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The Young Rembrandt at Work

Rembrandt's Use of Materials and Technique of Painting at the Beginning of his Leiden Period

That no clear picture has hitherto emerged from published observations on Rembrandt's technique of painting (Note 1) is evident from the absence of technical arguments for attributions and from differences of approach among restorers (Note 2). Not only does it appear unlikely that he had a regular method of work to which he always adhered, but we nowadays find it difficult to associate an artist of such apparent creative freedom as Rembrandt with the idea of fixed methods. Thus it is not surprising to find evaluations of the results of research in this direction pervaded by a sense of resignation at the incoherence of the findings (Note 3). In fact, however, it now appears that in his youth at least Rembrandt did use a more or less fixed method of work, a method which can be seen to develop in the course of time. This hypothesis has resulted from the examinations of the material and technical aspects of virtually all Rembrandt's paintings carried out in the context of the Rembrandt Research Project (Note 4), the findings having been tested where possible in collaboration with the Central Research Laboratory for Objects of Art and Science (Note 5).

The method described here is that encountered in a number of Rembrandt's early history pieces (his portraits have not yet been thoroughly studied from this point of view). It is both possible and probable that at least some of the elements in it were part of general workshop practice in Leiden or Holland (Note 6), so it would be dangerous to use them on their own as criteria for testing authenticity. The most important elements have, however, also been found in later Leiden paintings and in the Night Watch (Note 7). The publication of these findings here is linked with the discovery and publication of Rembrandt's Baptism of the Eunuch, the attribution of which is based on technical as well as stylistic and iconographical aspects. Since this painting fits in with Rembrandt's earliest works so well, it was decided to include it in this sketch of his method.

The support

Since Rembrandt deliberately chose such a great variety of types and colours of paper for his drawings and etchings in his later years (Note 8), we may take it that he also chose the supports and grounds for his paintings with an eye to their purpose. In his Leiden years he mainly used prepared wooden panels. As far as possible these were studied without their frames, so that the sides and backs could be investigated and measured and, in many cases, dendrochronological examination carried out (Note 9). Apart from a few little paintings on copper (Note 10) or paper (Note 11), all the known paintings of Rembrandt's Leiden period were done on oak panels. The backs of a large number of these still remain intact (Figs. 1, 2), perhaps because they were unrecognized in the 18th and 19th centuries and thus escaped planing and cradling. The smallest always consist of one piece of wood, the largest of three, those in between being of two or three. The grain of the wood always runs parallel to the vertical axis of the panel and the edges of the panel are generally bevelled to a thickness of a few millimetres all round. These bevelled edges may be wholly or partly missing on a painting that has been cut down, but in the case of one-piece panels in particular one of the bevelled edges may be missing altogether. This is because the radial method of sawing the plank from the log produced somewhat wedge-shaped planks (Figs. 2, 3), which made bevelling unnecessary along one long side. At their thickest the panels mostly measure slightly less than a centimetre and in general they are no different from a large number of Dutch 17th-century oak panels.
The panels fall into various groups of roughly the same measurements, which can best be seen as representing the standard sizes available at the time. The making of such panels was a craft that in Leiden in Rembrandt's days came under the authority of the Carpenters' Guild (Note 12). It appears that before 1643 there was no shop in Leiden which dealt in painters' requisites (Note 13), so Rembrandt very probably bought his panels direct from the carpenter. In theory he could have had them made to any size he liked, but in practice he will most likely have used the standard sizes, which were indicated by names of coins, types of picture, etc. (Note 14, 15) and which were also applied by the frame-makers (Notes 16, 17). The code of sizes has not yet been deciphered, though some of the standard sizes posited by Martin in 1901 tally with panels by Rembrandt (Note 18). These and other Rembrandt panels often seem to be measured in feet (Note 20), while the panels composed of several pieces of wood also frequently conform to the standard sizes (Note 21). From the relationships between some of the panels it further seems probable that Rembrandt bought a number of them at the same time (Note 22).

The ground
The grounds of Rembrandt's Leiden paintings fall into the first of the four groups posited by Kühn (Note 23), being composed of various mixtures of chalk and glue with or without ochre and lead white, while those of the panels of his early Amsterdam period show the same ingredients plus oil. They evince the great variety noted by Buck (Note 24), but whether this justifies Buck's conclusion that 'each painting may have been a technical creation as well as a pictorial one' is open to doubt. In the first place the results of analysis cannot normally be compared with a painter's recipe. At best they provide a mere list of ingredients, sometimes with an indication of quantities. Moreover, in investigating the bottom layer of a painting it is vitally important to have a clear idea of what one is looking for and might expect to find. Kühn was primarily concerned with finding out whether any more of Rembrandt's paintings had quartz in their grounds like the recently discovered late self portrait in Stuttgart (Note 25), and this could have been the reason for his overlooking the phenomenon of the imprimatura, which plays an important part in the grounds of panels (Note 26). In only a few of his results does he mention two different preparatory layers and otherwise he assumes that there is only one.

A method of preparing panels in the 16th and 17th centuries was to apply a thin layer of chalk and glue to fill up any unevenness and assist the adhesion of the paint layer (Note 27). This is, however, a very absorbent layer and it also tends to become transparent when in contact with oil, so it was generally covered before painting with a thin layer of oil or glue, with or without pigment, the imprimatura or primuerseal as Van Mander calls it (Note 28). In practice it is not easy to distinguish two layers in samples of grounds, and this may perhaps be the explanation for the great variety in Kühn's findings. The question of how far Rembrandt experimented with grounds can only be answered by an investigation of numbers of cross-sections in which both layers can be studied separately.

At present it would seem from observations made with the naked eye that Rembrandt did not make any notable experiments relating to the optical function of the ground during his Leiden period. Where visible, the ground is always a light yellowish-brown (Pag. 68, Figs. 9, 15, 16) and examination of paint samples from pictures of 1626 also showed this light-brown imprimatura on the chalk and glue ground (Pag. 68, 72, Figs. 2–7, 10, 11), while there was no essential difference in the ground of the Jeremiah of 1630 (Pag. 68, Fig. 8). The ground of the 1626 paintings appears to correspond with one of the numerous contemporary recipes.

The chemical composition of grounds is of only limited value as a criterion of authenticity, for in the course of the 17th century the grounding of supports gradually came to be done outside the artist's studio. From a document of 1676 whereby Dirck de Lorm was empowered to ground canvases and panels for the painters in Leiden, it is clear that by that time grounding had completely ceased to be part of workshop practice (Note 30). De Mayerne's reference between 1620 and 1633 to a Wallon Imprimeur living in London (Note 31), could indicate