' in shape but visually, there were the same as the surrounding surface
- Therefore, different treatments were tested in order to determine the reason for this problem and to resolve it
- Unfortunately, this was a very time consuming process for the following reasons:
    - There was no clear reason as to why two seemingly the same areas were reacting differently to the new paint
    - The paint removal poultice used (Peelaway 7) did not require any after treatment (unlike the Peelaway 1 which was not used)
    - After each test, the surface had to be allowed to dry fully for several hours, then painted and further time allowed for the paint to dry fully (for a minimum of 4-5 hours); only after that it was possible to see whether the remedial intervention was successful or not
- All problematic areas were re-cleaned - with no effect, stain blockers applied – with no effect, neutralized – with very little effect
- As minor improvement was achieved in some areas when the surface was neutralized (and also as those areas behaved in a slightly similar way to that of the cleaning test patch undertaken with Peelaway 1 from before the treatment – requiring neutralisation), it became apparent that there was an issue with the

plaster substrate itself in those problematic areas; it appeared that those areas were saturated with something in the past (most likely during the past restorations) and that substance remained within the highly porous plaster substrate; furthermore, when the images of S Johnson (undertaken before the commencement of the conservation treatment) were carefully examined, it showed that the old paint layers in those problematic areas were 'damaged'

- As neutralizing delivered some success, different concentrations were tested; as this delivered more positive results in some areas, the process of neutralization was repeated several times; gradually, there were fewer and fewer problematic areas; the process was repeated until all areas were treated successfully and they were no longer reacting with the new paint
- Once the above issues were resolved, it was possible to apply a thin layer of white undercoat on the whole surface followed by two thin layers of paint
    - Good quality paint was used (Farrow & Ball, Strong White No.2001, Dead Flat); it was chosen as this paint contains a high level of pigment; this ensures richness of colour and opacity while being applied very thinly
    - The aim was to apply just a thin layer of paint in order to show the details of the sculpture and the detailing within the surface such as the face
    - The paint is washable

MAINTENANCE

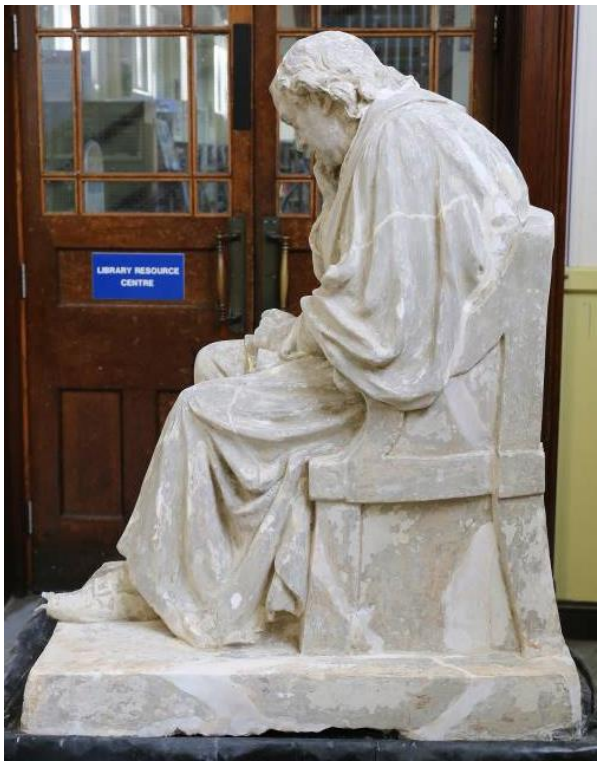
- The surface of the sculpture should be dusted regularly with clean dry static dusters or dry clean cloths; may further cleaning be required, then slightly damp cloths can be used; the affected areas should be wiped lightly; Mareva Conservation should be contacted may more extensive intervention be required

IMAGES

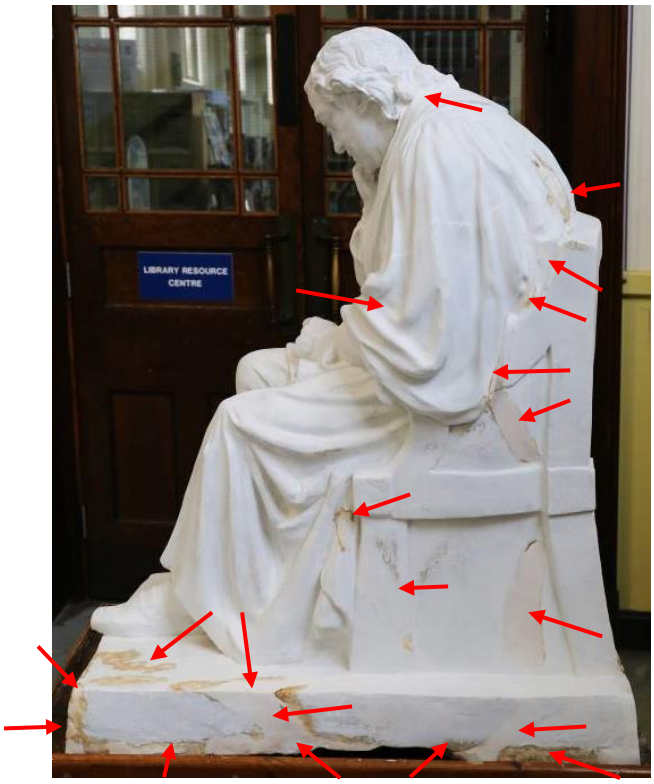
Before treatment

During treatment

Fills overlapping original plaster surface (examples showed with red arrows)



