

Report by
Conservator Odd Helland

Painting by Lucas Cranach
belonging to Larvik Church, Norway.

Examination, conservation, restoration.

Object of study at
Institut Royal du Patrimoine Artistique
Brussels, during the period
2nd. October-28th. November 1963.

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The leader of Royal du Patrimoine Artistique the late Dr. Paul Coremans, was kind enough to let a group of four Norwegian conservators and one chemist, stay a course at the Institut. The author of this report was one of the conservators.

The members of the group were: Chemist Unn Simonsen, from the Historisk Museum, Oslo, conservator Leif Einar Plahter and restorian assistant Truls Magnus Löken, from the National Gallery, conservator Ove Qvale and the author, from the Riksantikvariat (Central Office of Historic Monuments). From 3rd. - 8th. November, Dr. Stephan Tschudi Madsen and antiquarian from the Riksantikvariat, joined the group. From 20th.- 21st. November also chemist Mrs. Anna M. Rosenquist and Martin Blindheim, keeper at Historisk Museum.

The group brought with them examples of art from Norway as objects of study. The author brought a painting by Lucas Cranach belonging to Larvik Church, commonly known as "The Cranach Painting."

The Institut's good tradition in the calling of meetings for discussion of problems arising during work, was carried on. The first meeting was held on 2nd. October, and subsequent meetings on 31st. October, 4th November and 8th. November 1963. (Mentioned here are only those meetings regarding "The Cranach Painting"). Dr. Stephan Tschudi Madsen attended the last two meetings. All meetings were led by Dr. Paul Coremans.

PREPARATION: TRANSPORT.

The painting with the frame was collected from Larvik church on the 21st. September 1963 and brought by car to Oslo. Restoration Assistant Janne Wang accompanied and supervised the transport, which was carried out with no damage at all.

In the Riksantikvar's Restoration Studio the painting was prepared and packed for transport to Belgium. On those places where the painting had a tendency to flake, silk paper was glued on with wax paste. It was carefully observed that the wax

paste did not get into cracks and scars in the surface of the paint, which would make difficult the use of other conservation media than wax.

Together with the other objects of study, (Antemensale and Crucifix from Historisk Museum and the Crucifix from Kyrkjebø Church) the painting was transported to Brussels by the firm Norsk-Europa Express. The author accompanied the transport and, after many difficulties resulting in two days delay, all the objects of study reached their destination on the 2nd. October 1963.

THE PAINTING'S CONSTRUCTION, MEASUREMENTS AND MOTIF.

Construction: It is painted on a wooden panel. The panel consists of three similar-sized boards which are glued together. On the back are two battens, but these are of a later date, possibly added in 1931. Any earlier method of securing is not visible.

Measurements: The painting without frame:- 83.2 cms. high and 121.3 cms. wide. The thickness of the panel: 1.7 cms. The widths of the three boards which constitute the panel:- the upper-25.8 cms. the centre-28.9 cms. and the lower-28.5 cms. All three boards are the same width at both ends.

Motif: "Jesus blessing the children". There are 28 figures- 16 grown-ups and 12 children. (Originally 29 in all, one is overpainted as we shall see later). At the top of the painting is an inscription and Lucas Cranach's signature- a dragon with lowered wings. (This indicates that the painting was done after mid 1530s as it was in these years that the wings on Cranach's dragon changed from raised to lowered position). The inscription is as follows:- VND SIE BRACHTEN KINDLIN ZV IM DAS ER SIE ANRVRETE MARCVS AM X.

CONDITION BEFORE CONSERVATION.RESTORATION:

Picture Face.

The Paint.

The paint had had a tendency to crack and erupt the surface in certain places. This had happened most on the upper board (which means about a third of the picture). Here the cracks mostly ran with the grain of the wood and appeared often in the/og the flesh. There

was also a tendency for eruption and cracking in other places on the painting, but it was more sparse and was not following the grain as much as on the upper part of the picture. One big crack was apparent to the right of the arm and breast of the woman with the feeding child.

Most of the cracks and eruptions were not so far gone as to cause immediate danger of flaking. Only in a few places was there any danger, from the top of the hair on Jesus' brow to about 2 cms. to the right; on the left eye in a man's face in profile standing in the crowd to the left of the picture, also by the nose under the right eye of another man diagonally up to the right of the first-mentioned. Apart from this, there was some loose paint (background) and a little patch about 1 cm. square to the far right on the edge of the paint layer, level with the eyebrow of the woman in the background.

