WEST DEAN COLLEGE
ARTS & CONSERVATION

Conservation of furniture and related objects
Condition and treatment report

WD job no. FU_0207	Date received 9/10/2018
Object Longcase clock case 	
Client Private	Client accession no. N.A.

Date assessed 13/10/2018	Conservator Arian de Goede
Supervisor/s Norbert Gutowski, Tristram Bainbridge, Paul Tear, Piran Harte	
Treatment start date 13/10/2018	Treatment completion date 15/2/2019

Images of the object as received

Images going up from the bottom through the trunk up to the hood

Base:

Pic.1

pic.2

Pic.3

pic.4

Pic.5

pic.6

Pic.7

pic.8

Trunk

Pic.9

pic.10

Pic.11

pic.12

Hood

Pic.13

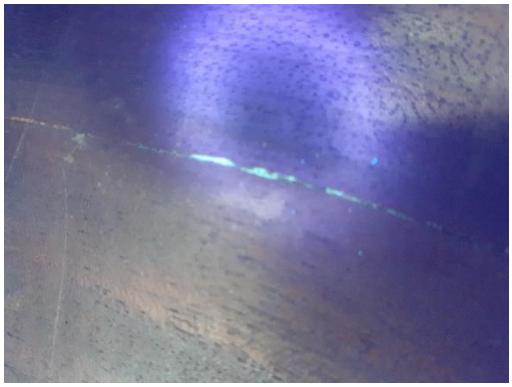
pic.14

Pic.15

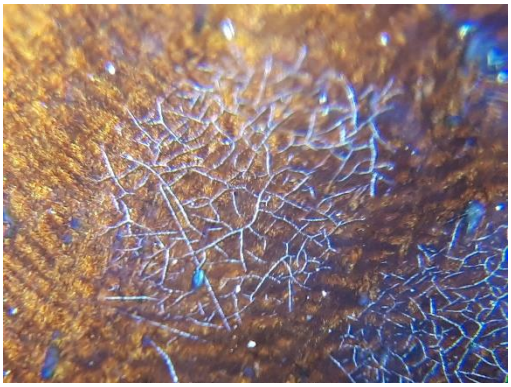
pic.16

Test results

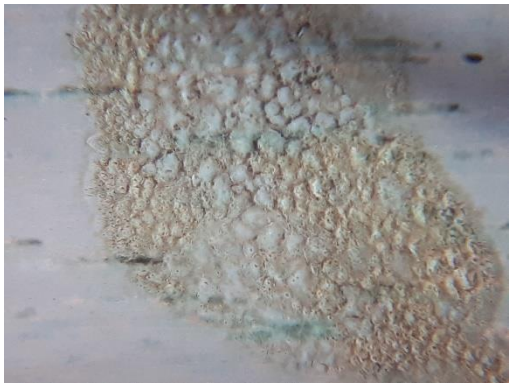
Pic.17 (UV light showing glue)



Pic. 18 (magnification of moult damage)



Pic.19 (magnification of moult damage UV)