Adjusting old fills and re-filling

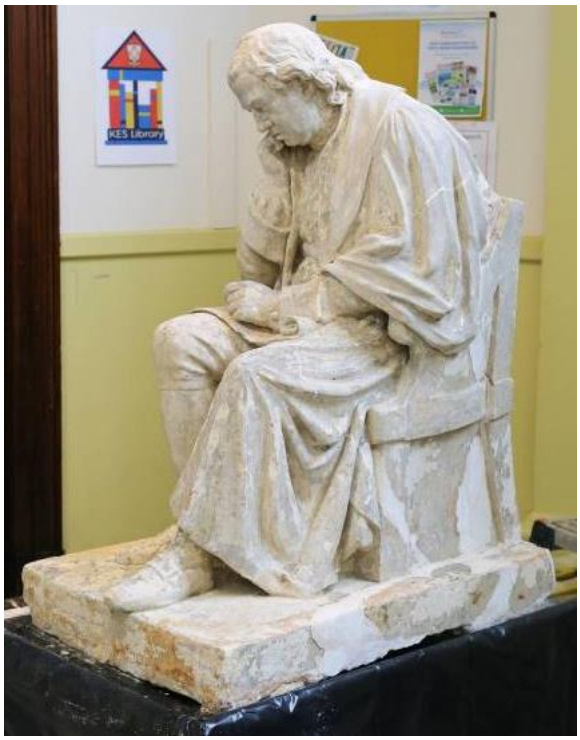


Problematic areas (paint not drying in these areas; the new paint had to be removed and areas treated; red arrows show examples)

After treatment

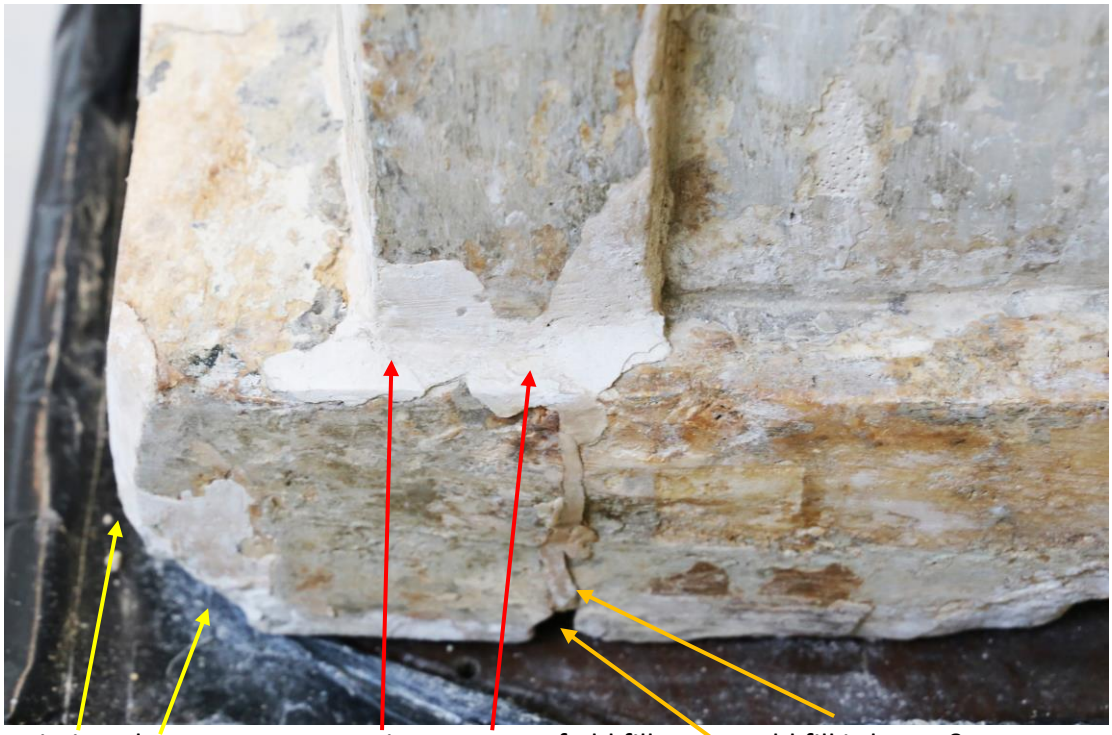
Before treatment

During treatment – paint removal poultice



During treatment – paint removal,
extensive old restoration;
old fills – excessive