Nearly the whole of the picture's surface had small cracks which were more or less visible to the naked eye.

One could not say that some colours had cracked more than others. One comparatively big crack was to be seen on the breast of the woman holding a child on her arm and the hand of a boy to the left of the picture.

In a couple of places there were some peculiar dents in the surface, as if the paint layer had sunk in: 1: above the hair of the woman with the feeding child to the right of the picture, and 2: by the posterior of the child held by the woman in the foreground on the left.

Whether these dents were original or they were the result of an earlier restoration, is difficult to say.

There were several colour retouches to be seen on the picture's surface, especially on the heads of the members in the crowd, and on the edge to the far right.

Over the edge on both ends of the panel were painted black lines about 1.5 cms. wide.

The picture had thick layers of varnish which had gone yellow and discoloured it.

(Regarding cracks in the painting along the joins of the boards, see paragraph dealing with the panel).

The Panel.

The top join was clearly visible. There was a crack running through the paint except for 10 cms. to the left of the picture. (over the face of the foremost man)

The join was otherwise visible as both boards were a little warped making a groove in the panel over the join. This was most marked in the centre where the boards were not held by the battens.

The lower join was tight except for one section about 16 cms. in from the right edge. Here it had developed a considerable crack about .5 mm. wide. The crack was following the join till about 6 cms. from the edge of the panel where it continued diagonally downwards onto the lower board, while the join itself was tight.

The join was therefore visible by means of a furrow on the right half, while it was not apparant on the left.

There was nothing to indicate that the boards had been taken apart at any time after the painting was executed.

Along the middle of the panel, the boards had an even warping outwards, while on the ends they were more in plane, but even so had minor warpings. This was the result of the battens on the back at each end of the panel. These were preventing the natural movement of the boards and were probably the cause of some small cracks at the ends of the boards. The biggest crack was on the right of the lower board, over the chest of the boy with the flute. Simelar cracks, but smaller, were to be found on both ends of the panel. There was also one in the middle, however, running over the neck and arm of the child which Jesus is holding by the hand. The cracks were not completely open and they were filled with varnish and appeared to be old.

On the panel's face were seven open worm-holes, five in the picture surface and two in the black line on the left edge.

The top of the picture was extended by a piece of wood about 3 cms. high. It was fastened with modern 2" nails and was not glued. It was put on to fill the frame now in use.

The Back.

There are two battens fixed one on either end of the panel. They are 4 cms. wide and 1.5 cms. thick and they are fastened with brass screws with a washer under each head. The holes in the battens

are oblong- this was done so that the wood should have the possibility of moving. The battens were put on in 1931. The panel has clearly visible tracks of a plane which run across the grain of the wood. It is obvious that the back was planed after the boards were glued together.

The whole of the back is impregnated with wax which also goes over the battens. One can see under the wax, strips of canvas over the joints. There were also many fillings to be seen all over the panel.

A ridge had been cut all round the edge of the picture, about 1x1 cm, so that there is an edge towards the front. This might mean that the original frame had a groove that this edge fitted into. In the ridge on the lower part of the panel, stuck in the wax, is a small piece of canvas. It must be by chance that it is stuck down there, as no function can be ascribed to it.

PHOTOGRAPHY.

Before work was begun on the painting, it was photographed by the Institut's photographers. Black and white, coloured and ex-ray pictures were taken, in all, 12 black and white- 2 whole pictures and 10 details changing from direct to side light, also one of the back- 4 coloured-one whole picture and 3 details. During the cleaning three more coloured pictures were taken and ex-ray pictures to investigate the fibres found in the ground. There was also one photograph taken in infra-red light. Photography in black and white and colours, during and after restoration was executed by photographers Stein Berg and Væring and by the author.

FIRST MEETING 2.10.63.

There was a discussion on how one should proceed with the treating of the painting. The following was decided on:-

for the conservator:

1. Make investigations
2. Fasten loose paint

for the chemist:

1. Make chemical analysis and cross-sections of the paint layers and the pigments. Investigate the grounds and paint medium.

(Dealt with in a separate report)

EXAMINATION.

Condition of preservation.

