Underdrawing and other technical aspects in the paintings of Lucas van Leyden

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1. Introduction

1.1. The underdrawing and its examination

The northern artists of the 15th and 16th centuries mostly painted on wooden panels to which a white ground layer had been applied. On this smoothed down, white ground a careful drawing was first made of the composition, generally with a brush in black paint or with black chalk. This drawing, which forms the starting-point for the painting, is called the underdrawing. The underdrawing played an important role in the creation of the panel painting in early Netherlandish art.

The careful painting technique of this period (see pp. 9-16) is characterized by the fact that the artist built up the thin paint layer in a consistent manner (mostly with only a few layers), while trying to avoid alterations, even in the contours, during painting. In this the underdrawing fulfilled a clear function as a guideline for the painting: it established more or less definitively the composition, the placing of the figures and the build-up of the draperies in areas of light and shade.

The role of the underdrawing in early panel painting is comparable with that of the sinopia in Italian fresco painting. The sinopia is the drawing that was made, mostly in red ochre, on the first rough layer of plaster (the arriccio, ‘Raubputz’), the fresco being then painted on a thin, wet layer of plaster (the intonaco, ‘Feinputz’), which was applied in sections over the drawing. However, in contrast to the sinopia, which during the painting had already disappeared under the wet plaster, the underdrawing remained visible under the transparent parts of the paint layer during painting until a late stage.

In the case of both the underdrawing and the sinopia the techniques of oil painting and fresco respectively required that the main lines of the composition and the forms should already have been established in the drawing. In Italian mural painting the first sketch was drawn directly on the wall with charcoal and then further worked up and improved until the definitive form was arrived at, whereupon the drawing was gone over and strengthened with red and/or yellow ochre. Not until a later period, in the 15th century, when artists began to use cartoons for applying the drawing to the wall, did preliminary studies on paper come to play a role in the creation
of the composition. In northern painting there are no real preliminary drawings to be found until the 16th century. Notwithstanding their quite definitive character, the underdrawing and the sinopia are working drawings, which were probably seen by no-one apart from the artist and the people immediately around him. Technical developments in the present century have made it possible for these drawings, which were never meant for the eye of a beholder, to be made visible. In removing frescos from the wall, it has proved possible to separate the last layer of plaster (the intonaco) with the paint layer completely from the first rough layer (the arriccio) and thus to enable the sinopias to be shown alongside the completed frescos. The sinopia – sometimes drawn with a surprising spontaneity – has proved to be able to provide more insight into both the way in which the painting was created and the personal style of the artist. It also constitutes an important contribution to our knowledge of drawing at this period.2

Although the underdrawing of the North European panel painting cannot be separated from the paint layers above them in this way, methods have been developed whereby they can be made visible by optical means, either in part or even in some cases over a large area. By means of infrared photography the underdrawing in the white, the red and sometimes also the brown areas can be registered on photographic film. By means of infrared reflectography it has become possible to obtain an image of the underdrawing in other areas too and sometimes over the whole painting and to record it photographically. In contrast to the sinopia, which is completely separated from the paint layer (with the intonaco) and can thus be seen in its natural form, the most one can ever get of an underdrawing by these methods of examination is a – generally incomplete – (photographic) image which always gives only a limited impression of the underdrawing as it was once possible to see it before the paint layers were applied.

The study of the underdrawing in 15th-century Flemish painting only got under way in the fifties. Initially use was made of infrared photographs done with films sensitive to radiation in the near infrared (up to a wavelength of around 8500 Ångstroms; the human eye is sensitive to light with a wavelength of between around 4000–7000 Ångstroms), taken with a filter that cuts out the visible light. Infrared photographs can make the underdrawing clearly visible in those areas where it is also often possible to see something of it with the naked eye, particularly in the red and white areas. However, it is not possible to penetrate the green and blue areas, which come out black on an photograph, while brown areas and thicker paint layers are often impenetrable too.3 Because of this the value of infrared photographs is often limited, since in most cases a substantial part of the underdrawing remains invisible.