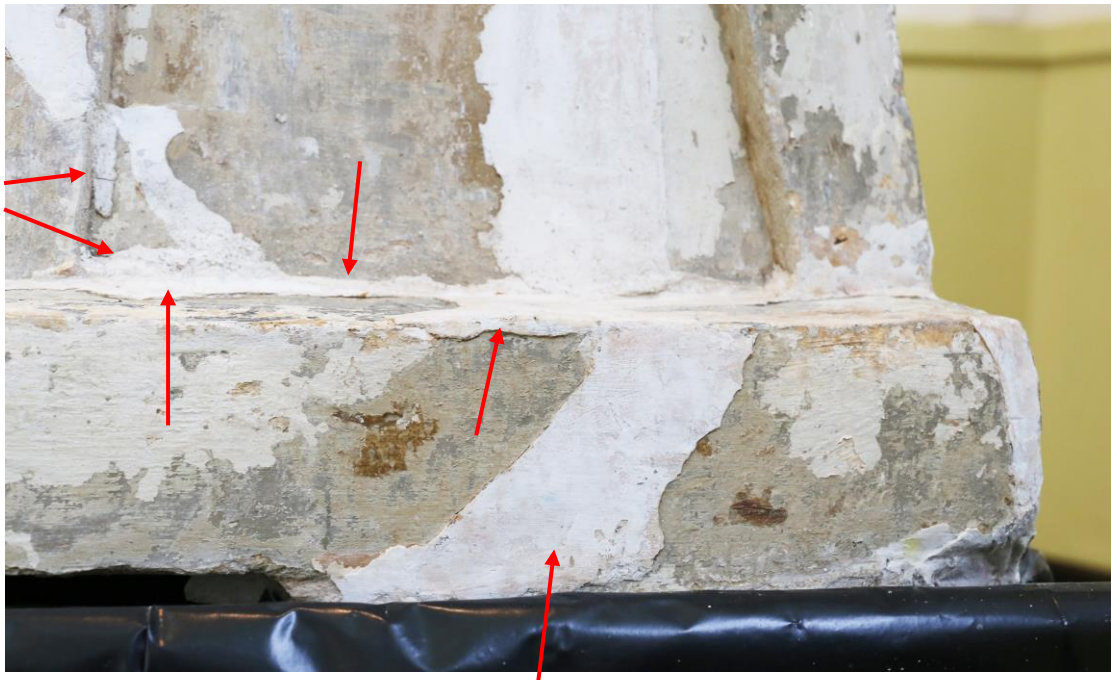
During treatment – adjusting fills



Missing plaster substrate

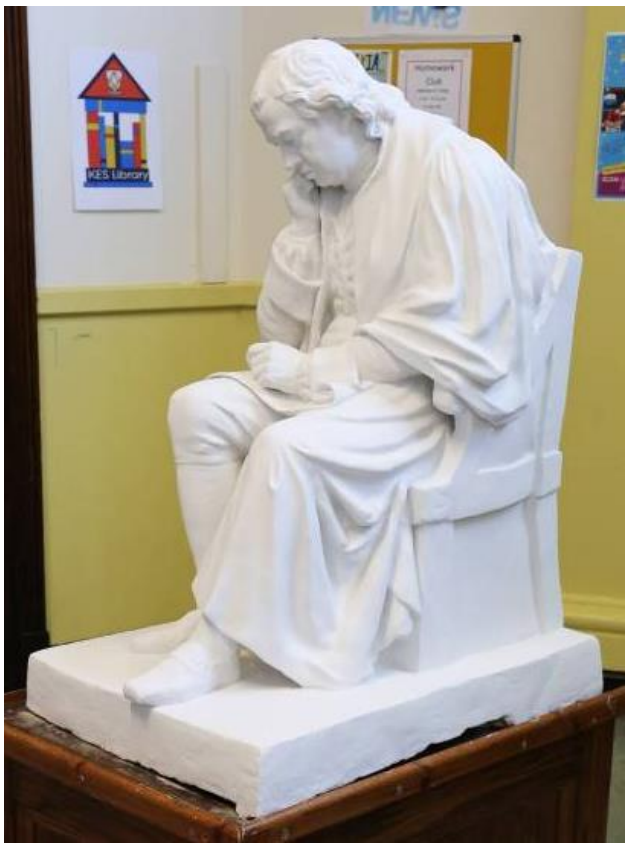
excessive amount of old fill overlapping original plaster