It was found in the Institut's laboratory that the wood is from the linden tree. This is dealt with in a separate report.

The wood is fresh and has no indications of rot of any description, but has been visited by worms. The ex-ray film shows that the attack has been extensive but there do not appear to be any live worms left. The seven open worm-holes on the picture face all seem to be old. They have rounded edges and the varnish from the conservation in 1931 has gone into them. One can see the worm-holes in photographs taken at the time of the conservation in 1931. One cannot find any signs of attack by worms since that time.

The painting and the ground must be said to continue in good condition. It is painted with oil colours on a chalk ground. The cracking might be caused by the tension between the wood and the ground due to the panel being held in plane by force, and not to any infirmity in the paint or the ground.

Former restorations.

By documentation there is only one former restoration known of, to wit, that carried out by conservator Gerhard Gotaas in 1931. There are, in the Riksantikvar's archive, seven photographs but no report. If one compares the photographs before and after restoration one can see that there was little damage indeed on the ^{surface of the} picture surface. The greatest damage was a scar about 2 cms. square over the left eye of the woman to the far right of the picture. This scar ~~is was~~ filled and retouched. Otherwise one could see only minor retouches here and there on the picture face, but a lot of other small damage, such as cracks in the beard joints and the worm-holes, to which nothing had been done. It looks as though the treatment of 1931 was mostly a preservatory one, probably to prevent further attacks by worms and also to prevent warping of the panel. The back was impregnated with wax and the battens put on. The wax lies over the battens but not underneath. There are some spread patches of wax over the frame. There is no wax under the clamps which hold the picture in place in the frame. This suggests that the picture was not taken out of the frame during treatment in 1931.

In ultra-violet light one can see many retouches in the picture surface, but they do not show up on the ex-ray film. The explanation is, as we shall see later, that the retouches are in the "gallery tone", which at one time was put on the picture. One can imagine that the "gallery tone" was not removed during former treatments, but has had scars here and there which were retouched. What one sees in ultra-violet light is not damage done to the painting itself, but to the later added "gallery tone".

One can see, in ultra-violet light, a diagonal line about 2 cms. wide, running straight, dark, and clearly defined, over the arm of the woman in the green dress. On the same woman, running over the lower board joint, a similar line appears, but it is a little wider and not so clearly defined.

So far no cause has been found to these lines.

The ex-ray film shows that the painting has undergone two former restorations. To the right of the picture surface are some biggish scars which were filled and retouched. One can also see that the panel has a great many worm-holes, which, together with the scars have in most cases been filled with lead-white and so appear white on the ex-ray film. The same is the case with the upper board joint and in the joint between the panel and the new piece put on top. The worm-holes are mostly filled from the back of the panel. There are relatively few (7 in all) which go through the paint layer. The filling which was used during treatment in 1931 is made from chalk, and as opposed to the lead-white, appears black on the ex-ray film.

From this one can deduce that the painting has been through two restorations. When and by whom the first was done is not known, as no photographs or reports exist, but the following seems to have been done:- scars in the picture surface repaired, (filled with lead-white and retouched with oil colours) worm-holes filled and upper board-joint filled from the back, and the extra strip of wood added to the top to fill the frame now in use. One can count approx. 157 worm-holes on the ex-ray film, all of which were filled with lead-white during the first restoration, 30 more were filled with chalk during restoration work in 1931. The lead-white fillings on the back are all painted over with grey paint, the same is done to the strips of canvas over the board joints.

It was probably during this treatment that the head at the top-right was overpainted. (See paragraph "Fourth Meeting 8.11.63" "Over-painted Head")

Fibres in the ground.

On the ex-ray films in certain areas, one can see something which looks like hairs winding their way in all directions.

The laboratory examination showed that these were silk fibres in the ground. This is dealt with in a separate report from the Institut.

Infra-red photography.

The infra-red photograph gave no information of interest.

The Format of the painting.

By examination it was found that the painting is still its original size.

The wood on the edge at the top and the bottom shows traces of the paint used in the picture.

The ground steps about 1 cm. short of the edge of the panel. The black paint about 1.5 cms. inwards from the edge was probably put on to hide the borders between the wood, the ground and the paint. Whether this is original or not is hard to prove. There seems to be a thin layer of varnish between the black edge and the painting, so if not original it is at least very old. The black edge was painted twice. The older layer is very cracked, mostly old cracks but also some corresponding with the cracks in the main colour.