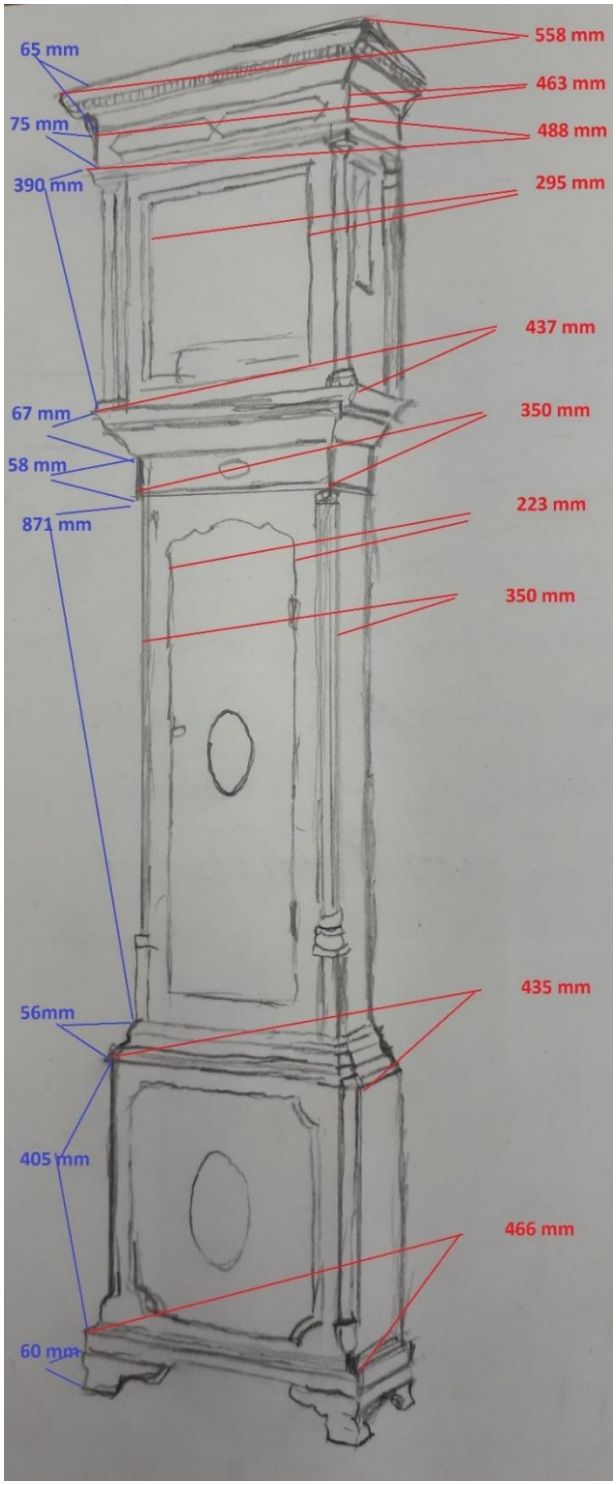


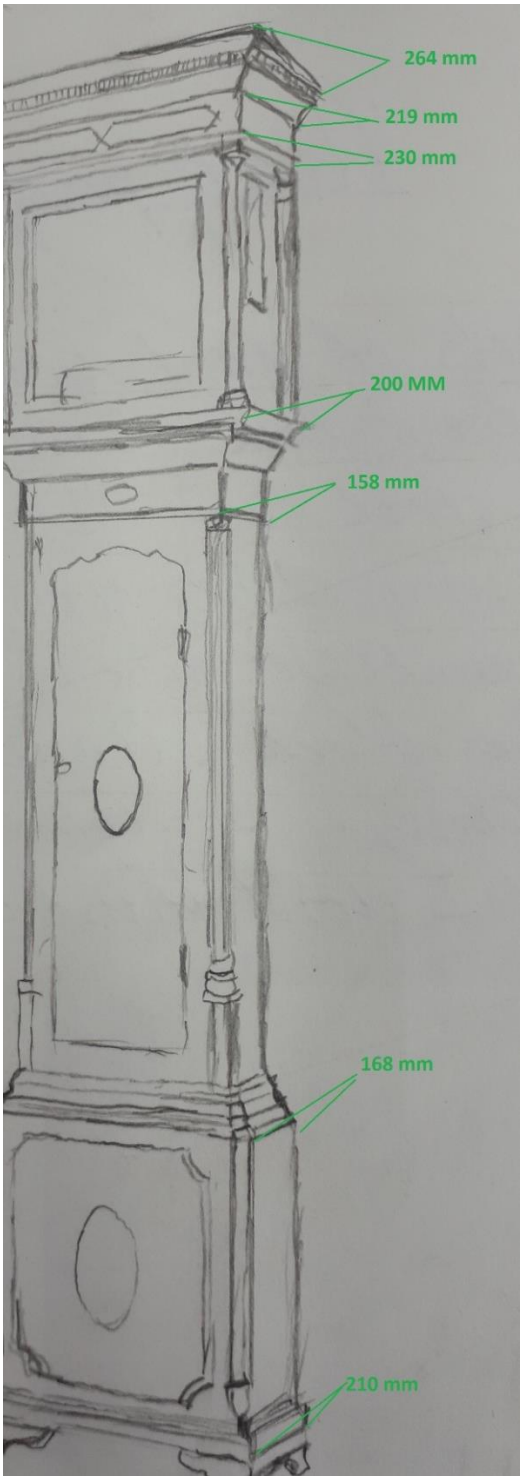
Pic.20 (magnification of moult damage)

Dimensions/mm

Maximum dimensions 2091 mm high
558 mm wide
265 mm deep

Detailed dimensions:





(Whenever there is mention of proper (p.) left or right etc. it is meant from the object's point of view.)