old fill is loose & partially missing

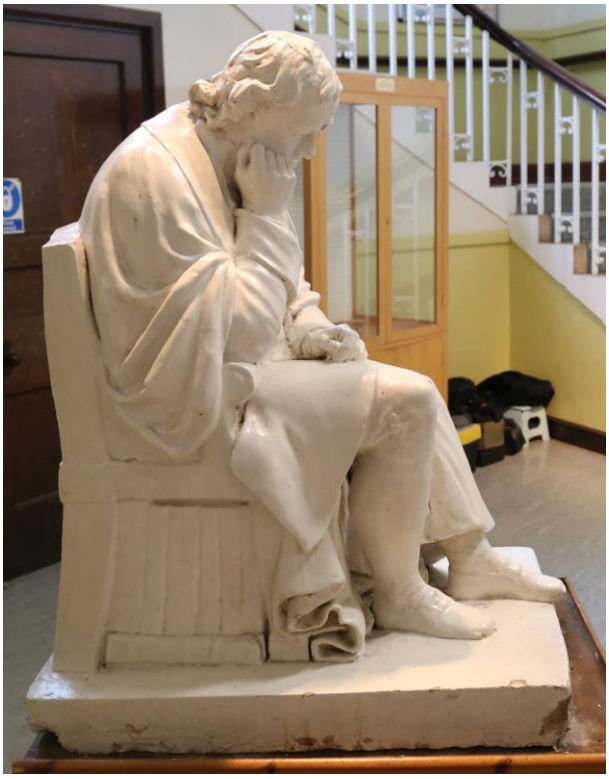


During treatment: examples of old fills that are 50% bigger (width-wise) than they are supposed to be

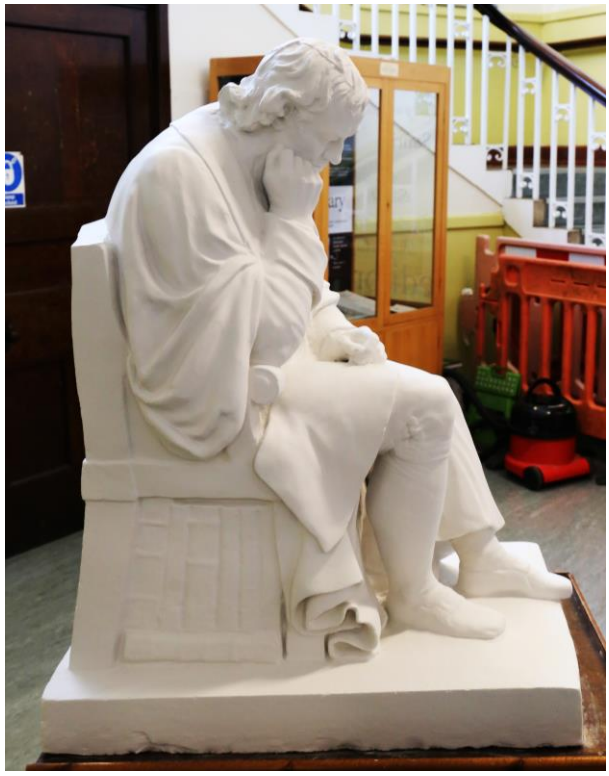
Persistent problematic areas (paint not drying); remedial treatment had to be repeated several times in these areas to resolve the problem