The signature and inscription.

It was stated that the signature (a dragon with lowered wings) and the inscription were original. Both were painted directly on the main colour and were cracked together with this.

SECOND MEETING 31.10.63.

The result of the examination was produced.

Discussion.

The battens, the panel's stability.

During the discussion, attention was directed to the battens on the back. It was maintained that when the natural warping of the wood is prevented, or worse, pressed back by force, a tension can arise between the ground and the wood causing cracking and flaking of the ground and paint layers. The old and well-known problem when painting on a parquettted wooden panel. The ground and the paint are stable while the wood shrinks and to a certain extent breaks down and fades away. It was suggested, to give the panel free movement, that one could put some small wooden blocks, "keys", over the board joints at the back and then take the battens carefully off, one by one, after first weakening them by gradually sawing more and more grooves in them. Little by little then the boards become used to their new position.

Against this treatment it was argued that the board joints might crack up on the picture side in places where they were then tight. It was also pointed out that the panel had been fairly stable since 1931 and was impregnated with wax from the back. Further it was pointed out that the panel had always been kept in place by force—first by the original frame which had grooves for the panel and later by the battens and the present frame.

Finally it was agreed to keep the battens and subsequently keep the painting under constant observation. In this connection it should be mentioned that there is an air-moistening apparatus in the church where the painting is kept.

Trial Cleaning.

It was decided that before a full cleaning be embarked upon, some trials should be done. The conservator should make the trial cleaning and the chemist some analysis.

THIRD MEETING 4.11.63.

(Art Historian Dr. Stephan Tschudi Madsen present)

The result of the cleaning trial was produced. It was ascertained that the painting had been spread over with a transparent coating of brown "gallery tone", possibly done in the last half of the eighteen hundreds. Over the "gallery tone" lay two layers of varnish

which had gone yellow. The varnish was easily removed with a mixture of turpentine and alcohol, but the "gallery tone" remained untouched by this treatment. After some attempts it was found that the best thing to remove it with was wax paste mixed with ammonia. Dr. Tschudi Madsen wished to keep a small square of the "gallery tone". This will be done on the outskirts where it does not obstruct the painting. It was decided that before the fourth and last meeting was held, a small square in the upper right-hand corner should be cleaned as difficulties might be met with which needed discussion.

The problem of the battens and the panel's warping was also discussed in this meeting but without any further result than that earlier mentioned.

FOURTH MEETING 8.11.63.

(Dr. Tschudi Madsen present)

About a quarter of a square metre had been cleaned in the upper right-hand corner. The cleaning was executed without any difficulty, so it was decided that the whole picture could be cleaned with the same chemicals with which it had been started.

Overpainted Head.

The big scars, which the ex-ray film had shown, to the right of the picture surface, came out. Furthermore a head in the background appeared- only the brow and eyebrows, the rest being covered by the figures standing in front. It had been so badly damaged that the first restorer (First Restoration) had decided that he might as well paint over what was left of it. The question of the complete restoration of this head, or only a neutral filling of the damage, was left to be decided back in Norway. This head, however, shows on a photograph of a similar Cranach painting, which is to be found in Galleri Norbert Fischmann in Munich.

Also in this meeting there was the all overshadowing problem of the panel's warping and the battens. It was discussed, but no other solution than the one proposed at the meeting of the 31st. October was found.

The cleaning of the picture continued and when we left the Institut on the 28th. November 1963, the cleaning of the right half

was completed and all the big damage, which the ex-ray film had shown, became apparant.

BACK TO NORWAY.

The painting, together with the other objects of study, arrived in Oslo by boat on the 23rd. December 1963. Restoration Assistant T.M. Löken accompanied and supervised the transport. The picture was taken to the Riksantikvar's Studio where the rest of the work was carried out. The cleaning of the left half of the picture was done without any difficulty and without any further damage than that shown by the ex-ray film appearing.

The earlier overpainted head.

It was decided to paint in the missing part of this head. The photograph in the Galleri Nerbert Fischmann could be depended on.

MATERIALS USED AND WORK TECHNIQUE.

Re-securing of the paint and flattening of eruptions.