Condition in detail

1. The Feet

The feet are made of several parts. The two in the front are comprised of two mitred ogee parts with a block behind. The feet in the back are comprised of one ogee piece with a block.

-The p. left back foot is missing this block, where the block of the p. right back foot is detached. (pic.2)

- The ogee parts are loose on the p. right front feet and left and right of the back feet. (pic.3,4)
- The p. left foot seems to be out of place and maybe replaced at some point, the colour and measurements are different from the rest.

2. The bottom

- There is no bottom present, but the structure shows evidence that there had been one. (pic. 1)

3. The back

Because the chosen piece of oak was of low quality (cross grain, knots, splits and cracks) the back has warped and become proud, leaning backwards out of the hood. The back seems to be stable enough to uphold the case. (pic. 1)

4. Cracks

There are several cracks visible on the outside of the clock.

-The most severe crack is vertical through the panel on the front on the base. This has resulted in damage to the conch shell marquetry in the centre of this panel. (pic. 5)

A smaller crack is located on the p. right side of the same panel. (pic. 6)

- There is a vertical crack through the p. left side of the base.
- On the p. right side of the base are two cracks. (Pic. 7)
- On the sides of the trunk are cracks located on the bottom as well as on top, all of which are under 10 centimetres. On the front of the trunk there are two horizontal cracks located above the door.
- On the hood, there are cracks present on both sides.

Many of these cracks seem to originate from nails.

5. The door

- The bottom hinge of the door is loose, there is not enough material for the screw to grip in to. (pic.9) The hinge has very likely been replaced at some point. This is indicated by a couple of extra holes underneath the hinge plate. The location of the current screw is chosen poorly (on a joint line) which results in this joint detaching. One of these screws is missing.
- The handle of the axe drop is broken and partly missing.
- The top left corner of the door has a crack going through it. (pic. 10)

This has seen a previous repair, the evidence for this is the slotted screw present on the back of the door and the sign of animal glue. (as can be seen under UV light (pic.17)) The previous repair failed on the glue line.

6. Moulding strip

- The moulding strip just above the door is loose in the p. left corner and around the side. Caused by shrinkage of the substrate, the moulded profile strip is loose and too long. (pic.11)
- The veneered moulding with stringing right underneath the hood shows signs of nails on the proper left as well as on the p. right side of the case. (pic.12)

7. Fretwork fabric
- The fabric behind the fretwork on the hood is damaged and has mould on it on both sides. (pic.13 - 16)

8. Hood
- The top of the hood is loose at the p. left side. It looks as if the nail had fallen out.

9. Surface damages
- The are some minor damages on the surface, like scratches. One is present on the p. right side of the front plinth. (pic. 5)
- On the p. right front feet, there is some surface damage. (pic.3)

10. The finish
The case is finished using a blonde shellac.
- The finish has some spots looking like drips or splatters, which could be watermarks. (pic. 8)
- There seems to be a type of mould growing on several places on the case, on the inside and outside. This mould has a larger presence at the lower parts of the clockcase (pic. 1, 2, 3, 4, 6, 7, 13 & 14)
- There is a build-up of dust present is the numerous corners of the decorative mouldings.

Treatment options
1 Feet
- The loose block of the feet can be reattached using several options of adhesives. Also a new block can be made copying the one on the other side. The butt joints of the ogee parts can be readhired. Recommended for these bondings would be an animal-based ahisive.
- The p. left front foot can made to stand out less.
- To consolidate the feet, they need to come off. The surface needs to be cleaned to create a good glue surface. The proper right back feet needs a new block because that one is missing. However with that in place and a reliable glue surface that should be strong enough.