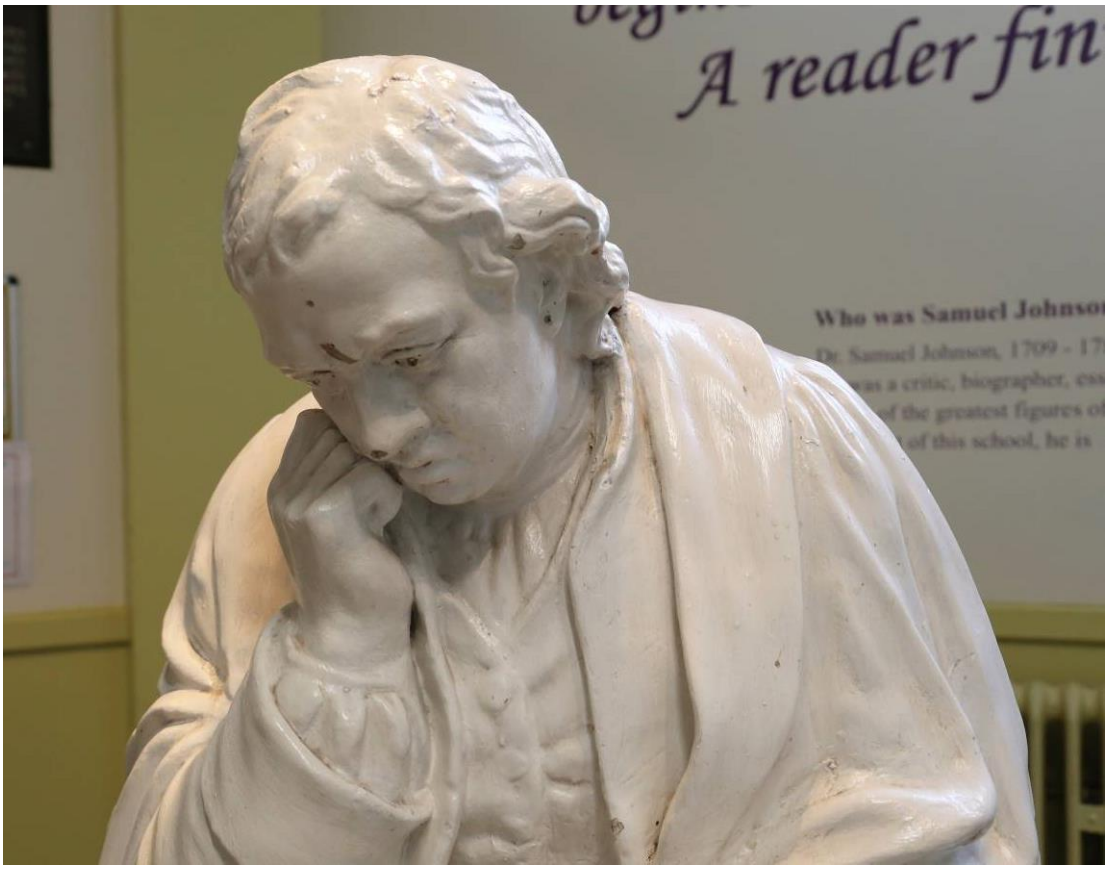
After treatment



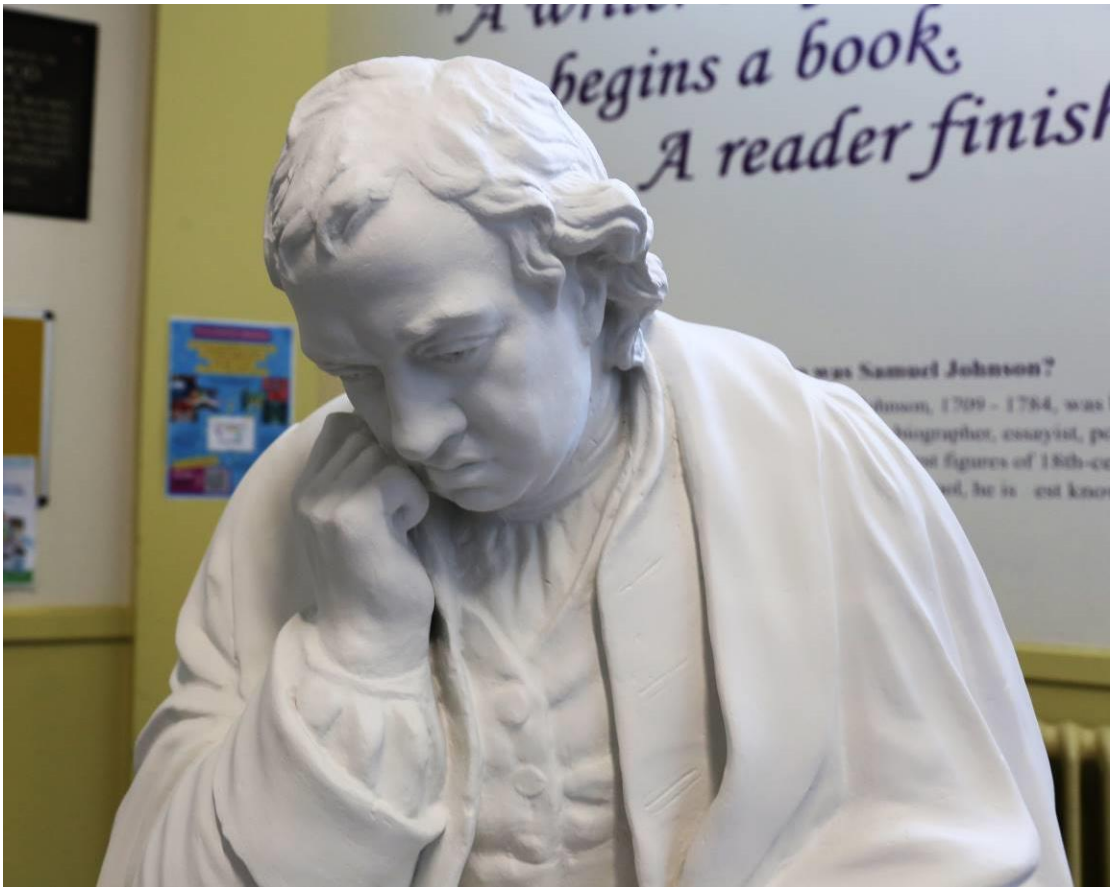
Before treatment



After treatment

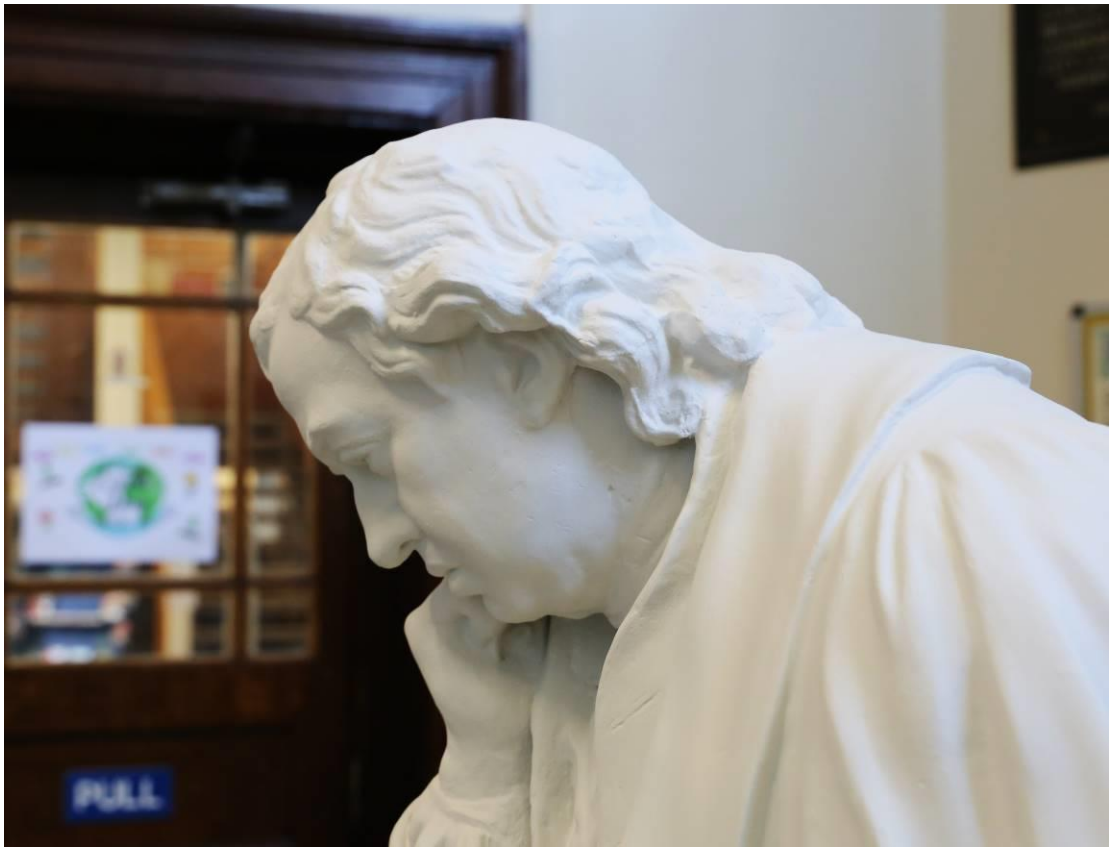


Before treatment

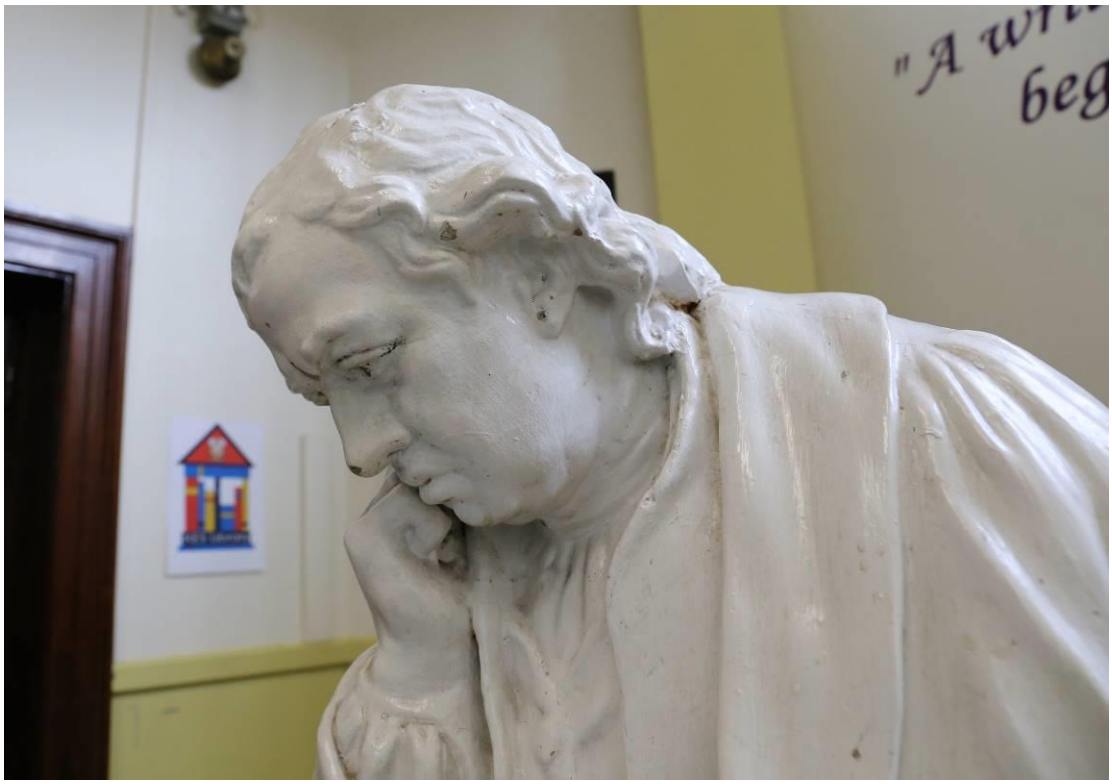


After treatment

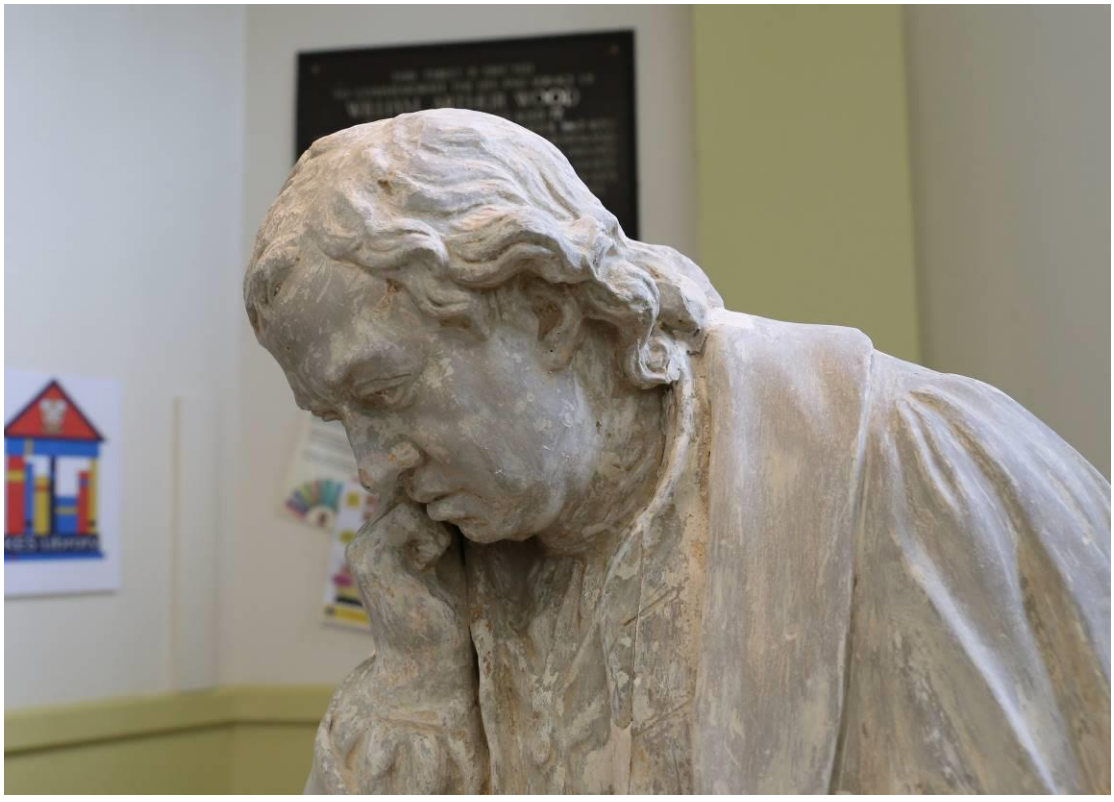
