

## The colours of wall paintings

The colour palette of the painter of wall paintings was limited to pigments, which do not degrade in the alkaline environment of calcium. Pigments were used in their pure form or mixed together. Lighter colours were achieved by mixing the pigments with lime.

The original colour expression of the wall paintings has changed much since they were painted. The colours have faded or decomposed, so they no longer can be seen. Repeated restorations implementing changing attitudes regarding the use of colours have also changed the colour expressions of the paintings. The wall paintings, which best express the original colour expression, are the never-restored paintings above the churches vaults. One rare occasion, the original colour palette can be glimpsed when undertaking new uncoverings.



Ørum church. Chancel, north wall. The painting has been restored many times.



Ørum church. Chancel, loft above the vaults, south wall. The painting has never been restored.

One can also get an impression of the painters colour palette by looking at the illuminated books from the same time the wall paintings were painted.

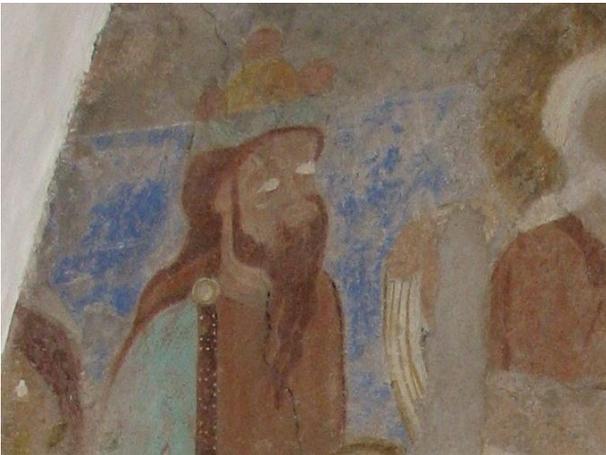
## Blue colours

Ultramarine Blue made from the rare stone, lapis lazuli, which primarily comes from present time Afghanistan. The pigment was primarily used in the Romanesque period.

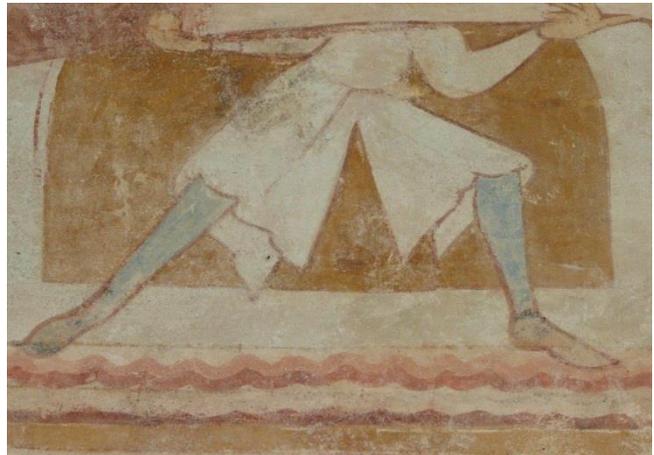
Azurite was made from a dark blue mineral of the same name, which, among other places, is found in present time Hungary. With time the colour changes to green, which is often the colour expression we see on the wall paintings today.

Smalt is a synthetic pigment made by melting cobalt, quartz and potash together. When mixed together with water, the material cracks, making it easier to pulverize. The finer the particles, the lighter the colour. Smalt has been used since the 16<sup>th</sup> century.

Prussian Blue is a very dark blue synthetically-produced pigment invented in 1704. Prussian Blue was used in distemper technique.



**Ultramarine Blue used as background colour in the painting.**



**Azurite used in the figure's stockings.**

## Red colours

Iron Oxide Red is derived from iron oxide, which is a component of ferrous clay, found everywhere in nature. Shades of red vary from deep red to purple to maroon to brown. Iron Oxide Red has been used since ancient times, and is among the most frequently used colours in wall paintings.

Vermilion derives from the mineral cinnabar, which is found everywhere in nature. However, since the early Middle Ages, it was synthetically produced. With time, Vermilion changes to black, which is often the colour expression we see on the wall paintings today.

Red Lead is a synthetic pigment made of orange red lead oxide. Red Lead has been used since ancient times. With time, the colour changes to dark orange or dark brown, which is often the colour expression we see on the wall paintings today.



**Two different colours of Iron Oxide Red used in the depiction of the figure and the ornamentation.**



**Vermilion used in the figure's contour, now decomposed into a black colour.**



**Iron Oxide Red used as underlying colour for the gilding. The original colour is preserved.**



**Iron Oxide Red used in the figure's robe, now decomposed into a brownish colour.**

## Green colours

Alkaline copper chloride is a copper pigment, has been used since ancient times.

Malachite comes from a green copper mineral of the same name, which is a mixture of copper carbonate and copper hydroxide. Malachite has been used since ancient times.



**Alkaline Copper Chloride used in the figures' robes. Alkaline Copper Chloride used in the figure's robe.**

## Yellow colours

Yellow Ochre derives from iron oxide, which is a component of ferrous clay, found everywhere in nature. Shades of yellow vary from bright yellow to tan. Yellow Ochre has been used since ancient times, and is among the most frequently used colours in wall paintings.

Orpiment is a deep orange-yellow sulfide of arsenic occurring as a mineral, which originates from volcanic activity. With time, it loses its deep colour. Orpiment has been used since ancient times.

Lead-tin Yellow is a pale citrus-coloured yellow synthetic pigment made from lead-tin oxide. Lead-tin Yellow was made between 14<sup>th</sup> and 18<sup>th</sup> centuries.



**Yellow Ochre used in the figure's hair and robe.**



**Yellow Ochre used in the ornamentation.**

## Black and grey colours

Charcoal Black is a dark grey pigment, which derives from crushed charcoal. Charcoal Black has been used since ancient times.

Bone Black is a black pigment, which derives from crushed burned bones- Bone Black has been used since ancient times.



Charcoal Black mixed with lime into a greyish colour used in the ornamentation.



Charcoal Black used in the figure's contours and in the inscriptions.