2 Bottom
- The size of the bottom is given by the dimensions on the object, except for the type wood type. The choice of wood has to be between oak and pine because those are the substraights used. The bottom was very likely one or the other. The way of attaching is shown by the still pressed nails and glue residue that were likely to hold the bottom. This new bottom can be aged artificially so it blends in with the rest of the object. Because it is not in eye sight there is also the option of leaving it new showing that it is an later alteration. Finally there is the option to leave the situation as is. The missing Bottom is not a structural issue.

3 Back
- Where clock cases serves the purpose of keeping dust out of the magenism, this gap needs to be adjusted. There are clear cracks visible in the back of the case, caused by the characteristics of this specific piece of wood. Considering the piece of oak is large and of a lower quality, it is in a relatively good state. Replacing this part comes with substantial risks and might do more harm than good. The back is structurally intact and gives enough support to keep the case together. Therefore it would be advisable to leave this in place and overcome the gap created by the warping a different way. There can be a piece of wood placed on the back creating a step.

4. Cracks
- The numerous cracks are an aesthetic issue more than a structural one. The largest one in the front of the base can be made less obvious by filling it with stopping wax or wood. Because of the distance of the crack that needs to be overcome, this can be done with wood and this might help level the two sides.

5. Door
- To make this hinge work properly there needs to be a strengthening. Some type of filler in the spare holes perhaps plugged with an adhesive like animal glue, or an epoxy putty. The Joint line of the block on the back of the door needs to be taken off to be properly reattached.
- The breakage on the p. left side of the top of the door can be reinforced with some additional material or the previous repair can be undone and redone.
- The missing part of the axe drop handle can be replaced. The handle can be replaced as a whole but there is no need for that. Keeping as much of the original as possible, the pin can be removed taking off the broken part which then can be replaced.

6. Moulding strip
- The loose moulding strip should be glued back in place by working some type of adhesive underneath using a palette knife,. or it can be slightly relocated to make up for the shrinkage of the wood that made it lift in the first place.
- The signs of the nails on the corner of the veneered moulding can be made to blend in better. It might be worth finding out if they are original then it is debatable if they should stay in sight because that was how it was made. whether the nails form any risk to the structure is impossible to say. Removing them is inadvisable because that comes with risk.

7. Fretwork fabric
The fabric behind the fretwork is torn on both sides. The current present fabric is not silk, and in my opinion that should have been the material used. Therefore it could be a later addition. The fabric therefore can be replaced with a piece of silk. Another option could be the consolation by reinforcing the current material with a layer of backup fabric or another material that covers it.

8. Hood
The hood can be assured with an adhesive, animal glue would be recommended for its reversible property. This part of the object does not see use and tension so a small amount of hide glue just in the centre would hold the parts together and at the same time allow the timber movement.

9. Surface damages
There are a few scratches present on the object which can be disguised but they do not form a problem to the structure of the object.
- The scratch on the plinth may be a dent and swollen caused by warm water. Otherwise a filler can be used, such as a putty of some sort, mirco balloons in Paraploid® or something classic as stopping wax.
- The scratch on the corner of the feet would benefit from some colour that would make it blend in with its surroundings. Followed by some sort of finish, this can be Paraploid® as well

10. The finish
- The finish should be cleaned to see if the spotted pattern can be reduced. Also some of the dust and surface dirt could be removed. A dry method can be tried, using a soft brush, building up the method increasing the level of interference. Water an soap and depending on the present finish perhaps a solvent could be used.
-The mould type which seems to be present all over the clock case needs to be removed. It may be harmful to breathe in spores and aesthetically it looks unhealthy. There is probably extensive test that can be done to identify the type of mould and make a specialised approach but that may be time-consuming and costly where the treatment is just cleaning. Either dry with a brush, maybe with a more adessive treatment is that is allowed. IMS may be used on the places that do not have a finish on them.

Treatment agreed and carried out

1. Feet
- The ogee shaped parts of the feet are taken off, cleaned of old glue and the parts are glued back in place using hide glue.
- The p. left front foot is given a coat of paraloid® b67 with oil paint and renicanse wax. The missing block is made new, of oak and coloured with Van dijk® water pigment. This block is glued in place using animal glue.
- The p. back feet are built up with a piece of mahogany on the bottom and the back with Bancon®. This bancon is sealed off from the orginal material by a bariar layer of animal glue and tissue paper.