The re-securing of loose paint and the flattening of the eruptions was done with bone glue dissolved in water, with a little 7% vinegar. The glue mixture was put on thickly and was allowed to stay on until the paint began to soften. (the vinegar works as a solvent for the chalk ground) Surplus glue was dried off and moistened silk paper put over. When this was nearly dry (wax paper was laid over so that it should not dry too quickly) silicone paper was put over and the eruptions pressed down with a warmspoon.

In this way all the loose ares were fastened and the most obvious eruptions in the paint layer put down. Where eruption was visible but did not move by touch nothing was done.

Cleaning.

The last two layers of varnish were removed with a mixture of half alcohol and half turpentine.

The under-lying glaze, the "gallery tone", was not dissolved by this mixture, nor pure alcohol. A mixture of zylol and alcohol had some effect, but too much friction could not be applied. After many trials with different mixures, it was found that the best thing to use was: 50 gr. bees wax, 150 ml. turpentine, 45 ml. amonia and 30 ml. water.

This was the most effective, but also the most gentle. The paste was put on with a brush and after five or six seconds washed off with a mixture of 2 parts turpentine and 1 part alcohol.

Filling and retouching.

Most of the old lead-white fillings were so good that they were kept. The other scars were filled by glue-filling: a mixture of 100 gr. chalk, 50 cu. cms. glue substance 1:5 added to 10 gr. wax paste (bees wax, oil lacquer, linseed oil)

Retouches were done with oil colours, genuine fresco colours ground in linseed oil and turpentine. As a retouch varnish AV 2 added to 5% mastix was used.

Finishing Varnish.

As a finishing varnish Le France Blanc was used.

Observation.

The painting must, in the future, be kept under constant observation, both by those who work daily in the church and by specialists. Any changes in the picture surface must at once be reported to the Riksantikvar.

What we see to-day as the greatest danger, and what was most discussed at the Institut Royal du Patrimoine Artistique, is the tension between the ground, paint and the wood, due to the panel being held in plane by force. If it should happen that the paint continues to erupt, then the proposal put forward at the Institut meeting on the 31st. October, should be taken into consideration, to wit: the battens should be removed to let the wood move freely.

Exhibition and return of the picture.

The painting was put on view, fully restored, in the National Gallery, Oslo, July-August 1964. It was then transported back to Larvik Church on the 16th. September 1964 by Majerstua Transport A/S. The author, together with Church Warden Terbjörn Nilsen rehung it in its old place on the North wall of the chancel. It is not the most obvious place, but it is well protected against sunlight and as far as we know it has had this position for as long as it has been in the

church. The stone wall is dry so there should be no danger from that direction, especially as the painting is now very well waxed at the back.

For information on the painting's chemical construction see Chemist Unn Simonsen's report.

CONCLUSION.

The painting has its original size.

The wood in the panel is linden. It is fresh but has been attacked by worms which seem to be dead as there has been no attack since the conservation with wax in 1931.

It is painted with oil colours on chalk grounds, which in several places had erupted with the danger of flaking. The board joints were partly cracked open on the picture side.

There is no weakening of the paint or ground obvious. As the paint still has a tendency to erupt and flake, the cause must be ascribed to the tension between the paint, ground and the wood as the panel cannot move freely. It has been kept in plane by the earlier frame and now by the battens. Even so it appears that the panel has been stable since the waxing of the back in 1931. It was suggested that the battens be removed but nobody was able to say with certainty what the outcome would be. It was decided to keep the battens, and to keep the painting under constant observation.

The painting has at one time had a glaze added to it to effect a "gallery tone".

It has undergone conservation-restoration twice earlier. When and by whom the first was done is not known, but the investigation showed what was done. Restoration-conservation number two was executed in 1931 and is known of by photographs. ^{It was then mostly ed} Most concentration ~~then was~~ up on conservation.

It was found that the ground was mixed with silk fibres.

It was stated that the signature was original. The paint is cracked together with the main colour.

During the present conservation-restoration the following was done:- all old yellow varnish removed, the "gallery tone" removed, the overpainted head uncovered and the missing part painted in, loose paint re-secured, flakes and scars filled and retouched, and the whole finished with a glossy varnish.

The painting was returned to Larvik Church on the 16th. September 1964. It hangs on a stone wall which is considered to be

dry. The church is electrically heated but also has an air-moistening apparatus.

The painting must be kept under constant observation.

Oslo, 16th. September 1964.

Odd Helland