Before treatment



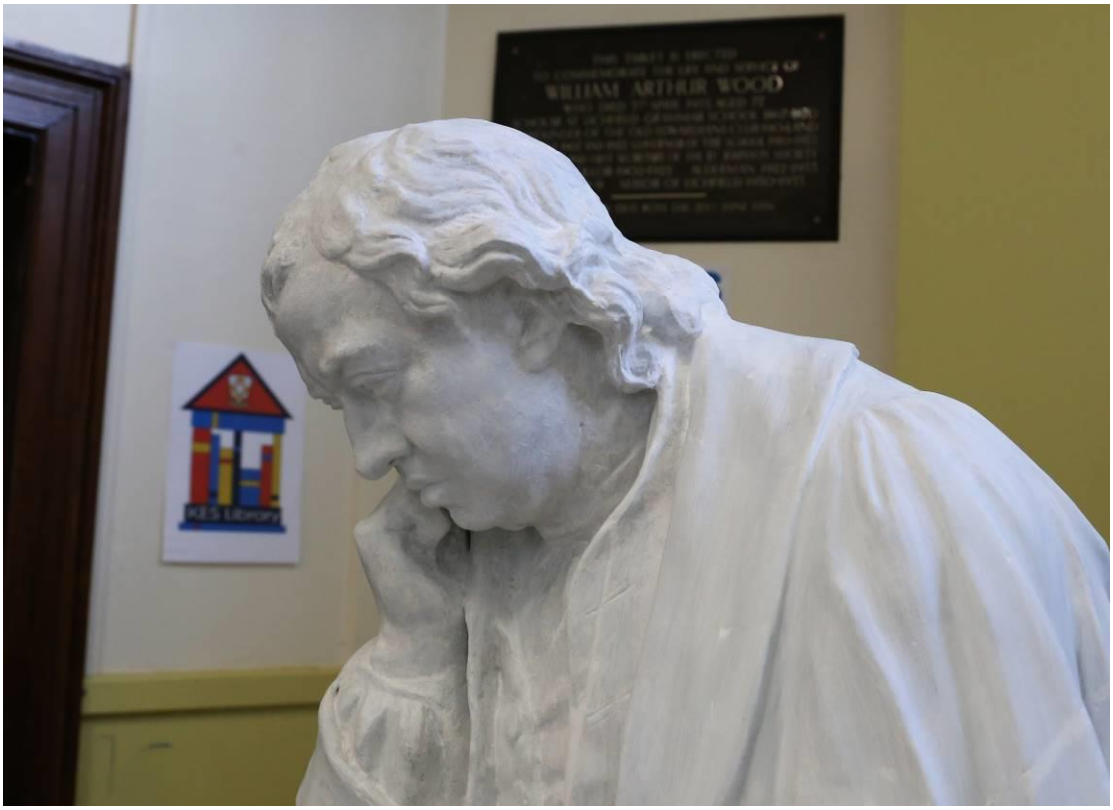
After treatment



Before treatment



During treatment – removal of paint layers



During treatment – final stages

After treatment

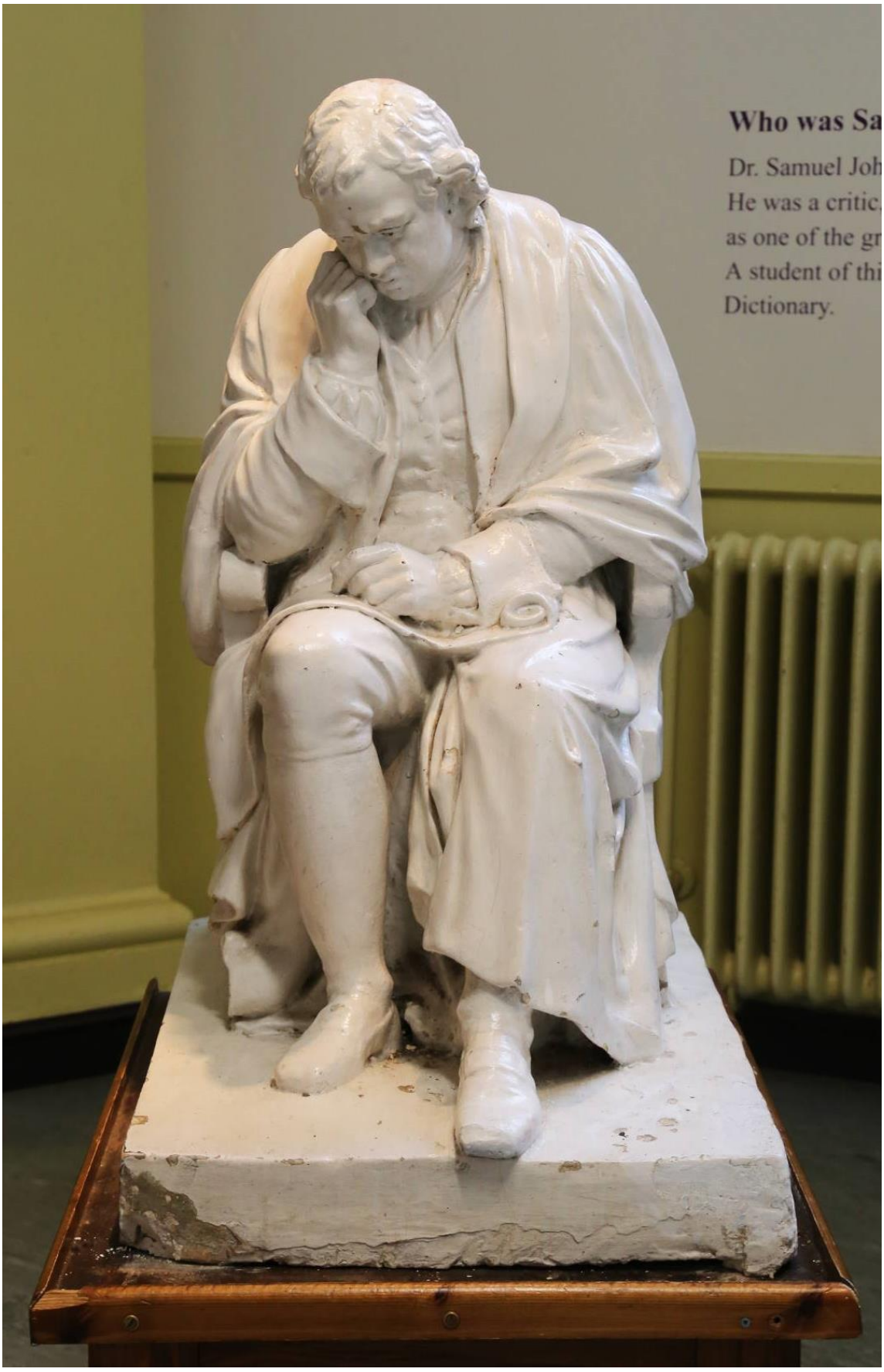
Before treatment (red arrows show examples of problematic areas where the new paint was not drying after the old paint layers were removed)

During treatment

During treatment - examples of areas where the new paint was not drying (new paint still on)

During treatment – the new paint had to be removed from all areas where it was not drying; this process had to be repeated until the problem was resolved; each section behaved differently; some needed just one intervention but in other areas they had to be treated (neutralised) several times

After treatment



Before treatment

After treatment