2. The bottom
- New bottom is made from oak and coloured with van Dijk brown, water pigment and held in place with hide glue.

3. Back
- The back is stable and is left as is. The gap that appeard on the top because warping of the back piece is closed by adding some additional timber to close the gap. By doing so the mechanism of the clock is more protected from incoming dust. These additions where made from oak and coloured with a van dijk water pigment to blend the new part in with the existing object. Hold in place with hideglue.

4. Cracks
The two parts were levelled, then temporary glue blocks were put on the back of the panel to keep it in place. The split is filled with jelutong wood up until a few millimetres from the surface and glued in place with hide glue The glue blocks on the back can be removed at this point.
. On top, mahogany wood makes the crack blend in with the surrounding area. This mahogany is also glued in place with hide glue, and given a finish of paraloidb72® (15% in shellsol a100) A similar but less extensive method will be used treating the less severe splits. The one on the p. left side had been filled using mahogany veneer glued in place with hide glue.

5. Door
- The door was taken off and the unnecessary screw holes are plugged. The bottom hinge block on the back of the door was detached and placed back in a more secure, re-adhering with hide glue and placing the screws back. A new screw matching the present ones was added assuring a more firm working door.
- The previous repair was undone and the screw taken out. The joint line was readhered with the use of animal glue. Some missing material left a gap, this was filled with epoxy after applying a barrier

layer. Finally the epoxy infill was coloured using oil paints and sealed using shellac
- The broken part of the axe drop handle is taken off by removing the pin and then replaced with a new part, held in place with a new pin.

6. Moulding strip
- The room behind the mitred corner was filled using mahogany wood and glued in place with hide glue.
- The nail marks in the veneered moulding strip where left as is because interfering might lead to more damage and they do not cause a major concern.

7. Fretwork fabric
To protect the original fabric and make the clock case dust proof, it was decided to apply a backing fabric. This fabric was coloured with the use of orasol spirit stains and applied with the of fish glue.

8. Hood
A small amount of hide glue was applied in the middle of the p. left side of the top.

9. Surface damages
- The scratch on the on plinth of the base was made less present by the wax coat used for the finish
- The scratch on the corner of the feet has been given the same coat of paraloid ® b67 with oil paint and renaissance wax.

10. Finish
The case has been cleaned, mechanically with a brush and vacuum cleaner, followed by cleaning with deionised water on the finished out side. The bare wood on the inside was cleaned with IMS
The case has been given a little amount of a light coloured soft wax which was then buffed up.

Recommended continuing care
The clock case would benefit from a climate with a stable relative humidity. This would reduce the shrinkage and swelling of the wood and therefore leave the structure and finish in the best condition.
Mould cannot grow in an atmosphere with a low RH (under 20%).
Therefore recommended would be a low and stable relative humidity.
A well levelled floor may help prevent rocking and therefore damaging the structure.
An environment with no direct sunlight for longer periods of time helps to prevent photodegradation, discoloration of the wood due to UV-light.

Materials used and suppliers	
Oak (Quercus)	
Mahogany (Swietenia)	
Jelutong (Dyera costulata)	Moss & Co timber importers & merchants
Lemonwood (Calycophyllum candidissimum)	
Sycamore (Acer pseudoplatanus)	
Axe drop handle	Optimum brass
Pin (made from a nail)	
Screw	
Hide glue	Titebond
Hide glue	Kremer Pigmente
Bencon	Synthetic Resin Products
Tisuw paper	
Stopping wax	
Wax	mylands
Renisence wax	
Paraloid® B67	
Paraloid® B72	
Shellsol a100	
Xyline	
White spite	
IMS	
Oil paint	Norma professional/ daler-rowney/ winsor newton
Van Dijk bruin	
Aerocotton	
Orasoll dye	

Critical review

- The crack in the base is near impossible to disguise completely in a reversible manner. The surface in comparison with the finish as well as the colour of the aged veneer.
- So is the repair of the broken corner of the door. Re-repair an old break is a matter of adhering unmatching surfaces, this always leaves at least a minute trace.
- Filling the cracks might lead to new problems when the object is bought in an atmosphere were the EMC of the wood would increase and the dimensions of the material change. These infills then could lead to new tensions.